Brownian motion makes its walk-on appearance in problem 5.3.8. as the limit of an a.e. uniformly convergent random series, or when the Lèvy concentration function is introduced in 6.1.17 without any hint as to the role it plays. Over all however, the problems get high marks.

A number of errors have been pointed out in the review. There are others, for the most part minor, for an aggregate total in excess of twenty-five. The author has circulated privately a list of corrections for most of these. Such a list should be enclosed with each copy sold, until a revision is forthcoming.

I anticipate that this book will be a friend to many students seeking a careful introduction to methods. The question confronting the teacher of probability is whether the book is not too strongly devoted to methodology, too narrowly defined, or inconveniently arranged in its treatment of conditioning.

HOWARD TUCKER, *A Graduate Course in Probability*. Academic Press, Inc, 1967. xiii + 273 pp. $12.00.

Review by NARESH C. JAIN
University of Minnesota

The author of this book explains his point of view in the Preface. The book is meant for a one-year graduate course in probability, as its title suggests. In the words of the author: "The selection of material reflects my taste for such a course. I have attempted here what I consider a proper balance between measure-theoretic aspects of probability . . . and distributional aspects . . . . The material presented does not wander along any scenic byways. Rather, I was interested in traveling the shortest route to certain theorems I wished to present." There are arguments for and against this point of view. The main argument against this approach is that the exposition may become too cold and uninspiring, as it does to some extent in this book. "Scenic byways" sometimes provide a good deal of insight into the theorems presented and can be a source of interest for a reader not working directly in probability as well as for a serious student of the subject. However, if one keeps wandering off into "Disneylands" every now and then, the main ideas may become lost.

The book is divided into eight chapters. Chapters 1 and 2 discuss probability spaces and distribution functions. The Kolmogorov–Daniell extension theorem is given in Chapter 2. Stochastic independence is introduced in Chapter 3 and various convergence concepts are discussed in Chapter 4. Strong limit theorems for independent variables are given in Chapter 5. Among these theorems are included the Three Series Theorem, Kolmogorov's strong law of large numbers, the Glivenko–Cantelli theorem, and a form of the law of the iterated logarithm. Chapter 6 deals with the central limit problem. The central limit theorem is proved in a very general form and most of the well-known theorems, such as the Lindeberg–Feller central limit theorem, are deduced from it as corollaries. It is not even mentioned or suggested in exercises that direct simple proofs can be given for special cases. No mention is made of stable laws. Chapter 7 contains a good discussion of conditional expectation and discrete parameter martingales. Important martingale convergence theorems are given, but unfortunately no examples are included to demonstrate how useful and powerful these theorems are. Chapter 8, the last one, contains an introduction to stochastic processes with particular emphasis on Brownian motion. The motivation leading to the notion of separability of a stochastic process is excellent, and one would wish the other chapters had some similar discussion and motivation for the theorems before the author embarked on the Lemma–Theorem–Corollary sequence. Various well-known properties of Brownian motion sample paths are given in this chapter, including the law of the iterated logarithm.

The book is remarkably free of errors and misprints. The proofs of theorems and corollaries are complete and very well arranged. The author's emphasis on rigor is clearly visible in his full treatment of the logarithm of a nonvanishing characteristic function and all its relevant properties (Chapter 4). A graduate student with a good background of measure theory should be able to follow the text without much difficulty; but he may never realize the importance of a particular theorem in the course. Exercises are interesting and given after every section in good textbook style; the usefulness of the book would definitely increase if more had been included. Considering the fact that there is perhaps no such thing as an ideal textbook this book should serve very well as a base for a one-year graduate course and is a good addition to the field of probability.

R. M. BLUMENTHAL AND R. K. GETOOR. *Markov Processes and Potential Theory.* Academic Press Inc., 1969. x + 313 pp. $15.00.

Review by HARRY DYM
City College, CUNY

Blumenthal and Getoor are highly skilled practitioners in the fine art of probabilitistic potential theory. Their book has already been warmly welcomed by P. A. Meyer [*Bull. Amer. Math. Soc.* **75** (1969) 912–916] and will undoubtedly be warmly welcomed by other workers in the field. The praise is deserved. The book is carefully written, and will surely serve as a basic reference on Markov processes and potential theory for years to come.

The book is organized as follows: The first chapter introduces the theory of Markov processes, and includes a very lucid account of stopping times. Chapter 2 deals with excessive functions, exceptional sets, and the fine topology. The succeeding chapters take up in turn multiplicative functionals and subprocesses, additive functionals and their potentials, local times, processes with identical hitting distributions and dual processes.

These topics are developed comprehensively, without shirking of technical detail. Consequently the book is a valuable source of information for the specialist or the