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BOOK REVIEWS

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KAI LAI CHUNG. *A Course in Probability Theory*. Harcourt, Brace & World, Inc., New York, 1968. viii + 331 pp. $12.00.

Review by RAOUL LEPAGE
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This tightly organized volume can have a salutory effect on the confidence with which the novice embraces probability theory. Yet while tending so carefully to his assimilation of modus operandi, the face of probability which it presents is unduly narrow. A remedy, of course, is to sample liberally the major references for probability theory. From the point of view of what the present volume has to offer, this would be desirable both for obtaining a balanced view in the direction of Feller's *An Introduction to Probability Theory and its Applications*, Vol. II, and for further discussion of generalizations and periphera in the direction of Loève's *Probability Theory*, though there are other references more appropriate than these for some topics. With this in mind, we can proceed to a discussion of particulars.

Building on real and complex analysis, this is exclusively a textbook for the initiate to probability theory. Evidence indicates the author intended that the book be relatively self-contained for a reader at least familiar with Lebesgue integration on the real line. Though the easy pace does not place excessive demands on the student's knowledge of integration, the latter remains the high-water mark for what is assumed about his mathematical preparations.

Some will welcome frequent opportunities taken throughout to clarify the precise role of each result needed from analysis, in a text especially conscious of its relations with the mathematics on which it draws. This continuing benefit is not to be confused with undistinguished "review" chapters which begin this book. Introduced in the preface as, respectively, a review of elementary real variables and a synopsis of required measure and integration, the short Chapters 1 and 2 are insufficient to those ends. Specifically, Chapter 1 discusses probability distribution functions on the real line, and their associated decompositions into continuous and discrete parts. Chapter 2, with but a half-dozen proofs, compiles numerous lists of properties and statements of fact concerning classes and measures. In addition to being rushed, such a presentation invites oversights, such as the error in the definition of outer measure (page 26) which oversimplifies and renders false a statement of the extension theorem implicit in that discourse. Problems 2.1.12, 2.2.2, and Theorem 2.2.1 also contain errors. Curiously, Chapter 2 contains no mention of integration, that being taken up in Chapter 3 along with random variables and independence.