BOOK REVIEW

D. G. KENDALL and E. F. HARDING, eds., *Stochastic Analysis*. John Wiley and Sons, London and New York, 1973, xiii + 465 pp. 11 pounds sterling.

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Stochastic Analysis is one of two volumes dedicated to the memory of the late Rollo Davidson, an unusually gifted young English mathematician who died in 1970 in a mountain climbing accident at the age of twenty-five. The companion volume *Stochastic Geometry* (E. F. Harding and D. G. Kendall, eds., Wiley, 1974) develops some of the geometric aspects of probability theory, whereas *Stochastic Analysis* concentrates primarily on those analytical areas to which Davidson contributed substantially. Kendall, in his introduction to the subject, defines stochastic analysis thus:

"Stochastic analysis is the field of interest of the members of a loosely knit body called the Stochastic Analysis Group, which was formed in Oxford in December 1961 to promote interest in the analytical aspects of probability theory among mathematicians and statisticians in the United Kingdom."

Kendall credits Wiener (footnote, page 389) as the originator of stochastic analysis.

Although the volume is a collection of invited papers by a number of authors, it manages to achieve a considerable unity. Clearly the credit for this, including the noteworthy effort in editing and elucidating Davidson's unfinished manuscripts, belongs to the two editors. The hand of Kendall is particularly evident throughout; in addition to his contribution of three previously unpublished papers and his collaboration with Harding on a short biographical note about Davidson, he has substantially edited and extended three unpublished manuscripts of Davidson.

The book is divided into six sections. Section 6 consists of a letter from Davidson to F. Papangelou, written in 1970, together with the aforementioned biographical sketch; Sections 1–5 deal with the mathematics of stochastic analysis. With the exception of most of Section 2, all papers appearing here are published for the first time. Several are expository; most contain new results or improved proofs of known results.

Section 1 consists of Kendall's exceptional essay *An Introduction to Stochastic Analysis*, which focusses mainly on the work of Davidson and his British colleagues and defines more sharply the scope of stochastic analysis. It begins with a careful development of an appropriate foundation for (continuous parameter) stochastic processes, progresses through a brief treatment of weak convergence (with special mention of queueing theory), characteristic functions

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