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Selected Bibliography of Statistical Literature, 1930 to 1957: IV. Markov Chains and Stochastic Processes

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This is the fourth in a series of bibliographies dealing with various specific subjects in the field of statistics. Titles and references of important contributions to the study of Markov chains and stochastic processes have been taken from technical journals published since 1930 in the many countries that have been actively engaged in statistical analysis.

Two prominent reviewing journals, *Zentralblatt für Mathematik* (1930 to 1940) and *Mathematical Reviews* (1940 to 1957), have provided the source material for this series of bibliographies. The NBS Statistical Engineering Laboratory maintains a current file of abstracts cut from these journals and pasted onto cards, on the subject of probability and mathematical statistics. Each card is coded by subject after the classification system of *Mathematical Reviews*, and filed by author. Authors' names and references are transcribed to punched cards, and classified by subject code to facilitate use of the abstract cards. The listings therefrom, for any chosen subject, when supplied with titles, provide the manuscript for these published bibliographies. The bibliography presented here is on Markov chains and stochastic processes.

Complete coverage of any one of the subjects is, of course, impossible, but the reviewing journals have undoubtedly abstracted the most important publications from a large variety of technical journals and publishing houses. The reviewing journals have generally favored the publications in statistics that deal with theory and methodology; any subclassification on *applications* is consequently very limited.

Following the subject classification of the *Mathematical Reviews Annual Index*, all abstracts that come under the general topic of Markov chains and stochastic processes were consolidated, until 1956, into one category. Since that time, however, the *Index* has subdivided this general group into (A) Stochastic processes; general theory, (B) Markov processes, (C) Stationary processes, (D) Special processes, and we introduced the fifth category, (E) Applications, to include whatever publications on applications that the reviewing journals chose to abstract.

The task of subclassifying the accumulated abstracts from 1930 to 1956 into these finer groupings was accomplished at the Catholic University of America under the general supervision of Professor Eugene Lukacs. Dr. Churchill Eisenhart, Chief of the Statistical Engineering Laboratory, who originally conceived the plans for this project, continues with encouragement and assistance.

The references given here contain the following information taken directly from the abstracts:

Author: The author's surname, followed by initials only. In the case of multiple authorships, the journal reference appears with each author's name, but the title of the paper appears with the senior author only. The symbol ♦ preceding the surname denotes multiple authorship.

Title: Exactly as in the reviewing journal. Titles of separately bound publications (books, reports, theses, etc.) are in italics, followed by the publisher.

Reference to literature: Some very unconventional abbreviations were necessitated by the limited space for transcription to the punched cards. The name of the journal in italics and the number of the volume in bold face, are followed by initial page number.

Date of publication: The next figure, in parentheses, shows the date when the article or book itself appeared.

M (for *Mathematical Reviews*) and *Z* (for *Zentralblatt für Mathematik*) are followed by the volume number and page number of the reviewing journal in which the abstract appears.

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