TABLE OF CONTENTS

		Page
Chapter I.	Introduction.	1
Part 1.	Analytical and Probabilistic Basis.	3
Chapter II.	Basic Operator Theory.	3
	Functional Calculus	3
	Exponentials	3
	Heisenberg Group Formulation	4
	The Operator xD	6
	Hamiltonian Formulation	6
	Some Contours	7
Chapter III.	Moment Theory.	8
	The Operator C	8
	Moment Polynomials	8
	Functions with Negative Index	10
	Vacuum Functions	10
	Canonical Vacuums for H = L(z)	11
	Differential and Integral Representations	13
	Inversion Formula	14
	Expansions in Terms of h's	14
	Reproducing Kernel	15
	The Flow for A	16
	Application to the Integral of a Process	16
	Some Aspects of Physical Significance	17
	Examples of Moment Theory	18
Chapter IV.	Orthogonal Theory.	22
	Bernoulli Generators	22
	Canonical Forms	23
	Representations of J_n	25
	Expansions	26
	Generalized Rodrigues Formula	26
	Data for J_n's: Recurrence Formula, Value of j_n	28
	Reproducing Kernel and Associated Kernel	29
	Canonical Variables	31
	Appendix: Summary of Notation Used for Parameters	34
	General Forms	34
Chapter V.	The Standard Processes. Examples.	35
	The Bernoulli Process	35
	The Symmetric Bernoulli Process	39
	The Exponential Process	41
	The Poisson Process	45
	Brownian Motion	49
	Canonical Moments	51

Chapter V, continued.

Scalings 52
Summary of Forms 52
Lagrangians 53

Part 2. Further Probabilistic Aspects. 55

Chapter VI. Limit Theorems. 55

Chapter VII. Discrete Theory, Martingales, Stochastic Integrals. 63

Iterated Integration and Exponentials 63
Discrete Iterated Integrals 64
Martingales and Martingale Differences 65
Processes with Independent Increments 66
Deterministic Examples 67
Further Remarks 69
Basic Operators 69
Probabilistic Theory 71

Part 3. Extensions. 77

Chapter VIII. Multidimensional Theory. 77

Moment Theory 77
Independent Processes 79
Radial and Angular Variables 82
Some Simple Invariance Properties 83
Orthogonal Theory 85
Examples 88
Canonical Variables 90
Further Remarks. Recursion Formulas 91
Some Remarks on the General Bernoulli Generator 96
Lagrangians 97

Chapter IX. Hamiltonian Processes and Stochastic Processes. 98

Analytical Martingales 98
Functionals of Processes 100
The Feynman-Kac Formula 101

Chapter X. Concluding Remarks. 107

Bibliography 109