Contents

Preface	
The Mathematics of Social Action	1
Causal processes—Purposive action—Causal theory and models of action—Bernoulli events and the Poisson process—Extensions of Bernoulli trials—The deficient diagonal, and three extensions of Markov chains—Extensions of Bernoulli trials: heterogeneity in response probabilities—Extensions of Bernoulli trials: outcomes dependent on other factors—Extensions of the Poisson process: continuous-time Markov process—The deficient diagonal: response unreliability—Dependence of transition rates on other factors—Transition rates dependent on numbers of preceding events—Initiated and terminating processes—Purposive action theory	
Concepts of Rational Action Rational action under varying circumstances	32
Collective Actions	61
Definitions—Structural definitions—A framework for collective action—The problem of maximization—The probabilistic decision rule	
Further Concepts and Applications Additional concepts—List of concepts in the theory— Examples of applications—The problem of data Appendix: Notes on Trad 11: Computer program to solve for equilibrium	90
	The Mathematics of Social Action Causal processes—Purposive action—Causal theory and models of action—Bernoulli events and the Poisson process—Extensions of Bernoulli trials—The deficient diagonal, and three extensions of Markov chains—Extensions of Bernoulli trials: heterogeneity in response probabilities—Extensions of Bernoulli trials: outcomes dependent on other factors—Extensions of the Poisson process: continuous-time Markov process—The deficient diagonal: response unreliability—Dependence of transition rates on other factors—Transition rates dependent on numbers of preceding events—Initiated and terminating processes—Purposive action theory Concepts of Rational Action Rational action under varying circumstances Collective Actions Definitions—Structural definitions—A framework for collective action—The problem of maximization—The probabilistic decision rule Further Concepts and Applications Additional concepts—List of concepts in the theory—Examples of applications—The problem of data Appendix: Notes on Trad 11: Computer program to solve

vi CONTENTS

5	The Dynamic System and Other Elaborations Dynamics and the movement to equilibrium—Maximization versus proportional allocation of interests—Relaxing the probabilistic decision rule—Sequential introduction of events—Multi-stage decision processes Appendix: Notes on Trad 12: Computer program for systems of vote exchange	131
References		161
Co	mputer Program and Output	167
Ind	lex	187