## Contents

Preface		vii
Chapter 1	Survey of the Elements of Free Energy Transduction	1
	States, Diagrams, Cycles, and Free	
	Energy Transduction	2
	2. Thermodynamic Forces	12
	<ul><li>3. Operational, Cycle, and Transition Fluxes</li><li>4. Efficiency and the Rate of Free</li></ul>	20
	Energy Dissipation	24
	5. Fluxes and Forces Near Equilibrium	29
Chapter 2	State Probabilities and Fluxes in Terms of the	
	Rate Constants of the Diagram	39
	<ul><li>6. The Diagram Method for State Probabilities</li><li>7. The Diagram Method for Cycle Fluxes and</li></ul>	39
	Related Topics	49



## Contents

	8. Recent Advances Concerning Fluxes, Diagrams, and Random Walks	68
Chapter 3	Free Energy Levels and Application to Muscle Contraction	89
	<ul><li>9. Free Energy Levels in Kinetic Diagrams</li><li>10. Kinetic and Thermodynamic Formalism for</li></ul>	89
	Muscle Contraction	101
Index		117