

CONTENTS

Contributors	9
Preface, by <i>Athel Cornish-Bowden</i>	11

PART I: BUCHNER'S ARTICLE

1. Alkoholische Gahrung ohne Hefezellen, by <i>Eduard Buchner</i>	17
2. Alcoholic Fermentation without Yeast Cells, by <i>Eduard Buchner</i> (translated by <i>Herbert C. Friedmann</i>)	25
3. Fermentaci3n Alcoh3lica sin C3lulas de Levadura, por <i>Eduard Buchner</i> (traducido por <i>Jos3 M. L3pez Pi3ero</i>).....	33

PART II: HISTORICAL CONTEXT

4. Early Research on Fermentation – a Story of Missed Opportunities, by <i>Fritz Schelenk</i>	43
5. A Prize-winning Discovery of 1896: Buchner Provides Evidence of Cell-free Fermentation, by <i>Peter Bohley and Kai-Uwe Fr3hlich</i>	51
6. Centenary of the Birth of Modern Biochemistry, by <i>Arthur Kornberg</i>	61
7. From Friedrich W3hler's Urine to Eduard Buchner's Alcohol, by <i>Herbert C. Friedmann</i>	67
8. Elizabeth Fulhame and the Discovery of Catalysis: 100 Years before Buchner, by <i>Keith J. Laidler</i> and <i>Athel Cornish-Bowden</i>	123
9. A Brief History of Enzyme Kinetics, by <i>Keith J. Laidler</i>	
10. Harden and Young's Discovery of Fructose 1,6-bisphosphate, by <i>Athel Cornish-Bowden</i>	135

**PART III:
THE MODERN STUDY OF MULTI-ENZYME SYSTEMS**

11. Glycolysis in Cell-free Systems, by <i>Robert K. Scopes</i>	151
12. Metabolic Cascades: an Evolutionary Strategy for an Integrated and Sensitive Response to Multiple Signals, by <i>María Luz Cárdenas</i>	159
13. Enzyme Evolution and the Development of Metabolic Pathways, by <i>Juli Peretó, Renato Fani, José Ignacio Leguina</i> and <i>Antonio Lazcano</i>	173
14. Organization and Regulation of Metabolism, by Analogy with the Industrial Manufacturing World, by <i>Marta Cascante</i> and <i>Enric Martí</i>	199
15. Prospects for Pharmacological Manipulation of Metabolism, by <i>Athel Cornish-Bowden</i> and <i>Robert Eisenthal</i>	215
16. Anaerobic Energy Metabolism in Yeast as a Supply-Demand System, by <i>Jan-Hendrik S. Hofmeyr</i>	225
Index	243