CONTENTS

Acknowledgments ix
Introduction xi
1. Languages, Methods, Objects 3
The Linguistic Unity of the Vienna Circle 6
The Question of the Unity of the Object Domain of the Sciences in
Carnap's Work 12
Traditional Methodological Unities 20
Hacking's Styles of Scientific Reasoning 23
Ontological Enrichment and "Foliated Pluralism" 30
2. Intertheoretic Relations and Their Metaphysical Import 35
Metaphysical Foundations of Antireductionist Theses 36
From the Failure of Reductionism to the Disorder of Things:
A Problematic Inference 53
Against Cartwright's Nomological Metaphysical Pluralism 58
Ontological Order and Nomological Disorder in the Structuralist
Approach 65
Nonreductive Intertheoretic Relations and Unity of Nature 71
Intermediate Conclusion 76

3. Representations 80

Current Defining Lines of the Monism versus Pluralism

Debate 81

Simulations of Real-World Physical Systems: A Case of Permanent

Incompatible Plurality 93

Taxonomic Pluralism 110

Concluding Remarks 132

Notes 137

References 161

Index 174