

Contents

<i>Preface</i>	<i>page</i> xiii
Introduction	1
<b>Part One Concepts</b>	
1 Concepts of Scientific Essentialism	17
1.1 Real Properties and Relations	17
1.2 Natural Kinds and Essences	19
1.3 Species, Instances, and Tropes	23
1.4 Intrinsic Properties and Structures	26
1.5 Intrinsic Properties and Real Essences	31
1.6 Two Brands of Necessity	32
1.7 Necessity and <i>A Priori</i> Knowledge	38
1.8 Natural Necessity	43
1.9 The Humean Metaphysic	44
1.10 Empiricist and Essentialist Perspectives on Reality	47
1.11 Causal Powers and Causal Processes	49
1.12 Causal Powers and Causal Laws	52
Notes	55
<b>Part Two Ontology</b>	
2 Natural Kinds	61
2.1 The Aims of Ontology	61
2.2 Ontological Dependence	63
2.3 The Natural Kinds Structure of the World	67
2.4 Accidental, Incidental, and Essential Properties	76
2.5 Spectral Kinds	79
2.6 The Theory of Ontological Reduction	82
2.7 Real Properties and Property Identity	84

2.8	Properties and Predicates	89
2.9	So What Are Natural Kinds?	97
2.10	The Logic of Natural Kinds	100
	Notes	101
3	Powers and Dispositions	106
3.1	Introduction	106
3.2	The Dead World of Mechanism	107
3.3	Forces as External to Objects	109
3.4	The Dubious Status of Dispositions	111
3.5	Categorical Realism	112
3.6	Dispositions and Categorical Realism	118
3.7	Mellor's Dispositional Foundationalism	121
3.8	An Analysis of Dispositions	123
3.9	Dispositional Essentialism	127
3.10	Dispositional Properties and Causal Laws	129
3.11	Meinongianism	132
3.12	Categorical Properties and Relations	135
	Notes	138

**Part Three Scientific Explanation**

4	Realism and Essentialism in Science	145
4.1	Essentialist Realism	145
4.2	Scientific Realism	146
4.3	Critique of the Standard Argument for Realism	150
4.4	Realism and the Humean Supervenience Thesis	154
4.5	Causal Process Realism	157
4.6	Essentialism in Chemistry	161
4.7	Essentialism in Physics	165
4.8	Essentialism in Biology	167
4.9	Essentialism in Psychology	170
4.10	Constructing Essentialist Explanations	173
	Notes	175
5	Essentialism in the Social Sciences	177
5.1	Scientific Essentialism and Social Theory	177
5.2	Historical Explanations	179
5.3	The Structure of Realist Explanations in Science	182
5.4	Economic Essentialism	184
5.5	Economic Models	186
5.6	Neo-Classical <i>A Priorism</i>	187
5.7	Theoretical Ideals and Explanatory Frameworks	189
5.8	Theoretical Models in Physics and Economics	190

5.9	Methodology	194
5.10	Economic Empiricism	197
	Notes	198
 <b>Part Four Laws of Nature</b>		
6	Theories of Laws of Nature	203
6.1	Introduction	203
6.2	Classification of the Laws of Nature	204
6.3	The Causal Laws	206
6.4	Desiderata for a Theory of Laws	207
6.5	Three Problems About Laws of Nature	210
6.6	The Humean Regularity Theory of Laws	211
6.7	Conventionalist Theories of Laws	213
6.8	Natural Necessitation Theories	215
6.9	Essentialist Theories of Laws	217
6.10	Solving the Three Main Problems	219
6.11	The Abstract Character of Theoretical Laws	222
6.12	The Role of Idealization in Physical Theory	224
6.13	The Demarcation Problem	225
	Notes	226
7	Natural Necessity	229
7.1	The Problem of Natural Necessity	229
7.2	Hume's Concept of Natural Necessity	229
7.3	Imagined Possibility	231
7.4	Real and Logical Possibility	234
7.5	Individual Essences and Kind Essences	237
7.6	"Possible Worlds" Theories of Natural Necessity	241
7.7	Humean and Essentialist Perspectives on Reality	245
7.8	Grounding Natural Necessities in the World	248
7.9	The World as One of a Kind	249
7.10	Alien Worlds and Alien Kinds of Things	253
7.11	Is Metaphysical Necessity Too Strong?	255
7.12	Four Principles of Natural Necessity	256
	Notes	257
 <b>Part Five The New Essentialism</b>		
8	The Essentialist Program	261
8.1	Essentialist and Humean Metaphysics	261
8.2	The Ultimate Sources of Power in the World	263
8.3	Forces, Causal Relations, and Causal Powers	265
8.4	The Program of Logical Analysis	268

Cambridge University Press  
978-0-521-03774-7 - Scientific Essentialism  
Brian Ellis  
Table of Contents  
[More information](#)

8.5	Actual and Possible Worlds	272
8.6	Realistic Semantics for Natural Modalities	274
8.7	An Essentialist Theory of Conditionals	278
8.8	Realistic Analysis and the Theory of Conditionals	279
8.9	Essentialism and the Problem of Induction	283
8.10	Necessary Connections Between Events	286
8.11	The New Case for Epistemic Conservatism	288
8.12	The Program of Realistic Analysis	291
	Notes	292
	<i>Bibliography</i>	295
	<i>Index</i>	303