

Contents

1	PROPOSITIONAL MODAL LOGIC	1
1.	The sentential operators '□' and '◇'	1
2.	Invalid arguments; semantics for S5	3
3.	Other systems	11
4.	Incomplete circumstances: possibility semantics	18
2	FIRST ORDER MODAL LOGIC	23
1.	Operators, quantifiers and invalid inferences	23
2.	Semantics for quantified S5	28
3.	First order tense logic	38
4.	Possibility semantics for quantified S5	43
3	THE <i>DE RE/DE DICTO</i> DISTINCTION AND THE PROBLEM OF TRANSWORLD IDENTITY	48
1.	Two kinds of formula	48
2.	Quine's view	50
3.	Eliminating <i>de re</i> modality	54
4.	Counterpart theory	57
5.	Objections to counterpart theory	64
4	METAPHYSICS FOR THE SEMANTICS	70
1.	Semantics and explanation	70
2.	Realism about worlds	76
3.	Two problems for anti-realism	80
4.	Validity: other approaches	81
5.	The meanings of possible worlds sentences	89
5	A MODAL THEORY: THE ESSENCES OF SETS	96
1.	Essential properties and essences	96
2.	The essences of sets	100
3.	The system MST	114
4.	Justifying Membership Rigidity: two unsuccessful attempts	123
5.	The grounding of identities and non-identities	126

6. THE NECESSITY OF ORIGIN	132
1. Kripke's thesis	132
2. An unsuccessful defence of (K)	134
3. The case of the moveable oak tree	138
4. Intrinsic and extrinsic grounding	140
5. Essences and bare particulars	145
6. The branching conception of possible worlds	148
7. A problem about identity through time	152
7. FUZZY ESSENCES AND DEGREES OF POSSIBILITY	160
1. Two paradoxes	160
2. Sorites paradoxes	164
3. The semantics of vagueness	169
4. Closures and counterparts	175
5. Counterpart theory with degrees of possibility	180
6. Consequences	184
8. SUBSTANCES, PROPERTIES, AND EVENTS	191
1. Substances as things	191
2. Identical substances are necessarily identical	195
3. Crossworld equivalence relations	197
4. Properties	202
5. Events	205
6. Lombard's essentialism	208
9 THE JUSTIFICATION OF MODAL CONCEPTS	216
1. Non-cognitivism	216
2. Quasi-psychologism	220
3. The theory of content	224
4. The source of necessity	230
APPENDIX: Translation Schemes	238
1. Sentential Modal Logic	238
2. Quantified S5	239
3. Counterpart-theoretic S5	240
4. Reverse translation	242
5. Possibilist quantifiers	243
BIBLIOGRAPHY	248
INDEX	255