

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	The problem defined . . . . .	1
1.2	The current state of the debate . . . . .	3
1.3	The structure of this work . . . . .	6
1.4	Historical reflections . . . . .	10
1.5	Relationship to <i>AR&amp;L</i> . . . . .	13
1.6	A note on style and substance . . . . .	14
<b>2</b>	<b>The Realism Debate</b>	<b>15</b>
2.1	The central role of truth . . . . .	15
2.2	Five important contentions . . . . .	19
2.3	Key theses . . . . .	27
2.4	Superassertibility . . . . .	42
2.5	Semantic anti-realism . . . . .	45
2.6	A crescendo of concerns . . . . .	50
2.7	Remarks on natural deduction . . . . .	55
2.7.1	Arguments and natural deductions . . . . .	56
2.7.2	Accumulating arguments . . . . .	56
2.7.3	Rules of inference . . . . .	58
2.7.4	<i>Reductio ad absurdum</i> . . . . .	59
2.7.5	Regimenting philosophical arguments . . . . .	60
2.7.6	A plea for tolerance in matters logical . . . . .	61
<b>3</b>	<b>Irrealism</b>	<b>63</b>
3.1	A survey of various kinds of irrealism . . . . .	63
3.2	Non-factualist irrealism <i>v.</i> error-theory . . . . .	67
3.3	Notational preliminaries . . . . .	75
3.4	A <i>reductio</i> of semantic irrealism? . . . . .	77

3.5	Isolating the basic steps . . . . .	77
3.5.1	The first basic step . . . . .	77
3.5.2	The second basic step . . . . .	79
3.5.3	The third basic step . . . . .	79
3.6	Some simple arguments using the basic steps . . . . .	80
3.7	Evaluating the steps . . . . .	82
3.7.1	A stratificationist objection to Boghossian will not work	83
3.7.2	Objection to step (I) . . . . .	86
3.7.3	Objection to step (II) from a projectivist's point of view	86
3.8	Conclusion . . . . .	89
<b>4</b>	<b>Against Meaning Scepticism</b>	<b>91</b>
4.1	The impact of scepticism about meaning. The stress between materialist metaphysics and analytic intuition . . . . .	91
4.2	Theses about content, and some orthogonal issues . . . . .	93
4.3	What semantic determination thesis does the Kripkean sceptic try to undermine? . . . . .	97
4.4	On past and future applications of rules . . . . .	100
4.5	The sceptic is a non-factualist . . . . .	102
4.6	Kripke's dialectic of reinterpretation . . . . .	104
4.7	Uniformity of reinterpretation requires globality . . . . .	108
4.8	Kripkean scepticism compared with Quinean indeterminacy: the new dogma of post-empiricism . . . . .	115
4.9	Anti-sceptical responses emphasizing the first-person case . . . . .	120
4.10	On Goodman's Paradox . . . . .	122
4.11	The proper way to meet the sceptical challenge . . . . .	125
4.12	A parable . . . . .	127
4.13	From dispositional facts to normativity of meaning . . . . .	130
4.13.1	On going wrong: competence v. performance . . . . .	133
4.13.2	Alleged problems for a dispositional account: the argument from finitude . . . . .	137
4.13.3	Alleged problems for a dispositional account: the argument from error . . . . .	139
<b>5</b>	<b>Avoiding Strict Finitism</b>	<b>143</b>
5.1	Knowability in principle . . . . .	143
5.2	The strict finitist's worry . . . . .	148
5.3	Recognitional capacities and compositionality . . . . .	150
5.4	Feasible verifiability . . . . .	151

5.5	Aspectual recognition: competence as factorizable . . . . .	152
5.6	Finding the right dispositional conditionals . . . . .	155
<b>6</b>	<b>The Manifestation Argument is Dead</b>	<b>159</b>
6.1	A summary by way of introduction . . . . .	159
6.2	Decidability, knowability and truth: picturing the positions .	161
6.3	Dummett's construal of realist truth, and his blindness to Gödelian Optimism . . . . .	168
6.4	Understanding the dialectic of debate . . . . .	170
6.5	Bivalence and Decidability . . . . .	173
6.6	Manifestationism . . . . .	176
6.6.1	The original 'manifestation challenge' . . . . .	176
6.6.2	Does Bivalence entail the possibility of recognition-transcendent truth? . . . . .	180
6.6.3	Dummett's quantifier-switch fallacies . . . . .	185
6.6.4	Independence results are no help to Dummett . . . . .	190
<b>7</b>	<b>Long Live the Manifestation Argument</b>	<b>195</b>
7.1	A summary by way of introduction . . . . .	195
7.2	A more convincing manifestation argument . . . . .	196
7.2.1	The problem of undecidable sentences . . . . .	196
7.2.2	The manifestation requirement made more precise . .	198
7.2.3	The principle of knowability made more precise . . . .	203
7.2.4	The principle of bivalence made more precise . . . . .	205
7.3	Logical relationships among theses; the central inference . . .	206
7.4	Decidability: demurrals v. denial . . . . .	214
7.5	The undecidability of arithmetic . . . . .	216
7.6	Responses to undecidability . . . . .	219
7.6.1	The anti-realist's response . . . . .	219
7.6.2	The realist's response . . . . .	221
7.7	Realist reconstructions of manifestation? . . . . .	224
7.8	The central inference revisited; reconstructions rejected . . . .	232
7.9	Rubbing out the wrong pictures . . . . .	235
7.9.1	Arguing against M-Realism . . . . .	236
7.9.2	Arguing against the Gödelian Optimist . . . . .	239
<b>8</b>	<b>Truth as Knowable</b>	<b>245</b>
8.1	Introduction . . . . .	245
8.2	Rational thinkers . . . . .	247

8.3	On wondering whether . . . . .	252
8.4	On knowing every truth . . . . .	259
8.5	Diagnosis of the underlying problem . . . . .	266
8.6	Cartesian contents, and our proposed solution . . . . .	272
8.7	The failure of the reconstrual strategy . . . . .	276
8.8	Taking stock . . . . .	278
<b>9</b>	<b>Analyticity and Synthetcity</b>	<b>281</b>
9.1	Logic and analyticity . . . . .	281
9.2	A brief history of the two distinctions . . . . .	282
9.3	The impact of Gödel's first incompleteness theorem . . . . .	290
9.4	An alternative view . . . . .	295
9.5	The wider logic of number . . . . .	297
9.6	Necessary existents . . . . .	299
9.7	The dogma of existence . . . . .	303
<b>10</b>	<b>Finding the right logic</b>	<b>305</b>
10.1	On rational advocacy of reform . . . . .	305
10.2	Systematicity, immediacy, separability and harmony . . . . .	308
10.3	Epistemic gain in logic . . . . .	322
10.4	The maxim of narrow analysis . . . . .	325
10.5	Non-forfeiture of epistemic gain . . . . .	328
	10.5.1 The Sub-sequent Constraint . . . . .	329
	10.5.2 Truth-preservation is not enough . . . . .	330
10.6	The Principle of Harmony . . . . .	332
10.7	The Principle of Extraction for natural deduction systems . . . . .	334
10.8	The Anti-Dilution Principle for sequent systems . . . . .	335
10.9	Relevance . . . . .	337
	10.9.1 Uniquely determining rules for the logical operators . . . . .	338
	10.9.2 Intuitionistic Relevant Logic . . . . .	343
	10.9.3 Classical Relevant Logic . . . . .	344
	10.9.4 Benefits for computational logic . . . . .	346
	10.9.5 On choosing the right relevant logic: the method summarized . . . . .	346
	10.9.6 Prosecuting our principles further: a precondition on rule applications . . . . .	350

<b>11 Cognitive Significance Regained</b>	<b>355</b>
11.1 Re-evaluating the problem of cognitive significance . . . . .	355
11.2 Conditions of adequacy on a criterion of cognitive significance	360
11.2.1 Sentences are cognitively significant only within the context of a theory that makes them so . . . . .	360
11.2.2 Basic sentences . . . . .	361
11.2.3 Metalogical neutrality . . . . .	362
11.2.4 Inductive levels, new vocabulary and extension . . . .	363
11.2.5 Verifiability and falsifiability . . . . .	365
11.2.6 The principle of composition, or molecularity . . . . .	366
11.2.7 Constrained extension: higher-level hypotheses . . . .	366
11.2.8 A remark on significance via compounding . . . . .	369
11.2.9 Hempel's compositionality condition . . . . .	370
11.2.10 The first-order case . . . . .	372
11.2.11 The invariance of non-significance under reformulation	373
11.3 The formal theory . . . . .	374
11.3.1 Extension . . . . .	374
11.3.2 How sentences depend on the atomic facts within a model for their truth or falsity . . . . .	382
11.3.3 Some inductive definitions . . . . .	388
11.3.4 Main results . . . . .	390
11.4 Comparison with Carnap's account . . . . .	393
11.5 Blocking Church-Ullian collapses . . . . .	399
<b>12 Defeasibility and Constructive Falsifiability</b>	<b>403</b>
12.1 Rationalism and relativism . . . . .	403
12.2 On defeasible empirical claims . . . . .	406
12.3 Refutation of empirical theories . . . . .	414
12.4 Normal forms for disproofs . . . . .	422
12.5 Validity of arguments . . . . .	425
12.6 Validity of <i>reductio</i> . . . . .	429
12.7 The anti-realist construal of empirical claims that cannot be proved . . . . .	432
<b>13 Summary and Conclusion</b>	<b>435</b>
<b>Bibliography</b>	<b>439</b>
<b>Index</b>	<b>449</b>