

Contents

Introduction	1
1 Grelling's paradox	1
2 Russell's paradox for properties	1
3 ... <i>v.</i> Russell's paradox for sets	2
4 Solution routes to Russell's paradox for properties	4
5 Grelling again	11
6 Change of logic and change of meaning	14
7 Some connections to other issues	18
PART I. A SELECTIVE BACKGROUND	
1 Self-Reference and Tarski's Theorem	23
1.1 Self-reference and Gödel–Tarski diagonalization	24
1.2 Tarski's "Undefinability Theorem"	27
1.3 Tarski's "Undefinability Theorem" states more than undefinability	30
1.4 Another form of Tarski's theorem	32
1.5 Can set-theoretic truth be defined?	33
1.6 Inductive characterizations and restricted truth definitions	36
1.7 Further remarks on explicit definition	39
2 Validity and the Unprovability of Soundness	42
2.1 Validity and the necessary preservation of truth	42
2.2 Truth in a model	43
2.3 The Kreisel squeezing argument	46
2.4 The unprovability of soundness	48
3 Kripke's Theory of Truth (Strong Kleene Version)	56
3.1 The Kripke construction for restricted languages	58
3.2 The Kripke construction for unrestricted languages	62
3.3 Conservativeness	65
3.4 Does truth coincide with semantic value 1 even for restricted languages? (KFS <i>v.</i> FM)	68
3.5 Gaps and gluts	70

3.6	The weaknesses of Kripke's construction	72
3.7	Acceptance and rejection in KFS	73
3.8	Defectiveness again	76
	Appendix: Kleene logic and other deMorgan logics	79
4	Adding a Conditional? Curry and Lukasiewicz	83
4.1	The Curry paradox	83
4.2	Continuum-valued semantics	86
4.3	What do the semantic values mean?	88
4.4	Determinate truth in continuum-valued semantics	89
4.5	Ultimate failure: quantifiers	92
4.6	Indeterminacy and rejection	94
	Appendix: The Conservativeness Theorem	97
5	Interlude on Vagueness, and the Paradoxes of König and Berry	100
5.1	Must vague predicates have sharp boundaries?	100
5.2	Penumbra connections and higher order vagueness	102
5.3	Must higher order vagueness collapse?	104
5.4	Linear order?	105
5.5	The König and Berry paradoxes	106
5.6	The role of a classical meta-theory for a non-classical language	108
PART II. BROADLY CLASSICAL APPROACHES		
6	Introduction to the Broadly Classical Options	117
7	Truth-Value Gaps in Classical Theories	121
7.1	Gaps and (T-OUT)	121
7.2	Kleene-style gaps versus supervaluation-style gaps	124
7.3	Declaring one's axioms untrue	130
7.4	Propositions to the rescue?	132
7.5	Truth-of, heterologicality, and properties	134
7.6	Restricted (T-OUT)	135
7.7	Does declaring one's axioms untrue destroy the purpose of truth?	138
8	Truth-Value Gluts in Classical Theories	142
8.1	Gluts and (T-IN)	142
8.2	(T-IN) theories	143
8.3	What do glut theories say about themselves?	146
8.4	Evaluation of gluts <i>v.</i> gaps	147

9 A Second Interlude on Vagueness	150
9.1 Indeterminacy in classical theories	150
9.2 Supervaluationism	153
10 Introduction to Supervaluational Approaches to Paradox	156
10.1 The simplest supervaluational fixed points	156
10.2 Indeterminacy, weak validity, and reasoning by cases	160
10.3 The status of the truth rules	162
10.4 Indeterminacy again	164
10.5 Boolean-valued semantics	166
10.6 Strong validity, and weak validity revisited	169
10.7 Yogi Berra’s advice and ignorance interpretations	172
11 A Survey of Supervaluational and Revision-Rule Theories	176
11.1 Simple supervaluationism is very weak	176
11.2 General supervaluational fixed point theories	177
11.3 Avoiding the problems of simple supervaluationism	181
11.4 Rule-of-revision theories	186
11.5 Soundness proofs revisited	190
12 Are Supervaluational and Revision Theories Self-Undermining?	192
12.1 What do strong supervaluational and strong revision theories say about themselves?	192
12.2 What do medium supervaluational and medium revision theories say about themselves?	196
12.3 Are even the strong theories really “self-undermining”?	199
12.4 Gödel’s Second Incompleteness Theorem	200
12.5 Conclusion	204
13 Intersubstitutivity and the Purpose of Truth	205
13.1 Harmless gaps	206
13.2 Acceptance and rejection in weakly classical theories	208
13.3 The rest of the iceberg	209
14 Stratified and Contextual Theories	211
14.1 Contextual theories and “Strengthened Liar reasoning”	211
14.2 Stratified gap and glut theories	214
14.3 “The ghost of the Tarski hierarchy”: stratified internal fixed point theories	222
14.4 Stratified determinacy predicates for weakly classical theories	225

PART III. PARACOMPLETENESS

15 What Is To Be Done?	231
15.1 A framework for generalizing continuum-valued semantics	231
15.2 Determinateness and the Liar hierarchy	235
15.3 More on the never-collapsing hierarchy of determinately operators	239
16 Fixed Points and Revision Rules for Conditionals	242
16.1 Yablo fixed points	244
16.2 Revisionism	249
16.3 The transfinite Liar hierarchy and other examples	253
Appendix: The Fundamental Theorem	257
17 More on Revision-Theoretic Conditionals	259
17.1 Algebraic semantics	259
17.2 Conservativeness and schemas	262
17.3 Modal semantics	264
17.4 Laws and non-laws	266
17.5 Variations	271
18 What Has Been Done	275

PART IV. MORE ON PARACOMplete SOLUTIONS

19 Validity, Truth-Preservation, and the Second Incompleteness Theorem	281
19.1 Another form of Curry's paradox	281
19.2 The validity argument	284
19.3 The Second Incompleteness Theorem	286
20 Other Paradoxes	291
20.1 Paradoxes of denotation	291
20.2 The naive theory of properties, relations, and propositions	294
20.3 Set theory	296
20.4 Paradoxes of truth and validity	298
20.5 "Non-bivalent" validity?	303
21 Do Paracomplete Solutions Depend on Expressive Limitations?	309
21.1 Boolean negation and "exclusion negation"	309
21.2 Intuitionist negation and the intuitionist conditional	312
21.3 Wright's argument	314
21.4 Restall's argument	316

22	Determinateness, Hyper-Determinateness, and Super-Determinateness	325
22.1	Transfinite iteration made rigorous	326
22.2	Hyper-determinateness: the problem	331
22.3	Hyper-determinateness: the solution	333
22.4	Expanding the language?	338
22.5	Higher-order resources	340
22.6	Super-determinateness	343
23	Determinateness, Stratification, and Revenge	347
23.1	Stratified truth <i>v.</i> iterated determinacy	347
23.2	Genuine costs	350
23.3	Trying to get revenge	353
PART V. PARACONSISTENT DIALETHEISM		
24	An Introduction to Paraconsistent Dialetheism	361
24.1	Dialetheism, the truth schema, and intersubstitutivity	361
24.2	Acceptance, rejection, and degree of belief	363
24.3	Gluts, gaps, and intersubstitutivity again	364
25	Some Dialetheic Theories	368
25.1	Priest's LP	368
25.2	Dualizing paracomplete theories	369
25.3	Priest's conditionals	371
26	Paraconsistent Dialetheism and Soundness	376
26.1	The first incompleteness theorem, Curry's paradox, and truth-preservation	376
26.2	Can we get even restricted truth-preservation?	380
27	Hyper-Determinacy and Revenge	384
27.1	Model theory, designated values and truth	384
27.2	Sole truth and sole falsehood	386
27.3	Extended paradox?	390
	<i>References</i>	393
	<i>Index</i>	399