

Contents

<i>Preface</i>	<i>page ix</i>
Part I What Are the Paradoxes?	
Introduction to an Inconsistent World	3
0.1 The Problem	3
0.2 The Choices	9
0.3 Prospectus: Fixed Points	22
1 Paradoxes; <i>or</i> , “Here in the Presence of an Absurdity”	28
1.1 Sets	28
1.2 Vagueness	40
1.3 Boundaries	50
1.4 Conclusion	59
Part II How to Face the Paradoxes?	
2 In Search of a Uniform Solution	65
2.1 In Search of an Explanation	65
2.2 Two Schemas	66
2.3 Stepping Back from the Limits of Thought	79
3 Metatheory and Naive Theory	84
3.1 The Myth of Metatheory	84
3.2 Classical Recapture	96
3.3 Naive Theory	102
4 Prolegomena to Any Future Inconsistent Mathematics	110
4.1 Curry’s Paradox	110
4.2 Grišin’s Paradox and Identity	120
4.3 Logic	129
Appendix: BCK and DKQ	145

Part III Where Are the Paradoxes?		
5	Set Theory	151
	5.1 Elements	151
	5.2 A Sketch of the Universe	164
	5.3 Order	180
	Excursus: Partitions, Equivalence Classes, and Cardinality	185
6	Arithmetic	189
	6.1 Thither Paraconsistent Arithmetic!	189
	6.2 Addition, Multiplication, and Order	193
	Excursus: Number Theory	201
	6.3 Descent: Inconsistency and Irrationality	207
7	Algebra	212
	7.1 Algebra for Inconsistent Mathematics: A Triviality Problem	212
	7.2 Vectors	216
	7.3 Groups, Rings, and Fields	221
	7.4 A Short Conclusion to a Short Chapter	229
8	Real Analysis	230
	8.1 Into the Labyrinth: Real Numbers	230
	8.2 Dedekind Cuts	238
	8.3 Continuity; <i>or</i> , “Amongst the Ghosts of Departed Quantities”	246
	8.4 Out of the Labyrinth: The Topology of a Point	255
9	Topology	256
	9.1 Closure Spaces	256
	Excursus: Consequence as Closure	264
	9.2 Boundaries and Connected Space	265
	9.3 Continuity	272
Part IV Why Are There Paradoxes?		
10	Ordinary Paradox	285
	10.1 Dividing the Universe	285
	10.2 The Last Horizon	297
	10.3 A Fixed Point Where None Can Be	300
	<i>Bibliography</i>	303
	<i>Index</i>	319