

Contents

Overview	viii
List of Illustrations	xiv
Words of Thanks	xix

Part I: GEB

Introduction: A Musico-Logical Offering	3
<i>Three-Part Invention</i>	29
Chapter I: The MU-puzzle	33
<i>Two-Part Invention</i>	43
Chapter II: Meaning and Form in Mathematics	46
<i>Sonata for Unaccompanied Achilles</i>	61
Chapter III: Figure and Ground	64
<i>Contracrostipunctus</i>	75
Chapter IV: Consistency, Completeness, and Geometry	82
<i>Little Harmonic Labyrinth</i>	103
Chapter V: Recursive Structures and Processes	127
<i>Canon by Intervalllic Augmentation</i>	153
Chapter VI: The Location of Meaning	158
<i>Chromatic Fantasy, And Feud</i>	177
Chapter VII: The Propositional Calculus	181
<i>Crab Canon</i>	199
Chapter VIII: Typographical Number Theory	204
<i>A Mu Offering</i>	231
Chapter IX: Mumon and Gödel	246

Part II: EGB

<i>Prelude . . .</i>	275
Chapter X: Levels of Description, and Computer Systems	285
. . . <i>Ant Fugue</i>	311
Chapter XI: Brains and Thoughts	337
<i>English French German Suite</i>	366
Chapter XII: Minds and Thoughts	369
<i>Aria with Diverse Variations</i>	391
Chapter XIII: BlooP and FlooP and GlooP	406
<i>Air on G's String</i>	431
Chapter XIV: On Formally Undecidable Propositions of TNT and Related Systems	438
<i>Birthday Cantatatata . . .</i>	461
Chapter XV: Jumping out of the System	465
<i>Edifying Thoughts of a Tobacco Smoker</i>	480
Chapter XVI: Self-Ref and Self-Rep	495
<i>The Magnificrab, Indeed</i>	549
Chapter XVII: Church, Turing, Tarski, and Others	559
<i>SHRDLU, Toy of Man's Designing</i>	586
Chapter XVIII: Artificial Intelligence: Retrospects	594
<i>Contrafactus</i>	633
Chapter XIX: Artificial Intelligence: Prospects	641
<i>Sloth Canon</i>	681
Chapter XX: Strange Loops, Or Tangled Hierarchies	684
<i>Six-Part Ricercar</i>	720

Notes 743

Bibliography 746

Credits 757

Index 759

Contents *vii*