Contents

Pa	rt I	Introduction	
1	Wh	at the Book Is About	3
2	Oni	ontology: Realities, Communication, Semiotics,	
	and	Embodiment of Music	5
	2.1	Realities	6
	2.2	Communication	7
	2.3	Semiotics	7
	2.4	Embodiment	8
	2.5	The Baboushka Principle	9
Pa	rt II	Practice	
3	The	e Tutorial	15
4	The	e General Method of Creativity	17
5	Get	ting Off the Ground	21
6	Mo	tivational Aspects	23
	6.1	What Is Your Open Question?	23
	6.2	Let Us Describe the Context!	24
	6.3	Find the Critical Concept!	24
	6.4	We Inspect the Concept's Walls!	25
	6.5	Try to Soften and Open the Walls!	25
	6.6	How Can We Extend Opened Walls?	
	6.7	Final Step: Testing Our Extension	27

ix

v	Contents	i

7	Rhy	thmical Aspects	29
	7.1	What Is Your Open Question?	29
	7.2	Let Us Describe the Context!	30
	7.3	Find the Critical Concept!	31
	7.4	We Inspect the Concept's Walls!	33
	7.5	Try to Soften and Open the Walls!	34
	7.6	How Can We Extend Opened Walls?	34
	7.7	Final Step: Testing Our Extension	35
8	The	Pitch Aspect	37
U	8.1	What Is Your Open Question?	37
	8.2	Let Us Describe the Context!	38
	8.3	Find the Critical Concept!	38
	8.4	We Inspect the Concept's Walls!	39
	8.5	Try to Soften and Open the Walls!	42
	8.6	How Can We Extend Opened Walls?	43
	8.7	Final Step: Testing Our Extension	45
9	The	Harmonic Aspect	47
	9.1	What Is Your Open Question?	48
	9.2	Let Us Describe the Context!	48
	9.3	Find the Critical Concept!	49
	9.4	We Inspect the Concept's Walls!	49
	9.5	Try to Soften and Open the Walls!	51
	9.6	How Can We Extend Opened Walls?	53
	9.7	Final Step: Testing Our Extension	55
10	Mel	odic Aspects	57
		What Is Your Open Question?	58
		Let Us Describe the Context!	59
		Find the Critical Concept!	60
		We Inspect the Concept's Walls!	61
		Try to Soften and Open the Walls!	63
		How Can We Extend Opened Walls?	66
		Final Step: Testing Our Extension	67
11	The	Control Agreet	73
TT		Contrapuntal Aspect	74
		What Is Your Open Question?	
		Let Us Describe the Context!	76
		Find the Critical Concept!	77
		We Inspect the Concept's Walls!	77
		Try to Soften and Open the Walls!	77
		How Can We Extend Opened Walls?	79
	11.7	Final Step: Testing Our Extension	82

	Contents	xi
12	12.1 What Is Your Open Question? 12.2 Let Us Describe the Context! 12.3 Find the Critical Concept! 12.4 We Inspect the Concept's Walls! 12.5 Try to Soften and Open the Walls!	85 85 86 87 88 88 89 90
13	13.1 What Is Your Open Question?	100 101 104
14	Large Form Aspects114.1 What Is Your Open Question?114.2 Let Us Describe the Context!114.3 Find the Critical Concept!114.4 We Inspect the Concept's Walls!114.5 Try to Soften and Open the Walls!114.6 How Can We Extend Opened Walls?114.7 Final Step: Testing Our Extension1	109 110 110 111 111 112
15	Community Aspects 15.1 What is Your Open Question? 15.2 Let Us Describe the Context! 15.3 Find the Critical Concept! 15.4 We Inspect the Concept's Walls! 15.5 Try to Soften and Open the Walls! 15.6 How Can We Extend Opened Walls? 15.7 Final Step: Testing Our Extension	118 118 119 120 120
16	16.1 What Is Your Open Question? 16.2 Let Us Describe the Context! 16.3 Find the Critical Concept! 16.4 We Inspect the Concept's Walls! 16.5 Try to Soften and Open the Walls! 16.6 How Can We Extend Opened Walls?	124 124 125 125

Part III Theory		
17	Historical Approaches	131
	17.1 The Concept of Creativity through (Western) History	
	17.2 Creativity in Early Psychology	
	17.2 Creativity in Early 1 Sychology	197
	17.5 Creativity Research in Recent Tears	, . 137
18	Present Approaches	
	18.1 The Creative Process Today	
	18.1.1 The Four P's of Creativity	141
	18.1.2 The Creative Process	142
	18.2 Musical Creativity	145
19	Our Approach	140
10	19.1 Approach to Creativity: A Semiotic Presentation	
	19.1.1 The Open Question's Context in Creativity	
	19.1.2 Motivation for a Semiotic Extension	
	19.1.3 The Critical Sign	
	19.1.4 Identifying a Concept's Walls	
	19.1.5 Opening a Wall and Displaying Its New Perspectives	
	19.1.6 Visual Representation of the Wall Paradigm	
	19.1.7 Evaluating the Extended Walls	
	19.2 Approach to Creativity: A Mathematical Model	
	19.3 The List of the Creativity Process	159
20	Principles of Creative Pedagogy	161
	20.1 Origins of Creative Pedagogy	161
	20.2 Applying Our Concept of Creativity to Creative Pedagogy	
	20.3 Creative Pedagogy for Musical Creativity	164
	20.3.1 Conceiving Our Tutorial in Creative Pedagogy for	
	Musical Creativity	166
21	Acoustics, Instruments, Music Software, and Creativity	169
	21.1 Acoustic Reality	
	21.1.1 First Sound Anatomy	
	21.1.2 Making Sound	
	21.1.3 Fourier	
	21.1.4 FM, Wavelets, Physical Modeling.	
	21.1.4 PM, Wavelets, I hysical Modeling	
	21.2.1 General Picture of Analog/Digital Sound Encoding	
	21.2.2 LP and Tape Technologies, Some History	
	21.2.3 The Digital Approach, Sampling	
	21.2.4 Finite Fourier Analysis	193
	21.2.5 Fast Fourier Analysis (FFT)	196

	Contents	xiii
	21.2.6 Compression	. 201
	21.2.7 MP3, MP4, AIFF	. 202
	21.2.8 Filters and EQ	. 209
	21.3 Symbolic Formats: Notes, MIDI, Denotators	
	21.3.1 Western Notation and Performance	. 214
	21.3.2 MIDI: What It Is About, Short History	
	21.3.3 MIDI Networks: MIDI Devices, Ports, and Cables	
	21.3.4 MIDI Messages: Hierarchy and Anatomy	
	21.3.5 Time in MIDI, Standard MIDI Files	
	21.3.6 Short Introduction to Denotators	
	21.4 Creativity in Electronic Music: Languages and Theories	. 231
22	Creativity in Composition and Improvisation	
	22.1 Defining Composition and Improvisation	
	22.2 Creativity in Composition	
	22.2.1 Composition by Objectivation	
	22.2.2 Creativity in Composition with Symbolic Objects	
	22.3 Creativity in Improvisation	
	22.3.1 Improvisational Creativity in the Imaginary Time-Space	
	22.3.2 Improvisational Creativity with Gestural Embodiment .	
	22.4 Instant Composition and Slow-Motion Improvisation	. 245
Par	rt IV Case Studies	
23	The CD Passionate Message	251
20	23.1 The General Background of This Production	
	23.1.1 The Overall Strategy	
	23.1.2 Joomi's Compositional Approach	
	23.1.3 Guerino's Improvisational Approach	
	23.2 Softening One's Boundaries in Creativity	
	23.2.1 Embodied Creation and the Crisis of Contemporary	
	Composition	. 259
	23.3 The Problem of Creativity in a Dense Cultural Heritage	
	of Compositions	
	23.3.1 First Wall: Composition, an Object?	
	23.3.2 Second Wall: Originality	. 263
24	The Escher Theorem	
	24.1 A Short Review of the Escher Theorem	
	24.1.1 Gestures and Hypergestures	
	24.1.2 The Escher Theorem	
	24.2 The Escher Theorem and Creativity in Free Jazz	. 273
	24.3 Applying the Escher Theorem to Open Walls of Critical	976
	Concepts	. 410

	~
XIV	Contents

25	Boulez: Structures Recomposed		
	25.1 Boulez's Idea of a Creative Analysis		
	25.2 Ligeti's Analysis		
	25.3 A First Creative Analysis of Structure Ia from Ligeti's		
	Perspective		
	25.3.1 Address Change Instead of Parameter Transformations 284		
	25.3.2 The System of Address Changes for the Primary		
	Parameters		
	25.3.3 The System of Address Changes for the Secondary		
	Parameters		
	25.3.4 The First Creative Analysis		
	25.4 Implementing Creative Analysis on RUBATO®		
	25.4.1 The System of Boulettes		
	25.5 A Second More Creative Analysis and Reconstruction		
	25.5.1 The Conceptual Extensions		
	25.5.2 The BigBang Rubette for Computational Composition 297		
	25.5.3 A Composition Using the BigBang Rubette		
	and the Boulettes		
	25.5.4 Was This "Creative Analysis" a Creative Success? 302		
26	Ludwig van Beethoven's Sonata opus 109: Six Variations 305		
	26.1 Uhde's Perspective Metaphor		
	26.2 Why a Sixth Variation?		
— Pai	rt V References, Index		
D.c.	forman 2010		
ne	ferences		
Inc	lex		