

ANALYSIS, RECONSTRUCTION, AND PERFORMANCE OF INTERACTIVE  
ELECTROACOUSTIC WORKS FOR CLARINET AND OBSOLETE TECHNOLOGY:  
SELECTED WORKS BY MUSGRAVE, PENNYCOOK, KRAMER, AND LIPPE

by

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SIGNED: \_\_\_\_\_

To Allan Brooke Wetzel, Ph. D.  
(1933 – 2003)

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## TABLE OF CONTENTS

LIST OF FIGURES .....	13
LIST OF TABLES .....	16
ABSTRACT .....	18

## PART I. INTRODUCTION

CHAPTER 1. INTENT AND SCOPE OF THIS STUDY .....	19
CHAPTER 2. OVERVIEW OF INTERACTIVE ELECTROACOUSTIC MUSIC AND PERFORMANCE PRACTICE: COMMON MATERIALS AND TERMINOLOGY .....	22
2.1. WHAT IS INTERACTIVE ELECTROACOUSTIC MUSIC? .....	22
2.2. HISTORICAL FOUNDATIONS OF INTERACTIVE ELECTROACOUSTIC MUSIC .....	23
2.3. GENERAL PURPOSE ELECTRONICS AS MUSICAL INSTRUMENTS .....	25
2.3.1. Microphone Feedback Processing .....	25
2.3.2. Tape Recorders .....	26
2.3.3. Tone Generators, Ring Modulators, Filters, and Other Equipment ..	26
2.4. SYNTHESIZERS AND AUDIO SIGNAL PROCESSING INSTRUMENTS .....	27
2.4.1. Synthesizers .....	28
2.4.2. Samplers .....	30
2.4.3. Effects Processors .....	31
2.5. THE MIDI STANDARD .....	32
2.5.1. MIDI Message Types .....	33
2.5.2. Extensions to MIDI .....	34
2.6. EXPERIMENTAL INTERACTIVE SOFTWARE SYSTEMS .....	35
2.6.1. Cypher .....	35
2.6.2. MIDI Live .....	36
2.6.3. 4x .....	37

## TABLE OF CONTENTS -- Continued

2.7. WIDELY-USED GENERAL-PURPOSE INTERACTIVE SOFTWARE SYSTEMS .....	37
2.7.1. Max/MSP .....	38
2.7.2. Pd .....	42
2.7.3. SuperCollider .....	43
2.7.4. Kyma .....	43
2.8. SUMMARY .....	44
 CHAPTER 3. INTERACTIVE ELECTROACOUSTIC MUSIC AND THE PROBLEM OF TECHNOLOGICAL OBSOLESCENCE .....	 46
 CHAPTER 4. FOUR INTERACTIVE ELECTROACOUSTIC WORKS FOR CLARINET AND OBSOLETE TECHNOLOGY: AN OVERVIEW ...	 51
 PART II. ANALYSIS OF TECHNOLOGY COMPONENTS IN FOUR WORKS FOR CLARINET AND INTERACTIVE ELECTRONICS	
 CHAPTER 5. ANALYSIS OF TECHNOLOGY COMPONENTS IN THEA MUSGRAVE'S <i>NARCISSUS</i> , FOR B-FLAT CLARINET AND DIGITAL DELAY (1987) .....	 55
5.1. HISTORICAL BACKGROUND .....	55
5.2. MUSICAL ROLE OF TECHNOLOGY .....	57
5.3. ANALYSIS OF TECHNOLOGY COMPONENTS .....	59
5.3.1. Sound Reinforcement .....	59
5.3.2. Delay system .....	60
<i>Delay time</i> .....	61
<i>Delay Feedback</i> .....	62
<i>Modulation</i> .....	65
<i>Hold</i> .....	68
<i>Volume</i> .....	69
<i>Bypass</i> .....	69
<i>Digital Delay System Summary</i> .....	70
5.3.3. Control interface .....	72
5.4. SUMMARY .....	74

## TABLE OF CONTENTS – Continued

CHAPTER 6. ANALYSIS OF TECHNOLOGY COMPONENTS IN BRUCE PENNYCOOK’S <i>PRAESCIO IV</i> (1990) FOR CLARINET AND INTERACTIVE MIDI SYSTEM .....	75
6.1. HISTORICAL BACKGROUND .....	75
6.2. MUSICAL ROLE OF TECHNOLOGY .....	77
6.3. ANALYSIS OF TECHNOLOGY COMPONENTS .....	78
6.3.1. Sound Reinforcement .....	79
6.3.2. Control interface .....	79
<i>Event Trigger</i> .....	80
<i>Pitch Tracking</i> .....	81
<i>Sustain Pedal</i> .....	82
<i>Volume Controller</i> .....	82
6.3.3. Synthesizer .....	83
6.3.4. Prepared Data .....	84
<i>Event List</i> .....	84
<i>MIDI Sequences</i> .....	85
6.3.5. Event Processing .....	87
<i>Input Processing</i> .....	88
<i>Play Event Processing</i> .....	88
<i>THRU Event Processing</i> .....	90
6.4. SUMMARY .....	92
CHAPTER 7. ANALYSIS OF TECHNOLOGY COMPONENTS IN JONATHAN KRAMER’S <i>RENASCENCE</i> (1974) FOR CLARINET, TAPE, AND TAPE DELAY .....	94
7.1. HISTORICAL BACKGROUND .....	94
7.2. MUSICAL ROLE OF TECHNOLOGY .....	95
7.3. ANALYSIS OF TECHNOLOGY COMPONENTS .....	99
7.3.1. Sound Reinforcement .....	101
7.3.2. Delay System .....	102
<i>Delay Time</i> .....	103
<i>Delay Feedback</i> .....	104



## TABLE OF CONTENTS – Continued

7.3.3. Control System .....	104
<i>Click Track</i> .....	105
<i>Signal Matrix</i> .....	106
<i>Score Events</i> .....	107
7.3.4. Pre-recorded Sounds .....	109
<i>Recorded Excerpts</i> .....	111
<i>Drone</i> .....	113
<i>Loops</i> .....	114
7.4. SUMMARY .....	116
CHAPTER 8. ANALYSIS OF TECHNOLOGY COMPONENTS IN CORT LIPPE'S <i>MUSIC FOR CLARINET AND ISPW</i> (1992) .....	117
8.1. HISTORICAL BACKGROUND .....	117
8.2. MUSICAL ROLE OF TECHNOLOGY .....	119
8.3. ANALYSIS OF TECHNOLOGY COMPONENTS .....	120
8.3.1. Sound System and Necessary Hardware .....	121
8.3.2. Sound sources .....	122
<i>Microphone Input</i> .....	123
<i>Pre-recorded Samples</i> .....	123
8.3.3. Control Sources .....	126
<i>Event List</i> .....	127
<i>Pitch Tracking</i> .....	129
<i>Envelope Following</i> .....	129
<i>Automated Processes</i> .....	129
<i>Graphical User Interface (GUI)</i> .....	130
<i>Automated Score Following</i> .....	130
8.3.4. Synthesis and Signal Processing .....	131
<i>Sampler</i> .....	132
<i>Granular Sampling</i> .....	133
<i>Harmonizer</i> .....	136
<i>Reverb</i> .....	138
<i>Noise Modulation</i> .....	138

## TABLE OF CONTENTS – Continued

<i>Frequency shifter</i> .....	139
<i>Flange</i> .....	141
<i>Frequency/Amplitude Modulation</i> .....	142
<i>Signal Routing</i> .....	143
<i>Spatializer</i> .....	144
8.4. SUMMARY .....	145

PART III. PERFORMANCE REALIZATIONS – A DESCRIPTION OF THE  
PROCESS, TECHNIQUES, AND EQUIPMENT USED IN PREPARING THE  
LECTURE-RECITAL

CHAPTER 9. PERFORMANCE REALIZATION OF MUSGRAVE'S <i>NARCISSUS</i> .....	147
9.1. EQUIPMENT AND STAGE SETUP .....	148
9.1.1. Input .....	149
<i>Microphones</i> .....	149
<i>Computer Sound Input</i> .....	149
<i>MIDI Footswitch Controller</i> .....	150
9.1.2. Output .....	150
9.2. DIGITAL DELAY SYSTEM SOFTWARE .....	150
9.2.1. Multi-tap Delay Line .....	152
9.2.2. Delay Time .....	152
9.2.3. Feedback .....	153
9.2.4. Modulation .....	154
9.2.5. Hold .....	155
9.2.6. Volume .....	156
9.2.7. Bypass .....	158

## TABLE OF CONTENTS – Continued

9.3. CONTROL SYSTEM .....	159
9.3.1. MIDI Input Processing .....	159
9.3.2. Score Event Processing .....	160
9.3.3. Linkage of Control and Processing Modules .....	162
9.4. SUMMARY .....	162
 CHAPTER 10. PERFORMANCE REALIZATION OF PENNYCOOK'S <i>PRAESCIO IV</i> .....	 164
10.1. EQUIPMENT AND STAGE SETUP .....	164
10.1.1. Input Devices .....	165
<i>Foot Controls</i> .....	165
<i>Pitch Tracker</i> .....	166
10.1.2. Output Devices .....	167
10.1.3. Overview of Stage Setup .....	168
10.2. INTERACTIVE MIDI SYSTEM SOFTWARE .....	169
10.2.1. Prepared Data .....	170
<i>Event Lists</i> .....	170
<i>Standard MIDI Files (SMFs)</i> .....	173
10.2.2. Event Processing .....	173
<i>Event List Control</i> .....	174
<i>Play Events</i> .....	175
<i>THRU Events</i> .....	175
<i>MIDI Output</i> .....	176
10.3. SYNTHESIZER .....	177
10.4. SUMMARY .....	178

## PART IV. CONCLUSIONS

CHAPTER 11. SUMMARY OF THE CURRENT PROJECT .....	180
 CHAPTER 12. FUTURE DIRECTIONS FOR THIS RESEARCH .....	 184
12.1. REAL-WORLD TESTING .....	184

## TABLE OF CONTENTS – Continued

12.2. LIMITATIONS OF THIS MODEL .....	185
12.3. NEXT STEPS .....	188
SOURCES .....	189

## APPENDICES

APPENDIX A: SELECTED LIST OF WORKS FOR CLARINET AND INTERACTIVE ELECTRONICS .....	191
APPENDIX B: <i>PRAESCIO IV</i> EVENT LIST .....	194
APPENDIX C: BLOCK DIAGRAMS FOR SIGNAL PROCESSING MODULES AND ADDITIONAL ALGORITHMIC PROCESSING USED IN <i>MUSIC FOR CLARINET AND ISPW</i> .....	197
APPENDIX D: KEY TO SYSTEM VARIABLES USED IN <i>MUSIC FOR CLARINET AND ISPW</i> .....	220

## LIST OF FIGURES

CHAPTER 2. OVERVIEW OF INTERACTIVE ELECTROACOUSTIC MUSIC AND PERFORMANCE PRACTICE: COMMON MATERIALS AND TERMINOLOGY	
Figure 2.1. Simple mathematics implemented with Max objects . . . . .	41
Figure 2.2. A simple signal processing function implemented with Max/MSP objects . . . . .	41
CHAPTER 5. ANALYSIS OF TECHNOLOGY COMPONENTS IN THEA MUSGRAVE'S <i>NARCISSUS</i> , FOR B-FLAT CLARINET AND DIGITAL DELAY (1987)	
Figure 5.1. Audio system setup . . . . .	60
Figure 5.2. Score example: delay time . . . . .	61
Figure 5.3. Score example: delay feedback . . . . .	62
Figure 5.4. Score example: delay time modulation . . . . .	66
Figure 5.5. Score example: delay hold . . . . .	69
Figure 5.6. Score example: delay volume. . . . .	69
Figure 5.7. Score example: delay bypass . . . . .	70
Figure 5.8. The complete digital delay system . . . . .	71
Figure 5.9. Vesta Koza DIG-411 front panel . . . . .	72
CHAPTER 6. ANALYSIS OF TECHNOLOGY COMPONENTS IN BRUCE PENNYCOOK'S <i>PRAESCIO IV</i> (1990) FOR CLARINET AND INTERACTIVE MIDI SYSTEM	
Figure 6.1. Score example: event 2 triggered by footswitch control . . . . .	80
Figure 6.2. Score example: sequence 3a as shown in the score . . . . .	87
Figure 6.3. Score example: notation of events 35 – 37 . . . . .	90
Figure 6.4. Score example: parallel tracking of the clarinet by the synthesizer (event 12) . . . . .	91
Figure 6.5. Score example: chordal harmonization of the clarinet pitch . . . . .	92
Figure 6.6. Diagram of the <i>Praescio IV</i> interactive MIDI system . . . . .	93
CHAPTER 7. ANALYSIS OF TECHNOLOGY COMPONENTS IN JONATHAN KRAMER'S <i>RENASCENCE</i> (1974) FOR CLARINET, TAPE, AND TAPE DELAY	
Figure 7.1. Score example: initial material recorded into the delay line . . . . .	97

## LIST OF FIGURES – Continued

Figure 7.2. Score example: a new fragment layered with the first as it returns 34 measures later .....	97
Figure 7.3. Score example: continuous eighth-note texture built out of layered fragments .....	97
Figure 7.4. Score example: layered chords and glissandi built up over multiple delay cycles .....	98
Figure 7.5. Tape delay system for the 1974 version of <i>Renascence</i> .....	103
Figure 7.6. Matrix mixer for the 1974 version of <i>Renascence</i> .....	106
Figure 7.7. Score example: complex changes to matrix settings .....	108
Figure 7.8. Score example: matrix used as a simple delay bypass .....	109
Figure 7.9. Excerpts used to construct the prerecorded tape .....	112
Figure 7.10. Drone for the prerecorded tape .....	113
Figure 7.11. Score example: measure 920, loops end in phase, cueing the clarinet entrance .....	115
 CHAPTER 8. ANALYSIS OF TECHNOLOGY COMPONENTS IN CORT LIPPE'S <i>MUSIC FOR CLARINET AND ISPW</i> (1992)	
Figure 8.1. Minimal sound system and control hardware .....	122
Figure 8.2. Score example: sample 1 (section I, events 5 – 7) .....	123
Figure 8.3. Score example: sample 2 (section I, events 8 – 10) .....	124
Figure 8.4. Score example: sample 3 (section I, events 11 – 13) .....	124
Figure 8.5. Score example: sample 4 (section I, events 14 – 16) .....	124
Figure 8.6. Score example: sample 5 (section II, event 8) .....	125
Figure 8.7. Score example: sample 6 (section I, events 3 – 4) .....	125
Figure 8.8. Score example: sample 7 (section I, events 9 – 10) .....	125
Figure 8.9. Score example: sample 8 (section V, events 3 – 7) .....	126
Figure 8.10. Event list excerpt: section III, event 14 .....	127
Figure 8.11. Algorithmic control of granular sampling .....	136
Figure 8.12. Algorithmic control of harmonizer and frequency shifter .....	140
Figure 8.13. Score example: algorithmic control of frequency shifter and harmonizer .....	141

## LIST OF FIGURES – Continued

CHAPTER 9. PERFORMANCE REALIZATION OF MUSGRAVE'S  
*NARCISSUS*

Figure 9.1. Stage setup for a new realization of <i>Narcissus</i> .....	148
Figure 9.2. Software implementation of the digital delay system .....	151
Figure 9.3. Multi-tap delay line .....	152
Figure 9.4. Delay time control module .....	153
Figure 9.5. Delay feedback control module .....	154
Figure 9.6. Modulation control module .....	155
Figure 9.7. Delay hold control module .....	156
Figure 9.8. Score example: application of the volume pedal .....	157
Figure 9.9. Volume control module .....	157
Figure 9.10. Bypass control module .....	158
Figure 9.11. MIDI input controls .....	159
Figure 9.12. Score event processing module .....	160
Figure 9.13. Score example: event 9, with hold engaged .....	161
Figure 9.14. Data routing between control and signal processing subprograms. .	162

CHAPTER 10. PERFORMANCE REALIZATION OF PENNYCOOK'S  
*PRAESCIO IV*

Figure 10.1. DigiTech RP-20 effects processor and MIDI foot controller	166
Figure 10.2. Software implementation of the pitch tracker	167
Figure 10.3. Complete stage setup for <i>Praescio IV</i>	169
Figure 10.4. Interactive MIDI system software user interface	170
Figure 10.5. Event List control module	174
Figure 10.6. Play Event control module	175
Figure 10.7. THRU Event control module	176
Figure 10.8. MIDI output module	177

## LIST OF TABLES

CHAPTER 2. OVERVIEW OF INTERACTIVE ELECTROACOUSTIC MUSIC PERFORMANCE PRACTICE: TOOLS, TECHNIQUES, AND TERMINOLOGY	
Table 2.1. Basic structure and interpretation of common MIDI messages	34
CHAPTER 5. ANALYSIS OF INTERACTIVE TECHNOLOGY IN THEA MUSGRAVE'S <i>NARCISSUS</i> , FOR CLARINET IN B-FLAT AND DIGITAL DELAY	
Table 5.1. Delay effect parameters: notated and actual values	71
Table 5.2. Pre-programmable effects changes	73
CHAPTER 6. ANALYSIS OF TECHNOLOGY COMPONENTS IN BRUCE PENNYCOOK'S <i>PRAESCIO IV</i> (1990) FOR CLARINET AND INTERACTIVE MIDI SYSTEM	
Table 6.1. Proteus I sound set for <i>Praescio IV</i>	84
Table 6.2. <i>Praescio IV</i> event list sample	85
Table 6.3. Sequence 3a in MIDI event list format	86
Table 6.4. Event list excerpt: events 35-38	89
CHAPTER 7. ANALYSIS OF TECHNOLOGY COMPONENTS IN JONATHAN KRAMER'S <i>RENASCENCE</i> (1974) FOR CLARINET, TAPE, AND TAPE DELAY	
Table 7.1. Transposition of long tones	113
CHAPTER 8. ANALYSIS OF TECHNOLOGY COMPONENTS IN CORT LIPPE'S <i>MUSIC FOR CLARINET AND ISPW</i> (1992)	
Table 8.1. Variable parameters for sampler playback	133
CHAPTER 9. PERFORMANCE REALIZATION OF THEA MUSGRAVE'S <i>NARCISSUS</i>	
Table 9.1. Contents of <i>coll</i> file "Narcissus_events"	161
CHAPTER 10. PERFORMANCE REALIZATION OF BRUCE PENNYCOOK'S <i>PRAESCIO IV</i>	
Table 10.1. Excerpt from <i>coll</i> file 1: event control	171
Table 10.2. Excerpt from <i>coll</i> file 2: play events	172



## LIST OF TABLES – Continued

Table 10.3. Excerpt from <i>coll</i> file 3: THRU events	173
Table 10.1. Proteus 2000 sound set for <i>Praescio IV</i>	178

## ABSTRACT

Performers interested in presenting interactive electroacoustic works face serious obstacles when the required equipment or technology becomes obsolete or unavailable. Transcription to updated technology provides at best a temporary solution. Detailed and device-independent documentation of interactive electronic systems used in older works can guide new performance realizations using available equipment. Such documentation should itself be formatted in a way that does not depend on specific electronic devices for interpretation or retrieval. Therefore, this paper proposes a model for the documentation and preservation of interactive electroacoustic music systems in which all synthesis and audio signal processing algorithms, control functions, and human-machine interactions are described in machine-neutral terms, using a combination of text, mathematics, and schematic diagrams.

As an example of such documentation, the technical requirements for four works are analyzed and described: Thea Musgrave's *Narcissus* (1987), for clarinet in B-flat and digital delay, Bruce Pennycook's *Praescio IV* (1990) for clarinet and interactive MIDI system, Jonathan Kramer's *Renascence* (1974) for clarinet, tape, and tape delay system, and Cort Lippe's *Music for Clarinet and ISPW* (1992). New performance realizations of two of these works, Musgrave's *Narcissus* and Pennycook's *Praescio IV* are described and presented as part of the accompanying lecture-recital.