

2003

A performer's guide to multimedia compositions for clarinet and visuals: a tutorial focusing on works by Joel Chabade, Merrill Ellis, William O. Smith, and Reynold Weidenaar.

Mary Alice Druhan

Louisiana State University and Agricultural and Mechanical College, mdruha1@lsu.edu

Follow this and additional works at: https://digitalcommons.lsu.edu/gradschool_majorpapers



Part of the [Music Commons](#)

Recommended Citation

Druhan, Mary Alice, "A performer's guide to multimedia compositions for clarinet and visuals: a tutorial focusing on works by Joel Chabade, Merrill Ellis, William O. Smith, and Reynold Weidenaar." (2003). *LSU Major Papers*. 36.
https://digitalcommons.lsu.edu/gradschool_majorpapers/36

This Major Paper is brought to you for free and open access by the Graduate School at LSU Digital Commons. It has been accepted for inclusion in LSU Major Papers by an authorized graduate school editor of LSU Digital Commons. For more information, please contact gradetd@lsu.edu.

**A PERFORMER'S GUIDE TO MULTIMEDIA COMPOSITIONS
FOR CLARINET AND VISUALS: A TUTORIAL FOCUSING ON
WORKS BY JOEL CHADABE, MERRILL ELLIS, WILLIAM O.
SMITH, AND REYNOLD WEIDENAAR**

A Written Document

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Musical Arts

in

The School of Music

by

Mary Alice Druhan

B.M., Louisiana State University, 1993

M.M., University of Cincinnati College-Conservatory of Music, 1995

May 2003

Table of Contents

List of Figures	iii
Abstract	v
Chapter I. Introduction.....	1
Sources on Contemporary Clarinet Techniques	1
Sources on Electronic Applications	3
Sources on Multimedia Clarinet	4
Chapter II. Clarinet Multimedia Music: An Historical Perspective	10
The Clarinet in Multimedia.....	18
Chapter III. Joel Chadabe	23
List of Works:	26
<i>Street Scene</i>	27
Chapter IV. Merrill Ellis	36
List of Works:	39
<i>A Dream Fantasy</i>	42
Chapter V. William O. Smith	49
List of Works:	53
<i>Slow Motion</i>	55
Chapter VI. Reynold Weidenaar	58
List of Works:	61
<i>Swing Bridge</i>	63
Chapter VII. Conclusion	71
Bibliography	75
Appendix A: Musical Works Cited.....	84
Appendix B: Electronic Music Terminology.....	94
Appendix C: Catalog of Multimedia Compositions for the Clarinet.....	99
Appendix D: Letters of Permission.....	125
Vita.....	130

List of Figures

Figure 1. Joel Chadabe, <i>Street Scene</i> , Copyright 1968 by Carl Fischer, Inc.	29
Figure 2. Joel Chadabe, <i>Street Scene</i> , Copyright 1968 by Carl Fischer, Inc.	31
Figure 3. Joel Chadabe, <i>Street Scene</i> , Copyright 1968 by Carl Fischer, Inc.	31
Figure 4. Lawrence Ferlinghetti, “ <i>The Long Street</i> ,” 1958.....	32
Figure 5. Merrill Ellis, <i>A Dream Fantasy</i> , © MCMLXXVI by Carl Fischer, Inc.	43
Figure 6. Merrill Ellis, <i>A Dream Fantasy</i> , © MCMLXXVI by Carl Fischer, Inc.	44
Figure 7. Merrill Ellis, <i>A Dream Fantasy</i> , © MCMLXXVI by Carl Fischer, Inc.	46
Figure 8. Merrill Ellis, <i>A Dream Fantasy</i> , © MCMLXXVI by Carl Fischer, Inc.	46
Figure 9. Merrill Ellis, <i>A Dream Fantasy</i> , © MCMLXXVI by Carl Fischer, Inc.	47
Figure 10. Merrill Ellis, <i>A Dream Fantasy</i> , © MCMLXXVI by Carl Fischer, Inc.	47
Figure 11. Merrill Ellis, <i>A Dream Fantasy</i> , © MCMLXXVI by Carl Fischer, Inc.	48
Figure 12. William O. Smith, <i>Slow Motion</i> , Copyright 1987 by Ravenna Editions.....	55
Figure 13. William O. Smith, <i>Slow Motion</i> , Copyright 1987 by Ravenna Editions.....	56
Figure 14. William O. Smith, <i>Slow Motion</i> , Copyright 1987 by Ravenna Editions.....	56
Figure 15. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.	65
Figure 16. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.	66
Figure 17. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.	66
Figure 18. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.	67
Figure 19. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.	68
Figure 20. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.	68

Figure 21. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.....	69
Figure 22. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.....	69
Figure 23. Reynold Weidenaar, <i>Swing Bridge</i> , © 1997 by Magnetic Music Publishing Co.....	70

Abstract

The clarinetist of today is challenged by advancements in contemporary music and technology. In addition to the difficulties with contemporary clarinet techniques and with the onset of electronic music, multimedia compositions from the last forty years have presented an additional obstacle: the visual element. This written document provides a concise historical perspective of multimedia compositions utilizing clarinet and a tutorial focusing on the preparation of four multimedia works. A catalog of multimedia compositions for clarinet with visuals is included to provide information about literature and availability.

This document contains an historical essay, summarizing developments in technology and changes in music composition from the late 1950s to the present, focusing on multimedia clarinet music. It also chronicles the development of multimedia music for the clarinet as both a solo and a chamber instrument. Four multimedia works are presented for study in this document. The pieces were selected according to several criteria such as date of composition, composer's influence, availability, type of visual used, and success in performance or competition. Each piece is representative of one decade: 1960s, 1970s, 1980s, and 1990s. These include Joel Chadabe's Street Scene (1967), Merrill Ellis's A Dream Fantasy (1974), William O. Smith's Slow Motion (1987), and Reynold Weidenaar's Swing Bridge (1997), respectively.

A chapter is provided for each of the composers represented by compositions in the recital to provide a biography of the composer, and a description of the piece used for

performance in the lecture recital. A tutorial section for each piece offers a preparation and rehearsal guide as well as suggestions for set-up and performance.

Clarinetists may be unaware of multimedia literature due to the absence of a catalog. This document includes a catalog of multimedia compositions to aid clarinetists in their search for performance literature. The goal of this recital and written document is to create an awareness and interest in this art form as well as to provide useful strategies for its preparation and performance.

Chapter I. Introduction

The clarinetist of today is challenged by innovations in contemporary music and technology. In addition to the difficulties of modern clarinet techniques and with the onset of electronic music, multimedia compositions from the last forty years have presented the performer with an additional obstacle: the visual element. Currently there is a plethora of books and articles dealing with contemporary techniques on the clarinet,¹ but very few address the issue of multimedia. Of this limited number of extant publications, most fail to provide useful preparation and performance suggestions for the visual element. Furthermore, the absence of a multimedia catalog presents an additional challenge: knowing what exists and where to find it.

Sources on Contemporary Clarinet Techniques

Compositions for clarinet over the last century have changed the performance practices of the instrument to include new techniques and possibilities, such as flutter tongue, multiphonics, glissando, portamento, key clicks, lip buzzing, and vocal sounds while playing, to name a few. Another relatively new addition to the clarinet repertoire is the application of electronic elements, such as magnetic tape or audio processing. The subject of avant-garde techniques has been the focus of numerous books and articles. Even so, some clarinet performance manuals decline to discuss contemporary techniques or electronic applications. In his book, *The Clarinet and Clarinet Playing* (1980), David Pino states,

Much music written today contains elements of “chance,” “indeterminacy,” and “extended techniques” and is described as being “aleotonic” or, more vaguely, as

¹ Gerry Errante, “Sources for New Music,” *The Clarinet* 1, no. 2 (1974): 12-5.

“avant-garde.” These various terms are not actually interchangeable and have specific meanings of their own, meanings that are beyond the scope of this book.²

The Clarinet Doctor is In,³ a clarinet method and teaching handbook by Howard Klug of Indiana University, contains no information on contemporary techniques, nor any information regarding multimedia compositions.

Some pedagogical texts devote entire sections to the study of contemporary works. In *The Cambridge Companion to the Clarinet* (1995), edited by Colin Lawson, Roger Heaton contributed a chapter entitled “The Contemporary Clarinet.” In this chapter, Heaton provides a brief history of clarinet repertoire and composition practice from the 1950’s, as well as descriptions of various contemporary techniques. He follows with a brief paragraph articulating the application of electronics, and states, “The American scene is well covered by what is still by far the best book on new clarinet techniques, Phillip Rehfeldt’s *New Directions for Clarinet* (University of California Press, 1976, rev. ed. 1994).”⁴

In *New Directions for Clarinet*, the author clearly states in the preface to the first edition:

The purpose, simply stated, has been to assemble material dealing with clarinet performance as it has evolved since approximately 1950: to identify or “catalogue” the practices now prevalent which differ from those formerly standardized; to provide some perspective on specific performance capabilities and limitations; and . . . to include suggestions for performance.⁵

In this text, Rehfeldt provides information on basic clarinet performance expectations.

These include expanded intonation as well as microtones, extensions in range, styles and

² David Pino, *The Clarinet and Clarinet Playing* (Mineola, N.Y.: Dover Publications, Inc., 1980): 265.

³ Howard Klug, *The Clarinet Doctor is In* (Bloomington, IN: Woodwindiana, Inc., 1997): 12-47.

⁴ Roger Heaton, “The Contemporary Clarinet,” in *The Cambridge Companion to the Clarinet*, ed. Colin Lawson (Cambridge: Cambridge University Press, 1995): 172.

⁵ Phillip Rehfeldt, *New Directions for Clarinet*, rev. ed. (Berkeley: University of California Press, 1994): vii.

types of articulation, and expanded range of dynamics. Rehfeldt gives additional information on contemporary techniques and literature.

Sources on Electronic Applications

Rehfeldt's book does provide systematic information about electronic applications for the clarinet.⁶ He cites some of the earliest examples of clarinet music with electronic applications, such as William O. Smith's *Duo for Clarinet and Tape* (1960),⁷ Charles Whittenburg's *Study for Clarinet and Tape* (1961), and Morris Knight's *Refractions for Clarinet and Tape* (1962).⁸ Rehfeldt includes an example of a basic amplification system for clarinet with prerecorded tape, which consists of a microphone pickup, microphone preamplifier, mixer, electronic effects control, two-channel tape deck, power amplifier, and speaker system. Rehfeldt concludes the section on electronic applications with a summary of performance suggestions and advice for common problems. As one possibility, he suggests using a well-rehearsed technician centered in the audience with the electronic control center to help regulate problems with volume, equalization, variations in response, and malfunctions of electronic equipment.

In a discussion of clarinet literature, Rehfeldt not only includes an appendix about the influence of William O. Smith,⁹ but also provides both a contemporary clarinet bibliography¹⁰ and an "International Update,"¹¹ which lists contemporary repertoire being performed by some of the world's leading avant-garde clarinetists. Rehfeldt reveals a

⁶ For information regarding electronic music and equipment see "Appendix B: Electronic Music Application to Clarinet Performance."

⁷ For complete and easy reference, the works mentioned in this paper are listed (alphabetically, by composer) with publication information in "Appendix A: Works Cited."

⁸ Rehfeldt, 83.

⁹ Ibid., 95-121.

¹⁰ Ibid., 135-44.

¹¹ Ibid., 145-94.

brief biography of each clarinetist, followed by a listing of works performed by that particular artist. Rehfeldt recommends Errante's *Contemporary Clarinet Repertoire for Clarinet and Electronics*¹² as supplemental material.

Sources on Multimedia Clarinet

Sources for electronic applications in acoustic performance are now more abundant than in past decades, but few discuss electronic music in combination with other disciplines, or multimedia. Roger Heaton's chapter mentions electronic applications, but falls short of providing information about multimedia works, and only mentions it as a development of the experimentalism pioneered by John Cage.¹³

The bibliography of Rehfeldt's book does contain citations of several clarinet pieces with visual elements (e.g. dancers), and some pieces with electronics and visuals, or multimedia. There is, however, no section designated specifically to multimedia works. Rehfeldt's only mention of multimedia, apart from the bibliography, states, "Visual media (film, video, synchronized slides, and so forth) can enhance, to varying degrees, the concert hall environment."¹⁴

Pieces cited in Rehfeldt's book include Jack Fortner's *De Plus en Plus* (1971, ms) for clarinet, piano, tape, and visuals; Donald Scavarda's *Landscape Journey* (1963, ms.) for clarinet, piano, and 8mm film; Morton Subotnick's *Play!* (1962) for woodwind quintet, piano, tape, and 16mm film; Ron Pellegrino's *Phil's Float* (1974, ms.) for clarinet, tape or synthesizer, and film; and a list of works for clarinet and video provided by Errante. This list includes the following:

¹² F. Gerard Errante, *Contemporary Clarinet Repertory for Clarinet and Electronics*, 2d ed. (1993).

¹³ Heaton, 165.

¹⁴ Rehfeldt, 83.

Roger Grieve, *Clarinet Chromatron* (1987)
 Ryo Maruyama, *Landscape of Memory* (1990)
 Ryo Maruyama, *Shadows* (1991)
 William O. Smith, *Slow Motion* (1987)
 David Stout, *Acceleration* (1987)
 Kazuo Uehara, *Media Mix* (1991)
 Reynold Weidenaar, *Between the Motion and the Act Falls the Shadow* (1991)
 Reynold Weidenaar, *Love of Line, of Light and Shadow: The Brooklyn Bridge* (1982)
 Reynold Weidenaar, *Night Flame Ritual* (1983)
 Reynold Weidenaar, arranged by Errante, *The Stillness* (1985)
 Martin Wesley Smith, *Pyramid* (1983)

Philip Rehfeldt's book is an important source of material for the contemporary clarinetist. It provides little information about multimedia works and no information about the application of a visual element in performance.

There are other articles that mention visuals in contemporary clarinet literature. "New Music: Electronic in General - Clarinet and Tape in Particular," an article written by Ramon L. Ricker in 1971, provides a brief overview of electronic music and an argument for its performance. As a source for literature, Ricker provides a bibliography of "new music,"¹⁵ which lists forty pieces. Only three of these encompass visual applications: Joel Chadabe's *Street Scene* (1967) for English horn or clarinet, tape, and slides; Lowell Cross' *Musica Instrumentalis* (1969) for any instrument, T.V. screens, and loudspeakers; and Dorrance Stalvey's *Togethers III* (1970) for clarinet, tape, and optional slides.¹⁶ Understandably, Ricker's early article gives little help to the clarinetist of the twenty-first century for the performance of multimedia literature.

¹⁵ Ramon L. Ricker, "New Music: Electronic in General Clarinet and Tape in Particular," *Woodwind World* 10, no.4 (1971): 14.

¹⁶ Ricker, 14,17.

Over a decade later, F. Gerard Errante wrote a series of articles on electro-acoustic music for the clarinet for the short-lived clarinet journal, *ClariNetwork*.¹⁷ In the first of five articles, he discusses the suitability of the instrument for experimental and contemporary music, stating, “Its flexibility allows for a wide range of effects including all manner of multiple sonorities, microtones, timbre trills, air sounds, percussive sounds, etc.”¹⁸ In the second, he examines the argument of live performer versus electronic compositions. He observes, “On the other hand, the absence of a performer presents certain difficulties and drawbacks especially in a concert setting.”¹⁹ Errante addresses music for both a live performer and electronic tape in the third article. He presents the advantages of the combination and also explores some of the drawbacks, such as fixed time in taped accompaniments and the lack of standardization in tape-music notation. It is in this article that he mentions Weidenaar’s compositions for clarinet, live electronics, and computer-processed video, *Love of Line, of Light and Shadow: The Brooklyn Bridge* (1982) and *Night Flame Ritual* (1983).²⁰ In the fourth article, Errante addresses the need for assistance in many electro-acoustic pieces for the clarinet. He labels some pieces’ demands as “burdensome.”²¹ One of the pieces he discusses is a multimedia work, *Dodgson’s Dream* (1979), by the Australian composer Martin Wesley-Smith. Errante calls the piece, “a fine example of technology at work, combining with a live performer to produce a cohesive whole.”²² Another multimedia work mentioned in this fourth article is Marilyn Schrude’s *Drifting Over a Red Place* (1982). In the final article, he

¹⁷ F. Gerard Errante, “Electro-Acoustic Music for the Clarinet, Part I,” *ClariNetwork* Fall (1984): 14,21.

¹⁸ Errante, “Electro-Acoustic Music for the Clarinet, Part I,” in *ClariNetwork*, 14.

¹⁹ F. Gerard Errante, “Electro-Acoustic Music for the Clarinet, Part II,” *ClariNetwork* Spring (1985): 16.

²⁰ F. Gerard Errante, “Electro-Acoustic Music for the Clarinet, Part III,” *ClariNetwork* Clar-Fest (1985): 26.

²¹ F. Gerard Errante, “Electro-Acoustic Music for the Clarinet, Part IV,” *ClariNetwork* Fall (1985): 18.

²² Errante, “Electro-Acoustic Music for the Clarinet, Part IV,” in *ClariNetwork*, 21.

provides a list of one hundred nine compositions for clarinet with tape or live electronics.²³ The only multimedia works included in this list are the four mentioned in the previous articles.

Errante wrote a separate article for *ClariNetwork* in 1986 entitled, “The New Medium of Video Performance.”²⁴ This article is the most informative to date on information regarding video and sound equipment for performances of video multimedia clarinet works. It focuses on Weidenaar’s *Love of Line, of Light and Shadow: The Brooklyn Bridge*. Errante compares the use of television monitors to video projectors with screens for performance, and evaluates location and sizes for each. He also provides information about sound quality of a variety of video, and its relation to video, or image, quality. Errante warns of the various systems for video equipment in different countries and suggests National Television Systems Committee (NTSC) compatible equipment for most of the Americas, Phase alternation by Line (PAL) system for most of Europe, Japan, Australia, and New Zealand, and *Système Electronique Couleur Avec Memoire* (SECAM) in France, Greece, and the Eastern Bloc countries.²⁵ Errante also gives basic information about set-up and performance of video multimedia compositions.

Mention of other multimedia works is evident in a number of articles by Errante. Errante refers to the multimedia piece, *A Dream Fantasy* (1974), by Merrill Ellis’ in his article, “A Representative List of Compositions Utilizing Contemporary Clarinet Techniques.”²⁶ In a separate article about multiphonics, he lists two works with visuals,

²³ F. Gerard Errante, “Electro-Acoustic Music for the Clarinet, Part V,” *ClariNetwork* Holiday (1985): 16.

²⁴ F. Gerard Errante, “The New Medium of Video Performance,” *ClariNetwork* Clar-Fest (1986): 25,28.

²⁵ Errante, “The New Medium of Video Performance,” in *ClariNetwork*, 25.

²⁶ F. Gerard Errante, “A Representative List of Compositions Utilizing Contemporary Clarinet Techniques,” *Woodwind World – Brass and Percussion* 16, n.4 (1977): 11.

Jack Fortner's *De Plus en Plus* (1971) and Dorrance Stalvey's *Togethers III* (1970).²⁷ In 1990, Errante provided *The Clarinet* with "The Electronic Clarinet," an article about music for clarinet and prerecorded tape, music for clarinet with self-prepared tape, and clarinet with live electronics. "In addition there is a short list for clarinet, video and electronics."²⁸ Errante cites the following three pieces with video:

Roger Grieve and T.J. Hinsdale, *Clarinet Chromatron* (1987)
Reynold Weidenaar, *Love of Line, of Light and Shadow: The Brooklyn Bridge* (1982)
William O. Smith, *Slow Motion* (1987)

He also provides basic information about audio equipment and balance, stating,

The equipment requirements are usually not a problem as most venues, especially in the academic world, have video cassette decks and a video projection system or video monitors available. In most works written thus far, the video is fixed on prerecorded tape. Recent technology is now making possible interactive video pieces, i.e., video which can be controlled in real-time by the performer.²⁹

This article is an invaluable tool for clarinetists new to the field of electronic music.

Errante cites his article, "The New Medium of Video Performance," as a source for more information.

Notably, there is one error in Errante's citation of multimedia compositions. In the February 1974 edition of *The Clarinet*, Errante lists Jonathan Kramer's *Games Clarinetists Play* (1972) for clarinet, slides, lights, and tape.³⁰ Upon contacting the composer, it was learned that the piece was, "the title of a piece I sketched but never actually composed. It does not exist."³¹

²⁷ Errante, "Clarinet Multiphonics: Practical Applications," *The Clarinet* 3, n.2 (1976): 7.

²⁸ F. Gerard Errante, "The Electronic Clarinet," *The Clarinet* 17, no.3 (1990): 14.

²⁹ Errante, "The Electronic Clarinet," in *The Clarinet*, 18.

³⁰ F. Gerard Errante, "Selected Unpublished Compositions Not Found in Sources for New Music," *The Clarinet* 1, no. 2, (1974): 14.

³¹ Jonathan D. Kramer, "re: clarinet music," [e-mail]; from jdk4@columbia.edu; received at spdruhan@aol.com, 9 August 2000.

The most comprehensive list of works in this medium appears in Rehfeldt's text, and contains only eleven pieces.³² Through the work of clarinetists like F. Gerard Errante, multimedia clarinet repertoire is becoming more visible. Still, without a catalog and readily accessible advice on equipment, set-up, rehearsal, and performance, the works appear complicated and arduous. There are few clarinetists with familiarity and knowledge in this field of study and, therefore, few to consult for instruction and assistance. The clarinetist is often left with interest, but some trepidation about approaching these unfamiliar works.

This lecture recital and written document chronicle the development of this medium through a brief historical perspective of multimedia music, and through the research and performance of four multimedia works: Joel Chadabe's *Street Scene*, Merrill Ellis' *A Dream Fantasy*, William O. Smith's *Slow Motion*, and Reynold Weidenaar's *Swing Bridge* (1997). The pieces were selected according to several criteria such as date of composition, composer's influence, availability, type of visual used, and success in performance or competition. This document provides biographical information for each composer and a tutorial for the performance of each multimedia work.

It is the intent of this document to present a catalog of compositions to aid in the search for multimedia literature with clarinet. The catalog contains specifics about the piece, such as date of composition, duration, and instrumentation, as well as publisher or composer information. For this medium to become a component of the standard repertoire and performance practice, the literature requires broader exposure, supplementary guides for preparation, and a more extensive catalog.

³² Rehfeldt, 151.

Chapter II. Clarinet Multimedia Music: An Historical Perspective

In the middle of the Twentieth Century, musicians experimenting with electronic devices created compositions with electronically generated pitches. The earliest examples are by Herbert Eimert and Robert Beyer and were written between 1951 and 1953. These works incorporated a device, which produced melodies using Markov analysis of Stephen Foster tunes.

A Markov analysis looks at a sequence of events, and analyzes the tendency of one event to be followed by another. Using this analysis, you can generate a new sequence of events of random but related events, which will look similar to the original.³³

Eimert and Beyer's collaboration produced *Klang im unbegrenzten Raum* (*Sound in a Room without Borders*) (1951-2), *Klangstudie I* (1952), and *Klangstudie II* (1952-3).

“(Eimert) can be considered the founder of the Cologne branch of electro-acoustic music.”³⁴

Other pioneers of electronic music include Vladimir Ussachevsky and Otto Luening, founders of the Columbia-Princeton Electronic Music Center (CPEMC). The first major American electronic works were by these two composers, and combined sounds prerecorded on magnetic tape. Some examples were performed on the “first public concert of tape-recorder music in the United States,”³⁵ at the Museum of Modern Art (October 28, 1952), which included Ussachevsky's *Sonic Contours* (1952) and Luening's *Low Speed* (1952), *Invention* (1952), and *Fantasy in Space* (1952). According to John Paulson, the concert “opened the door to a decade of research and

³³ Nick Didkovsky, “What's a Markov Process?” [Article on-line] ; available from <http://www.doctornerve.org/nerve/pages/interact/markhelp.htm>; Internet; accessed 4 December 2002.

³⁴ Konrad Boehmer, “Herbert Eimert-Interview with Konrad Boehmer,” [Article on-line] ; available from <http://www.furious.com/perfect/ohm/eimert.html>; Internet; accessed 4 December 2002.

³⁵ Otto Luening, “Origins,” from *The Development and Practice of Electronic Music*, Jon H. Appleton and Ronald C. Perera (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1975), 17.

experimentation attracting world-wide attention.”³⁶ Ussachevsky and Luening also wrote works for tape and orchestra, including *A Poem in Cycles and Bells* (1953-4) and *Rhapsodic Variations* (1954).

On October 19, 1954, The Cologne Radio Series “Music of Our Time” aired pieces by Karlheinz Stockhausen, Herbert Eimert, and Henri Pousser, which used only electronically-generated sounds. “Initially, the Cologne musicians concentrated only on electronically generated sound, but by the middle of the decade, the barriers between conventional instrumentation, electronic sounds, and manipulated tape recordings were broken, resulting in such seminal works as Stockhausen’s *Gesang der Junglinge* (1956) and Varese’s *Poeme Electronique* (1958).”³⁷

Electronic music quickly led to experimentation with computers and with computer-generated music. *Illiac Suite for String Quartet* (1955), “the first piece of computer-generated music,”³⁸ was created for string quartet by an Illiac I computer programmed by Lejaren Hiller and Leonard Isaacson of the University of Illinois at Urbana. Other composers working with computers include Martin Klein and Douglas Bolitho. Their Datatron computer was used to compose popular tunes.

Max Mathews, the “Father of Computer Music,”³⁹ experimented with computers starting in 1957. As a researcher for Bell Labs, Mathews was hired to develop computer equipment to analyze telephones. “With the aim of using listening tests to judge the

³⁶ John C. Paulson, “Electronic Pioneers,” *The Instrumentalist* 41, no.11 (1987): 40.

³⁷ *Industrial Prehistory: New Musical Technology*, “4. Use of Synthesizers and Anti-Music.” [Article on-line] ; available from <http://media.hyperreal.org/zines/est/articles/prehist4.html>; Internet; accessed 4 December 2002.

³⁸ *History of Electronic and Computer Music Including Automatic Instruments and Composition Machines*, [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/electronmedia/music/eamhistory.html>; Internet; accessed 7 August 2000.

³⁹ Ben Kettlewell, *Electronic Music Pioneers* (Artist Pro/Pro Music Press, 2002): .

quality of the sound, he had made a converter to put sound into a computer and a converter to get it back out again.”⁴⁰ He wrote MUSIC I, the first computer program to generate sound, in 1957. The first piece produced with MUSIC I was *In the Silver Scale* (1957) by Newman Guttman. Mathews later worked with Joan Miller to write MUSIC IV, the first well-known computer sound synthesis program. It was written in 1972 for an IBM 7094, one of the first computers to use transistors.⁴¹ This program was used to generate Mathew’s *Bicycle Built for Two* (1961). John C. Paulson states,

By the 1960s the Columbia-Princeton Center had attracted outstanding composers including Mario Davidovsky, Milton Babbitt, Charles Wuorinen, Charles Dodge, Pril Smiley, Halim ElDabh, and Bülent Arel, who pioneered some of the first successful applications of computer-generated sounds.⁴²

There were many stages in the important development of the synthesizer. Harry Olson and Hebert Belar invented the Elektronik Music Synthesizer for RCA in 1952. The RCA Mark II Synthesizer was built at Columbia-Princeton Electronic Music Center in 1959. Milton Babbitt composed *Composition for Synthesizer* (1961) and *Ensembles* (1962-4) for the Mark II synthesizer. Most synthesizers at this time were expensive, and restricted to academic studios.

In 1961, Robert Moog and Herbert Deutsch created a voltage-controlled synthesizer. The Moog synthesizer was not released until 1964, after changes and developments were made, and was not commercially available until 1965. The Moog synthesizer was released to the commercial marketplace after the Buchla synthesizer, but

⁴⁰ Joel Chadabe, *Electric Sound: The Past and Promise of Electronic Music* (Upper Saddle River, N.J.: Prentice-Hall, Inc., 1997), 108.

⁴¹ Chadabe, 110.

⁴² Paulson, 42.

due to the release of the popular *Switched on Bach* (1968) album by synthesist Walter Carlos,⁴³ remains the most famous.⁴⁴

In collaboration with Rachel Elkind, who served as her producer for a dozen years, Carlos hit platinum sales status with her 1968 recording *Switched on Bach*, which propelled the Moog synthesizer into the public consciousness and won three Grammy Awards.⁴⁵

Paul Ketoff built the Synket, a portable synthesizer intended for live performance, for John Eaton, in 1962. Eaton used the synket in performances of his *Blind Man's Cry* (1968), and wrote several works for the instrument, including *Concert Piece for Synket and Symphony* (1967). Digital synthesizers, like the Synclavier, were developed in the 1970s, and MIDI synthesizers in the 1980s, including the Yamaha DX and the Casio CZ.

Another important development in electronic music was the implementation of live electronics. David Tudor wrote *Rainforest I* (1968), the first live electronic work, in 1968, on a commission by the Merce Cunningham Dance Company. In this composition, sounds are transmitted through physical objects, resulting in modifications made by the resonant qualities of the materials. Morton Subotnick, “reached the apex of live electronic processing in his work *Ascent into Air* (1981).”⁴⁶

The Musical Instrument Digital Interface (MIDI) was developed in 1983 to send information about pitch, timbre, velocity, etc. from one device to another, and is now a

⁴³ Walter presently goes by the name “Wendy Carlos,” but early recordings are under the name of “Walter Carlos.”

⁴⁴ “Synthesizer,” from *Webster's New World Dictionary*, 2d College ed. [Article on-line] ; available from <http://www.dei.isep.ipp.pt/~i000095/synthesizer.htm>; Internet; accessed 14 January 2003.

⁴⁵ Wendy Carlos, “Wendy Carlos: Biographical Notes.” [Article on-line] ; available from <http://www.wendycarlos.com/biog.html>; Internet; accessed 14 January 2003.

⁴⁶ “Morton Subotnick.” [Article on-line] ; available from <http://shoko.calarts.edu/~mort/about.html>; accessed 14 January 2003.

part of all personal computers. The following is an excerpt from an article by Judith Shatin about recent electronic composition:

The world of music has changed dramatically in the past thirty years. We can make music using computers and synthesizers, and we can make and hear sounds that didn't use to exist! There are two basic ways that computers are used to make music. First, we can use computers to tell synthesizers what and when to play. They tell the synthesizers what to do by sending messages through MIDI (Musical Instrument Digital Interface) . . . Computers can also be used to generate sound from scratch or to process sounds that the computer has made or that you record into a computer.⁴⁷

The application of music and technology to theater, film or other visual elements is designated multimedia. Randall Packer declares "immersion" one of the "key attributes of multimedia."⁴⁸ According to Barry Schrader, "The notion of combining different arts is . . . ancient. What made the so-called multimedia works recognizably different was their combined use of electronic technologies."⁴⁹

The earliest multimedia works were experimental pieces from the electronic music studios of the 1950s. By the middle of the 1950s composers employed electronic sound scores to accompany film. Louis and Bebe Barron produced electronic-sound scores for *The Bells of Atlantis* (1952), and for the science fiction film *Forbidden Planet* (1956).⁵⁰ The first large-scale multimedia production was Edgard Varese's *Poeme Electronique* (1958). It was written for the World's Fair in Brussels and performed on

⁴⁷ Judith Shatin, "Electronic Composition." [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/homework/electroniccomp.html>; Internet; accessed 29 October 2002.

⁴⁸ Randall Packer, "Just What is Multimedia, Anyway?" *IEEE MultiMedia* (1999): 11.

⁴⁹ Barry Shrader, *Introduction to Electro-Acoustic Music* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1982), 173.

⁵⁰ *History of Electronic and Computer Music Including Automatic Instruments and Composition Machines*, [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/electronmedia/music/eamhistory.html>; Internet; accessed 7 August 2000.

approximately 425 loudspeakers with accompanying projected images.⁵¹ In 1966, David Tudor's *Bandoneon!* (1966), was performed for the Experiments in Art and Technology (EAT) Performance Series. Tudor played the Latin American string instrument, bandoneon, and the sounds were processed electronically, switched between loudspeakers, and used to vibrate sculptures on moving carts, and used to control video images and lights.⁵² The video for *Bandoneon!* was created by Lowell Cross. Paul Friedlander writes about what he calls the "second type" of visual music,

Visual music is a means of expressing music in visual form requiring the active involvement of an artist, designer or director to interpret the music and find the means to express it visually. This is perhaps too narrow a definition since many of the events and happenings of the '60s involve a collaboration between different forms: theater, dance music, etc. where no single element prevailed but the performance was a kind of visual music. This is also where the word multimedia originated.⁵³

Developments in technology have altered the ways in which multimedia compositions are created and performed. By 1970, composers were using voltage-controlled synthesizers. Donald Buchla built several systems in the 1970s, including the Buchla 400, a computer-based system, "which allowed composers to program sounds and sequences and define performer interactions."⁵⁴ Subotnick used a Buchla synthesizer to create *Silver Apples of the Moon* (1967). It was commissioned by Nonesuch Records and

⁵¹ *History of Electronic and Computer Music Including Automatic Instruments and Composition Machines*, [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/electronmedia/music/eamhistory.html>; Internet; accessed 10 August 2000.

⁵² Chadabe, 105.

⁵³ Paul Friedlander, "What is Visual Music?" [Article on-line] ; available from <http://www.praskovi.clara.net/text/visualmusic.html>; Internet; accessed 10 February 1999.

⁵⁴ Chadabe, 163.

has been used by several dance companies, including the Stuttgart Ballet and the Ballet Rambert.⁵⁵

Composer-artists, Steina and Woody Vasulka used a Buchla Synthesizer to control video signals with audio signals. The Vasulkas moved to New York City from Prague in 1965, and experimented with electronic sounds, stroboscopic lights, and, by 1969, with video. They founded the media arts theater, The Kitchen, in 1971 along with Andreas Mannik, and established the first annual video festival there.⁵⁶ Woody worked with Don MacArthur and Jeffrey Schier to build the Digital Image Articulator in 1976, which introduced him to the principles of digital imaging. Some of the Vasulka's early collaborative works include *Participation* (1969), *Interface* (1970), *Continuous Video Environment* (1971), and *Matrix* (1972). Steina continues to work with video, media performance, and video installation, and Woody continues his work with video, three-dimensional computer graphics, and media constructions.

Iannis Xenakis composed and performed *Diatope* (1978) in Paris, using 1,600 pinpoint lights, four lasers, 400 mirrors, diverse optical effects and sound. Most early multimedia works employed electronic tape or synthesizer with some visual element: dance, slide, film, etc.

Advancements over the course of the last fifty years have prompted the audio changes from reel to reel to cassette, and eventually, to compact disc; visual technology has shifted from film and slide to digital photography and video. Computers enable composers and visual artists to produce and/or manipulate digital sound and imagery.

⁵⁵ "Morton Subotnick." [Article on-line] ; available from <http://shoko.calarts.edu/~mort/about.html>; accessed 14 January 2003.

⁵⁶ "Steina & Woody Vasulka: Curriculum Vitae." [Article on-line] ; available from <http://www.c3.hu/scca/butterfly/Vasulkas/cv.html>; Internet; accessed 14 January 2003.

These techniques allow for a wide variety of multimedia pieces. The possibilities are identified by Eric Somers:

Multimedia artists of today may design Web sites, CD-ROMs, or video games which incorporate text, still graphics, video clips, sounds, and virtual reality simulations. Or they may create elaborate theater pieces combining the live actor with computer controlled videos, lighting effects, and music. They might even create electronic music which has a video component; a gallery installation in which the visitors can partly control the art being displayed; or a kinetic sculpture which moves and make sounds.⁵⁷

Since the time of Varese's *Poeme Electronique*, multimedia music has been integrated into the concert hall. Some of these works have been written for orchestra, such as Anthony Braxton's *Composition no. 96* (1978) and Dan Welcher's *Prairie Light* (1985), both for orchestra with slide projection. *Jacob's Room*, Morton Subotnick's multimedia opera, received its premiere in Philadelphia in April 1993 at The American Music Theater Festival.

In *Jacob's Room* (1993), a chamber opera for live soprano, recorded baritone voice, live solo cello, video projections by Woody and Steina Vasulka, and loudspeakers placed around the performance space, Subotnick used Interactor to follow the soprano's and cellist's performances and control video laser disks (start time, frame number, speed, direction forward or backward, and duration) accordingly.⁵⁸

Martin Wesley-Smith's *Red Cockatoo* (1989) includes band with mime, tape, poetry, video, and transparencies. Other multimedia works include voices such as *Clouds* (1973-6), by the Swedish composer, Lars-Gunnar Bodin. This work is scored for singers, picture projectors and electro-acoustic sounds.

There are multimedia works written for chamber groups, including Helmut Zapf's *approximation* (1996), composed for string trio, electric guitar, tape, dancer and slide

⁵⁷ Eric Somers, "The Career of Multimedia Artist," [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/homework/multimedia.html>; Internet; accessed 29 October 2002.

⁵⁸ Chadabe, 218.

projector. *Mascarda* (1999), by the Latin-American composer, Carlos Alberto Vazquez's is an example of a solo multimedia work. It is scored for soprano, tape and images. Ben Piekut's *Situated Knowledges* (1999) was written for the German trombonist Abbie Conant, for trombone and tape. She performs the piece as a multimedia work with slides.

Multimedia works sometimes present electronic music and the visual element without the use of conventional instruments. One example is *La Saga Viking* (1993), composed by Canadian Marcelle Deschenes for electronics and multi-images. Daniel Weymouth wrote *Correspondences* (unknown) for video tape with computer- and analog-altered sound, with video artist Mark Frankel, and Jean-François Denis wrote *À Jérôme* (1982), a tape piece with images by photographer Gilles Corbeil.

Morton Subotnick's *All My Hummingbirds Have Alibis* (1993), the first musical composition created specifically as a multimedia CD-Rom, allows a listener at home to select the ordering of sections and choose which visuals are seen-score, pictures, or words-as the music plays.⁵⁹

The Clarinet in Multimedia

The clarinet is utilized in multimedia music as both a solo and a chamber instrument. Traditionally, clarinet multimedia music has followed the trends of other multimedia works of its time. The earliest examples of clarinet multimedia appeared in the 1960s. Some of these works have been called new media, interactive media, intermedia, multi-media, immersion, interdisciplinarity, hypermedia, or combination of disciplines. Not all early works will contain electronic applications, but they do represent the trend toward experimental multimedia. For the purposes of this paper, multimedia works for clarinet and electronic music involving dancer, actor, or theatrical elements

⁵⁹ Chadabe, 332.

without the additional element of art, film, photography, etc. have been excluded from the topic of multimedia.

The earliest example of multimedia works for clarinet is Morton Subotnick's *Play! No. 1* (1962), scored for woodwind quintet, piano, tape, and 16mm film. Another early work is *Landscape Journey* (1963) by Donald Scavarda, which was written for clarinet, piano, 8mm film, and lighting. Joel Chadabe wrote *Street Scene* (1967) for English horn or clarinet, tape and slides, while Jan Bach's *Skizzen* (1967) was conceived for woodwind quintet and drawings. The drawings, by Australian artist Heinrich Kley, are available on slides. In 1969, Peter Griffith wrote *Classic for Clarinet and Laser* (1969), and Pauline Oliveros wrote *The Wheel of Fortune* (1969), for clarinet, tape, and slides. *She Loves Me, She Loves Me Not* (1968), by American composer, David Rosenboom, shows a shift to more involved forms of multimedia. It is written for two musician-mimes, several percussionists, "witch doctor," tape, lighting, slides, and overhead projections.

Although Dorrance Stalvey's *Togethers III* (1970) and Krzysztof Knittel's *Punkty/Linie* (1973) were both written for clarinet, tape, and slides, they continue the earlier trend of smaller ensembles and less electronic devices, most pieces of the 1970s represent a move toward more inclusive compositions. This is exemplified by Merrill Ellis' *A Dream Fantasy* (1974), Lawrence Moss' *Nightscape* (1978), and Elliott Schwartz's *Telly* (1972). *Forma A, forme E* (1973), by Krzysztof Knittel, and *Impressions of Walden* (1979), by James John Hartway, are both works for woodwind quintet with multimedia elements. Knittel's piece uses lights for effect, while Hartway uses slides. Christopher Yavelow's *Sermon* (1973) is a large chamber work containing

slides of a church interior and requires a minister's costume for the trombonist and choir robes for the trumpet players.

Ron Pellegrino wrote for clarinet, film and synthesizer in *Phil's Float* (1974), for clarinetist Phillip Rehfeldt. He did not intend that the piece be distributed. Likewise, Oliveros' *The Wheel of Fortune* was written for the clarinetist William O. Smith, and is not intended for public use. Both works, having been written by influential and successful experimental composers, would undoubtedly add to the clarinet repertoire if the composers ever decided to publish them.

At the end of the 1970s, there was a move to more advanced technological devices. This is represented in clarinet literature by Martin Wesley-Smith's *Dodgson's Dream* (1979), which is written for clarinet, tape, live processing, dissolve unit, and two slide projectors. David Rosenboom and Marilyn Schrude continue this trend in the 1980s with additional works. There are also a number of multimedia pieces from the 1980s for clarinet with dancer. These include Lawrence Moss' *Blackbird* (1987) and *Images* (1981), as well as Marilyn Schrude's *Drifting Over a Red Place* (1982). Other composers experimented with computer technology to produce works like *Thomas Jefferson's Orbiting Minstrels and Contraband: a 21st Century Celebration of 19th Century Form* (1984), by Thomas Jefferson Anderson, and works by William O. Smith and Reynold Weidenaar. Other composers utilized earlier devices and technology rather than computers. Pierre Boulez wrote *Dialogue del'ombre Double* (1986) for eight clarinets, tape, and lights. *Celebration* (1980) is a chamber work by Merrill Ellis that incorporates flute, oboe, clarinet, bassoon, percussion, film, lasers, and tape. The Canadian composer Diana McIntosh uses tape and slides for her multimedia piece *Music*

at the Centre (1981). Composers of this period also begin working with video. Some products of this new development include David Rosenboom's *In the Beginning V (The Story)* (1980), Roger Grieve and T.J. Hinsdale's *Clarinet Chromatron* (1987) William O. Smith's *Slow Motion* (1987), and the concert videos of Reynold Weidenaar.

With the technical developments of the late 1980s and early 1990s, the use of tape music and film diminished. More composers worked with digital sounds and images. The use of the computer to manipulate the digital information becomes more widespread, as does the use of live electronics. Carolyn Bremer composed *I Have a Nightmare* (1993) for chamber group with live video. Brigid Burke, Australian composer and clarinetist, has composed a number of works for clarinet and/or bass clarinet with live and prerecorded tape, slides, video, and/or computer images. These pieces include but are not limited to, *The Bottled Fable* (1994), *The Earth Has an Aura* (1995), *Emmigig* (1995), *Gelas & Iemus* (2000), and *Gold thamar* (2000). Olga Neuwirth has written two chamber works with clarinet and visual elements. Both *Aufenthalt* (1992-3) and *Jardin Desert* (1994) include tape, video, and electronics. David Rosenboom wrote *On Being Invisible II (Hypatia Speaks to Jefferson in a Dream)* in 1994. Although it is not written specifically for clarinet, a clarinetist can perform this elaborate multimedia work, which is written for two computer music system performers, two improvising musicians, narrator, laser disk video projection, slides, pre-recorded voices, computer performer, and real-time digital synthesis system. Rosenboom collaborated with Anthony Braxton to create *Lineage, Enactment, Transfiguration, and Transference* (1992), another involved work. Peter Terry, Judith Shatin, and Carei E. Thomas have also written recent

multimedia works with clarinet. Carloz Vazquez wrote *Tzintzuntzan* (2001) for bass clarinet, marimba, violin, double bass, tape, and live electronic images.

Perhaps the most impressive recent works are by Reynold Weidenaar and by Martin Wesley-Smith. *Between the Motion and the Act Falls the Shadow* (1991) and *Swing Bridge* (1997), both concert videos by Weidenaar, use audio processing and computer-processed video. In a more recent work, *Hang Time on Jones Street* (2002), for any instrument and electronics, Weidenaar uses DVD for audio and visual material. Martin Wesley Smith has written several pieces for clarinet and for bass clarinet with CD Rom. These include *Welcome to the Hotel Turismo* (2000-2) and *X* (1999).

Multimedia composers continue to use the clarinet in the performance of new and innovative art and technology. *Tekee Tokee Tomak* (2003) was premiered this year by Roslyn Dunlop and is written for clarinet and CD Rom by Wesley-Smith. Weidenaar has recently written *Waves* (2002), another concert video for clarinet. Other recent composers include Randall Woolf, Kazuo Uehara, Stephen Truelove, Niels Rosing-Schow, Linda Woodaman Ostrander, Michael Matthews, Ryo Maruyama, and Eve Beglarian. Given the progress of multimedia music over the last forty years, one can assume that clarinet multimedia music has just begun and will continue to interest prominent composers to create more examples of concert art.

Chapter III. Joel Chadabe

Joel Chadabe was born in New York on December 12, 1938. While in high school, he studied composition with Noel Sokoloff at the Mannes College of Music, and later studied composition with Will Mason at the University of North Carolina at Chapel Hill, where he received a Bachelor of Arts degree in 1959. At Yale University, he studied with Elliott Carter and earned the Master of Music degree in 1962. Other musical influences include Earle Brown and John Cage,⁶⁰ early experimental composers associated with the Project for Music for Magnetic Tape in New York from 1951.

Chadabe's first teaching post was at the State University of New York at Albany (1965), where he is currently Professor Emeritus. "In 1967, while director of the Electronic Music Studio at State University of New York at Albany (1965-1998), he designed the C.E.M.S. (Coordinated Electronic Music Studio) System, an analog-programmable electronic music system built by Robert Moog."⁶¹ The system contained sound-generating and processing modules, an automated matrix mixer, a digital clock, and eight analog sequencers with hardware used to run them synchronously, asynchronously, in succession, or in any combination. It enabled Chadabe to compose and perform *Ideas of Movement at Bolton Landing* (1971), and *Echoes* (1972). In a performance of *Echoes*, sounds played by an instrumentalist were delayed, randomly transformed through electronic processing, and routed to loudspeakers.

"From 1965 to 1977 Chadabe was engaged in creating tape compositions that use electronic sound sources, and mixed-media works that combine live and electronic

⁶⁰ Stanley Sadie, ed., "Chadabe, Joel," *The New Grove Dictionary of Music and Musicians*, 2d ed, v. 5 (New York: MacMillan Publishers, Ltd, 2001): 418.

⁶¹ Joel Chadabe, "Joel Chadabe: Biography" [Article on-line] ; available from <http://www.chadabe.com/bio.html>; Internet; accessed 13 December 2002.

forces.”⁶² Multimedia “environments,” or spectacles of sound and light in the 1960s, including the “polytopes” of Iannis Xenakis, influenced Chadabe’s involvement in intermedia composition. Since 1969, he has been active, as both composer and performer, at experimental, electronic, and intermedia festivals around the world. Some of these festivals include the following:

Expanded Instruments Festival, New York City
Centro Cultural Recoleta, Buenos Aires
Venice Biennale, Wellington Festival, New Zealand
La Porte Suisse, Paris
Aarhus Festival, Denmark
De Isbreker, Amsterdam
New Music America
Inventionen, Berlin
IRCAM, Paris
Stedelijk Museum, Amsterdam
Tage Neuer Musik, Bonn
Ars Electronica, Linz
Electronic Music Festival, Stockholm
Experimental Intermedia Foundation
New Music New York

He has served as a consultant to Bennington (Vermont) College since 1971, and is currently the Director of the Electronic Music Studio at that institution.

Chadabe held a Ford Foundation Fellowship in 1964. In 1976, he received a grant from the National Endowment for the Arts, which was followed by a grant from the Rockefeller Foundation (1977). Other awards include The New York State Council on the Arts Commission (1971, 1995), Consortium Commission (1985, 1988), the Fulbright Commission (1988), and the S.U.N.Y. Research Foundation (1966-8, 1971, 1973, 1976-7). He was presented with the New York Foundation for the Arts Award in 1985. Joel Chadabe recently received an A.S.C.A.P. Award for serious music (1999).

⁶² H. Wiley Hitchcock and Stanley Sadie, eds., “Chadabe, Joel,” from *The New Grove Dictionary of American Music*, 1 (New York: MacMillan Press Limited, 1986): 384.

He has served as President (1978-80) and Chairman of the Composers Forum, Inc. He served as President of the research and development company Intelligent Music from 1983 until 1994. He founded the Electronic Music Foundation (E.M.F.) in Albany, New York in 1994 and currently serves as its President. The mission of the E.M.F. states,

Our mission is one of outreach and support. We aim to communicate knowledge of electronic music and art and its history to the public; and we aim to foster creativity and exploration within the global community of electronic musicians and artists.⁶³

Chadabe has been described as an internationally recognized pioneer in the development of interactive music systems. Chadabe worked with Roger Meyers to release the first software sequencer, PLAY program, in 1977, to control a small, analogue travel synthesizer. It was with Intelligent Music that Chadabe, “was responsible for the publication of innovative software, including M and Max.”⁶⁴ Chadabe’s goal was to develop an “intelligent musical instrument” that could take several forms. Chadabe worked on the project with David Zicarelli, John Offenhartz, and Antony Widoff. The first version of M was written for the Apple Macintosh in 1986. A composer could use the software to record some basic material through a MIDI keyboard, transform it in a variety of ways, and hear immediate results. Chadabe used M to compose *After Some Songs* (1987-94), a group of improvisational pieces based primarily on jazz classics.

⁶³ Electronic Music Foundation, “About EMF.” [Article on-line] ; available from <http://www.emf.org/aboutemf/index.html>; Internet; accessed 18 December 2002.

⁶⁴ Joel Chadabe, “Joel Chadabe.” [Article on-line] ; available from <http://www.emf.org/subscribers/chadabe/index.html>; Internet; accessed 9 April 2000.

“His compositions reflect interest in synthesizers and make use of electronic and computer technologies.”⁶⁵ Chadabe first coined the term “interactive composing” at the International Music and Technology Conference in 1981. He has created computer systems that play a role in the compositional process and performance by “listening” to a performer. The performer can then alter what he or she is doing/playing in response to the computer’s output, creating the interactive loop. For example, in Chadabe’s *Rhythms* (1980), “the percussionist improvises a duet with a computer/synthesizer that composes as it plays; its tuneful variations, somewhat Caribbean in flavor, changing with Chadabe’s signals.”⁶⁶

Stylistically, Chadabe’s music has been described as ranging “from rhythmically complex timbral kaleidoscopes to catchy melodies in jaunty rhythms.”⁶⁷ It is recorded on CDCM, Centaur, CP2, Deep Listening, Folkways, Lovely Music, and Opus One labels.

Chadabe wrote a comprehensive overview of electronic music in *Electric Sound: The Past and Promise of Electronic Music* (1996). His articles on electronic music have been published in *Computer Music Journal*, *Contemporary Music Review*, *Electronic Musician*, *Perspectives of New Music*, *Electronic Music Review*, and *Melos*.

List of Works:

Title	Date of Composition	Instrumentation
<i>1 With Pierre’s Words</i>	1997	hand drums, recitation, other instruments, and electronics
<i>4 With Drums</i>	1998	hand drums, recitation, other instruments, and electronics

⁶⁵ Nicholas Slonimsky, ed., “Chadabe, Joel.” *Baker’s Biographical Dictionary of Musicians*, 8th ed. (New York: Schirmer Books, 1994): 170.

⁶⁶ Hitchcock and Sadie, eds., “Chadabe, Joel,” in *The New Grove Dictionary of American Music*, 384.

⁶⁷ Sadie, ed, “Chadabe, Joel,” in *The New Grove Dictionary of Music and Musicians*, 418.

<i>5 The N Project</i>	1998	hand drums, recitation, other instruments, and electronics
<i>After Some Songs</i>	1987-94	computer-synthesizer and solo instruments
<i>Drift</i>	1970	electronic sounds on tape
<i>Echoes</i>	1972	solo instrument and electronics
<i>Flowers</i>	1975	solo stringed instrument and electronic sounds on tape
<i>Follow Me Softly</i>	1984	computer/synthesizer and percussion
<i>From the 14th On</i>	1972	Cello
<i>Ideas of Movement at Bolton Landing</i>	1971	electronic sounds on tape
<i>M</i>	1986	Computer software
<i>Many Mornings, Many Moods</i>	1988	computer-synthesizer, percussion solo, and orchestra
<i>Many Times</i>	2001	acoustic instruments and interactive electronics
<i>Playthings</i>	1978	public interactive computer/synthesizer installation
<i>Prelude to Naples</i>	1965	four instruments, Composer/Performer Edition
<i>Rhythms</i>	1980	computer/synthesizer and percussion
<i>Rhythms: Variation VI</i>	1982	violin, flute, vibraphone, and electronic sounds on tape
<i>Round Trip</i>	1992	computer-synthesizer and percussion
<i>Scenes from Stevens</i>	1979	computer/synthesizer
<i>Settings for Spirituals</i>	1977	computer-generated accompaniments for spirituals
<i>Several Views of an Elusive Lady</i>	1985	Soprano and electronic sounds on tape
<i>Shadows and Lines</i>	1972	electronic sounds on tape
<i>Solo</i>	1978, revised 1981	computer/synthesizer
<i>Street Scene</i>	1967	English horn (or other instrument), tape and projections
<i>The Long Ago and Far Away Tango</i>	1984	piano
<i>Variation</i>	1983	piano

Street Scene

Joel Chadabe composed *Street Scene* in 1967. It was originally written for English horn, reel-to-reel and optional slide projections. Chadabe notes, “Other

instruments may be used, such as clarinet In that case, however, the instrumentalist should transpose accordingly.”⁶⁸ Carl Fischer Rental Library published the piece in 1974, and transferred the audio part onto CD in 2002 for the lecture recital performance of Mary Alice Druhan at Louisiana State University.

The three slides are provided with the rental materials, and are in good condition. To avoid needing a slide projector for performance, the images were transferred into digital information. By permission of Carl Fischer Publishers, photographer, Jim Lawrence, scanned the slides with a ScanWit 2700S film scanner, and imported them into Photoshop7 for processing. They were then loaded into Vorton Show Off for previewing as a slide show and re-processed to create a presentation piece in Microsoft Power Point to be presented with a LCD Projector for the lecture recital of Mrs. Druhan. Following the performance, the slide presentation will be provided to Carl Fischer for future use to prevent damage to the original materials.

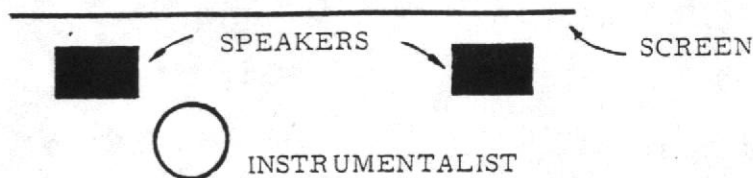
Street Scene was premiered on 25 March 1969 at Kauffman Auditorium in New York City on the concert series, “Music in Our Time.” The piece is also recorded on the Opus One label (Recording #16, 1973). Clarinetist, Roberto Laneri, performed the piece in 1972 with tape operator Robert Winter at the Baird Recital Hall at the University of Buffalo. The music library at that institution holds a recording of the performance (CA357).

The performance of *Street Scene* requires three slide projectors (or power point program), screen, and sound system. Materials for performance include a score, slides, CD, a diagram for stage set-up and details for projecting the three slide images on the screen.

⁶⁸ Joel Chadabe, Performance Notes to *Street Scene* (Paoli, PA: Carl Fischer Facsimile Edition, 1968), i.

Slide projections may be effectively used for performances and are available on rental from the publisher. If slides are used, the following directions apply:

- a. The diagram below indicates possible positions of instrumentalist, screen and speakers.



- b. Three projectors are necessary, each showing one slide so that all three slides may remain on screen from the time of their initial projection until the end of the piece.
- c. The projectors (1) should have dissimilar lenses which produce different sized images; (2) should have zoom lenses where the image size is adjustable, or (3) should be placed in different parts of the theatre so as to give different sized images.
- d. Slide 1 should be shown on the largest projection area available which defines the overall playing area.
- e. Slides 2 and 3 should be superimposed on top of the image projected by Slide 1, according to the following drawing.

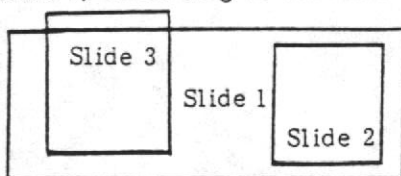


Figure 1. Joel Chadabe, *Street Scene*, Copyright 1968 by Carl Fischer, Inc.
Instructions for slide projections in *Street Scene*. Reprinted by permission of Carl Fischer LLC.

The three slides come on at different points during the piece, and once on, each stays on until the conclusion of the piece. Slide 1 is turned on prior to the audio tape, as shown in Figure 1. Timings for the other slides are notated on the score. The end of the piece should be synchronized between the slide projectors and the instrumentalist.

Coordination of instrumentalist and power point slide show run by one person requires less effort than what is required with three separate projectors. Regardless, the soloist,

audio technician, and visual personnel should have synchronized stopwatches for the performance.

The prerecorded CD includes the poem, “The Long Street” by Lawrence Ferlinghetti,⁶⁹ which is provided at the end of this chapter. After a troubled adolescence and time in a detention center, Ferlinghetti was inspired by a copy of Baudelaire poems given to him by Sally Bisland, and turned his life around. He finished high school and attended the University of North Carolina at Chapel Hill, about 20 years before the arrival of Chadabe. He later became acquainted with Kenneth Rexroth and Peter Martin, West Coast writers. Ferlinghetti and Martin opened City Lights, a bookstore in San Francisco, which, “soon became a Mecca for writers and artists, many of them well established in the field of contemporary literature.”⁷⁰ Ferlinghetti is recognized as one of the most influential and important poets of the Beat literary movement, a movement characterized by writers focused on capturing the importance of the lost, downtrodden, or lonely. “The Long Street” was published in *A Coney Island of the Mind* in 1958, and is spoken on the accompanying CD starting at 5:16 and continuing to the end of the piece.

Chadabe includes the following performance notes on style, synchronization, and breathing:

⁶⁹ Lawrence Ferlinghetti, “The Long Street,” from *A Coney Island of the Mind* (New York: New Directions Publishing Corp., 1958): 82-6.

⁷⁰ “The Beat Page – Lawrence Ferlinghetti.” [Article on-line] ; available from <http://www.rooknet.com/beatpage/writers/ferlinghetti.html>; Internet; accessed 14 January 2003.

The instrumental part should be played freely and expressively. A stopwatch might be necessary at first for rough coordination, but the synchronization need only be approximate. Time lost in one 5-second interval can be made up in another. The whole part should be legato, with breaths taken at commas and at the ends of phrases. The loudest dynamic should be an occasional *f* and the balance with the tape should allow for both tape and instrument to be heard clearly.

Figure 2. Joel Chadabe, *Street Scene*, Copyright 1968 by Carl Fischer, Inc.
Performance notes for *Street Scene*. Reprinted by permission of Carl Fischer LLC.

A timeline on the score shows five-second intervals and notates cues for audio and visual elements. Rhythms are to be improvised on the pitches provided. Other than the occasional requirement to play measured vibrato, there are no technical problems to the performance of the piece, and no additional contemporary techniques.

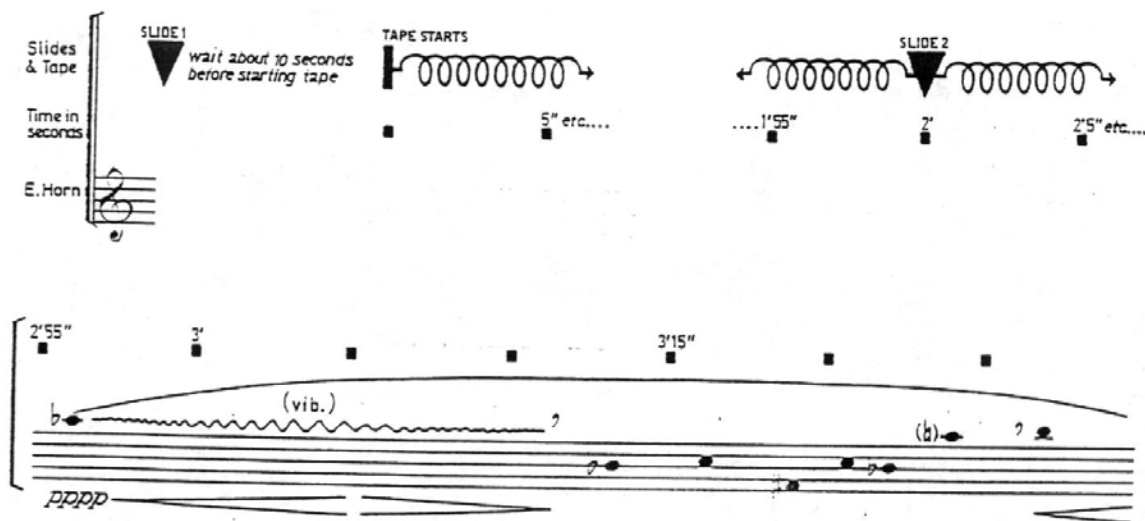


Figure 3. Joel Chadabe, *Street Scene*, Copyright 1968 by Carl Fischer, Inc.
Example of timeline notation in *Street Scene*. Reprinted by permission of Carl Fischer LLC.

The English horn part must be transposed when played by the clarinet. The written score should be lowered by the interval of a perfect fourth. This puts the part in a

very comfortable range. The only difficulty of the transposition is two brief sections of over-the-break legato passages. Each of these passages, however, provides the performer with five to ten seconds to perform no more than eleven notes. Even without notated rhythms, this is ample time to play a variety of rhythms and tempi in a legato style.

Chadabe does not provide performance notes about attire or lighting for the soloist. The instrumental part does not start until almost three minutes into the piece and is not a virtuosic solo. One can assume that during the few silent portions of the tape, the instrumental part is intended to be the spotlight, but not as a visual element. Chadabe notes for the soloist to be placed in front and beneath the projection screen. Following the ideas of the intermedia composers, this is probably intended to portray interdisciplinarity of the arts. It is suggested that the performer be visible, but not a spectacle. The use of a shielded stand light is suggested for viewing of the score and for casting some light onto the performer.

“The Long Street”

The long street
which is the street of the world
passes around the world
filled with all the people of the world
not to mention all the voices
of all the people
that ever existed
Lovers and weepers
virgins and sleepers
spaghetti salesmen and sandwichmen
milkmen and orators
boneless bankers

Figure 4. Lawrence Ferlinghetti, “*The Long Street*,” 1958
“The Long Street” by Lawrence Ferlinghetti, from *A CONEY ISLAND OF THE MIND*, copyright ©1958 by Lawrence Ferlinghetti. Reprinted by permission of New Directions Publishing Corp.

(Figure 4 continued)

brittle housewives
sheathed in nylon snobberies
deserts of advertising men
herds of high school fillies
crowds of collegians
all talking and talking
and walking around
or hanging out windows
to see what's doing
out in the world
where everything happens
sooner or later
if it happens at all
And the long street
which is the longest street
in all the world
but which isn't as long
as it seems
passes on
thru all the cities and all the scenes
down every alley
up every boulevard
thru every crossroads
thru red lights and green lights
cities in sunlight
continents in rain
hungry Hong Kongs
untellable Tuscaloosas
Oaklands of the soul
Dublins of the imagination
And the long street
rolls on around
like an enormous choochoo train
chugging around the world
with its bawling passengers
and babies and picnic baskets
and cats and dogs
and all of them wondering
just who is up
in the cab ahead
driving the train
if anybody
the train which runs around the world

(Figure 4 continued)

like a world going round
all of them wondering
just what is up
if anything
and some of them leaning out
and peering ahead
and trying to catch
a look at the driver
in his one-eye cab
trying to see him
to glimpse his face
to catch his eye
as they whirl around a bend
but they never do
although once in a while
it looks as if
they're going to
And the street goes rocking on
the train goes bowling on
with its windows reaching up
its windows the windows
of all the buildings
in all the streets of the world
bowling along
thru the light of the world
thru the night of the world
with lanterns at crossings
lost lights flashing
crowds at carnival
nightwood circuses
whorehouses and parliaments
forgotten fountains
cellar doors and unfound doors
figures in lamplight
pale idols dancing
as the world rocks on
But now we come
to the lonely part of the street
the part of the street
that goes around
the lonely part of the world
And this is not the place
that you change trains
for the Brighton Beach Express

(Figure 4 continued)

This is not the place
that you do anything
This is the part of the world
where nothing's doing
where no one's doing
anything
where nobody's anywhere
nobody nowhere
except yourself
not even a mirror
to make you two
not a soul
except your own
maybe
and even that
not there
maybe
or not yours
maybe
because you're what's called
dead
you've reached your station

Descend

Chapter IV. Merrill Ellis

Merrill Ellis was born in Cleburne, Texas on December 9, 1916. He received his Bachelor of Music and Master of Music degrees from the University of Oklahoma. Ellis studied composition with Charles Garland, Spencer Norton and Roy Harris.

On November 7, 1955, Ellis lectured for the Missouri Music Teachers Association (M.M.T.A.) Convention, which led to his Vice Presidency of the M.M.T.A. in 1958. He held the Presidency of that organization in both 1959 and 1960. His music was performed for the “University Composers Exchange” of the Music Teachers National Association (M.T.N.A.) Convention of 1959 in Kansas City. In 1960, Ellis was nominated to the Executive Board of the M.T.N.A. and assigned as the Chairman of the American Music Committee, an assignment he held for many years.

Ellis held an academic post at Joplin Junior College in Joplin, Missouri as a professor of music history and music theory from 1956 until 1962. He joined the composition faculty of North Texas State University’s (N.T.S.U.), now the University of North Texas (U.N.T.), School of Music in September of 1962.

While at North Texas, Ellis received numerous N.T.S.U. faculty research grants for many purposes. His 1963 research grant was awarded for “the testing of vocal and compositional techniques seeking a new form of musical theater.”⁷¹ In 1965, his research grant was applied to build and establish an Electronic Composition Research Laboratory at N.T.S.U. School of Music.⁷² He spent several years expanding and developing that program, which is now called the Center for Experimental Music and Intermedia (C.E.M.I.). In 1967 Ellis added a new course, “Projects in the Analysis and Composition

⁷¹ Kyle, Marguerite Kelly, “American Allegro,” *Pan Pipes of Sigma Alpha Iota* 56, no. 2 (1964): 54.

⁷² Kyle, Marguerite Kelly, “American Allegro,” *Pan Pipes of Sigma Alpha Iota* 58, no. 2 (1966): 60.

of Music Involving Electronic and Other Media,” to the program. He was working to “expand and develop a program in mixed-media integration, and to further explore digital synthesis of sound by computer by 1971.”⁷³ The Merrill Ellis Collection at the U.N.T. music library contains performance materials for many of the composer’s works, including tapes, cassettes, slides, films, instructions, masters, and more.

Various schools and organizations commissioned many of Ellis’ compositions. The earliest commission found is a piece for trumpet, piano, and percussion entitled *Einyah Festival* (1961). The M.M.T.A. commissioned and premiered *Scintillation* (1965) for solo piano. *Kaleidoscope* (1969) for orchestra and electronics, was commissioned by Southern Methodist University in 1966. The James Smith Brass Quintet and Phi Mu Alpha of Ouachita Baptist University commissioned *Mutations* (1968) for brass quintet and tape. Richard Owens commissioned *The Sorcerer* (1971) for voice, tape, and lighting, and premiered the work for the National Association of Teachers of Singing (N.A.T.S.) National Convention in Dallas in 1970. The American Federation of Musicians and the Rockefeller Foundation commissioned *Nostalgia* (1974) for an orchestra of 60, percussion, tape, and theatrical events. It was premiered by the Congress of Strings performing group in Cincinnati on August 15, 1974.

Ellis was an important figure in the development of experimental music beginning in the 1960s. His music represents the post mid-century trend of innovation and experimentation with what was then called “intermedia,” or combination of disciplines. Ellis presented many lectures on many topics, including composition and electronic music. His lecture, “Concerning Electronic Music,” was given for the Festival of Twentieth Century Music at the Oklahoma City University School of Music in 1964.

⁷³ Kyle, Marguerite Kelly, “American Allegro,” *Pan Pipes of Sigma Alpha Iota* 64, no. 2 (1972): 53.

Ellis acted as visiting lecturer in electronic music at many schools, including University of Nebraska (1967), University of Oklahoma (1967), Catholic University, Washington D.C. (1969), University of Arkansas (1970), and University of Arizona (1977). He also gave lectures for numerous conventions and festivals including the M.E.N.C. National Convention in Chicago (1970) and the N.A.T.S. National Convention in Dallas (1970).

Merrill Ellis worked with many of the pioneers of electronic and experimental music. He “persuaded Robert Moog, inventor of the synthesizer, to design and build another example of the instrument (the second one ever made) for him and his students to use.”⁷⁴ Ellis also co-authored a manual for electronic music composition with Robert C. Ehle and Robert A. Moog. This text, entitled *Electronic Music Composition Manual*, was written in the 1960’s for students of U.N.T. and is held in the Merrill Ellis Special Collections Library at U.N.T. The Music Corporation of America published the manual in 1969.

In addition to his manual, Ellis is remembered for his lectures, “Jazz is a Serious Art” and “Concerning Electronic Music.” *Southwestern Musician* published his “Jazz is a Serious Art - A Composer’s Viewpoint” in October of 1964. His paper, “New Dimensions in Music Through Electronics,” was presented for M.T.N.A. West Central Division Convention of 1965. *Music Educators Journal* published “Musique Concrète at Home: Or How to Compose Electronic Music in Three Easy Lessons” in November of 1968.

Ellis was recognized by many prestigious awards, which include the following:

Harvey Gaul Composition Prize for *Organ Fantasy* (1963) in 1963
Texas FMC Competition, First Prize for *The Great Gift* (1964) in 1964

⁷⁴ U.N.T. Music Library, “Merrill Ellis Collection.” [Article on-line] ; available from <http://www.library.unt.edu/music/speccol.htm>; Internet; accessed 9 September 2002.

Texas FMC Competition, First Prize for *Oboe Quintet* (1965) in 1965
 Texas FMC Competition, Second Prize for *Tomorrow Texas* (1965) in 1965
 ASCAP Award for contributions in serious music in 1967
 ASCAP Award for contributions in serious music in 1970
 ASCAP Award for contributions in serious music in 1971
 ASCAP Award for contributions in serious music in 1972
 ASCAP Award for contributions in serious music in 1973
 ASCAP Award for contributions in serious music in 1974
 ASCAP Award for contributions in serious music in 1975
 ASCAP Award for contributions in serious music in 1976
 ASCAP Award for contributions in serious music in 1977

Ellis was interviewed for an ABC National Radio Pendulum Broadcast on May 4, 1969. Several of his works were performed during the broadcast. Also that year, Ellis was seen on two television interviews about electronic music (WBAP-TV of Ft. Worth and WFAA-TV of Dallas). Two nationwide radio Network shows presented a thirty-minute interview with Merrill Ellis on August 30, 1975. It included excerpts of *Kaleidoscope* (1966) and *A Dream Fantasy* (1973) and was heard over 251 stations. The week of July 30, 1976, over 250 stations broadcast an interview of Merrill Ellis and excerpts of his works for the MASTERCONTROL Radio Series.

Ellis' wife, Naomi, was a member of Sigma Alpha Iota, a pianist, a clarinetist, and a music teacher. They had five children and remained in Denton, Texas until Merrill's death in 1981 and Naomi's later that decade.

List of Works:

Title	Date of Composition	Instrumentation
<i>"7"- A Numbers Game</i>	1957	mixed choir, piano, bongos, and string bass
<i>8771W</i>	1959	trumpet and piano
<i>And Ruth Said</i>	1947	Mezzo-Soprano and piano
<i>Aubade</i>	1971	electronic tape and lighting
<i>Audience Participation</i>	1970	audience, EII synthesizer, poet, and light

Title	Date of Composition	Instrumentation
<i>Piece</i>		projection
<i>Brass Quartet</i>	1969	brass quartet
<i>Bridge Game</i>	1961	2 violins, viola, and cello
<i>Cape "G" Melody</i>	1970	oboe, and strings
<i>Celebration</i>	1980	Flute, clarinet, oboe, bassoon, percussion, film, lasers, and tape
<i>Centrifusion</i>	1966	symphony orchestra and electronic instruments
<i>Chartless</i>	1955	mixed choir
<i>The Choice is Ours</i>	1977	magnetic tape, laser scanner, 2 16mm films, carousels, fog machine, and theatrical environment
<i>Classical Combo</i>	1959	clarinet, horn, bassoon, and string quartet
<i>Dizzy Kate</i>	1947	piano
<i>A Dream Fantasy</i>	1973	clarinet-saxophone, percussion, prepared tape, visuals, and optional dancer
<i>Dream of the Rode</i>	1973	multimedia work
<i>Duo</i>	1957	flute and piano
<i>Ecce Homo</i>	1955	cello and piano
<i>Einyah Festival</i>	1961	piano, trumpet, and percussion
<i>Episode</i>	1966	solo trumpet and electronic instruments
<i>The Eternal Can-Can</i>	1967	electronic tape
<i>Etudes</i>	1951	piano
<i>Fanfare</i>	1972	four channel electronic tape
<i>Fanfare to an Uncommon Man</i>	1958	ten brasses and percussion
<i>Fantasy</i>	1955	clarinet and piano
<i>Fantasy</i>	1969	organ
<i>Feedback Fantasy</i>	1964	tape recorder
<i>Five Plus One</i>	1965	woodwind quintet and contrabass
<i>General William Booth Enters Into Heaven</i>	1956	baritone voice, chorus, and instrumental ensemble
<i>George Morey Plays the Flute</i>	1967	electronic tape
<i>The Great Gift</i>	1964	Easter cantata, chorus, orchestra, soloists, organ, and brass ensemble
<i>If I Had a Ribbon Bow</i>	1957	mixed choir and soprano solo
<i>Improvisation</i>	1968	EII electronic synthesizer, dancer, and light projections
<i>Incantations</i>	1963	two pianos
<i>In a Drug Store</i>	1958	tenor solo
<i>Intermezzo Inquieto</i>	1963	piano

Title	Date of Composition	Instrumentation
<i>Kaleidoscope</i>	1966	orchestra, synthesizer, and Soprano
<i>Mutations</i>	1968	brass quintet, prepared electronic tape, 16mm film, slides
<i>Nostalgia</i>	1974	orchestra of 60, percussion, tape, and theatrical events
<i>Nuffun</i>	1965	percussion ensemble and solo instruments
<i>Oboe Quintet</i>	1963	oboe and string quartet
<i>Organ Fantasy</i>	1963	organ
<i>Organ Toccata</i>	1958	organ
<i>Pastoral</i>	1963	harp
<i>Pastoral</i>	1970	horn and piano
<i>Piece</i>	1950	trumpet and piano
<i>Pretty Saro</i>	1955	mixed choir
<i>Psalm 24</i>	1956	mixed choir, soloist, and children's choir
<i>The Queen is Dead</i>	1976	tape and visuals
<i>Quintet</i>	1963	oboe and string quartet
<i>Rampage</i>	1973	
<i>Scherzo</i>	1970	oboe and strings
<i>Scintillation</i>	1964	piano
<i>Scintillation</i> , included in "Composers of Today," collection, Seven Americans	1976	seven piano works
<i>Second Sinfonietta</i>	1955	orchestra
<i>Situation Normal</i>	1947	medium voice and piano
<i>The Sorcerer</i>	1971	stage drama for Baritone, chorus, and prepared electronic tape, optional live band, and slides
<i>String Quartet</i>	1955	string quartet
<i>Texas</i>	1969-70	choral group, narrator, electronic tape, and light projections
<i>Time + Space</i>	unknown	piano
<i>To---</i>	1947	choir and organ
<i>Toccatas</i>	1970	orchestra
<i>Toccata</i>	1961	organ
<i>Tomorrow Texas</i>	1964	mixed choir, piano, and percussion

A Dream Fantasy

A Dream Fantasy (1973) is a multimedia work by Ellis, which is scored for clarinet/saxophone, percussion, tape (now on CD), two 16mm films (now on VHS), optional slides, and optional dancer. The score and materials, except for the slides, are available through Carl Fischer Facsimile Edition, published in 1975. Carl Fischer put the audio part onto CD and the visuals onto VHS in 2002 for the lecture recital performance of Mary Alice Druhan in 2003 at Louisiana State University.

The slides are held at the U.N.T. Music Library's Merrill Ellis Special Collection. There are two cartridges, which contain slides from several of Ellis' works, including *The Sorcerer* (1971), *Dream of the Rode* (1973), *A Dream Fantasy*, and *Mutations* (1968). In addition to being in poor condition, the slides are not labeled well. By permission of the U.N.T. Library, photographer, Jim Lawrence, scanned the slides with a ScanWit 2700S film scanner, and imported them into Photoshop7 for processing. They were then loaded into Vorton Show Off for previewing as a slide show. This slide show was sent to previous performers of the piece to determine which slides to use for *A Dream Fantasy*. Dr. John Scott, Associate Dean for Admissions and Scholarship Services and Professor of Clarinet at U.N.T., provided helpful information about the use of slides in his performances of the piece. Once the slides were determined, they were re-processed to create a presentation piece in Microsoft Power Point to be presented with a LCD Projector for the lecture recital of Mrs. Druhan. The transfer of this material to digital information for future use reduces the chance of further damage and loss to the slides and also excludes the need for a slide projector in performance. Following the recital, a copy of the slide presentation will be provided to the U.N.T. Music Library.

A Dream Fantasy was commissioned jointly by Baylor University Music Department and SCSM and premiered at Baylor University in Waco, Texas in 1973.⁷⁵ Richard Shanley, clarinetist, and Dr. Larry Vanlandingham, percussionist, performed both the premiere and a later concert for the M.E.N.C. National Convention's "New Music Program" in Anaheim, California on March 23, 1974. Saxophonist, Morris Moore, and percussionist, Norbert Nozy, performed the European premiere at the Brussels Royal Conservatory of Music on May 30, 1976. In July of the same year, Moore performed the piece again with Nozy and also with percussionist Elie Apper, at the Royal College of Music in London for the World Saxophone Congress.

This piece is a logistical challenge, requiring numerous audio and visual components. It requires either two slide projectors, or two LCD projectors for the slide presentation, as well as two film or video projectors for the films.

SLIDES (Optional)

35 mm slides may be used to augment the theatrical events from 5:57 to 7:26. Select several color slides which are indigenous to the local performance community and project the slides with Kodak Carousel Projector from orchestra pit onto projection area. Project to center "dimple" super-imposed over film images. Fade images in and out by hand as they are needed.

Figure 5. Merrill Ellis, *A Dream Fantasy*, © MCMLXXVI by Carl Fischer, Inc. Performance Notes for slides and film in *A Dream Fantasy*. Reprinted by permission of Carl Fischer, LLC.

⁷⁵ Kyle, Marguerite Kelly, "American Allegro," *Pan Pipes of Sigma Alpha Iota* 66, no. 2 (1974): 50.

(Figure 5 continued)

FILMS

Two 16 mm film projectors are needed. Set projectors for "sound" speed at 24 frames per second but do not rig for sound. 16 mm film #1 is set up back-stage, stage-right, to shoot across the projection area at a very severe angle. 16 mm film #2 is set up on the opposite side in audience area, and to front of auditorium, to project at about a 45 degree angle, or less, to the center of the projection area where "dimple" appears. (See figure on page 1)

Cue both films to the "round, punched-out hole" (not at end of leader).

Projector II must be turned on precisely at 1:28 after the tape starts. Check to make sure that the projector is running at 24 frames per second.

Projector I, back stage, will start at 1:32 after the tape begins. Although the films are identical, the projections will be entirely different and will run as a canon. Strive for a creative floating effect with the visuals.

There are also staging problems such as percussion instrument placement, chairs and stand lights, props for theatrical elements, and the "SAIL," a piece of fabric used as a screen for projected images. Ellis' suggestions for the "SAIL" appear as follows:

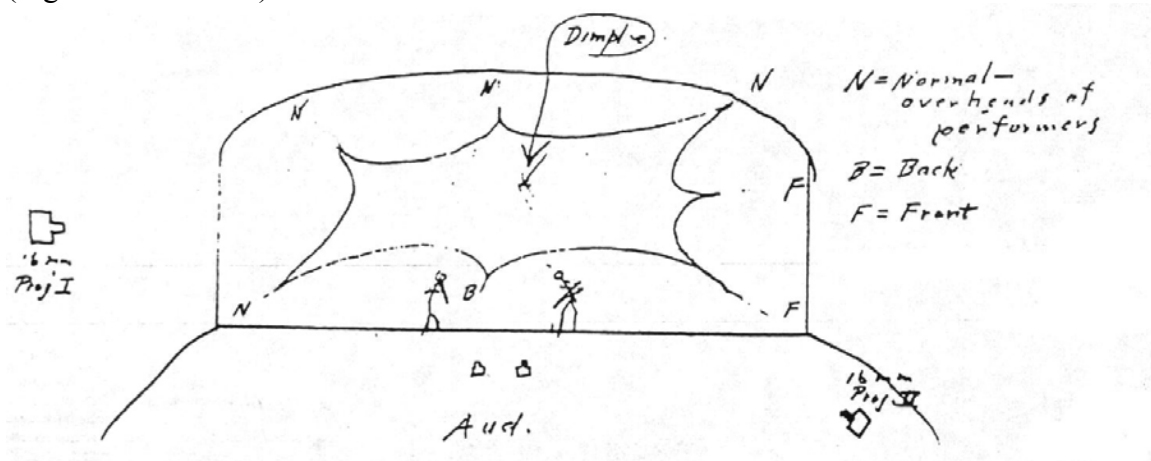
PROJECTION SURFACE

The following is a description of the visual projection surface used by the composer. Creative variations will be necessary in other situations.

A large piece of white double-knit stretch material approximately 8' by 20' long is arranged over the heads of the performers in a floating, amorphic form somewhat like the drawing shown below.

Figure 6. Merrill Ellis, *A Dream Fantasy*, © MCMLXXVI by Carl Fischer, Inc. Instructions for performance surface in *A Dream Fantasy*. Reprinted by permission of Carl Fischer, LLC.

(Figure 6 continued)



The corners and edges of this material are tied with black or dark green nylon strings around marbles placed in the cloth. When suspended, this cloth is referred to as the SAIL.

The SAIL is suspended and drawn forward and back to make broad curves, hills and valleys in its surface.

A string with marble is attached to the center-back of the SAIL and drawn severely toward the back of the stage (up-stage). This will form a large, receding "dimple" in the SAIL. Projector II from the audience area should project on to this "dimple" area and overflow it. Projector I from back-stage area should project almost parallel to the SAIL and over its entire length to achieve distorted and broken-up images. In performance, the effect is that of floating, undulating, dreamlike images in space above the performers.

A basic sound system is required for proper mixing and balance. Additional rehearsal and performance complications for this piece include the synchronization of events between the instrumental performers and the audio and visual elements. Both VHS operators, the power point (slide projectors) operator(s), the audio technician, the percussionist, and the clarinetists will need synchronized stop-watches.

The piece is divided into three sections. Ellis' notes state,

Program Note

A DREAM FANTASY is just that. The first five minutes of the work consists of pleasant, swirling aural and visual images which should seem to float in space.

Part two is awake. It deals with "real life" cliches of a mundane nature. The performers execute certain theatrical movements in response to taped comments.

Part three responds to the statement "Give me a good Viennese waltz any day" with a traditional waltz. The "good old waltzes" are finally too much and begin to disintegrate into a mod jazz section which dissolves into a dream fantasy as in the beginning and slowly dies away.

A DREAM FANTASY is an intermedia piece and may use dancers if desired. The visual materials include optional carousel slides and two 16mm color films.

Figure 7. Merrill Ellis, *A Dream Fantasy*, © MCMLXXVI by Carl Fischer, Inc. Program notes for *A Dream Fantasy*. Reprinted by permission of Carl Fischer, LLC.

The instrumentalists are required to execute theatrical elements during the second section of the piece. These elements include a pantomime discussion, coughing, shaking heads, reading a newspaper, and more. Some gestures are shown in Figure 8.



Figure 8. Merrill Ellis, *A Dream Fantasy*, © MCMLXXVI by Carl Fischer, Inc. Theater elements in *A Dream Fantasy*. Reprinted by permission of Carl Fischer, LLC.

Text for the piece includes several quotations that are notated in the score and presented on the tape. Performers are required to speak and make noises, such as hums, hisses, and clicks.

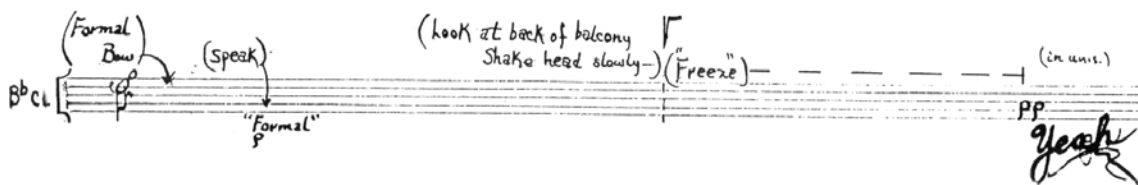


Figure 9. Merrill Ellis, *A Dream Fantasy*, © MCMLXXVI by Carl Fischer, Inc.
Spoken text and theater elements in *A Dream Fantasy*. Reprinted by permission of Carl Fischer, LLC.

The clarinet part for *A Dream Fantasy* involves several portamenti (notated as glissandi), as in Figure 9, and also passages which start as a glissando and turn into a portamento. The glissando is a rapid, diatonic or chromatic, finger movement, which equates with running a finger up and down the keyboard of a piano. Portamento is a similar finger motion combined with control of lip pressure and change in oral cavity, to produce a slide effect, more like a trombone or string instrument. The portamento requires the performer to use pitch bends.

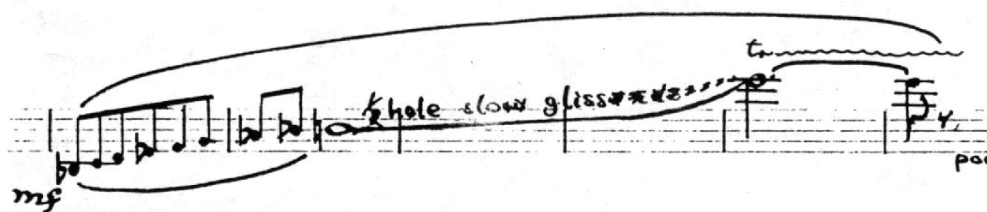


Figure 10. Merrill Ellis, *A Dream Fantasy*, © MCMLXXVI by Carl Fischer, Inc.
Glissando notation in *A Dream Fantasy*. Reprinted by permission of Carl Fischer, LLC.

Other than the coordination of fingers and lip bends in the portamento, there are other hard passages including several technical “runs,” which appear in the Waltz and in the modern jazz sections of the piece.

The role of the clarinetist is further complicated by the addition of a brief percussion part. The passage is not too difficult, but the change to percussion is

somewhat sudden, with a quick return to the clarinet. The performers should stage the instruments with enough room to move in and out of the percussion quickly, and the clarinetist should have an instrument stand on stage.



Figure 11. Merrill Ellis, *A Dream Fantasy*, © MCMLXXVI by Carl Fischer, Inc.
Percussion part for the clarinetist in *A Dream Fantasy*. Reprinted by permission of Carl Fischer LLC.

Chapter V. William O. Smith

William, “Bill,” Overton Smith was born in Sacramento, California on September 22, 1926. According to Peter Monaghan, “Smith’s life in jazz began at age ten. A traveling salesman came to his family’s door in Oakland and said to his mother, ‘You can’t pass up this opportunity. If your boy takes 24 lessons I’ll give him a free clarinet.’”⁷⁶ Bill did earn the clarinet and by the age of thirteen, he started a dance band. By sixteen, he was studying theory, and was leading a jazz orchestra. By fifteen he was performing with the Oakland Symphony. He toured with various bands after high school before attending Juilliard. Smith continued to play at jazz clubs while in New York, but eventually returned to Oakland after discovering that the French composer, Darius Milhaud was teaching composition at Mills College.

Smith studied composition with Milhaud in 1946 at Mills College and then studied with Roger Sessions at the University of California at Berkeley. He received both the Bachelor of Arts (1950) and the Master of Arts (1952) degrees from Berkeley. Smith later attended classes at the Paris Conservatory (1952-53) and at Juilliard (1957-58).

Smith has received numerous awards and honors, including a Prix de Paris (1951-3), the Phelan Award, a Prix de Rome (1957), a Fromm Players Fellowship, a National Academy of Arts and Letters Award (1972), a BMI Jazz Pioneer Award, and two Guggenheim Fellowships.

Smith has taught at the University of California at Berkeley, the San Francisco Conservatory, the University of Southern California, and since 1966, the University of

⁷⁶ Peter Monaghan, “Bill Smith: Fifty Years of Innovation.” [Article on-line] ; available from <http://faculty.washington.edu/bills/earshot.html>; Internet; accessed 8 November 2002.

Washington (U.W.). He was lured to Seattle in 1966 to form the new music ensemble, the Contemporary Group. “The Contemporary Group was founded with a grant from the Rockefeller Foundation by William Bergsma . . . U.W. music professor and director of the music school.”⁷⁷ Smith now co-directs the ensemble with trombonist Stuart Dempster, and teaches composition courses and jazz ensemble.

While studying at Mills College, Smith met fellow student Dave Brubeck. They founded the Dave Brubeck Octet in 1947. Smith was responsible for many of the group’s arrangements. In 1947, Smith wrote his *Schizophrenic Scherzo* (1947) for the Octet. It was one of the first successful integrations of modern jazz and classical writing, or “third stream.” He has played and recorded with Brubeck periodically since the 1951 Octet recording (Cicero). He recorded one album per year from 1960-66. Later, in 1982, he took over the solo spot with the Brubeck Quartet and resumed a recording schedule as a full-time member, performing up to 100 concerts a year.⁷⁸

Smith and the pianist, John Eaton, formed the American Jazz Ensemble, a group that toured the United States annually, playing for community concerts. It was Eaton who introduced the Synket, the first portable voltage controlled synthesizer, “a novel machine for the production and transformation of sounds.”⁷⁹ It was built in Rome in 1963, on a design by Paul Ketoff. Eaton composed and performed several works for the instrument, including *Concert Piece for Synket and Symphony Orchestra* (1967) and

⁷⁷ “The Contemporary Group.” [Article on-line] ; available from <http://www.washington.edu/research/showcase/1966a.html>; Internet; accessed 18 December 2002.

⁷⁸ Monaghan, available from <http://faculty.washington.edu/bills/earshot.html>.

⁷⁹ Leonard Feather, “Bill Smith,” from *The Encyclopedia of Jazz in the 60’s*. [Article on-line] ; available from <http://faculty.washington.edu/bills/bio2.html>; Internet; accessed 8 August 2000.

Mass (1969). Eaton wrote, “One real danger of the Synket is that it sometimes writes its own music so beautifully that a composer is led to wonder if he is really necessary.”⁸⁰

As a clarinetist and composer, William O. Smith is, “an acclaimed and influential innovator in ‘new’ or ‘contemporary music.’ He pioneered the use of many untapped sounds of the clarinet, and incorporated them into his 200 compositions.”⁸¹ It was in Rome, while working on a Guggenheim grant, that Smith began to experiment with and codify clarinet sounds, now known as “Smith’s multiphonics.” Eric Salzman wrote the following about Smith’s *Variants for Solo Clarinet* (1963):

William Smith’s clarinet pieces, played by himself, must be heard to believe – double, even triple stops; pure whistling harmonics; tremolo growls and burbles; ghosts of tones, shrill screams of sounds, weird echoes, whispers and clarinet twitches; the thinnest of thin, pure lines; then veritable avalanches of bubbling, burbling sound. Completely impossible except that it happened.⁸²

In addition to multiphonics, Smith has led the way with other innovations in contemporary clarinet performance. For example, he was influenced by several images he saw in Greece of ancient Greek aulos, or double-pipe, players, and in 1977, he began writing *Five Fragments for Double Clarinet* (1978). It is his first piece written for two clarinets played simultaneously by one musician. Around 1994, Smith began to play the clarinet as an end-blown flute, calling it the “clarflute.” He has also written for “demi-clarinet,” a version of clarinet where the performer uses only the lower half of the clarinet with the mouthpiece. *Meditations* (1990), a demi-clarinet composition, also uses a plunger mute.

⁸⁰ John Eaton, “A Portable Electronic Instrument,” *Music Journal* 24 (1966): 54-5.

⁸¹ Monaghan, available from <http://faculty.washington.edu/bills/earshot.html>.

⁸² Eric Salzman, *New York Herald Tribune*. 14 March 1964.

Smith's compositions are often strongly indicative of his early exposure to jazz and dance bands. Smith refers to Benny Goodman as the "hero" of his youth.⁸³ Some of his works showing jazz influence include *Five Pieces for Clarinet Alone* (1957), which contains highly rhythmic and syncopated movements juxtaposed with free, lyrical movements of a more improvised style.

Smith represented the United States at the International Congress of Electronic Music in Venice with *Duo for Clarinet and Tape* (1960), the first composition to use transformed clarinet sounds on tape in combination with a live clarinetist. This sparked Smith's interest in electronic music and technology. He has experimented with computerized, real-time notation and has written pieces, including *Five Pages*, in which the performer(s) reads color-coded notes on a musical staff from a computer monitor.

About other visual elements in Smith's music, Monaghan writes,

(Smith) and his wife, the well-respected visual artist, Virginia Paquette, were (in Tasmania) to complete residencies at the Queen Victoria Museum and Art Gallery of Tasmania. They worked on one of their ongoing series of installation-piece performances that combine music and visual art.⁸⁴

Smith has influenced the performance of the clarinet by the implementation and classification of contemporary techniques. Ian Mitchell wrote, "It is remarkable how inventive he has been for almost forty years now."⁸⁵ Mitchell also wrote,

I know of no other person who as exploited the potential of an instrument to such an extent, and that includes John Cage with his prepared piano sounds, the extraordinary Francis-Marie Uiti (for whom Smith wrote a duo for clarinet and cello) and double bass improviser par excellence Barry Guy.⁸⁶

⁸³ Monaghan, available from <http://faculty.washington.edu/bills/earshot.html>.

⁸⁴ Ibid.

⁸⁵ Ian Mitchell, "An American Attitude of Adventure," *Clarinet and Saxophone* 21, no.4 (1996): 41.

⁸⁶ Ian Mitchell, 41.

In addition to his many successes as composer, jazz artist, and classical clarinetist, Smith has also contributed to the field of music with the publication of his book, *Jazz Clarinet*. This method book was published by Parkside Publications in 1993, and contains, “an excellent discography.”⁸⁷

List of Works:

Title	Date of Composition	Instrumentation
<i>64</i>	1989	for demi-clarinet
<i>Agate</i>	1974	jazz soloist and jazz orchestra
<i>Around the Blues</i>	1988	2 clarinets
<i>Around the Blues</i>	1988	2 clarinets
<i>Asana</i>	1985	clarinet with electronics
<i>Aubade</i>	1989	clarinet
<i>Blue Shades</i>		clarinet and wind ensemble
<i>Chamber Muse</i>	1970	clarinet percussion, and dancer
<i>Clarinet Duets</i>	1949	clarinet duet
<i>Concerto for Clarinet and Combo</i>	1957	clarinet and combo
<i>Concerto for Clarinet and Small Orchestra</i>	1985	clarinet and orchestra
<i>Concerto</i>	1962	jazz soloist and orchestra
<i>Diversion</i>	1986	woodwind quintet
<i>Divertimento</i>	1955	clarinet, bassoon, horn, violin, and cello
<i>Duo</i>	1980	clarinet and cello
<i>Duo</i>	1961	clarinet and piano
<i>Duo</i>	1957	clarinet and tape
<i>Duo</i>	1961	flute and clarinet
<i>East Wind</i>	1990	wind ensemble
<i>Ecco!</i>	1978	clarinet and orchestra
<i>Emerald City Rag</i>	1987	2 clarinets and bass clarinet
<i>Epitaph</i>	1977	double clarinet
<i>Essay</i>		2 clarinets
<i>Eternal Truths</i>		woodwind quartet
<i>Fancies</i>	1966	clarinet
<i>Five Fragments</i>	1978	double clarinet
<i>Five Fragments</i>	1978	double clarinet

⁸⁷ Bill Smith, “Bill Smith a.k.a. William O. Smith.” [Article on-line] ; available from <http://msnyder.dragonfire.net/clarinet/smith.htm>; Internet; accessed 8 August 2000.

Title	Date of Composition	Instrumentation
<i>Five Inventions</i>	1987	flute and clarinet
<i>Five Pieces</i>	1957	clarinet alone
<i>Five Pieces</i>	1957	flute and clarinet
<i>Five Studies</i>	1964	clarinet and violin
<i>Fragments</i>	1977	clarinet
<i>Illuminated Manuscripts</i>	1987	woodwind quintet and computer graphics
<i>In Memorium: Roger Sessions</i>	1988	clarinet
<i>Incantation</i>	1979	clarinet and voices
<i>Interplay</i>	1964	jazz combo and orchestra
<i>Jazz Fantasy</i>	1986	2 clarinets
<i>Jazz Fantasy</i>		combo and string quartet
<i>Jazz Set for Solo Clarinet</i>	1981	solo clarinet
<i>Jazz Set for Two Clarinets</i>	1983	2 clarinets
<i>Jazz Set</i>	1986	clarinet and bass clarinet
<i>Jazz Set</i>	1974	flute and clarinet
<i>Meditations</i>	1990	demi-clarinet
<i>Mosaic</i>	1964	clarinet and piano
<i>Music for Five Players</i>		clarinet and string quartet
<i>Musing</i>	1983	3 clarinets and 3 dancers
<i>Nine Studies</i>	1978	clarinet
<i>Oni</i>	1986	clarinet, keyboard (electronics), and percussion
<i>Pan</i>	1990	clarinet and echo
<i>Quadri</i>	1968	jazz combo and orchestra
<i>Quintet</i>	1950	clarinet and string quartet
<i>Ritual</i>	1989	double clarinet
<i>Seven Haiku</i>	1987	clarinet
<i>Slow Motion</i>	1987	clarinet (or electronic clarinet) and computer graphics
<i>Soliloquy</i>	1978	clarinet and 2 tape machines
<i>Solo</i>	1980	clarinet (or electronic clarinet) and delay system
<i>Straws</i>		flute and bassoon
<i>Suite</i>	1952	clarinet and violin
<i>Theona</i>	1975	jazz combo and orchestra
<i>Three</i>	1975	Soprano, trombone, clarinet, and dancer
<i>Three Duets</i>		2 clarinets
<i>Three Pieces for an Experimental Film</i>	1948	flute, clarinet, and bassoon
<i>Tribute to the Bassoon</i>		solo bassoon
<i>Variants</i>	1963	clarinet

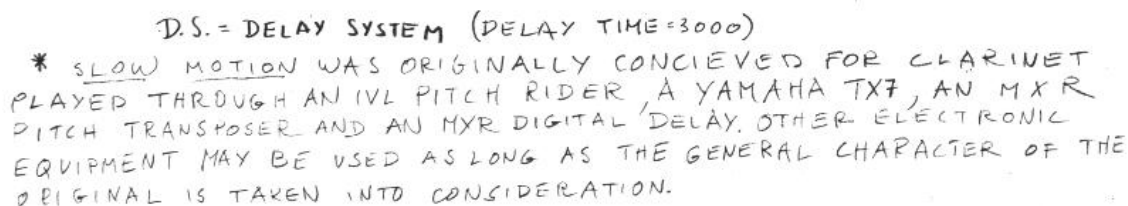
Slow Motion

William O. Smith completed *Slow Motion* in 1987, which was premiered by clarinetist, F. Gerard Errante. The score states,

Slow Motion was originally conceived for clarinet played through an IVL pitch rider, a Yamaha TX7, an MXR Pitch transposer and an MXR digital delay. Other electronic equipment may be used as long as the general character of the original is taken into consideration.⁸⁸

The performance also requires an audio mixer, speakers, video projector, and screen.

Score notes are provided by Smith to specify the settings for the audio processing, including pitch transposer and delay system.



D.S. = DELAY SYSTEM (DELAY TIME=3000)
* SLOW MOTION WAS ORIGINALLY CONCEIVED FOR CLARINET
PLAYED THROUGH AN IVL PITCH RIDER, A YAMAHA TX7, AN MXR
PITCH TRANSPOSER AND AN MXR DIGITAL DELAY. OTHER ELECTRONIC
EQUIPMENT MAY BE USED AS LONG AS THE GENERAL CHARACTER OF THE
ORIGINAL IS TAKEN INTO CONSIDERATION.

Figure 12. William O. Smith, *Slow Motion*, Copyright 1987 by Ravenna Editions.
Directions for audio processing in *Slow Motion*. Used by permission of William O. Smith.

Slow Motion is not presented by timeline on the score, however, the tempo for the whole work is 60 beats per minute, which functions as a timeline for performance.

⁸⁸ William O. Smith, *Slow Motion* (Seattle: Ravenna Editions, 1987).

P.T. = PITCH TRANSPOSER

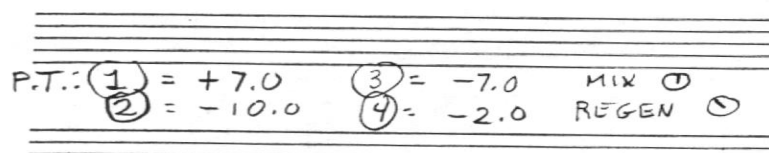


Figure 13. William O. Smith, *Slow Motion*, Copyright 1987 by Ravenna Editions.
 Directions for audio processing in *Slow Motion*. Used by permission of William O. Smith.

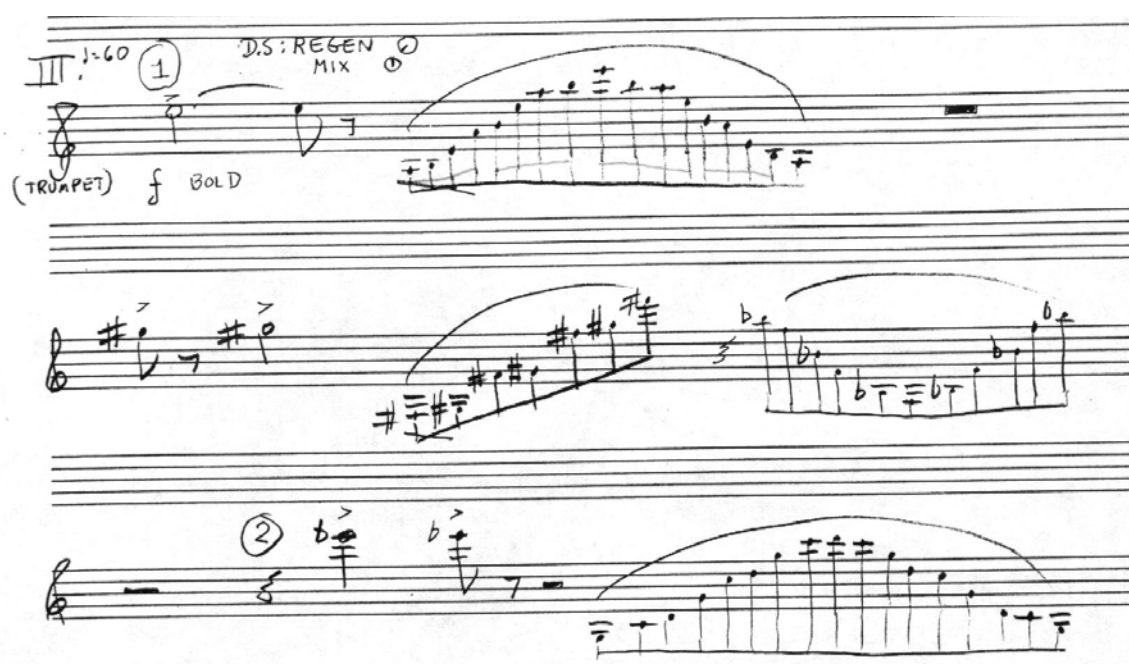


Figure 14. William O. Smith, *Slow Motion*, Copyright 1987 by Ravenna Editions.
 Timeline and score notation for audio processing in *Slow Motion*. Used by permission of William O. Smith.

Smith has developed a system of computerized, real-time notation for new music. He has been working with real-time notation in which the notes to be performed pass a trigger line indicating when the performer should play. In *Five Pages* (1995), for two clarinets, the performers read from a computer monitor on which color-coded notes on a musical staff appear. The notes are color coded so that a blue stripe represents a flat;

green, natural; and red, sharp. Dynamics are represented by intensity of color. Light red signifies piano; dark red, forte. *Slow Motion* is an early attempt using this score notation technique and computer graphics.

Slow Motion calls for vibrato in places, and one example of “color change.” There are two easy ways to achieve the change in color. One is to use an alternate or “color” fingering, the other is to use a lip bend technique, or a change in lip pressure and tongue position.

The part is complicated by legato of long intervals and other wide leaps, as well as a few fast flourishes in the third movement. There are no additional contemporary techniques in the clarinet part, and the manuscript notation is clear.

Chapter VI. Reynold Weidenaar

Reynold Weidenaar was born in 1945. He studied music from the age of ten and began to compose by sixteen. He states, “I would have to say there were no influences in my adolescence, other than both my parents, who were artists.”⁸⁹

Weidenaar interrupted his college studies to begin working with electronic music with Robert A. Moog in 1965. He founded the Independent Electronic Music Center in Trumansburg, New York, together with Moog, and became the Editor (1967-9) of *Electronic Music Review*. Weidenaar later worked as a recording engineer in Cleveland, recording the weekly concerts of the Cleveland Orchestra.

Weidenaar returned to school and completed the Bachelor of Music degree in 1973, as valedictorian, from the Cleveland Institute of Music. His composition teachers include Donald Erb and Brian Fennelly. Weidenaar also studied Moog synthesizer and electronic music with Robert A. Moog. He worked with Vladimir Maleckar in recording engineering.

As coordinator of the Electronic Music Studios at the Cleveland Institute of Music from 1972-7, Weidenaar was responsible for studio management and administration. He then served as its director in 1977-8. He taught electronic music at the Chautauqua Institution in New York in 1978. While working on a Masters degree, he worked as an adjunct instructor in music and music education (1979-83) at New York University (N.Y.U.).

He received a Master of Arts degree in 1980 and a Ph.D. in 1989, both from N.Y.U. His studies included computer music, microcomputers, composition, film/video

⁸⁹ Reynold Weidenaar, “RE: Performance of Swing Bridge.” [E-mail]; received from WeidenaarR@wpunj.edu; delivered to Mary_Druhan@tamu-commerce.edu, 17 January 2003.

production, audio recording, electronic music, theory, and composition. “From 1981 through 1993 he taught in the Film and TV Department at N.Y.U.’s Tisch School of the Arts.”⁹⁰ Since 1993, he has worked at William Paterson University in Wayne, New Jersey, where he is currently Associate Professor of Communication.

Weidenaar has experience with recording and film production as well. He has utilized equipment from slides, film, and video, to tape, synthesizer, and digital audio work stations. He has worked with synthesizers by Arp, Buchla, Korg, Moog, Serge, etc. and used software such as Basic, Mus10, Music 360, Score, Unix, SoundDesigner, Hyperprism, SoundHack, Studio Vision, and more.

He created several tape pieces in the early 1970’s and began to work with electronic images on film in 1976. He writes, “I started to work with oscilloscope images around 1976 and got filmmaker Joseph Horning to help put them on 16mm film. Then in 1979 I had my first residency at the Experimental Television Center and discovered image processing.”⁹¹ His second film, *Wavelines II* (1979), received 15 awards including the 1980 Directors’ Choice Award at the 11th Annual Sinking Creek Film Celebration in Greeneville, Tennessee and the 1980 Silver Award of the 13th Annual Festival of the Americas / Houston International Film Festival.

After 1980, Weidenaar began to work with video at the Experimental Television Center. “Since 1982 he has produced 7 concert videos, scored for live musician, video, and recorded accompaniment.”⁹² His *Love of Line, of Light and Shadow: The Brooklyn Bridge*, for clarinet, color video, and electronic sound, received the Grand Prize at the

⁹⁰ Reynold Weidenaar, “About the Author,” back cover from *Magic Music from the Telharmonium* (The Scarecrow Press, Inc., 1995).

⁹¹ Reynold Weidenaar, “RE: Performance of Swing Bridge.” [E-mail].

⁹² “Reynold Weidenaar.” [Article on-line] ; available at http://www.wpunj.edu/coac/communication/R_Weidenaar.htm; Internet; accessed 13 December 2002.

Tokyo Video Festival. Reynold Weidenaar has received numerous awards and grants, including a Fulbright fellowship and a Guggenheim fellowship, both in video. He was awarded a National Endowment for the Arts Composer Fellowship.

Weidenaar is a member of the following organizations:

American Society of Composers, Authors, & Publishers (ASCAP)
Association of Independent Video & Filmmakers
College Music Society
Experimental Television Center
Film-Makers' Cooperative
International Computer Music Association
Media Alliance
Society for Electro-Acoustic Music in the U.S.
Society of Composers, Inc.
Phi Mu Alpha Sinfonia
Pi Kappa Lambda

The clarinetist, F. Gerard Errante, has commissioned several concert videos from Reynold Weidenaar, including *Love of Line, of Light and Shadow* (1982), and *Swing Bridge* (1997). He has also transcribed the saxophone concert video, *The Stillness* (1983) for the clarinet. Other commissions include *Long River* (1991) for pianist Barbara Blegen, *The Thundering Scream of the Seraphim's Delight* (1986) for double bassist Robert Black, *Southern Fantasy* (1983) and *Songs in Steel and Concrete* (1982) for the film producers Franklin Backus and Richard Protovin, *Time and Again* (1982) and *Past Fantasy* (1982) for Franklin Backus, *Women-Take Back the Night* (1982) for film producer Meryl Bronstein, *Night of the Egg* (1979) for film producer Henry Groskinsky, *Déjà Vu, Where are You?* (1977), and *Cicada* (1977) for Footpath Dance Company.

Weidenaar's book, *Magic Music from the Telharmonium*,⁹³ is based on his Ph.D. dissertation, "The Telharmonium: A History of the First Music Synthesizer, 1893-

⁹³ Reynold Weidenaar, *Magic Music from the Telharmonium* (The Scarecrow Press, Inc., 1995).

1918.”⁹⁴ He is widely published, with articles appearing in *Perspectives of New Music*, *Ear Magazine*, *The Independent*, and *The New Grove Dictionary of Musical Instruments*. He is included in the 1986 *New Grove Dictionary of Music and Musicians* as well as in Richard Kostelanetz’ *Dictionary of the Avant-Gardes* (both editions). He and his works have been written about in numerous articles, including *Journal SEAMUS*, *Amazing Sounds*, *New Music Connoisseur*, and *Videography*.

Reynold Weidenaar has received many grants and fellowships, including those from the Guggenheim Memorial Foundation for video (1984-5), the Fulbright Scholar Program for video art (1984), the National Endowment for the Arts (1983-4), Meet the Composer, Inc. (1980-92), and Media Bureau, Inc. (1980-8).

When asked of future plans for clarinet, Weidenaar responded,

I’m not planning any other clarinet pieces at the moment, but am interested in using Max to play QuickTime movies in sync with a performer. I’m going to use hang Time footage and the score to work this out, so if it is successful there will be yet another version for clarinet.⁹⁵

List of Works:

Title	Date of Composition	Instrumentation
<i>Bass Bars</i>	1988	stereo sound color video
<i>Between the Motion and the Act Falls the Shadow</i>	1991	clarinet, stereo sound color D2 video
<i>Cadenza</i>	1979	tape
<i>Cicada</i>	1978	tape
<i>Close Harmony</i>	1979	tape
<i>Crescent Close Harmony</i>	1980	tape

⁹⁴ Reynold Weidenaar, “The Telharmonium: A History of the First Music Synthesizer, 1893-1918.” (Ph.D. diss., New York University, 1988).

⁹⁵ Reynold Weidenaar, “RE: Performance of Swing Bridge.” [E-mail].

Title	Date of Composition	Instrumentation
<i>Déjà vu, Where Are You?</i>	1977	tape and dance
<i>Drive</i> (originally <i>Images</i> , 1973)	1976	tape
<i>Electric Air</i>	1973	rock band and orchestra
<i>Fanfare</i>	1976	tape
<i>Hang Time on Jones Street</i>	2002	any instrument, electronics, and stereo sound color video (DVD)
<i>How to Protect Your Home from Frequency Modulation!</i>	1979	open-reel video
<i>Imprint: Footballs to Return</i>	1981	tape
<i>Long Into the Night, Heavenly Electrical Music Flowed Out of the Street</i>	1995	piano and digital sound color video
<i>Long River</i>	1993	piano and stereo sound color video
<i>Love of Line, of Light and Shadow: The Brooklyn Bridge</i>	1982	clarinet and stereo sound color video
<i>Magic Music from the Telharmonium</i>	1998	stereo sound color D2 video
<i>Music for Highway Homage</i>	1982	16mm color sound film by Franklin Backus
<i>Music for Manhattan Quartet</i>	1982	16mm color sound film by Franklin Backus and Richard Protovin
<i>Music for Night of the Egg</i>	1979	16mm color sound film by Henry Groskinsky
<i>Music for Southern Images</i>	1984	16mm color sound film by Franklin Backus and Richard Protovin
<i>Music for Time Passing</i>	1982	16mm color sound film by Franklin Backus
<i>Music for Women—Take Back the Night</i>	1982	16mm color sound film by Meryl Bronstein
<i>Night Flame Ritual</i>	1983	clarinet, pitch transposer, digital delay, and stereo sound color video
<i>Out of C</i>	1978	tape
<i>Pathways I: Eight Sonic Variations</i>	1979	synthesizer with multi-tap digital delay reverb processor and tape
<i>Pathways II: Seven Sonic Variations</i>	1980	tape
<i>Pathways III: Visual-Musical Variations</i>	1980	stereo sound color video
<i>Pathways IV: Fibonacci</i>	1980	tape

Title	Date of Composition	Instrumentation
Loci		
<i>Pentimento</i>	1981	stereo sound color video
<i>Sextet</i>	1973	Clarinet, Trumpet, and String Quartet
<i>Simple Ceremony</i>	1978	tape
<i>Sweet Jesus and the Honkies</i>	1978	tape
<i>Swing Bridge</i>	1997	clarinet, audio processing and stereo sound color D2 video
<i>The Ides of April</i>	1974	Soprano and chamber orchestra
<i>The Stillness</i>	1985	alto saxophone and stereo color sound video
<i>The Thundering Scream of the Seraphim's Delight</i>	1987	double bass and stereo sound color video
<i>The Tinsel Chicken Coop</i>	1976	tape
<i>Twilight Flight</i>	1981	stereo sound color video
<i>Twilight Flight</i>	1978	tape
<i>Wavelines I: Four Visual-Musical Compositions</i>	1978	16mm color sound film
<i>Wavelines II: Three Visual-Musical Compositions</i>	1979	16mm color sound film
<i>Wiener</i>	1977	tape

Swing Bridge

Swing Bridge is a concert video commissioned by F. Gerard Errante; it was composed in 1997 as “a video-art-music celebration of the Brooklyn Bridge.”⁹⁶ It requires an amplified clarinet for audio processing and a computer processed video with digital sound. The performance also requires an audio mixer, video projector and screen, amplifier, and speakers. *Swing Bridge* requires either a foot-pedal controller or an assistant for the audio processing in performance.

Swing Bridge has won numerous awards, including Award of Distinction of The Communicator Awards in Arlington, Texas (1997), and the Director's Citation Award of

⁹⁶ Reynold Weidenaar, Performance Notes to *Swing Bridge* (New York: Magnetic Music Publishing, 1997): 1.

the 17th Annual Black Maria Film and Video Festival in Jersey City (1998). Major screenings include ClarinetFest 99 in Ostend, Belgium, and the 6th Computer Music Festival in Seoul, South Korea, both in 1999.

On May 24, 1983, the Brooklyn Bridge was closed to motor traffic to celebrate its 100th anniversary. The festivities included performances by dancers, musicians, and actors, and a fireworks display. The video for *Swing Bridge* features processed images of the celebration, and was created at the Experimental Television Center in Owego, New York.

Swing band recordings are used as a source for the accompanying tape. Small segments or “soundfiles” of the recordings are combined and/or altered by computer techniques such as convolution. The result is a projected “ghost” of one piece of music over another.

Weidenaar provides performance notes for many aspects of performance and set-up. Processing of the live performance includes pitch transposition and reverb. The settings are provided in the performance notes as follows:

Audio Processing Settings:

These settings were developed on the Digitech TSR-24, which provides reverb, chorusing, digital delay, and pitch transposition. The settings are explained in detail so that they may be replicated on other equipment.

There are four settings for the piece, used a total of 13 times during the performance. Some changes must be made quickly, so it is necessary to use a foot-pedal controller or a human assistant.

- 1 Reverb: 1.05 seconds.
- 2 Reverb: 2.1 seconds.
- 3 2-tap digital delay: 300 ms and 450 ms, level 100%, feedback (regeneration) 50%.
- 4 Chorus: delay 30 ms (optional), speed .4 Hz, depth 8.25 ms, waveform Δ .
Dual pitch transposition: -5, -7 (generate two pitches: down 5 semi-tones, down 7 semi-tones).
1-tap digital delay: 50 ms, level 50%, feedback (regeneration) 10%.

The unprocessed signal from the clarinet microphone, and the processed signal, should be routed separately to a sound-system mixer. The balance between the two should be set so that the two signals are almost equal, with the unprocessed signal just slightly louder.

Figure 15. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.

Settings for audio processing in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

Nineteen rehearsal sections are divided and numbered on the score and coordinate with sections on the rehearsal tape. The score cues for the audio part are not always complete or obvious, so the rehearsal sections are helpful in guiding preparation and coordination.



Figure 16. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.
Notation of rehearsal sections and timeline in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

Weidenaar also provides a diagram for recommended audio and visual set-up.

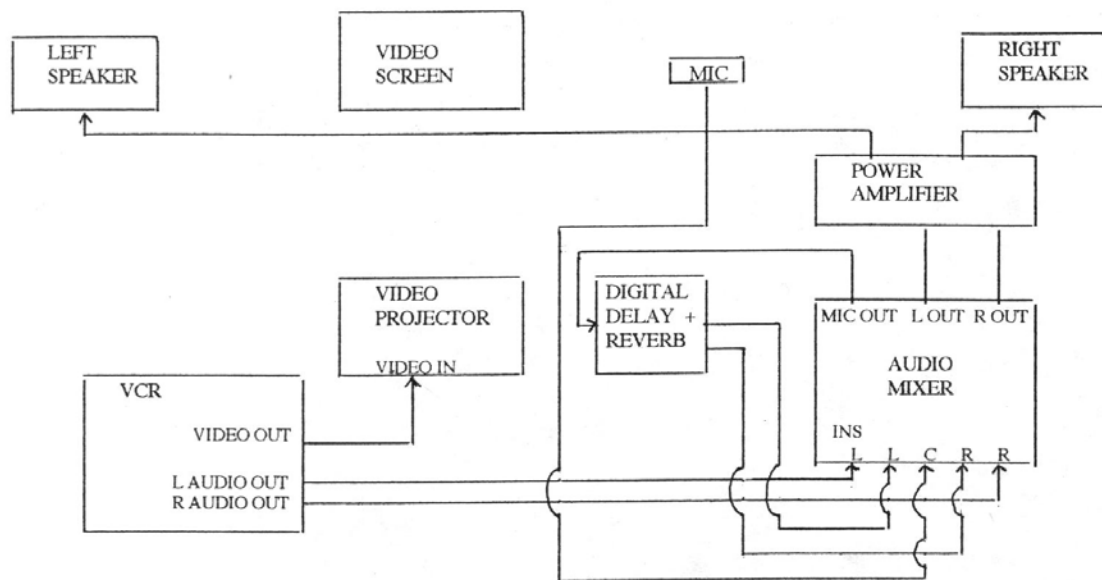


Figure 17. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.
Diagram for set-up of audio processing in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

The rehearsal tape also includes a composite performance by clarinetist, F. Gerard Errante, to guide preparation.



Figure 18. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.
Publicity photo for *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

The clarinet part to *Swing Bridge* includes many contemporary techniques. One technique is flutter tongue, an articulation technique produced on the clarinet by either rolling the tongue on the upper palate or by a “gargling” technique with the throat.



Figure 19. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.
Use of flutter tongue in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

Weidenaar also scores for “rebound tongue,” which he describes as “improvise rapid, uneven notes,” as seen in Figure 20.

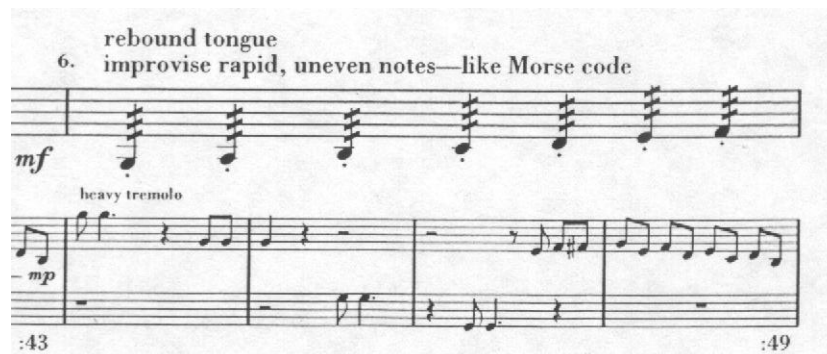


Figure 20. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.
Rebound tongue in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

Weidenaar also writes for several types of glissandi in *Swing Bridge*. He includes diatonic glissandi, diatonic slide, portamento, and chromatic glissandi. Care should be given to differentiate between the different notations in performance. Glissando suggests rapid finger movement, either diatonic or chromatic, while portamento and slide also require lip bend and oral cavity adjustments.

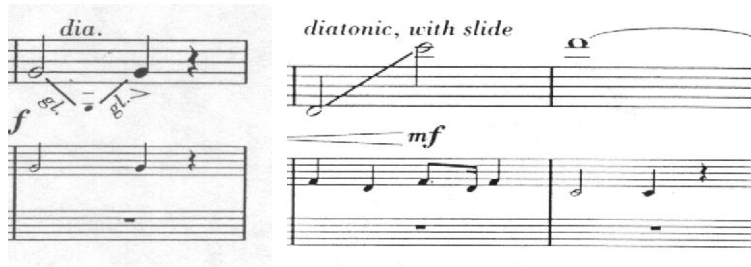


Figure 21. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.

Score notation for slide and glissando in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

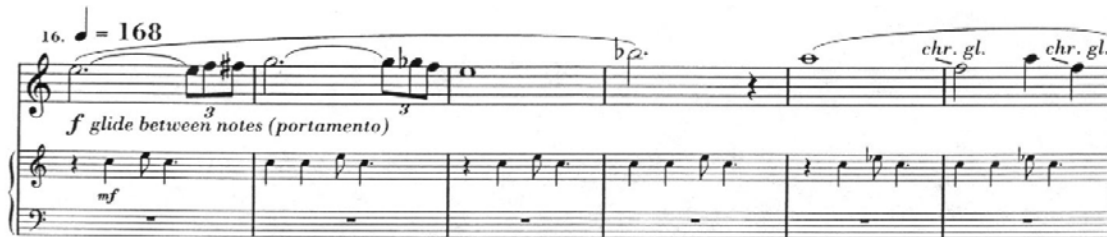


Figure 22. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.

Score notation for portamento and glissando in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

Weidenaar writes for “growl,” a contemporary technique produced by humming while playing. Rehfeldt suggests a relaxed throat to help with the production of the hum.⁹⁷ The difficulties of the technique are compounded by a hard set-up or resistant reed. One method of practicing the technique involves humming while blowing, then while whistling, and finally while playing.

⁹⁷ Rehfeldt, 68.



Figure 23. Reynold Weidenaar, *Swing Bridge*, © 1997 by Magnetic Music Publishing Co.

Use of growl in *Swing Bridge*. Used by permission of Reynold Weidenaar, Magnetic Music Publishing Co.

Chapter VII. Conclusion

Although there has been an increase in multimedia composition, very little has been written on the topic of its rehearsal and performance to aid the musician. There are few clarinetists with expertise in, or even exposure to, multimedia music. Roslyn Dunlop, Brigid Burke, and F. Gerard Errante are three well-known performers of multimedia clarinet music. Valuable information about literature and performance is available on their respective websites.

Useful strategies for the preparation and performance of only four multimedia works has been included in this document, but with the intention of providing information that can be applied to similar multimedia works. These strategies include equipment and set-up requirements, information about transfer of tape or film materials to modern equipment, advice on the performance of contemporary techniques, and advice for the coordination of elements. This paper is designed to answer some basic questions about equipment and set-up as well as clarinet performance requirements and contemporary techniques.

The transfer of outdated accompanying materials to simplify performance problems is discussed, when needed. Information is provided about methods for putting slide images onto CD, for example. This is also beneficial to the performance of works with outdated audio and visual applications, such as reel-to-reel and cassette tape. It can prevent further damage to original materials, such as slides. Possibilities include the transfer of tape to CD, slide to digital image, and film to video. One advantage of the new digital applications is the reduction in the number of technicians needed, as in Ellis' *A Dream Fantasy*. The author recommends using a professional for these purposes, due

to the problems of obtaining functional equipment, and the expense of purchasing the software needed. The process may be expensive, but the outcome more reliable and applicable.

Clarinetists interested in performing multimedia music are often unaware of the literature due to the absence of a catalog. This document also provides a catalog of multimedia compositions with additional sources for more information about the composer and/or piece. Some of the information may include, but is not limited to, title, composer, collaborators, instrumentation, and equipment needed. The catalog is designed to aid in the search for literature and to promote composers' works.

This written document is designed to promote the composition of similar works by increasing the understanding and appreciation of multimedia music. The catalog is intended to aid multimedia composers in the publicity of their clarinet works. One possible result of this project is an escalation of multimedia performances. A goal of the accompanying recital is to create an awareness and interest in multimedia music. The recital proved several points.

First, obtaining material for performance can be difficult and time consuming. A performer may encounter problems with publishers (Carl Fischer Rental Library, for example) finding the appropriate materials. The author experienced changes in rental fees, due to the expense of updating audio and visual materials. This fee was negligible, however, when compared with the cost of paying for the whole process.

Second, a performer may also have problems locating functional equipment for the performance of multimedia pieces, specifically those with 8mm or 16mm film. The transfer of these materials is possible, but can be expensive and time consuming. Carl

Fischer Publishers proved helpful in this project. One may also find that older material may be damaged, as in the case of slides for this recital. With modern technology, transfer of images onto CD has proven to be quick and effective.

Third, the number of people and the amount of coordination required for rehearsal and performance may seem overwhelming, or as Errante states, “burdensome.”⁹⁸ However, it is not unlike the demands of a solo or chamber recital. Often, multimedia pieces may be performed with a soloist and one additional person to start audio devices and a film projector. Notably, the differences in this recital are that the equipment needs are greater and require more set-up time, and that the accompanist(s) needs to be trained in the audio or visual fields, rather than in piano performance. The solution to this problem is to hire qualified personnel to handle audio and visual elements of the performance.

Fourth, some additional skills in score reading are often required when performing multimedia works. These techniques vary with each piece and usually involve time-line reading and cue-reading for coordination with preexisting audio materials. In the case of this recital, score materials are clear and legible with sufficient cues to provide security in performance. Some practice is required for the performance of technical passages and contemporary techniques.

In the case of multimedia performance, it is noted after this recital, that these challenges pertain to all music performance, not exclusively multimedia. Obtaining scores and materials for any piece can sometimes present delay. It is also safe to assume that a clarinetist may have similar problems with coordination of elements in Alban Berg’s *Vier Stücke* (1924) or in Olivier Messiaen’s *Quatour pour la Fin du Temps*

⁹⁸ F. Gerard Errante, “Electro-Acoustic Music for the Clarinet, Part IV,” in *ClariNetwork*, 18.

(1942). In relation to score reading techniques, the author notes more score study required for the performance of Pierre Boulez's *Domaines* (1970) for solo clarinet than is required for the performance of these four multimedia works. It can be concluded, therefore, that much multimedia music presents no real additional challenge to performance other than equipment management.

Multimedia music for clarinet constitutes an impressive body of repertoire, which is continually evolving with new developments in technology. The possibilities are infinite and the newest multimedia works are an impressive synthesis of art, music and technology.

Bibliography

- “About EMF,” *Electronic Music Foundation*. [Article on-line] ; available from <http://www.emf.org/aboutemf/index.html>; Internet ; accessed 18 December 2002.
- Appleton, Jon H., and Ronald C. Perera. *The Development and Practice of Electronic Music*. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1975.
- Bartolozzi, Bruno. *New Sounds for Woodwind*, 2d ed. London: Oxford University Press, 1982.
- “The Beat Page – Lawrence Ferlinghetti.” [Article on-line] ; available from <http://www.rooknet.com/beatpage/writers/ferlinghetti.html>; Internet; accessed 14 January 2003.
- “Bill Smith a.k.a. William O. Smith.” [Article on-line] ; available from <http://msnyder.dragonfire.net/clarinet/smith.htm>; Internet; accessed 8 August 2000.
- Boehmer, Konrad. “Herbert Eimert- Interview with Konrad Boehmer.” [Article on-line] ; available from <http://www.furious.com/perfect/ohm/eimert.html>; accessed 4 December 2002.
- Carlos, Wendy. “Wendy Carlos: Biographical Notes.” [Article on-line] ; available from <http://www.wendycarlos.com/biog.html>; Internet; accessed 14 January 2003.
- “Catalog by Artist: Joel Chadabe.” [Article on-line] ; available from <http://www.lovely.com/artists/a-chadabe.html>; Internet ; accessed 18 December 2002
- Chadabe, Joel. *Electric Sound: The Past and Promise of Electronic Music*. Upper Saddle River, N.J.: Prentice-Hall, Inc., 1997.
- _____. “Joel Chadabe: Biography.” [Article on-line] ; available from <http://www.chadabe.com/bio.html>; Internet ; accessed 13 December 2002.
- _____. “Joel Chadabe.” [Article on-line] ; available from <http://www.emf.org/subscribers/chadabe/index.html>; Internet; accessed 9 April 2000.
- _____. “Joel Chadabe.” [Article on-line] ; available from http://www.sfu.ca/~eigenfel/fpa147/w11_Music_from_Nos.html; Internet; accessed 13 December 2002.
- _____. “Performance Notes,” *Street Scene*. Paoli, PA: Carl Fischer, 1968.

- _____. *Street Scene*. Paoli, PA: Carl Fischer, 1968.
- “Composer Profiles,” Mode Records. [Article on-line] ; available from <http://www.mode.com/profiles/subotnick.html>; Internet; accessed 4 November 2002.
- “The Contemporary Group.” [Article on-line] ; available from <http://www.washington.edu/research/showcase/1966a.html>; Internet; accessed 18 December 2002.
- Didkovsky, Nick. “What’s a Markov Process?” [Article on-line] ; available from <http://www.doctornerve.org/nerve/pages/interact/markhelp.htm>; Internet; accessed 4 December 2002.
- Eaton, John. “A Portable Electronic Instrument,” *Music Journal* 24 (October 1966): 54-5.
- Ellis, Merrill. “Know Your Chairman,” *American Music Teacher* 11, no. 3 (1962): 13.
- _____. “Music Concrète at Home: Or How to Compose Electronic Music in Three Easy Lessons,” *Music Educators Journal* 55, no. 3 (1968): 94-6.
- _____. “Performance Suggestions,” *A Dream Fantasy*. Paoli, PA: Carl Fischer, 1974.
- _____. “Program Note,” *A Dream Fantasy*. Paoli, PA: Carl Fischer, 1974.
- Ellis, Merrill, Robert Ehle, and Robert A. Moog. *Electronic Composition Manual*. New York: Music Corporation of America, 1969.
- Errante, F. Gerard. “Clarinet Multiphonics: Practical Applications.” *The Clarinet* 3, no. 2 (1976): 5-7.
- _____. “Contemporary Aspects of Clarinet Performance.” *Woodwind World- Brass and Percussion* 16, no.1 (1977): 6-7,17.
- _____. “Contemporary Aspects of Clarinet Performance.” *Woodwind World- Brass and Percussion* 16, no.2 (1977): 20-1,26.
- _____. “Contemporary Aspects of Clarinet Performance.” *Woodwind World- Brass and Percussion* 16, no.3 (1977): 8-9.
- _____. *Contemporary Clarinet Repertoire for Clarinet and Electronics*, 2d ed. Mentone, CA: MillCreek Publications, 1993.
- _____. “Electro-Acoustic Music for the Clarinet, Part I.” *ClariNetwork* Fall (1984): 14,21.

- _____. "Electro-Acoustic Music for the Clarinet, Part II." *ClariNetwork* Spring (1985): 16-7,24.
- _____. "Electro-Acoustic Music for the Clarinet, Part III." *ClariNetwork* Clar-Fest (1985): 25-6.
- _____. "Electro-Acoustic Music for the Clarinet, Part IV." *ClariNetwork* Fall (1985): 18,21.
- _____. "Electro-Acoustic Music for the Clarinet, Part V." *ClariNetwork* Holiday (1985): 14-6.
- _____. "The Electronic Clarinet." *The Clarinet* 17, no. 3 (1990): 14-21.
- _____. "The New Medium of Video Performance." *ClariNetwork* Clar-Fest (1986): 25,28.
- _____. "New Music for the Clarinet." *The Instrumentalist* 26, no. 6 (1972): 41-3.
- _____. "Performing with Tape." *Music Educators Journal* 72, no.3 (1985): 49-51,60,63-9.
- _____. "A Representative List of Compositions Utilizing Contemporary Clarinet Techniques." *Woodwind World- Brass and Percussion* 16, no. 4 (1977): 10-11,34-5.
- _____. *A Selective Clarinet Bibliography*. Oneonta, N.Y.: Swift-Dorr Publications, Inc., 1973.
- _____. "A Selective Discography of Recent Music for Clarinet." *The Clarinet* 1, no. 4 (1974): 27-8.
- _____. "Sources for New Music." *The Clarinet* 1, no. 2 (1974): 12-5.
- Farmer, Gerald J. "Clarinet Multiphonics," *The Instrumentalist* 33, no. 3 (1978): 48,50,52-3.
- _____. "A Comprehensive View of Clarinet Multiphonics," *The Clarinet* 4, no. 2 (1977): 31-7.
- Fausty, Ed. "Sight, Sound and Vision: Reflection on a Multimedia Experience." *Perspectives of New Music* Spring-Summer (1985): 106-9.
- Feather, Leonard. "Bill Smith," *The Encyclopedia of Jazz in the 60's*. [Article on-line] ; available from <http://faculty.washington.edu/bills/bio2.html>; Internet; accessed 8 August 2000.

- Ferlinghetti, Lawrence. "The Long Street," from *A Coney Island of the Mind*. New York: New Directions Publishing Corp., 1958: 82-6.
- Friedlander, Paul. "What is Visual Music?" [Article on-line] ; available from <http://www.praskovi.clara.net/text/visualmusic.html>; Internet; accessed 10 February 1999.
- Glinsky, Albert. *Theremin: Esther Music and Espionage*. With foreword by Robert Moog. Urbana, IL: University of Illinois Press, 2000.
- Griffiths, Paul. *A Concise History of Avant-Garde Music*. New York: Oxford University Press, 1978.
- _____. *A Guide to Electronic Music*. London: Thames and Hudson, 1979.
- _____. *Modern Music: A Concise History*. London: Thames and Hudson, 1994.
- Hartway, James John. *Impressions of Walden*. New York: New York Public Library, 1979.
- Heaton, Roger. "The Contemporary Clarinet," *The Cambridge Companion to the Clarinet*, ed. Colin Lawson. Cambridge: Cambridge University Press, 1995.
- "History of Electronic and Computer Music Including Automatic Instruments and Composition Machines." [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/electronmedia/music/eamhistory.html>; Internet; accessed 7 August 2000.
- Hitchcock, H. Wiley and Stanley Sadie, eds., "Chadabe, Joel," from *The New Grove Dictionary of American Music*, 1 (New York: MacMillan Press Limited, 1986): 384-5.
- "Joel Chadabe." [Article on-line] ; available from http://www.sfu.ca/~eigenfel/fpa147/w11_Music_from_Nos.html; Internet; accessed 13 December 2002.
- Kasdan, Leonard, and Jon H. Appleton. "Tradition and Change: The Case of Music," from *On the Wires of Our Nerves*, ed. Robin Julian Heifetz, 17-27. London: Associated University Press, 1989.
- Kettlewell, Ben. *Electronic Music Pioneers*. Artist Pro/Pro Music Press, 2002.
- Klug, Howard. *The Clarinet Doctor is in*. Bloomington, I.N.: Woodwindiana, Inc., 1997.

Kramer, Jonathan. *Games Clarinetists Play*. New Haven: Yale University Press, 1972.

_____. "RE: clarinet music." [E-mail]; from jdk4@columbia.edu; received at spdruhan@aol.com, 9 August 2000.

Kyle, Marguerite Kelly. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 48, no. 2 (1956): 48.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 49, no. 2 (1957): 46.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 50, no. 2 (1958): 51-2.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 51, no. 2 (1959): 60.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 52, no. 2 (1960): 48.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 54, no. 2 (1962): 47.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 55, no. 2 (1963): 47.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 56, no. 2 (1964): 54.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 57, no. 2 (1965): 55.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 58, no. 2 (1966): 59-60.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 59, no. 2 (1967): 71-2.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 60, no. 2 (1968): 69.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 61, no. 2 (1969): 50-1.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 62, no. 2 (1970): 59.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 63, no. 2 (1971): 56.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 64, no. 2 (1972): 53.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 65, no. 2 (1973): 50.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 66, no. 2 (1974): 50.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 67, no. 2 (1975): 53.

_____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 68, no. 2 (1976): 49.

- _____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 69, no. 2 (1977): 43.
- _____. "American Allegro," *Pan Pipes of Sigma Alpha Iota* 70, no. 2 (1978): 39-40.
- Leuning, Otto. "Origins," from *The Development and Practice of Electronic Music*, Jon H. Appleton and Ronald C. Perera (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1975): 1-21.
- Lincoln, Harry B., ed. *The Computer and Music*. Ithaca: Cornell University Press, 1970.
- Ludewig-Verdehr, Elsa. "A Practical Approach to New and Avant-Garde Clarinet Music and Techniques," *The Clarinet* 7, no.2 (1980): 10-15,38-41.
- "Merrill Ellis Collection," University of North Texas Music Library. [Article on-line] ; available from <http://www.library.unt.edu/music/speccol.htm>; Internet; accessed 9 September 2002.
- Mitchell, Ian. "An American Attitude of Adventure," *Clarinet and Saxophone* 21, no. 4 (1996): 41-2.
- Monaghan, Peter. "Bill Smith: Fifty Years of Innovation." [Article on-line] ; available from <http://faculty.washington.edu/bills/earshot.html>; Internet; accessed 8 November 2002.
- "Multimedia," The EMF Institute. [Article on-line]; available from http://emfinstitute.emf.org/cgi-bin/itimeline_search.pl?keywords=multimedia; Internet; accessed 3 November 2002.
- Packer, Randall. "Just what is Multimedia, Anyway?" *Artful Media* 1070-986X/99: 11-13 January-March 1999 [journal on-line] ; available from <http://www.zakros.com/bios/ReadingA.pdf>; Internet; accessed 21 October 2002.
- Paulson, John C. "Electronic Pioneers," *The Instrumentalist* 41, no. 11 (1987): 40,42,44,46,49-50,52,54.
- Pellegrino, Ronald. *The Electronic Arts of Sound and Light*. New York: Van Nostrand Reinhold, Co., 1983.
- Peno, David. *The Clarinet and Clarinet Playing*. Mineola, N.Y.: Dover Publications, Inc., 1980.
- Rehfeldt, Phillip. "Some Recent Thoughts on Multiphonics." *The Clarinet* 4, no.3, (1977): 21.
- _____. *New Directions for Clarinet*, rev. ed. Berkeley: University of California Press, 1994.

- “Reynold Weidenaar.” [Article on-line] ; available at http://www.wpunj.edu/coac/communication/R_Weidenaar.htm; Internet; accessed 13 December 2002.
- Ricker, Ramon L. “Electronic in General, Clarinet and Tape in Particular.” *Woodwind World* 10, no.4 (1971): 13-4,17.
- Roads, Curtis, ed. *Composers and the Computer*. Los Altos, CA: William Kaufmann, Inc., 1985.
- Sadie, Stanley, ed. “Chadabe, Joel,” *The New Grove Dictionary of Music and Musicians*, 2d ed, v. 5 (New York: MacMillan Publishers, Ltd, 2001): 418.
- Salzman, Eric. *New York Herald Tribune*. 14 March 1964.
- Schrader, Barry. *Introduction to Electro-Acoustic Music*. Englewood Cliffs: Prentice-Hall, Inc., 1982.
- Shatin, Judith. “Electronic Composition.” [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/homework/electroniccomp.html>; Internet; accessed 29 October 2002.
- Sigel, Allen. *The Twentieth Century Clarinetist*. Melville, N.Y.: Belwin Mills Publishing Corp., 1966.
- Slonimsky, Nicholas, ed. “Joel Chadabe,” *Baker’s Biographical Dictionary of Musicians*, 8th ed. New York: Schirmer Books, 1994.
- Smith, Sylvia and Stuart. “Visual Music.” *Perspectives of New Music* Spring-Summer (1982): 76-93.
- Somers, Eric. “The Career of Multimedia Artist.” [Article on-line] ; available from <http://music.dartmouth.edu/~wowem/homework/multimedia.html>; Internet; accessed 29 October 2002.
- Spiegel, Laurie, “Graphical Groove: Memorium for a Visual Music System,” *Organised Sound* 3(3): 187-191 1998 [journal on-line]; Cambridge University Press; available from <http://www.retiary.org/ls/writings/vampire.html>; Internet; accessed 29 August 1998.
- Spring, Robert S. “Circular Breathing: A Method.” ms, Robert S. Spring, Arizona State University, 1993.
- Spring, Robert S. “Multiple Articulation for Clarinet: A Method.” ms, Robert S. Spring, Arizona State University, 1993.

- Stein, Keith. *The Art of Clarinet Playing*. Miami: Summy Birchard, Inc., 1958.
- Stone, Kurt. "New Notation for New Music." *Music Educators Journal* 63, no.2 (1976): 48-56.
- _____. "New Notation for New Music." *Music Educators Journal* 63, no.3 (1976): 54-61.
- Subotnick, Morton. "Morton Subotnick." [Article on-line] ; available from <http://shoko.calarts.edu/~mort/about.html>; Internet; accessed 14 January 2003.
- "Synthesizer," from Webster's New World Dictionary, 2d College ed. [Article on-line] ; available from <http://www.dei.isep.ipp.pt/~i000095/synthesizer.htm>; Internet; accessed 14 January 2003.
- U.N.T. Music Library, "Merrill Ellis Collection." [Article on-line] ; available from <http://www.library.unt.edu/music/speccol.htm>; Internet; accessed 9 September 2002.
- "Use of Synthesizers and Anti-Music," *Industrial Prehistory: New Musical Technology*. [Article on-line] ; available from <http://www.media.hyperreal.org/zines/est/articles/prehist4.html>; Internet; accessed 4 December 2002.
- Valenziano, Nicholas J. "Contemporary Notational Symbols and Performance Techniques for the Clarinet, Part I." *The Instrumentalist* 31, no.8 (1977): 94-7.
- _____. "Contemporary Notational Symbols and Performance Techniques for the Clarinet, Part II." *The Instrumentalist* 31, no.9 (1977): 70-4.
- Vasulka, Steina and Woody Vasulka. "Steina & Woody Vasulka: Curriculum Vitae." [Article on-line] ; available from <http://www.c3.hu/scca/butterfly/Vasulkas/cv.html>; Internet; accessed 14 January 2003.
- Weidenaar, Reynold. "Live Music and Moving Images: Composing and Producing the Concert Video." *Perspectives of New Music* Spring-Summer (1986): 270-9.
- _____. *Love of Line, of Light and Shadow: The Brooklyn Bridge*. New York: Magnetic Music Publishing, 1982.
- _____. "About the Author," from the cover of *Magic Music from the Telharmonium*. Metuchen, N.J.: The Scarecrow Press, Inc., 1995.

- _____. *Magic Music from the Telharmonium*. Metuchen, N.J.: The Scarecrow Press, Inc., 1995.
- _____. "RE: Performance of Swing Bridge." [E-mail]; received from WeidenaarR@wpunj.edu; delivered to Mary_Druhan@tamu-commerce.edu, 17 January 2003.
- _____. "Swing Bridge." [Article on-line] ; available from <http://magneticmusic.org/swingbri.htm>; Internet; accessed 13 August 2000.
- _____. *Swing Bridge*. New York: Magnetic Music Publishing Co., 1997.
- _____. *The Telharmonium: A History of the First Music Synthesizer, 1893-1918*. Ph.D. diss., New York University, 1988.

Appendix A: Musical Works Cited

- Anderson, Thomas Jefferson. *Thomas Jefferson's Orbiting Minstrels and Contraband: a 21st Century Celebration of 19th Century Form*. New York: Composers' Facsimile Edition, 1984.
- Babbitt, Milton. *Composition for Synthesizer*. New York: American Music Publishers, P373, 1961.
- _____. *Ensembles*. New York: American Music Publishers, P246, 1964.
- Bach, Jan. *Skizzen*. New York: Galaxy-Highgate Music, 1967.
- Barron, Louis and Bebe Barron. *The Bells of Atlantis*. Film. 1952. Unavailable.
- _____. *Forbidden Planet*. Santa Monica, CA: Metro Goldwyn Mayer, 1956.
- Beglarian, Eve. *Cave*. Score. 2001. Eve Beglarian, www.ebvvd.com/cave/index.html.
- Berg, Alban. *Vier Stücke*. London: Universal Edition, 1924.
- Bodin, Lars-Gunnar. *Clouds*. Stockholm: Fylkingen Records FYLP 1022, 1977.
- Boulez, Pierre. *Dialogue del'ombre Double: 8 Clarinets, Tape and Lights*. Vienna: Universal Edition, 1986.
- _____. *Domaines*. London: Universal Edition, 1970.
- Braxton, Anthony. *Composition no. 96*. Score. 1967. Braxton House, 175 Fifth Avenue #2261, New York, NY 10010.
- Bremer, Carolyn. *I Have a Nightmare*. Score. 1993. University of Oklahoma, School of Music, 560 Parrington Oval, Room #109, Norman, OK 73019.
- Burke, Brigid. *The Bottled Fable*. Score. 1995. Australian Music Center, Sydney.
- _____. *Circle Hats*. Score. 1992. Australian Music Center, Sydney.
- _____. *Colours & Tones Scratch*. Score. 1997-9. Australian Music Center, Sydney.
- _____. *Diverse Nobleman*. Score. 1997-9. Australian Music Center, Sydney.
- _____. *The Earth has an Aura*. Score. 1995. Australian Music Center, Sydney.
- _____. *Emmigig II*. Score. 1995. Australian Music Center, Sydney.

- _____. *Emmigig III*. Score. 1995. Australian Music Center, Sydney.
- _____. *Glass, Water & Lemon*. Score. 2000. Australian Music Center, Sydney.
- _____. *Gold Thamar*. Score. 2000. Australian Music Center, Sydney.
- _____. *Grey is the Highway*. Score. 2001. Australian Music Center, Sydney.
- _____. *Infra-Infer*. Score. 1992. Australian Music Center, Sydney.
- _____. *Inside and Outside the Breast*. Score. 1995. Australian Music Center, Sydney.
- _____. *Lands Collide 2*. Score. 2002. Australian Music Center, Sydney.
- _____. *Lemus & Gelas*. Score. 2000. Australian Music Center, Sydney.
- _____. *Mother's Fish Laughter*. Score. 1997-9. Australian Music Center, Sydney.
- _____. *Perhaps it's Arrived*. Score. 2001. Australian Music Center, Sydney.
- _____. *Root Drinking (Alluring Eyes)*. Score. 1998. Australian Music Center, Sydney.
- _____. *A Sliding Droplet*. Score. 2001. Australian Music Center, Sydney.
- _____. *Sliding with Whistles*. Score. 2000. Australian Music Center, Sydney.
- _____. *Three Sounds on Buildings*. Score. 1992. Australian Music Center, Sydney.
- Burns, Kristine H. *Midwestern Sketches I*. Score. 1996-7. Kristine Burns, Florida International University, School of Music, U.P. Campus, Miami, FL 33199.
- _____. *Underwear 2nd Pair*. Score. 2000. Kristine Burns, Florida International University, School of Music, U.P. Campus, Miami, FL 33199.
- Cage, John. *Concert for Piano and Orchestra*. New York: Henmar Press Inc., 1960.
- Chadabe, Joel. *After Some Songs*. Score. 1987-94. Joel Chadabe, PO Box 8748, Albany, NY 12208.
- _____. *Echoes*. Score. 1972. Joel Chadabe, PO Box 8748, Albany, NY 12208.
- _____. *Ideas of Movement at Bolton Landing*. Score. 1971. Joel Chadabe, PO Box 8748, Albany, NY 12208.

- _____. *Rhythms*. New York: Lovely Music, 1980.
- _____. *Street Scene*. Paoli, PA: Carl Fischer Facsimile Editions, 1967.
- Cross, Lowell. *Musica Instrumentalis*. New York: New York Public Library, 1969.
- Dahl, Ingolf. *Five Duets for Clarinets*. South Hackensack, NJ: Joseph Boonin, 1974.
- Denis, Jean-François. *À Jérôme*. Score. 1982. Canadian Music Centre, Toronto.
- Deschenes, Marcelle. *La saga Viking*. Score. 1993. Canadian Music Centre, Toronto.
- Dillon, James. *Crossing Over*. Frankfurt: Edition Peters, 1978.
- Eaton, John. *Blind Man's Cry*. Delaware Water Gap, PA: Malcolm Music/Shawnee Press, 1968.
- _____. *Concert Piece for Synket and Symphony Orchestra*. Delaware Water Gap, PA: Malcolm Music/Shawnee Press, 1967.
- _____. *Mass*. Delaware Water Gap, PA: Malcolm Music/Shawnee Press, 1969.
- Eimert, Herbert and Robert Beyer. *Klang im unbegrenzten Raum*. Amsterdam Holland: BVHAAST Records, "Cologne - WDR: Early Electronic Music," CD 9106, 1951-2.
- Eimert, Herbert and Robert Beyer. *Klangstudie I*. Amsterdam Holland: BVHAAST Records, "Cologne - WDR: Early Electronic Music," CD 9106, 1952.
- Eimert, Herbert and Robert Beyer. *Klangstudie II*. Amsterdam Holland: BVHAAST Records, "Cologne - WDR: Early Electronic Music," CD 9106, 1952-3.
- Ellis, Merrill. *Celebration*. Score. 1980. American Music Center, New York.
- _____. *Dream of the Rode*. Score. 1973. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.
- _____. *A Dream Fantasy*. Paoli, PA: Carl Fischer Facsimile Editions, 1975.
- _____. *Einyah Festival*. Score. 1961. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.
- _____. *Feedback Fantasy*. Score. 1965. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.

- _____. *The Great Gift*. Score. 1964. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.
- _____. *Kaleidoscope*. Score. 1969. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.
- _____. *Mutations*. Delaware Water Gap, PA: Shawnee Press, 1972.
- _____. *Nostalgia*. Score. 1974. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.
- _____. *Oboe Quintet*. Score. 1965. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.
- _____. *Organ Fantasy*. Score. 1963. Merrill Ellis Special Collection, University of North Texas Library, Denton, TX.
- _____. *Scintillation*. Park Ridge, IL: General Words and Music Co., 1976.
- _____. *The Sorcerer*. Delaware Water Gap, PA: Shawnee Press, 1973.
- _____. *Tomorrow Texas*. Denton, TX: North Texas Composer's Archive, 1965.
- Errante, F. Gerard. *Souvenirs de Nice for Unaccompanied Clarinets and Piano*. Norfolk, VA: F. Gerard Errante, 1975.
- Fortner, Jack. *De Plus en Plus*. Bryn Mawr, PA: Theodore Presser Rentals, 1972.
- Fulkerson, James. *Between the Lines*. Score. 1977. James Fulkerson, J.Fulkerson@inter.NL.net.
- _____. *What is Performance?* Score. 1973. James Fulkerson, J.Fulkerson@inter.NL.net.
- Greive, Roger and T.J. Hinsdale. *Clarinet Chromatron*. Score. 1987. Roger Greive, 2709 Winstead Dr., Toledo, OH 43606.
- Griffith, Peter. *Classic*. Score. 1969. Phillip Rehfeldt, School of Music, University of Redlands, Redlands, CA 92373.
- Guttman, Newman. *In the Silver Scale*. "Wergo Computer Music Currents Vol. 13," Mainz, Germany: Wergo, WER 2033-2, 1957.
- Haba, Alois. *Suite for Quartertone Clarinet and Quartertone Piano*. München: Filmkunst-Musikverlag, 1924.

- Hartway, James John. *Impressions of Walden*. New York: New York Public Library, 1979.
- Hiller, Lejaren, and Leonard Isaacson. *Illiac Suite for String Quartet*. New York: New Music Edition, 1957.
- Knight, Morris. *Refractions for Clarinet and Tape*. Score. 1962. Morris Knight, Harrison, ME: Woodsum, 4494.
- Knittel, Kryztytof. *Forma A, forme E*. Los Angeles, CA: Polish Music Center. 1973.
- _____. *Punkty/Linie*. Los Angeles, CA: Polish Music Center. 1973.
- Kostitsyn, Evgeni. *How I made this*. Score. Date unknown. Evgeni Kostitsyn, ekostitsyn@yahoo.com.
- Kramer, Jonathan. *Games Clarinetists Play*. New Haven: Yale University Press, 1972.
- Leisner, David. *Dances in the Madhouse*. Bryn Mawr, PA: Merion Music, 1982.
- Luening, Otto. *Invention in 12 Tones*. New York: Composers Recordings Inc., "Pioneers of Electronic Music," CD 611, 1952.
- _____. *Fantasy in Space*. New York: Composers Recordings Inc., "Pioneers of Electronic Music," CD 611, 1952.
- _____. *Low Speed*. New York: Composers Recordings Inc., "Pioneers of Electronic Music," CD 611, 1952.
- Maruyama, Ryo. *Landscape of Memory*. Score. 1990. F. Gerard Errante, FGERRANTE@aol.com.
- _____. *Shadows*. Score. 1991. F. Gerard Errante, FGERRANTE@aol.com.
- Maslanka, David. *Three Pieces for Clarinet and Piano*. Score. 1975. David Maslanka, 2625 Strand Ave., Missoula, MT 59804.
- _____. *Woodwind Quintet, no.1*. Score. 1984. David Maslanka, 2625 Strand Ave., Missoula, MT 59804.
- Mathews, Max. *Bicycle Built for Two*. "Early Modulations - Vintage Volts," Caipirinha Productions, B00002EPKP, 2000.
- McIntosh, Diana. *Music at the Centre*. Score. 1981. Canadian Music Centre, Toronto.
- Messiaen, Olivier. *Quatour pour la Fin du Temps*. Paris: Durand S.A., 1942.

- Moss, Lawrence. *Blackbird*. New York: American Music Center, 1987.
- _____. *Images*. Medfield, MA: Dorn Publishers, 1981.
- _____. *Nightscape*. New York: American Music Center, 1978.
- Neuwirth, Olga. *Aufenthalt*. Score. 1992-3. Olga Neuwirth,
OlgaNeu@compuserve.com
- _____. *Jardin Desert*. Score. 1994. Olga Neuwirth, OlgaNeu@compuserve.com
- Oliveros, Pauline. *The Wheel of Fortune*. Score. 1969. Not available.
- Ostrander, Linda Woodaman. *Conservatory*. New York: American Music Center,
unknown.
- Pellegrino, Ron. *Phil's Float*. Score. 1974. Not available.
- Piekut, Ben. *Situated Knowledges*. Score. 1999. Ben Piekut, 3111 Herman Avenue,
San Diego, CA 92104.
- Ran, Schulamit. *For an Actor: Monologue for Clarinet*. Bryn Mawr, PA: Theodore
Presser Co., 1978.
- Rosenboom, David. *In the Beginning V (The Story)*. Lebanon, NH: Frog Peak Music,
1980.
- _____. *On Being Invisible (Hypatia Speaks to Jefferson in a Dream)*. Score. 1994-5.
David Rosenboom, david@music.calarts.edu.
- Rosenboom, David and Anthony Braxton. *Lineage, Enactment, Transfiguration, and
Transference*. New York: Lovely Music, 1992.
- Rosing-Schow, Niels. *Peep*. Denmark: Samfundet, 1992.
- Scavarda, Donald. *Landscape Journey*. Score. 1963. Donald Scavarda, PO Box 17072,
Tucson, AZ 85731.
- Schrude, Marilyn. *Drifting over a Red Place*. Score. 1982. Marilyn Schrude, Bowling
Green State University, Bowling Green, OH 43403.
- Schwartz, Elliot. *Extended Clarinet*. New York: Margun Music, 1974.
- _____. *Telly*. Brunswick, ME: Bowdoin College Music Press, 1972.

- Shatin, Judith. *Grito el Corazon*. Score. 2001. Judith Shatin, shatin@virginia.edu.
- Smith, William O. 64. Mentone, CA: MillCreek Publications, 1990.
- _____. *Duo for Clarinet and Tape*. Rome: Edi Pan, 1960.
- _____. *Five Pages*. Score. 1995. William O. Smith, bills@u.washington.edu.
- _____. *Five Pieces for Clarinet Alone*. Vienna: Universal Editions, 1959.
- _____. *Five Pieces for Flute and Clarinet*. Score. 1961. William O. Smith, bills@u.washington.edu.
- _____. *Illuminated Manuscripts*. Score. 1987. William O. Smith, bills@u.washington.edu.
- _____. *Jazz Set*. Vienna: Universal Editions, 2000.
- _____. *Schizophrenic Scherzo*. Score. 1947. William O. Smith, bills@u.washington.edu.
- _____. *Slow Motion*. Seattle, WA: Ravenna Editions, 1987.
- Stalvey, Dorrance. *PLC—Extract*. New York: Editions Salabert, 1968.
- _____. *Togethers III*. New York: Editions Salabert, 1970.
- Steinke, Greg A. *Concentrated Images*. New York: Seesaw Music, 1991-2.
- Stockhausen, Karlheinz. *Gesang der Junglinge*. “Elektronische Musik 1952-1960,” Kurten, Germany: Stockhausen, p1991, 1956.
- Stout, David. *Acceleration*. Score. 1987. David Stout, Moving Image Arts Department, College of Santa Fe, 1600 St. Michael’s Drive, Santa Fe, NM 87505.
- Subotnick, Morton. *Ascent into Air*. Score. 1981. Morton Subotnick, www.eamdc.com.
- _____. *All My Hummingbirds Have Alibis*. The Voyager Company, 1993.
- _____. *Jacob's Room*. Score. 1993. Morton Subotnick, www.eamdc.com.
- _____. *Play!* New York: American Music Center, 1962.
- _____. *Silver Apples of the Moon*. New York: Nonesuch Records, H-71174, 1967.
- Terry, Peter. *Iron Pathways*. Score. Peter Terry, terryp@bluffton.edu.

Thomas, Carei E. *Something About Brilliance*. Score. 1993. Carei E. Thomas, 3551 Portland Avenue South, Minneapolis, MN 55407.

Tokalon, Chris. *Chakras*. Score. 1999.

Truelove, Stephen. *Father Sun/Mother Earth*. Score. 1989-93. Steve Truelove, SteveTMuC@aol.com.

Tudor, David. *Bandoneon!* New York: Lovely Music, 1966.

_____. *Rainforest I*. New York: New World Records, 1968.

Uehara, Kazuo. *Media Mix*. Score. 1991. Kazuo Uehara, ueharakz@tky.3web.ne.jp.

Ussachevsky, Vladimir. *Sonic Contours*. New York: CMS Desto Records, 6466, 1952.

Ussachevsky, Vladamir and Otto Luening. *A Poem in Cycles and Bells*. New York: Composers Recordings, Inc., S-1121953-4.

_____. *Rhapsodic Variations*. Louisville: Louisville Orchestra Recordings, 545-5, 1954.

Varese, Edgard. *Poeme Electronique*. Netherlands: Philips Studio, 1958.

Vasulka, Steina and Woody Vasulka. *Participation*. New York: Electronic Arts Intermix, 1971.

_____. *Interface*. New York: Electronic Arts Intermix, 1971.

_____. *Continuous Video Environment*. New York: Electronic Arts Intermix, 1978.

_____. *Matrix*. New York: Electronic Arts Intermix, 1978.

Vazquez, Carlos Alberto. *Mascarda*. Score. 1999. Carlos Alberto Vazquez, carlvazq@prtc.net.

_____. *Tzintzuntzan*. Score. 2001. Carlos Alberto Vazquez, carlvazq@prtc.net.

Weidenaar, Reynold. *Between the Motion and the Act Falls the Shadow*. New York: Magnetic Music Publishing Co., 1991.

_____. *Cicada*. New York: Magnetic Music Publishing Co., 1978.

_____. *Déjà Vu, Where are You?* New York: Magnetic Music Publishing Co., 1977.

- _____. *Hang Time on Jones Street*. New York: Magnetic Music Publishing Co., 2002.
- _____. *Long River*. New York: Magnetic Music Publishing Co., 1993.
- _____. *Love of Line, of Light and Shadow: The Brooklyn Bridge*. New York: Magnetic Music Publishing Co., 1982.
- _____. *Night Flame Ritual*. New York: Magnetic Music Publishing Co., 1983.
- _____. *Night of the Egg*. New York: Magnetic Music Publishing Co., 1979.
- _____. *Past Fantasy*. New York: Magnetic Music Publishing Co., 1982.
- _____. *Songs in Steel and Concrete*. New York: Magnetic Music Publishing Co., 1982.
- _____. *Southern Fantasy*. New York: Magnetic Music Publishing Co., 1983.
- _____. *Swing Bridge*. New York: Magnetic Music Publishing Co., 1997.
- _____. *The Thundering Scream of the Seraphim's Delight*. New York: Magnetic Music Publishing Co., 1987.
- _____. *Time and Again*. New York: Magnetic Music Publishing Co., 1982.
- _____. *Wavelines II: Three Visual-Musical Compositions*. New York: Magnetic Music Publishing Co., 1979.
- _____. *Waves*. New York: Magnetic Music Publishing Co., 2002.
- _____. *Women-Take Back the Night*. New York: Magnetic Music Publishing Co., 1982.
- Weidenaar, Reynold, F. Gerard Errante, arr. *The Stillness*. New York: Magnetic Music Publishing Co., 1983.
- Welcher, Dan. *Prairie Light*. Bryn Mawr, PA: Theodore Presser, 1985.
- Wesley-Smith, Martin. *Dodgson's Dream*. Score. 1979. Australian Music Center, Sydney.
- _____. *Pyramid*. Score. 1983. Australian Music Center, Sydney.
- _____. *Red Cockatoo*. Score. 1989. Australian Music Center, Sydney.

- _____. *Tekee Tokee Tomak*. Score. 2003. Australian Music Center, Sydney.
- _____. *Welcome to the Hotel Turismo*. Score. 2000-2. Australian Music Center, Sydney.
- _____. *X*. Score. 1999. Australian Music Center, Sydney.
- Weymouth, Daniel. *Correspondances*. Video. 1985. Department of Music, State University of New York, Stony Brook, New York 11794-5475.
- Whittenburg, Charles. *Study for Clarinet and Tape*. New York: American Composers Alliance, 1961.
- Widdoes, Lawrence. *From a Time of Snow*. Brunswick, ME: Bowdoin College Music Press, 1972.
- Woolf, Randall. *BYOD*. Score. Randall Woolf, randywoolf@aol.com.
- Xenakis, Iannis. *Diatope*. Inauguration of the Center George Pompidou, Paris, 1978. Not available.
- Yannatos, James. *To Form a More Perfect Union*. Cambridge, MA: Sonory Publications.
- Yavelow, Christopher. *Green*. New York: American Composers Edition, 1971.
- _____. *Sermon*. New York: American Composers Edition, 1973.
- Zapf, Helmut. *approximation*. Score. 1996. Helmut Zapf, Schönow Str. 74, D - 16341 Zepernick, Germany.

Appendix B: Electronic Music Terminology

amplifier- A device used to increase the power, voltage, or current of a signal. The power amplifier can be either integrated (with the preamplifier) or it can be a single amplifying unit.

audio processing- Among the abilities of sound processing are delay, reverberation, ring modulation, frequency shifters, octave dividers, envelope modifiers, filters, Wah-Wah, distortion, tremolo and vibrato, and sample and hold. Digital multi-effects processors using state-of-the-art electronics can produce these and many more complex effects with individual parameters controlled via MIDI. This increases the potential for use of effects in live performance.

contact microphone- A microphone that must be placed in physical contact with a vibrating body, thereby transforming vibrations into electrical signals.

conversion- The process by which digitally stored information is transformed into analog information or vice versa.

echo- A discrete repetition of a sound, as opposed to reverberation.

envelope- A shape that changes as a function of time. The envelope is a control signal that can be applied to various aspects of a synthesizer sound, such as pitch, filter cutoff frequency, and overall amplitude.

equalizer- A device for increasing or decreasing signal strength in selected portions of the audible spectrum.

filter- A device used to eliminate selected frequencies from the sound spectrum of a signal. A resonant filter can increase the level of other frequencies as well. A MIDI filter eliminates selected messages from the data stream.

foot pedal- A device used to control many aspects of the performance, including the patches of the synthesizer, the volume of the synthesizer, and the delay system functions: on/off, hold, and changing presets.

frequency- Vibrations per second of a signal. The frequency of a signal usually determines its pitch.

frequency shift- Sometimes called frequency modulation, this processing technique changes the frequency, or pitch, of an input signal.

input- A signal fed into a circuit or device.

microphone- Microphone types include contact, or those that attach to the instrument, and “air” types. Rehfeldt provides information on problems with feedback, low fidelity, wires, etc., as well as the possibilities and complications of wireless microphones. Errante’s advice for the approach of a performer into the electronic medium is to find a contact microphone. He suggests a transducer, which is tapped into the mouthpiece or barrel (as opposed to the base of the reed).

MIDI- The purpose of the MIDI interface is to convert instrumental sound into digital information, which can then activate a synthesizer or other electronic device. Errante cites the most popular of these as the IVL Pitchrider 4000 Mark II.

mixer- A device for combining several input signals by algebraically summing their instantaneous amplitudes. Rehfeldt describes the mixer as having adjustable inputs and producing a varying number of common outputs. It is used to combine the clarinet with other sources, such as other instruments, tape, auxiliary devices, etc. The outputs are transmitted to either a speaker or a delay system.

oscillator- An electronic sound source. In an analog synthesizer, oscillators typically produce regularly repeating fluctuations in voltage. In a digital synthesizer, an oscillator more typically plays back a complex waveform by reading the numbers in a wavetable.

output- The signal that comes out of a circuit or device.

pitch follower- A device that allows the clarinet to control the frequency and/or amplitude of the synthesizer. Pitch-to-voltage converters are used. Pitch-to-MIDI interfaces also allow the instrument to control synthesizers. These devices require that careful adjustments be made to such parameters as tuning, sensitivity, dynamics, response time, and pitch bend.

pitch-to-MIDI digital interface- (Musical instrument digital interface). An interface which allows any instrument to activate a synthesizer or any other electronic device.

preamplifier- A unit that amplifies the signal of a low-level source to a point where it can be further amplified without affecting the signal-to-noise ratio. The device can be part of the mixer, a separate unit, or an element of the auxiliary effects equipment.

reverberation (reverb)- A type of digital signal processing that produces repetitions of sound that are so closely spaced in time that they cannot be distinguished individually. The effect produced by multiple overlapping echoes in a room or concert hall.

ring modulator- A type of mixer which accepts two signals as audio inputs and produces their sum and difference tones as output without passing on frequencies of the original signal.

sample and hold- An electronic device that uses MIDI to create new sounds by recording or storing information in binary code. It can be used in live performance in much the same way as a synthesizer to increase the sonic resources.

sequencer- A device that is used to produce a preset voltage sequence for the purpose of controlling a series of events with voltage-controlled equipment. The function of the sequencer is to playback MIDI data. It sends the digital information to another device, like a synthesizer, to produce the required sounds.

signal- Electrical analog of sound.

speaker- A device for converting electric impulses or varying current into amplified sound. Tonal characteristics can vary considerably with different types and qualities of speakers, and care should be exercised in their selection.

synchronization- Coordinating, with regard to time, one set of events with another.

synthesizer- An electronic device containing filters, oscillators, and voltage-controlled amplifiers, used to produce (electronically) sounds unobtainable from ordinary instruments. There are three types of synthesizers, modular, digital, and sample-playback.

tape recorder- A device invented by Allgemeine Elektrizitäts Gesellschaft in 1935, which uses magnetic tape to record and play back sounds. Tape transports, from one manufacturer to the next, do not run at uniform speeds.

tremolo/vibrato- A periodic change in amplitude (tremolo) or frequency (vibrato) by audio processing.

Appendix C: Catalog of Multimedia Compositions for the Clarinet

The information in this catalog is, and will presumably always be, a work in progress. Composers continue to update biographies and websites with additional information about their works. When possible, the catalog provides website addresses to aid in the search for information about these works and others by the composers. Incomplete entries have not been excluded from the catalog in an effort to show the existence of pieces that previously have not been well documented.

Composer	Thomas Jefferson Anderson, III
Title	Thomas Jefferson's Orbiting Minstrels and Contraband
Date	1984
Publisher	New York: Composers' Facsimile Edition
Duration	35:00
Visuals	Stanley Madeja
Instrumentation & Equipment	Soprano, dancer, woodwind quintet, string quartet, jazz sextet, synthesizer, computer, visuals
Premiere	February 12, 1986, Northern Illinois University
Notes	<ul style="list-style-type: none"> ◊ A 21st Century Celebration of 19th Century Form ◊ Poem by T.J. Anderson, III ◊ Sculptures by Richard Hunt ◊ Text by Stephen Soreff ◊ Electronic tape by Eric Lindgren ◊ Spoken text and scientific advising by Herbert Friedman ◊ http://www2.emji.net/tjanderson/content/works.html

Composer	Jan Bach
Title	Skizzen
Date	1967
Publisher	E. C. Schirmer: Galaxy-Highgate
Duration	22:30
Visuals	Heinrich Kley drawings
Instrumentation & Equipment	Woodwind quintet and drawings (slides)
Notes	<ul style="list-style-type: none"> ◊ Nine movements, each illustrating a drawing by Austrian artist, H. Kley ◊ http://www.woodwind.org/Databases/Composers/Names/000435.html

Composer	Burton Beerman
Title	Reflections
Date	1975
Publisher	New York: American Composers Alliance
Visuals	Laser beam
Instrumentation & Equipment	Clarinet, cello, synthesizers, and laser beam
Notes	http://www.bgsu.edu/colleges/music/phone_list/BurtonBeerman.html

Composer	Eve Beglarian
Title	Cave
Date	2001
Publisher	EVBVD Music
Duration	6:30
Visuals	Clifton Taylor, slides
Instrumentation & Equipment	Spoken voice, flute, clarinet, violin, cello, percussion, piano, and drawings (slides)
Premiere	April 28, 2001, Synchronia ensemble
Notes	<ul style="list-style-type: none"> ◊ Dedicated to Ansel Elgort ◊ Text by Eileen Myles ◊ http://www.evbvd.com/cave/index.html ◊ Commissioned by Synchronia ensemble of St. Louis

Composer	Pierre Boulez
Title	Dialogue del'ombre Double: 8 Clarinets, Tape and Lights
Date	1985
Publisher	Vienna: Universal Edition
Visuals	Shadows created by lighting
Instrumentation & Equipment	clarinets, loudspeakers, piano, tape, and lights
Premiere	Alain Damiens, clarinet, and Andrew Gerzso, technical assistant, October 28, 1985
Notes	<ul style="list-style-type: none"> ◊ For Luciano Berio on his 60th birthday ◊ Originally for Bb clarinet and tape ◊ Version for bassoon by composer, premiere- Paris, November 3, 1995, Pascal Gallois, bassoon ◊ Version for flute, premiere- Berkeley, May 9, 2002, Cécile Daroux, flute

Composer	Carolyn Bremer
Title	I Have a Nightmare
Date	1993
Publisher	ms
Visuals	Live video

Instrumentation & Equipment	Soprano/speaker, speaker, clarinet, percussion, piano, and live video
Premiere	Society of Composers Regional Meeting, University of Oklahoma, April 1993
Notes	<ul style="list-style-type: none"> ◊ On the Clarence Thomas Confirmation Hearings ◊ http://www.ou.edu/music/CRB/works.html ◊ http://carolynbremer.com/comp.htm

Composer	Brigid Burke
Title	The Bottled Fable
Date	1994
Publisher	Sydney: Australian Music Centre
Visuals	slides
Instrumentation & Equipment	Clarinet, tape, and synchronized slides
Premiere	Composing Women's Festival (1994)
Notes	<ul style="list-style-type: none"> ◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html ◊ Theme: eye ◊ Video of artwork done with makeup ◊ Commissioned by Composing Women's Festival (1994)

Composer	Brigid Burke
Title	Circle Hats
Date	1992
Publisher	Sydney: Australian Music Centre
Visuals	slides
Instrumentation & Equipment	Bb and bass clarinet and optional synchronized slides
Notes	◊ http://www.amcoz.com.au/comp/b/bburke.htm

Composer	Brigid Burke
Title	Colours & Tones Scratch
Date	1997-9
Publisher	Sydney: Australian Music Centre
Visuals	video
Instrumentation & Equipment	Clarinet, trombone, drums, gamelan, and video
Notes	◊ http://www.amcoz.com.au/comp/b/bburke.htm

Composer	Brigid Burke
Title	Diverse Nobleman
Date	1997-9
Publisher	Sydney: Australian Music Centre

Visuals	video
Instrumentation & Equipment	Clarinet/voice, flute, prerecorded electronics, and video
Notes	◊ http://www.amcoz.com.au/comp/b/bburke.htm

Composer	Brigid Burke
Title	The Earth has an Aura
Date	1995
Publisher	Sydney: Australian Music Centre
Visuals	slides
Instrumentation & Equipment	Effected and improvised clarinet, tape, and synchronized slides
Notes	◊ http://www.amcoz.com.au/comp/b/bburke.htm ◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html ◊ Recorded on CD <i>Tri Duo</i> Sounds and Visions

Composer	Brigid Burke
Title	Emmigig II
Date	1995
Publisher	Sydney: Australian Music Centre
Visuals	Norman Perryman, slides
Instrumentation & Equipment	Improvised clarinet, tape, and synchronized slides
Premiere	Wangaratta Art Gallery Single Bloom Exhibition 1997
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html ◊ Commissioned by Wangaratta Art Gallery Single Bloom Exhibition 1997

Composer	Brigid Burke
Title	Emmigig III
Date	1995
Publisher	Sydney: Australian Music Centre
Visuals	Norman Perryman, slides
Instrumentation & Equipment	Effected and improvised clarinet, tape, and synchronized slides
Premiere	Multi-media Conference in Education
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html ◊ Commissioned by Multi-media Conference in Education

Composer	Brigid Burke
Title	Glass, Water & Lemon

Date	2000
Publisher	Sydney: Australian Music Centre
Visuals	video
Instrumentation & Equipment	Improvised bass clarinet/voice, live and prerecorded electronics, and video
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Gold Tamar
Date	2000
Publisher	Sydney: Australian Music Centre
Duration	10:03
Visuals	video
Instrumentation & Equipment	Improvised bass clarinet/voice, live and prerecorded electronics, and video
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html ◊ Commissioned by Australia Council Performing Arts Board

Composer	Brigid Burke
Title	Grey is the Highway
Date	2001
Publisher	Sydney: Australian Music Centre
Visuals	video
Instrumentation & Equipment	Piano, bass clarinet, live and prerecorded electronics, and video
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Infra-Infer
Date	1992
Publisher	Sydney: Australian Music Centre
Visuals	slides
Instrumentation & Equipment	Bass clarinet and optional synchronized slides
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Inside and Outside the Breast
Date	1995
Publisher	Sydney: Australian Music Centre

Visuals	slides
Instrumentation & Equipment	Improvised clarinet, tape, and 5 synchronized slide projectors
Premiere	Out of the Void: Mad and Bad Women's Exhibition
Notes	<ul style="list-style-type: none"> ◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html ◊ Commissioned by Out of the Void: Mad and Bad Women's Exhibition

Composer	Brigid Burke
Title	Lands Collide 2
Date	2002
Publisher	Sydney: Australian Music Centre
Visuals	video
Instrumentation & Equipment	Several arrangements for Bb and/or bass clarinet, other instrument(s), electronics, and video
Notes	<ul style="list-style-type: none"> ◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Lemus & Gelas
Date	2000
Publisher	Sydney: Australian Music Centre
Duration	11:00
Visuals	video
Instrumentation & Equipment	Bass clarinet, gamelan, prerecorded electronics, and video
Notes	<ul style="list-style-type: none"> ◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Mother's Fish Laughter
Date	1997-9
Publisher	Sydney: Australian Music Centre
Visuals	video
Instrumentation & Equipment	Clarinet, rebab, gamelan, and video
Notes	<ul style="list-style-type: none"> ◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Perhaps it's Arrived
Date	2001
Publisher	Sydney: Australian Music Centre

Duration	10:07
Visuals	video
Instrumentation & Equipment	Improvised clarinet, live and prerecorded electronics, and video
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Root Drinking (Alluring Eyes)
Date	1998
Publisher	Sydney: Australian Music Centre
Duration	10:40
Visuals	video
Instrumentation & Equipment	Clarinet, tape, and multimedia canvas
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html ◊ http://www.amcoz.com.au/comp/b/bburke.htm

Composer	Brigid Burke
Title	A Sliding Droplet
Date	2001
Publisher	Sydney: Australian Music Centre
Visuals	video
Instrumentation & Equipment	Clarinet, live and prerecorded electronics, and video
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Slidding with Whistles
Date	2000
Publisher	Sydney: Australian Music Centre
Visuals	video
Instrumentation & Equipment	Bass clarinet, gong, live and prerecorded electronics, and video
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Brigid Burke
Title	Three Sounds of Buildings
Date	1992
Publisher	Sydney: Australian Music Centre
Visuals	slides

Instrumentation & Equipment	Clarinet and optional synchronized slides
Notes	◊ http://farben.latrobe.edu.au/mikropol/volume\$/burke-b/burke-exhibit.html

Composer	Kristine H. Burns
Title	Midwestern Sketches I
Date	1996-7
Publisher	ms, K.H. Burns, Florida International University, School of Music, U.P. Campus, Miami, FL 33199
Visuals	video
Instrumentation & Equipment	Clarinet, video, and stereo tape
Notes	◊ http://www.fiu.edu/~burnsk ◊ http://eamusic.dartmouth.edu/~wowem/interviews/bev/beverly.html

Composer	Kristine H. Burns
Title	Underwear 2 nd Pair
Date	2000
Publisher	ms, K.H. Burns, Florida International University, School of Music, U.P. Campus, Miami, FL 33199
Visuals	video
Instrumentation & Equipment	Originally double bass (or non-specific improvisatory instrument), tape, and video
Notes	◊ Poem by Lawrence Ferlinghetti, "Underwear 2 nd Pair" ◊ http://www.fiu.edu/~burnsk ◊ http://eamusic.dartmouth.edu/~wowem/interviews/bev/beverly.html

Composer	Joel Chadabe
Title	Street Scene
Date	1967
Publisher	Paoli, PA: Carl Fischer Facsimile Edition, 1974 (#FE-55)
Duration	8:30
Visuals	A. William Clark, slides
Instrumentation & Equipment	English horn (or clarinet), tape, and optional slides
Premiere	March 25, 1969, "Music in Our Time," Kauffman Auditorium, New York
Notes	◊ Written for Pat Grignet ◊ Poem by Lawrence Ferlinghetti, "The Long Street," from <i>A Coney Island of the Mind</i> (N.Y.: New Directions Publishing Co., 1958) ◊ Tape part now on CD ◊ Requires three slide projectors ◊ Transposed part is not included

	<ul style="list-style-type: none"> ◊ http://cahadabe.com/bio.html ◊ http://www.emf.org/subscribers/chadabe/index.html ◊ Recorded, Opus One (#16, 1973)
--	--

Composer	Lowell Cross
Title	Musica Instrumentalis
Date	1969
Publisher	ms
Visuals	Video II (B) by Lowell Cross
Instrumentation & Equipment	Any instrument, television screens, and loudspeakers
Premiere	Art Gallery of Toronto, May 13, 1966 (video premiere)
Notes	

Composer	Jon Drummond
Title	Book of Changes
Date	2002
Publisher	ms
Visuals	CD Rom
Instrumentation & Equipment	Bass clarinet, cello, and CD Rom
Notes	

Composer	Merrill Ellis
Title	Celebration
Date	1980
Publisher	New York: American Music Center
Duration	8:45
Visuals	Film, lasers
Instrumentation & Equipment	Flute, clarinet, oboe, bassoon, percussion, film, lasers, and tape
Notes	◊ Commissioned by Baylor University, Richard Shanley, and the Society for Commissioning of New Music

Composer	Merrill Ellis
Title	A Dream Fantasy
Date	1973
Publisher	Paoli, PA: Carl Fischer Facsimile Edition, 1975 (#FE-80)
Duration	12:45
Visuals	Films, slides, dancers
Instrumentation & Equipment	Clarinet (optional saxophone double), percussion, tape, 2 films, optional slides, optional dancer
Premiere	Richard Shanley, clarinet, and Dr. Larry Vanlandingham, percussion, Baylor University, 1973

Notes	<ul style="list-style-type: none"> ◊ Optional slides are available from U.N.T. Special Collections, Mmartin@library.unt.edu ◊ Tape is now on CD; films are now on VHS ◊ Involves some theater elements ◊ Clarinetist briefly plays percussion ◊ Commissioned by Baylor University, Richard Shanley, and the Society for Commissioning of New Music
--------------	--

Composer	Jack Fortner
Title	De Plus en Plus
Date	1972
Publisher	Elkan Vogel, Inc. & Theodore Presser rentals
Duration	31:00
Visuals	
Instrumentation & Equipment	Clarinet in A, piano, 2 tapes, and visuals
Notes	◊ http://www.presser.com/catalogs/Rental.html

Composer	James Fulkerson
Title	Between the Lines
Date	1977
Publisher	ms
Visuals	film
Instrumentation & Equipment	Soloist, film, and tape
Notes	◊ http://composers21.com/compdocs/fulkersj.htm

Composer	James Fulkerson
Title	Cheap Imitations, Parts I-V (Madwomen)
Date	1980
Publisher	ms
Visuals	films
Instrumentation & Equipment	Soloist, films, and tape
Notes	◊ http://composers21.com/compdocs/fulkersj.htm

Composer	James Fulkerson
Title	G for John Cage
Date	2002
Publisher	ms
Visuals	Grahame Weinbren, film
Instrumentation & Equipment	Speaker, bass clarinet/contrabassoon, and film

Notes	◊ http://composers21.com/compdocs/fulkersj.htm
--------------	---

Composer	James Fulkerson
Title	Raucasity and the Cisco Kid . . . or, I Skate in the Sun
Date	1977-8
Publisher	ms
Visuals	Film, slides
Instrumentation & Equipment	Soloist, film, slides, and tape
Notes	◊ http://composers21.com/compdocs/fulkersj.htm

Composer	James Fulkerson
Title	What is Performance
Date	1973
Publisher	ms
Visuals	Films, slides
Instrumentation & Equipment	Soloist, 2 films, and tape Originally for trombone, tape, slides, and film
Notes	◊ http://composers21.com/compdocs/fulkersj.htm

Composer	Daniel Goode
Title	3% Vision
Date	
Publisher	Frog Peak Music (#Goo15)
Visuals	Dave Gearey, video
Instrumentation & Equipment	Clarinet, percussion, and video
Notes	◊ http://www.frogpeak.org/fpartists/fpgoode.html ◊ Video available; score not listed as available

Composer	Roger Grieve and T.J. Hinsdale
Title	Clarinet Chromatron
Date	1987
Publisher	ms, 2709 Winstead Dr., Toledo, OH 43606
Duration	5:57
Visuals	video
Instrumentation & Equipment	Clarinet, audio processing, and video
Notes	

Composer	Peter Griffith
Title	Classic

Date	1969
Publisher	ms
Visuals	laser
Instrumentation & Equipment	Clarinet and laser
Notes	

Composer	James John Hartway
Title	Impressions of Walden
Date	1979
Publisher	New York: New York Public Library
Duration	18:00
Visuals	slides
Instrumentation & Equipment	Woodwind quintet, optional slides, narrator/tape
Notes	<ul style="list-style-type: none"> ◊ Text by Henry David Thoreau ◊ www.music.wayne.edu/fac_hartway.html ◊ http://www.woodwind.org/Databases/Composers/Names/004292.html

Composer	Stephen Ingham
Title	Port Kembla Videodelic
Date	2001
Publisher	ms
Visuals	CD Rom
Instrumentation & Equipment	Bass clarinet, cello, and CD Rom
Premiere	Roslyn Dunlop
Notes	

Composer	Krzytztotf Knittel
Title	Punkty/Linie
Date	1973
Publisher	ms
Visuals	slides
Instrumentation & Equipment	Clarinet, tape, and slides
Notes	◊ http://www.usc.edu/dept/polish_music/composer/knittel.html

Composer	Evgeni Kostitsyn
Title	How I Made This
Date	1998
Publisher	ms, ekostitsyn@yahoo.com
Duration	15:00
Visuals	painting

Premiere	Kiev, 1998
Instrumentation & Equipment	Clarinet, bassoon, trombone, tuba, tam-tam, accordion, cello, listener, radio, and painting
Notes	<ul style="list-style-type: none"> ◊ http://www.under.org/cpcc/ekostitsyn.htm ◊ Winner, The First International Competition for Composers in Ukraine ◊ Light passes gradually from musicians to paintings to represent a transformation from one art/state to another

Composer	Jonathan Kramer
Title	Games Clarinetists Play
Date	UNFINISHED (1972-sketch)
Publisher	--
Visuals	--
Instrumentation & Equipment	Clarinet, slides, lights, and tape
Notes	◊ Sketch only- Not completed

Composer	David Lisner
Title	Dances in the Madhouse
Date	1982
Publisher	Merion Music/Theodore Presser
Visuals	Lithograph by George Bellows
Instrumentation & Equipment	Violin/flute/clarinet and guitar with lithograph
Notes	<ul style="list-style-type: none"> ◊ Dance suite ◊ Lithograph subject is a dance scene in an insane asylum ◊ http://www.davidleisner.com/biography.html

Composer	Ryo Maruyama
Title	Landscape of Memory
Date	1990
Publisher	
Visuals	video
Instrumentation & Equipment	Clarinet and video
Notes	

Composer	Ryo Maruyama
Title	Shadows
Date	1991
Publisher	
Visuals	video
Instrumentation	Clarinet and video

& Equipment	
Notes	

Composer	Michael Matthews
Title	Love in a Dry Country
Date	1992
Publisher	
Visuals	
Instrumentation & Equipment	Chamber ensemble, tape, interactive computer system, and visuals
Notes	◊ www.michaelmatthews.net/works.htm

Composer	Diana McIntosh
Title	Music at the Centre
Date	1981
Publisher	Toronto: Canadian Music Centre
Duration	17:00
Visuals	slides
Instrumentation & Equipment	Clarinet, piano, percussion, tape, and slides
Notes	◊ Percussion and narration done by pianist ◊ Text is excerpts from Wordsworth, Tintern Abbey ◊ http://www.musiccentre.ca/CMC/dac_rca/eng/k_/McIntosh_Diana.html ◊ Commissioned by Canadian Music Educators Association

Composer	Lawrence Moss
Title	Blackbird
Date	1987
Publisher	New York: American Music Center
Duration	12:20
Visuals	Lights, dancer
Instrumentation & Equipment	Clarinet, dancer, lights, and tape
Notes	◊ http://www.woodwind.org/Databases/Composers/Names/007056.html

Composer	Lawrence Moss
Title	Nightscape
Date	1978
Publisher	New York: American Music Center
Duration	25:00
Visuals	Slides, dancer
Instrumentation & Equipment	Soprano, violin, flute, clarinet/bass clarinet, percussion, slides, dancer, and tape

Notes	<ul style="list-style-type: none"> ◊ A theater piece ◊ Text by John Gracen Brown ◊ Requires 2 slide projectors ◊ http://www.woodwind.org/Databases/Composers/Names/007056.html
--------------	--

Composer	Olga Neuwirth
Title	Aufenthalt
Date	1992-3
Publisher	
Visuals	video
Instrumentation & Equipment	2 speakers, Soprano, Tenor, bass clarinet, baritone saxophone, tenor trombone, percussion, celesta, 2 cellos, tape, video, and electronics
Notes	◊ www.olganeuwirth.com/works.html

Composer	Olga Neuwirth
Title	Jardin Desert
Date	1994
Publisher	
Visuals	video
Instrumentation & Equipment	Flute, bass clarinet, baritone saxophone, trombone, video, tape, and electronics
Premiere	UA Vienna, Orf Center, February 25, 1994
Notes	◊ Revised edition without video entitled, "Vexierbilder"

Composer	Pauline Oliveros
Title	The Wheel of Fortune
Date	1969
Publisher	Unpublished
Visuals	slides
Instrumentation & Equipment	Clarinet, tape, and slides
Notes	◊ Written for Bill Smith, solely

Composer	Linda Woodaman Ostrander
Title	Conservatory
Date	
Publisher	New York: American Music Center
Visuals	slides
Instrumentation & Equipment	Flute, oboe, clarinet, bassoon, drum set, piano, narrator, viola, cello, double bass, jazz soloists, participatory audience, and slides
Notes	◊ http://www.woodwind.org/Databases/Composers/Names/007491.html

Composer	Ron Pellegrino
-----------------	----------------

Title	Phil's Float
Date	1974
Publisher	Unpublished
Visuals	film
Instrumentation & Equipment	Clarinet, film, and synthesizer or tape
Notes	◊ Written for Phillip Rehfeldt, solely

Composer	John Rimmer
Title	Hautura
Date	
Publisher	
Visuals	Virginia King
Instrumentation & Equipment	Bass clarinet and visuals
Notes	◊ Performed by Roslyn Dunlop ◊ www.gaudeamus.nl/oud/biobak/r/rimmerj.htm ◊ www.scoop.co.nz/stories/ED0203/S00039.htm

Composer	David Rosenboom
Title	In the Beginning V (The Story)
Date	1978-81
Publisher	Lebanon, NH: Frog Peak Music (#Ros01)
Visuals	Film/video
Instrumentation & Equipment	Chamber orchestra (16), film/video, and 3 speakers
Notes	◊ Series of nine works for soloist, chamber ensembles, orchestra, and electronics ◊ http://shoko.calarts.edu/~david/dcr-works.html

Composer	David Rosenboom
Title	On being Invisible (Hypatia Speaks to Jefferson in a Dream)
Date	1994-5
Publisher	ms, david@music.calarts.edu
Visuals	LD video, slides
Instrumentation & Equipment	2 computer-music system performers, 2 improvising musicians, narrator, laser disk video projection, slides, pre-recorded voices, computer performer, and real-time digital synthesis system
Premiere	Krannert Center for the Performing Arts, University of Illinois
Notes	◊ http://shoko.calarts.edu/~david/dcr-works.html

Composer	David Rosenboom and Anthony Braxton
Title	Lineage, Enactment, Transfiguration, and Transference
Date	1992

Publisher	New York: Lovely Music
Visuals	
Instrumentation & Equipment	MIDI grand piano duet, HFG software, responding piano, sopranino saxophone, soprano saxophone, alto saxophone, clarinet, and flute
Premiere	
Notes	◊ http://shoko.calarts.edu/~david/dcr-works.html

Composer	Niels Rosing-Schow
Title	Peep
Date	1992
Publisher	
Visuals	video
Instrumentation & Equipment	Flute, clarinet, cello, 2 percussion, electronics, and video installation
Notes	

Composer	Donald Scavarda
Title	Landscape Journey
Date	1963
Publisher	ms, P.O. Box 17072, Tucson, AZ 85731
Visuals	Film, lighting
Instrumentation & Equipment	Clarinet, piano, film, and lighting
Notes	◊ Written for John Morgan ◊ Recorded, Advance Recordings (#FGR-5-64)

Composer	Marilyn Schrude
Title	Drifting Over a Red Place
Date	1982
Publisher	ms, Bowling Green State University, Bowling Green, OH 43403
Visuals	Slides, dancer
Instrumentation & Equipment	Clarinet, dancer, slides, and delay system
Notes	

Composer	Elliott Schwartz
Title	Extended Clarinet
Date	1974
Publisher	G. Schirmer, Margun Music
Duration	11:00
Visuals	lights
Instrumentation & Equipment	Clarinet, tape, grand piano, and lights
Premiere	Da Capo Players Concert, New York

Notes	◊ Written for Allen Blustine, De Vendra ◊ http://www.schirmer.com/composers/schwartz
--------------	--

Composer	Elliot Schwartz
Title	Telly
Date	1975
Publisher	ms, Bowdoin College Music Press, Brunswick, ME 04011
Duration	14:00
Visuals	Television screens
Instrumentation & Equipment	5 finds or brass, 4 percussion, 3 television screens, 2 radios, and tape
Premiere	University of South Florida, NuMuse Festival
Notes	◊ http://www.schirmer.com/composers/schwartz

Composer	Judith Shatin
Title	Grito del Corazon
Date	2001
Publisher	
Duration	5:00
Visuals	Katherine Aoki, video
Instrumentation & Equipment	Flute, bass clarinet, cello, keyboard, electronics, and video
Premiere	Ensemble Barcelona Nova Musica, VIII Festival de Cinema Independent de Alternativa
Notes	◊ http://www.people.Virginia.edu/~jsa/works.html#electronic

Composer	William O. Smith
Title	Illuminated Manuscripts
Date	1987
Publisher	ms,
Visuals	Computer graphics
Instrumentation & Equipment	Woodwind quintet and computer graphics
Notes	◊ http://faculty.washington.edu/bills/biol.html ◊ http://www.woodwind.org/Databases/Composers/Names/007491.html

Composer	William O. Smith
Title	Slow Motion
Date	1987
Publisher	Seattle, WA: Ravenna
Visuals	video
Instrumentation & Equipment	Clarinet, audio processing, and video
Premiere	F. Gerard Errante

Notes	<ul style="list-style-type: none"> ◊ http://faculty.washington.edu/bills/biol.html ◊ http://www.woodwind.org/Databases/Composers/Names/007491.html
--------------	--

Composer	Dorrance Stalvey
Title	Togethers III
Date	1970
Publisher	New York: American Music Center
Duration	8:40
Visuals	slides
Instrumentation & Equipment	Clarinet, tape, and optional slides
Notes	◊ http://www.woodwind.org/Databases/Composers/Names/009461.html

Composer	Dorrance Stalvey
Title	Points, Lines, Circles
Date	1969
Publisher	New York: Editions Salabert
Duration	18:30
Visuals	
Instrumentation & Equipment	Clarinet, 2 percussion, guitar, harp, double bass
Notes	◊ http://www.woodwind.org/Databases/Composers/Names/009461.html

Composer	Greg A. Steinke
Title	Concentrated Images
Date	1991-2
Publisher	Terra del Mar Music
Visuals	slides
Instrumentation & Equipment	Poet, performer(native American flute or woodwind instrument and simple percussion), tape (Teiko drums), and slides
Notes	<ul style="list-style-type: none"> ◊ http://www.under.org/cpcc/gsteinke.htm ◊ oboegreg@tierradelmar.org ◊ slides can be projected by slide projector, video, or computer Power Point

Composer	David Stout
Title	Acceleration
Date	1987
Publisher	
Visuals	
Instrumentation & Equipment	
Notes	◊ http://nmculturenet.org/artists/Detailed/460.html

Composer	Morton Subotnick
Title	Play!
Date	1962
Publisher	American Music Center
Visuals	film
Instrumentation & Equipment	Woodwind quintet, piano, tape, and film
Notes	<ul style="list-style-type: none"> ◊ http://www.eamdc.com/06.html ◊ morts@unix.nets.com ◊ http://www.woodwind.org/Databases/Composers/Names/009730.html

Composer	Peter Terry
Title	Captured Light
Date	1999
Publisher	ms
Duration	5:40
Visuals	
Instrumentation & Equipment	Clarinet, visuals, and electronics
Notes	

Composer	Peter Terry
Title	Iron Pathways
Date	
Publisher	ms
Duration	8:30
Visuals	
Instrumentation & Equipment	Clarinet, visuals, and electronics
Notes	

Composer	Carei E. Thomas
Title	Something About Brilliance
Date	1993
Publisher	
Visuals	video
Instrumentation & Equipment	Violin, cello, bassoon, clarinet, piano, drums, poemmetry, and video
Notes	<ul style="list-style-type: none"> ◊ Patrick's Cabaret ◊ http://mitpress2.mit.edu/e-journals/LEA/OLD/profiles/sonic4/thomas/resume.htm

Composer	Chris Tokalon
-----------------	---------------

Title	Chakras (“Wheels”)
Date	1999
Publisher	ms,
Visuals	Projected images
Instrumentation & Equipment	Saxophone, clarinet, bells, percussion, backing tracks, and visuals
Premiere	Standard Bank National Arts Festival, Grahamstown “Talas in Conversation” program, Chris Tokalon, Hanita Muthray and Pule Kgaratsi
Notes	<ul style="list-style-type: none"> ◊ On the seven energy points of the Hindu culture ◊ Religious images and icons ◊ http://www.talisker.co.za/chris_tokalon.html

Composer	Stephen Truelove
Title	Father Sun/Mother Earth
Date	1989-93
Publisher	
Duration	1:00:00
Visuals	Film, photos
Instrumentation & Equipment	Soprano, speaker, clarinet, piano, film, and photos
Notes	<ul style="list-style-type: none"> ◊ 8 Songs from the chamber opera, <i>Flowers and Butterflies</i> ◊ Clarinet player, “Wise Man/Spiritual Teacher” ◊ http://www.under.org/cpcc/struelove.htm

Composer	Kazuo Uehara
Title	Media Mix
Date	1991
Publisher	ms,
Visuals	video
Instrumentation & Equipment	Clarinet and video
Notes	

Composer	Carlos Vazquez
Title	Tzintzuntzan
Date	2001
Publisher	
Visuals	Electronic images
Instrumentation & Equipment	Bass clarinet, marimba, violin, double bass, tape, and live electronic images
Notes	◊ http://members.tripod.com/~carlosvazquez/

Composer	Reynold Weidenaar
-----------------	-------------------

Title	Between the Motion and the Act Falls the Shadow
Date	1991 (clarinet version)
Publisher	New York: Magnetic Music Publishing
Duration	5:31
Visuals	video
Instrumentation & Equipment	Clarinet and computer-processed video
Premiere	Global Village, NY, November 14, 1981 (video version)
Notes	<ul style="list-style-type: none"> ◊ http://www.experimentaltvcenter.org/history/people/bio.php3?id=28 ◊ http://www.wpunj.edu/coac/communication/R_Weidenaar.htm ◊ http://magneticmusic.org

Composer	Reynold Weidenaar
Title	Hang Time on Jones Street
Date	2002
Publisher	New York: Magnetic Music Publishing
Visuals	DVD
Instrumentation & Equipment	Any instrument, electronics, and video (DVD)
Premiere	September, 2002, F. Gerard Errante
Notes	<ul style="list-style-type: none"> ◊ http://www.experimentaltvcenter.org/history/people/bio.php3?id=28 ◊ http://www.wpunj.edu/coac/communication/R_Weidenaar.htm ◊ http://magneticmusic.org

Composer	Reynold Weidenaar
Title	Love of Line, of Light and Shadow: The Brooklyn Bridge
Date	1982
Publisher	New York: Magnetic Music Publishing
Duration	10:24
Visuals	video
Instrumentation & Equipment	Clarinet, electronic sound, and computer-processed video
Premiere	F. Gerard Errante, American Society of University Composers, National Conference, Seattle, WA, April 24, 1982
Notes	<ul style="list-style-type: none"> ◊ http://www.experimentaltvcenter.org/history/people/bio.php3?id=28 ◊ http://www.wpunj.edu/coac/communication/R_Weidenaar.htm ◊ http://magneticmusic.org ◊ Written for the centennial celebration of the Brooklyn Bridge ◊ Commissioned by F. Gerard Errante

Composer	Reynold Weidenaar
Title	Night Flame Ritual
Date	1983
Publisher	New York: Magnetic Music Publishing

Duration	5:22
Visuals	video
Instrumentation & Equipment	Clarinet, electronic sound, computer-processed video, delay system, and pitch transposer
Premiere	F. Gerard Errante, New York University, June 22, 1983
Notes	<ul style="list-style-type: none"> ◊ http://www.experimental-tvcenter.org/history/people/bio.php3?id=28 ◊ http://www.wpunj.edu/coac/communication/R_Weidenaar.htm ◊ http://magneticmusic.org

Composer	Reynold Weidenaar
Title	Swing Bridge
Date	1997
Publisher	New York: Magnetic Music Publishing
Duration	5:20
Visuals	Camera: Meryl Bronstein and Tom Lawrence Image processing technician: Hank Rudolph video
Instrumentation & Equipment	Clarinet, audio processing, computer-processed color video, and digital sound
Premiere	F. Gerard Errante, Old Dominion University, Norfolk, VA, May 6, 1997
Notes	<ul style="list-style-type: none"> ◊ http://www.experimental-tvcenter.org/history/people/bio.php3?id=28 ◊ http://www.wpunj.edu/coac/communication/R_Weidenaar.htm ◊ http://magneticmusic.org ◊ Written for the centennial celebration of the Brooklyn Bridge ◊ Commissioned by F. Gerard Errante

Composer	Reynold Weidenaar
Title	Waves
Date	2003
Publisher	ms, WeidenaarR@wpunj.edu
Duration	1:00
Visuals	video
Instrumentation & Equipment	Clarinet, audio processing, and computer-processed video
Premiere	Has not been premiered as of March 2003
Notes	<ul style="list-style-type: none"> ◊ F. Gerard Errante holds the parts ◊ Based on the events of 9/11 ◊ Video contains waving flags and audio contains sirens

Composer	Reynold Weidenaar, arr. by F. Gerard Errante
Title	The Stillness
Date	1983
Publisher	New York: Magnetic Music Publishing

Duration	12:42
Visuals	video
Instrumentation & Equipment	Saxophone (arr. for clarinet) and computer-processed video
Premiere	Marshall Taylor, Zukor Theatre, Astoria, NY, February 22, 1985
Notes	<ul style="list-style-type: none"> ◊ http://www.experimental-tv-center.org/history/people/bio.php3?id=28 ◊ http://www.wpunj.edu/coac/communication/R_Weidenaar.htm ◊ http://magneticmusic.org

Composer	Martin Wesley-Smith
Title	Dodgson's Dream
Date	1979
Publisher	ms
Visuals	slides
Instrumentation & Equipment	Clarinet, pre-recorded tape, live processing, dissolve unit, and 2 slide projectors.
Notes	<ul style="list-style-type: none"> ◊ Based on the ideals of Lewis Carroll ◊ http://www.amcoz.com.au/comp/w/mwsmith.htm

Composer	Martin Wesley-Smith
Title	Merry-Go-Round
Date	2002
Publisher	ms
Visuals	CD Rom
Instrumentation & Equipment	Clarinet, cello, and CD Rom
Notes	◊ http://www.amcoz.com.au/comp/w/mwsmith.htm

Composer	Martin Wesley-Smith
Title	Pyramid
Date	1983
Publisher	ms
Visuals	CD Rom
Instrumentation & Equipment	Clarinet and CD Rom
Notes	◊ http://www.amcoz.com.au/comp/w/mwsmith.htm

Composer	Martin Wesley-Smith
Title	Tekee Tokee Tomak
Date	2003
Publisher	ms
Visuals	CD Rom
Instrumentation & Equipment	Clarinet and CD Rom

Premiere	Roslyn Dunlop, January 17, 2003
Notes	◊ http://www.amcoz.com.au/comp/w/mwsmith.htm

Composer	Martin Wesley-Smith
Title	Welcome to the Hotel Turismo
Date	2000-2
Publisher	ms
Visuals	CD Rom
Instrumentation & Equipment	Bass clarinet and CD Rom
Notes	◊ http://www.amcoz.com.au/comp/w/mwsmith.htm

Composer	Martin Wesley-Smith
Title	X
Date	1999
Publisher	ms
Duration	12:30
Visuals	CD Rom
Instrumentation & Equipment	Clarinet and CD Rom
Premiere	F. Gerard Errante, Korean ElectroAcoustic Music Society, August 28, 1999
Notes	◊ Topic: the plight of the children of East Timor and Xanana Gusmão ◊ http://www.amcoz.com.au/comp/w/mwsmith.htm ◊ http://www.personal.usyd.edu.au/~mwsmith/x.html ◊ Commissioned by F. Gerard Errante and Music Fund, Australia Council

Composer	Randall Woolf
Title	BYOD
Date	
Publisher	ms, randywoolf@aol.com.
Duration	8:00
Visuals	video
Instrumentation & Equipment	Flute/piccolo, bass clarinet, piano, percussion, violin, cello, and video
Premiere	Pittsburg New Music Ensemble
Notes	◊ Text by Valeria Vasilevski ◊ A concert-infomercial ◊ Video features dancer Heidi Latsky

Composer	James Yannatos
Title	To Form a More Perfect Union
Date	

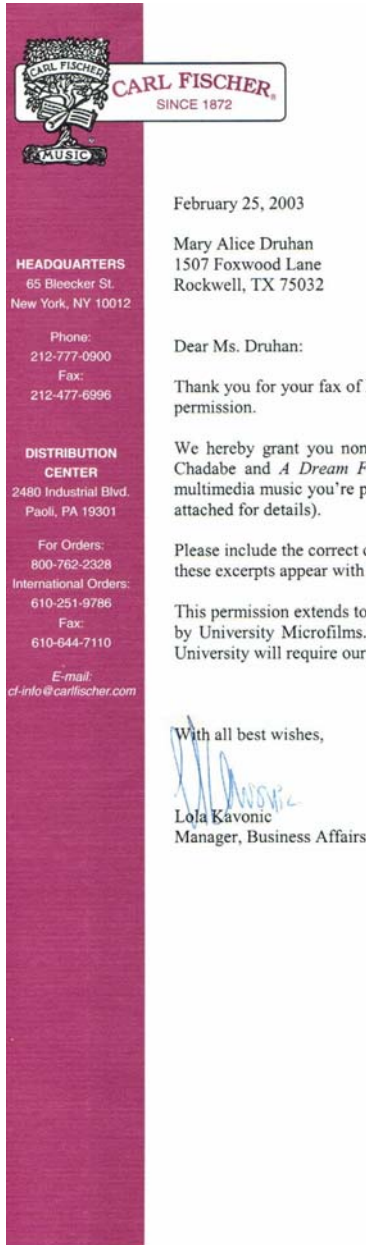
Publisher	Cambridge, Mass.: Sonory Publications
Duration	85:00
Visuals	
Instrumentation & Equipment	7 soloists, chorus, Flute/piccolo, clarinet/saxophone, trumpet, piano, harmonium, percussion, guitar/banjo, viola, and double bass
Notes	◊ Oratorio

Composer	Christopher Yavelow
Title	Green
Date	1971
Publisher	New York: American Composers Edition
Duration	25:00
Visuals	35mm film strip
Instrumentation & Equipment	Flute, clarinet, bassoon, trombone, violin, viola, double bass, movement, costumes, and 35mm film strip
Premiere	Boston University, April 26, 1971
Notes	◊ www.xs4all.nl/~yavelow/docs/YAVcv01.html

Composer	Christopher Yavelow
Title	Sermon
Date	1973
Publisher	New York: American Composers Edition
Duration	16:00
Visuals	slides
Instrumentation & Equipment	12 clarinets, French horn, 3 trumpets in C, trombone, 3 violins, 3 violas, slides, costumes
Premiere	Donnell Library, New York, NY, February 9, 1974
Notes	◊ Slides of church interiors ◊ Minister's costume for trombonist, choir robes for other brass ◊ http://www.woodwind.org/Databases/Composers/Names/005071.html ◊ www.xs4all.nl/~yavelow/docs/YAVcv01.html

Appendix D: Letters of Permission

Permission from Carl Fischer for Joel Chadabe, *Street Scene*, and Merrill Ellis, *A Dream Fantasy*.



February 25, 2003

Mary Alice Druhan
1507 Foxwood Lane
Rockwell, TX 75032

Dear Ms. Druhan:

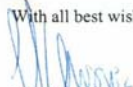
Thank you for your fax of February 4, 2003, a copy of which is attached and made a part of this permission.

We hereby grant you non-exclusive permission to include excerpts from *Street Scene* by J. Chadabe and *A Dream Fantasy* by M. Ellis, in your paper and lecture recital on clarinet multimedia music you're preparing for the D. M. A. program at Louisiana State University (see attached for details).

Please include the correct copyright notices, as they appear in the publications, and indicate that these excerpts appear with the permission of Carl Fischer, LLC.

This permission extends to any future revisions and editions of your thesis, and publication of it by University Microfilms. Any other uses of our material beyond the requirements of your University will require our additional permission.

With all best wishes,


Lofa Kavonic
Manager, Business Affairs

Permission from New Directions Publishing Corporation for Lawrence Ferlinghetti, "The Long Street," from *A Coney Island of the Mind*.



Mary Druhan
Department of Music
Texas A&M- Commerce
P.O. Box 3011
Commerce, TX 75429-3011

February 10, 2003

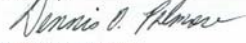
Dear Ms. Druhan:

We are pleased to grant you permission to use Lawrence Ferlinghetti's poem "The Long Street" in your research paper and lecture recital as stated in your letter. Permission is granted under the following conditions:

- 1) This permission is for 1 academically required performance only. Further permission must be obtained from New Directions for any additional performances.
- 2) The following credit line must appear in your paper:

"The Long Street" by Lawrence Ferlinghetti, from A CONEY ISLAND OF THE MIND, copyright ©1958 by Lawrence Ferlinghetti. Reprinted by permission of New Directions Publishing Corp.

Sincerely,


Dennis O. Palmore
Permissions Manager

AGREED: 

Signature/Date

Please sign and return one copy of this agreement

Permission from William O. Smith, Ravenna Editions for William O. Smith, *Slow Motion*.

Page 1 of 1

Subj: Re: permission for paper
Date: 2/5/03 2:02:29 AM Central Standard Time
From: bills@u.washington.edu
To: Spdruhan@aol.com
Sent from the Internet (Details)

on 2/4/03 8:34 PM, Spdruhan@aol.com at Spdruhan@aol.com wrote:

> I would like to use a few musical examples from the score of *Slow Motion* in
> the tutorial section of my "written document" for the DMA degree at Louisiana
> State University. The examples would be used to show notation techniques and
> performance expectations.
>
> If there is a form to fill out for this permission, could you please have it
> sent to my work address below. Thank you! Mary Druhan
>
> Mary Druhan
> Texas A&M University - Commerce
> Music Department
> P.O. Box 3011
> Commerce, TX 75429-3011
>
Hi-

You have my permission.

Best,
Bill

Monday, March 03, 2003 America Online: Spdruhan

Permission from Reynold Weidenaar, Magnetic Music Publishing Company for Reynold Weidenaar, *Swing Bridge*.

Weidenaar, Reynold, 08:10 PM 1/16/03 , RE: Performance of Swing Bridge

>From WeidenaarR@wpunj.edu Fri Jan 17 01:12:14 2003
Return-Path: <WeidenaarR@wpunj.edu>
Content-Class: urn:content-classes:message
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2800.1106
From: "Weidenaar, Reynold" <WeidenaarR@wpunj.edu>
To: "'Mary Druhan '" <Mary_Druhan@tamu-commerce.edu>
Subject: RE: Performance of Swing Bridge
Date: Thu, 16 Jan 2003 20:10:47 -0500
X-OriginalArrivalTime: 17 Jan 2003 01:10:46.0390 (UTC)
FILETIME=[43D2F160:01C2BDC5]

Weidenaar

Dear Mary,

Sorry about this delay in replying to your message. As you can see, messages to MMPC get forward to me at this e-mail, which you are welcome to use. I wish you luck with your recital and paper, and will try to help you all I can.

I would have to say there were no influences in my adolescence, other than both my parents, who were artists. Art was a constant topic of conversation, and at that time to a teenager it sometimes seemed excessive, but it certainly did rub off. Of course, I also studied and played music since the age of 10, but did not begin to compose until I was 16.

Later influences included working on synthesizers at the R.A. Moog Co. (1965-69) and then working at Audio Recording Studios in Cleveland (1969-71), which was very good for building the craft side of electronic music. After I went back to school and got my degree, I started to work with oscilloscope images around 1976 and got filmmaker Joseph Horning to help me put them on 16mm film. Then in 1979 I had my first residency at the Experimental Television Center and discovered image processing.

There is information that might be helpful in my article "Live Music and Moving Images" in Perspectives of New Music. The complete citation is given under the heading "Writings" in the attached resume (Word file, which may also be of some help). I have some copies and can send you one if your library doesn't have it. Also my article about HTJS just came out in Organised Sound; I can send you a PDF of that if you wish.

I'm not planning any other clarinet pieces at the moment, but am interested in using Max to play Quicktime movies in sync with a performer. I'm going to use Hang Time footage and the score to work this out, so if it is successful there will be yet another version for clarinet.

Also, I did a short piece called "Waves" which Gerry has.

Printed for Mary Druhan <Mary_Druhan@tamu-commerce.edu>

1

My process of putting these pieces together has been different for every piece. Several times I have completed the music before ever starting the visuals; I've never done the opposite and locked the picture before starting the music, which is the usual film-music approach. In the last ten years technology and software have become easier to use and more flexible, so I have done more of my work in alternation--shoot video, get some musical ideas, edit the video, start to compose music, fine-cut the video and start to process it, refine the music to the images, or edit the images to fit the music, alternating until the work is finished. Very much a back and forth kind of process. It's easier to do that since I've had all the production equipment in my own studio, about 2 years now. That's about all I can say, unless you need a detailed answer for a particular piece (which would take me a while to come up with, as I would have to go my notes to get it straight!).

Thank you for putting the works up on your Web site and for trying to get more clarinetists involved. By the way, I just put a few of the clarinet scores up on the Magnetic Music web site. They are large PDF files; you'll need broadband or a lot of time. You are welcome to link to them or download and post them on your own site if you wish.

Since I am sole proprietor of MMPC, you have my permission to reproduce my music and you don't need any further form or letter.

I've had some e-mail problems lately, so please let me know that you got this message. Also, if you could send me a copy or file of your final paper, I'd appreciate it.

Best regards and lots of luck,
Reynold

-----Original Message-----

From: Mary Druhan
To: info@magneticmusic.ws
Sent: 1/6/03 2:58 PM
Subject: Performance of Swing Bridge

Dr. Weidenaar,
I will be performing Swing Bridge for my DMA lecture recital in March. The subject of my paper and the recital is multimedia music for clarinet. I have been working on-and-off with Gerry Erante, who has been an invaluable

Vita

Mary Alice Druhan is Assistant Professor of Clarinet at Texas Agricultural and Mechanical University in Commerce, Texas. She has held previous teaching positions at James Madison University in Harrisonburg, Virginia, and at Louisiana State University in Baton Rouge. She has performed B-flat and solo E-flat clarinets with the United States Army Band, “Pershing’s Own,” resulting in concerts at the White House, the United States Capitol Building, the Kennedy Center, the Pentagon, the World Trade Center’s “ground zero,” and Arlington Cemetery. She has performed with the Dallas Wind Symphony, Baton Rouge Symphony, and Acadiana Symphony as well as with opera and theater companies, including Natchez Opera, Ohio Light Opera, and Sorg-Whitewater Opera. She received the degree of Bachelor of Music from Louisiana State University in 1993 and the degree of Master of Music from University of Cincinnati, College-Conservatory of Music in 1995.