

**A PERFORMER'S PERSPECTIVE ON THREE WORKS
FOR PIANIST AND MOVING IMAGES:
ANALYSIS WITH PERFORMANCE AND PRACTICE STRATEGIES FOR
MICHEL VAN DER AA'S *TRANSIT*, NICOLE LIZÉE'S *HITCHCOCK ÉTUDES*,
AND *SURFACE TENSION* BY EVE EGOYAN AND DAVID ROKEBY**

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B. Mus., Western University, 2003

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF MUSICAL ARTS

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES
(Music)

THE UNIVERSITY OF BRITISH COLUMBIA
(Vancouver)

December 2016

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Abstract

Interest in audio-visual works of art that are performed by a live pianist while integrating projected moving visual images has waxed and waned over a period of almost 300 years. The past twenty years or so has seen a re-emergence of this genre of classical music composition which places extra demands on the pianist performing these works. This dissertation explores the history of this genre, proposes a framework for analysis of these pieces, and examines from both analytical and performance perspectives three contrasting works for this medium: Michel van der Aa's *Transit*, Nicole Lizée's *Hitchcock Études*, and *Surface Tension* by Eve Egoyan and David Rokeby.

This research was conducted by examining sources on the history of this genre, investigating analytical methods for discussing works of multimedia (including the texts of film sound theorists), and through live, phone, and/or e-mail interviews with the composers of the works studied, performers of these works, sound and video technicians, and a concert producer. It is the goal of this research to provide a comprehensive overview of this genre for pianists who are interested in exploring works for this medium, while highlighting the difficulties in preparing and mounting these works in performance.

Preface

This dissertation is the original, unpublished intellectual property of its author, Christopher Morano, and was written under the supervision of Dr. Corey Hamm. Interviews were conducted in accordance with the UBC Behavioural Research Ethics Board, Certificate Number H15-02404.

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Acknowledgements

The completion of my DMA degree, and this culminating dissertation, has been a long journey. The support I received from teachers, friends, colleagues, and family has kept me motivated and for that I will forever be thankful:

To Dr. Corey Hamm, my mentor for the past seven years and the supervisor of my research, who has been an enormous source of support, encouragement, and inspiration, and who has introduced me to so much great music;

To the members of my thesis committee, Dr. Bob Pritchard and Prof. Marc Anderson, who were very generous with their time and guidance;

To the creators of the works explored in this research – Michel van der Aa, Nicole Lizée, Eve Egoyan, and David Rokeby – amazing artists who were very patient with my many questions;

To the other interviewees who participated in my research – Jeremy Baxter, Keith Hamel, Nicholas Jacques, Megumi Masaki, Sarah Nicolls, David Pay, David Simpson, Rosie Whiting, and Miranda Wong – who were incredibly giving of their time and knowledge;

To my parents, Ken and Luise who have helped me in more ways than I can name;

To my wife Sarah and children Lauren and Nigel – whose love, encouragement, and understanding helped me finish this document and degree. I could not have done this without your support.

For my wife Sarah, and our children Lauren and Nigel

&

My parents, Ken and Luise

Chapter 1: Introduction

This dissertation will present three contrasting works for pianist and moving images from a performer's perspective, and set them within a historical and analytical framework. The three works I have chosen to study – Michel van der Aa's *Transit*, Nicole Lizée's *Hitchcock Études*, and *Surface Tension* by Eve Egoyan and David Rokeby – have not been examined in depth before, and are part of a genre of classical music that has not received much scholarship. These three works were chosen because they were conceived by artists who are respected in their field, and because these pieces contrast in their demands on the pianist, their strategies for synchronization, and the types of interaction between the pianist and the external media. (It is precisely because of the varied demands of these works – *Surface Tension* requires a Yamaha Disklavier, while *Transit* calls on the pianist to act and mime, and *Hitchcock Études* asks the pianist to sing – that I discuss these works as being for *pianist* and not just for *piano*.)

The history of this genre is unusual in that there has not been a continual, uninterrupted progression of development in this area. Instead, interest in pairing live musicians with projected images has waxed and waned over almost 300 years.¹ Since the end of the twentieth century, however, there has been a renewed and growing interest in the creation and performance of works for keyboard with projected visuals. Sarah Nicolls, a British pianist who has performed many works for this genre, cites a concert from 1999 called *Ultramarine* as the first instance of works for piano and video that she had encountered.² This concert featured projected videos by Kathy Hinde paired with piano music by Georgi Ligeti, Olivier Messiaen, Jonathan Harvey, and others, as well as new pieces written for pianist Joanna MacGregor.³ Nicolls herself performed a concert in 2003 called *Cinesthesia* at the South Bank Centre in London, England.⁴ A recent project called *Piano Optophonique* featured pianist Heather O'Donnell as she premiered four newly commissioned works for piano and film at the 2007 Ultraschall Festival in Berlin.⁵ The Canadian

¹ Peter Vergo, *That Divine Order: Music and the Visual Arts from Antiquity to the Eighteenth Century* (London: Phaidon Press, 2005), 234-242.

² Sarah Nicolls, phone interview with the author, February 21, 2016.

³ Kathy Hinde, "Ultramarine," Kathy Hinde: Audio-Visual Artist, <http://kathyhinde.co.uk/ultramarine/> (accessed February 27, 2016).

⁴ Nicolls, phone interview.

⁵ Heather O'Donnell, "Piano Optophonique: Idea," *Piano Optophonique*, <http://optophoniqueeng.heatherodonnell.info/> (accessed December 14, 2015).

pianists Megumi Masaki and Eve Egoyan have also been exploring this genre by commissioning and performing works in their series of concerts entitled *Music 4 Eyes and Ears* and *EarWitness* respectively.^{6,7}

Much of the early history of keyboard instruments paired with projected images, however, is unknown to most pianists, even though it is well documented. Peter Vergo's book *That Divine Order* explores many facets of music and the visual arts, including a history of live performances with projected light. Author Michael Betancourt compiled for his recent book all of the *visual music* patents filed in the United States between 1876 and 1950, many of which make use of a keyboard.⁸ Some websites cite *colour music* inventions not mentioned in either the works of Vergo or Betancourt.^{9,10} In addition to visual music instruments that projected lights, from about 1894 to 1929, live pianists and organists were used to accompany silent films.¹¹ There have been numerous books written on the history of silent films, such as Rick Altman's comprehensive text *Silent Film Sound*. Interest in producing colour music keyboard instruments seems to have coincidentally faded at around the same time as the end of the silent film era. None of the sources that discuss the separate histories of early multimedia instruments and silent films relate their topics to the modern repertoire for pianist and moving images.

There is very little research exploring the modern repertoire for pianist and moving images, however a dissertation by Robert Auler on Martin Bresnick's *For the Sexes* seems to be the lone exception.¹² Auler focuses on the history of Bresnick's work, and conducts an analysis using the approach to multimedia put forth by Nicholas Cook in his book *Analyzing Musical Multimedia*.¹³ Cook's methodology is one of the few for analyzing multimedia, along with an approach to

⁶ Brandon University, "Megumi Masaki," Brandon University School of Music: Departments and Faculty, <https://www.brandonu.ca/music/dept-faculty/masaki/> (accessed April 1, 2016).

⁷ Eve Egoyan, "EarWitness," <http://eveegoyan.com/new/earwitness/> (accessed April 1, 2016).

⁸ Michael Betancourt, ed., *Visual Music Instrument Patents, Volume One: 1876-1950* ([Rockville, MD?]: Borgo-Wildside Press, 2004).

⁹ Fred Collopy, "Rhythmic Light: Timeline," RhythmicLight.com, <http://rhythmiclight.com/archives/timeline.html> (accessed December 15, 2015).

¹⁰ Center for Visual Music, "CVM Library," <http://www.centerforvisualmusic.org/Library.html> (accessed April 20, 2016).

¹¹ Gillian B. Anderson, *Music for Silent Films, 1894-1929: A Guide* (Washington: Library of Congress, 1988), xii-xlvi.

¹² Robert Auler, "Martin Bresnick's *For the Sexes: The Gates of Paradise*: Analysis of a Multi-Media Composition" (DMA diss., University of Cincinnati, 2006). In ProQuest Dissertations and Theses, Web, (accessed September 26, 2011).

¹³ Auler, 1-3.

minimalist music put forth in a dissertation by Sean Atkinson.¹⁴ Both approaches make use of a method based on the linguistic model of comparing metaphors put forth by George Lakoff and Mark Johnson.^{15,16}

Instead of basing my analysis on Cook's approach, I have decided to use concepts that are related to film sound analysis. I believe that expanding on the basics of film sound analysis – by incorporating the addition of a live musician – is a more intuitive and accessible way of exploring the relationship between pianist and moving images. The framework for analysis will focus on three dichotomies in film sound theory: diegetic vs. non-diegetic¹⁷, synchronous vs. asynchronous¹⁸, and empathetic vs. anempathetic.¹⁹ Furthermore, I will discuss the strategies used by composers to balance the audience's attention between the pianist and external media. This last concept mirrors the balance between audio and video that exists in film, which is an area explored by the theorist Robert Robertson.²⁰ The use of Robertson's ideas in this document is particularly fitting as he also muses about the creation of a new art form, the 'music/film,' that balances audio and video in such a way that they are on equal footing.²¹ I believe that the three works I am examining in this document are excellent examples of art works that aim to achieve a balance between their audio and visual components as well as a balance between live musician and external media.

This document is divided into eight chapters. Following these introductory remarks, Chapter 2 will discuss the historical keyboards that produce light and the use of the piano and organ in accompanying silent films. Chapter 3 will set out the analytical framework for analysis based on the film sound concepts described above. Chapters 4 through 6 will introduce Michel van der Aa's *Transit*, Nicole Lizée's *Hitchcock Études*, and *Surface Tension* by Eve Egoyan and

¹⁴ Sean Atkinson, "An Analytical Model for the Study of Multimedia Compositions: A Case Study in Minimalist Music" (PhD diss., Florida State University, 2009). In ProQuest Dissertations and Theses, Web, (accessed September 26, 2011).

¹⁵ Nicholas Cook, *Analyzing Musical Multimedia* (Oxford: Clarendon Press-Oxford University Press, 1998), 98.

¹⁶ Atkinson, 5-10.

¹⁷ The Art of Film Sound Design, "Diegetic Sound & Non-Diegetic Sound," FilmSound.org, <http://filmsound.org/terminology/diegetic.htm> (accessed September 21, 2015).

¹⁸ Jane Knowles Marshall, "An Introduction to Film Sound," Filmsound.org, <http://filmsound.org/marshall/> (accessed September 21, 2015).

¹⁹ Michel Chion, "Projections of Sound on Image," in *Film and Theory: An Anthology*, ed. Robert Stam and Toby Miller, (Malden, MA: Blackwell Publishers, 2000), 114-115.

²⁰ Robert Robertson, *Cinema and the Audiovisual Imagination* (London: I. B. Taurus, 2015), 209.

²¹ Robertson, *Cinema*, 211.

David Rokeby. I will analyse each in turn using the framework established in Chapter 3, offer a technical setup guide, and provide practice and performance suggestions. Chapter 7 will present some of the challenges of mounting these and other works for pianist and moving images in performance. I will conclude this document in Chapter 8 with a discussion of current developments in this genre.

Chapter 2: The Early History of Keyboard with Projected Images

The idea of pairing music with light can be traced back to Sir Isaac Newton's *Optical Lectures* from 1670 to 1672, in which he drew parallels between the subdivision of light into seven colours and the seven tones of a scale.²² From Newton until the present, various scientists and artists proposed combining sounds with colours in various ways. Some, like A. Wallace Rimington and James Loring, relied on a rather logical pairing of the note C with the lowest frequency light wave red, and the note B paired with violet.^{23,24} Another inventor and musician, Father Louis Bertrand Castel, suggested another relationship, associating the note C with the colour blue.²⁵ Still others, like Nicholai Rimsky-Korsakov, were synesthetes; for Rimsky-Korsakov, the key of C major was sunlight white.²⁶

Although Newton's early attempts to make connections between sound and light date to the late seventeenth century, musical instruments designed to control light would not be attempted until decades later. The story of keyboard instruments paired with moving images can be divided into two sections with overlapping timelines: these are the histories of keyboard instruments that control projected light, and the history of silent films accompanied by organ or piano.

2.1 Early Multimedia Keyboard Instruments

The first documented attempt at creating a keyboard instrument that somehow displayed colour was the Ocular Harpsichord designed and built by the Jesuit priest Father Louis Bertrand Castel (Figure 2.1).²⁷ He first proposed the idea in 1725 and an early prototype of this instrument reportedly did not include sound.²⁸ Two public performances using a more advanced instrument, which produced both sound and colour, were given in Paris in 1754 and 1755.²⁹ This instrument reportedly made use of a box filled with approximately a hundred wax candles, which would sit on

²² Vergo, 226.

²³ A. Wallace Rimington, *Colour-Music: The Art of Mobile Colour* (London: Hutchinson, 1912), Internet Archive, <https://archive.org/details/colouartof00rimi> (accessed April 1, 2016), after 18.

²⁴ Betancourt, 30.

²⁵ Vergo, 238.

²⁶ Tom Douglas Jones, *The Art of Light and Color* (n.p.: Van Nostrand-Reinhold, 1972), 102, quoted in Mickey Koth, "Characteristics of Musical Keys," <http://biteyourownelbow.com/keychar.htm> (accessed March 28, 2016).

²⁷ Vergo, 234.

²⁸ Vergo, 236.

²⁹ Vergo, 240.

top of a regular harpsicord, and the light from the box would project through pieces of coloured glass.³⁰ Castel himself writes that the 200 concert-goers present claimed “that they had never seen any thing [sic] more beautiful, or more brilliant.”³¹



Figure 2.1: A caricature of Father Louis Bertrand Castel and his Ocular Harpsichord.³²

Charles-Germain de Saint-Aubin, *Que n'ont ils tous Employés leurs tems à la même Machine.*, c. 1740-1757; watercolour, ink and graphite on paper; 187 x 132mm; Waddesdon (National Trust), Bequest of James de Rothschild, 1957; acc. no. 675.302. Photo © The National Trust, Waddesdon Manor.

An anonymous pamphlet from 1757 entitled the *Explanation of the Ocular Harpsichord upon Shew to the Public* describes a still more advanced instrument, which uses 500 candles.³³ Although the instrument was displayed in London, England, it may never have been used in performance.³⁴ As Peter Vergo mentions, this was probably wise due to the high number of disastrous theatre fires that were occurring in the eighteenth and nineteenth centuries.³⁵

After Father Castel's death, a few scholars proposed modifications to his system, but it does not appear that any were realized.³⁶ One attempt was theorized by Johann Gottlob Krüger in

³⁰ Vergo, 240.

³¹ *Explanation of the Ocular Harpsichord upon Shew to the Public*, (London: Hooper and Morlay, 1757), 12-13, quoted in Vergo, 240.

³² Charles Germain de Saint-Aubin, *Que n'ont ils tous Employés leurs tems à la même Machine*, The Rothschild Collection, Waddesdon, UK, acc. no. 675.302, Photo © The National Trust, Waddesdon Manor.

³³ Vergo, 241.

³⁴ Vergo, 242.

³⁵ Vergo, 242.

³⁶ Vergo, 247-248.

1743; another – a toy version of the ocular harpsichord – was conceived by Guillaume-Germain Guyot in 1769.³⁷ One of the main, enduring criticisms of Castel’s invention was that colours lacked the ability to form a chord, like music could.³⁸

It appears that about a hundred years passed before any further attempts were made to transform musical instruments into multimedia instruments. In a pamphlet from 1844, D. D. Jameson described his musical invention in which light would be projected through glass containers containing coloured liquid, using a piano-forte to control the effects.³⁹

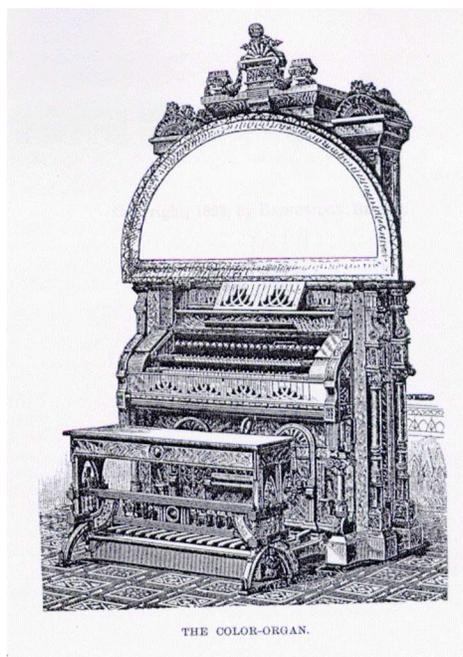


Figure 2.2: Bainbridge Bishop’s Color Organ.⁴⁰

In 1877, the American Bainbridge Bishop patented his Color Organ (Figure 2.2).⁴¹ This instrument involved attachments to the pipes of an organ that would project lights onto a screen.⁴² Three of these were built, but all destroyed by fire, including one that was owned by P.T. Barnum

³⁷ Vergo, 247.

³⁸ Vergo, 248.

³⁹ D. D. Jameson, *Colour-Music* (London: Smith, Elder: 1844), http://monoskop.org/images/6/69/Jameson_DD_Colour-Music_1884.pdf (accessed April 1, 2016), 11.

⁴⁰ Bainbridge Bishop, *A Souvenir of the Color Organ, with some Suggestions in Regard to the Soul of the Rainbow and the Harmony of Light* (New Russia, NY: De Vinne Press, 1893), RhythmicLight.com, <http://rhythmiclight.com/books/HarmonyOfLight.pdf> (accessed December 12, 2015), 2.

⁴¹ Betancourt, 12-13.

⁴² Betancourt, 12-13.

and displayed in the Barnum Museum in New York City.⁴³ Although Bishop at first used sunlight as his light source, he was able to use electric light when the technology was available.⁴⁴

By 1895, A. Wallace Rimington had made use of electricity to construct his own version of a Colour Organ, consisting of fourteen large arc lamps (Figure 2.3).⁴⁵ It was described in his day as “the first serious attempt to construct an instrument for the performance of colour-music.”⁴⁶ Rimington’s instrument, unlike Bishop’s, did not produce sound but only colour.⁴⁷

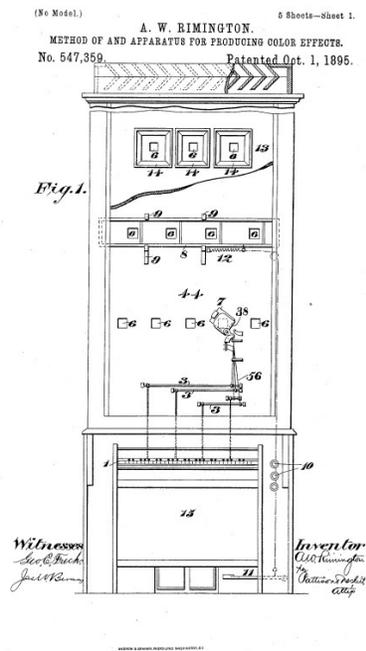


Figure 2.3: A. Wallace Rimington’s Colour Organ.⁴⁸

His design evidently inspired a similar instrument built in 1915 by Preston S. Millar called the Chromola.⁴⁹ It was this instrument that was used for Alexander Scriabin’s *Prometheus: The Poem of Fire*, at Carnegie Hall in 1915, a work calling for a “tastiera per luce.”⁵⁰

⁴³ Vergo, 254.

⁴⁴ Vergo, 254.

⁴⁵ Vergo, 255.

⁴⁶ Adrian Bernard Klein, *Colour-Music. The Art of Light* (London: Crosby Lockwood & Son, 1926), 190, quoted in Vergo, 255.

⁴⁷ Betancourt, 16-26.

⁴⁸ A. Wallace Rimington, "Method of and Apparatus for Producing Color Effects", U.S. Patent 547,359, issued October 1, 1895, <http://pdfpiw.uspto.gov/.piw?docid=00547359&PageNum=1> (accessed November 14, 2016).

⁴⁹ Vergo, 263.

⁵⁰ Vergo, 262-263.

Around the same time that Rimington developed his Colour Organ, William Schooling published an article entitled “Colour-Music: A Suggestion of a New Art.”⁵¹ In it, he proposes an idea for an instrument using vacuum tubes that could be lit by electric current and controlled by a keyboard.⁵²

A book of American patents, compiled by Michael Betancourt in 2004, highlights many other developments in this category of instruments. One of these is James Loring’s Musical Chromoscope from 1904, which used an upright piano with coloured light bulbs attached to the top edge of the instrument.⁵³ He suggests that the lights be arranged in the colour of the rainbow, with red for C and violet for B, and lighter shades used for higher pitched notes.⁵⁴

Despite these early instruments, it has been claimed that 1920 is generally considered to be the year in which kinetic art was born.⁵⁵ It was around this year that Adrian Klein and Leonard Taylor both created their own light projection systems.⁵⁶ Klein’s Color Projector for stage lighting used a two-octave keyboard, while Taylor created a light projection system that controlled twelve lights with a 13-note keyboard.⁵⁷ A stage lighting system using a keyboard was also devised in 1923 by Ludwig Hirschfeld-Mack, although he would later abandon the use of the keyboard with his system.⁵⁸

An instrument made by Vladimir Baranoff-Rossiné conceived in 1907, but realized in 1922, used a keyboard with a Magic Lantern projector, multiple coloured glass discs, and a kaleidoscope (Figure 2.4).⁵⁹ This Piano Optophonique did not produce sound, but was meant to accompany musicians.⁶⁰ It was Baranoff-Rossiné’s dream to create a new art form synthesizing light, sound, and movement.⁶¹

⁵¹ Kenneth Peacock, “Instruments to Perform Color-Music: Two Centuries of Technological Experimentation,” *Leonardo* 21, no. 4 (1988), JSTOR, Web (accessed February 11, 2016), 401.

⁵² Peacock, 401.

⁵³ Betancourt, 28-31.

⁵⁴ Betancourt, 30.

⁵⁵ Peacock, 404.

⁵⁶ Peacock, 404.

⁵⁷ Peacock, 404.

⁵⁸ Peacock, 404.

⁵⁹ “Piano Optiphonique,” YouTube video, 2:00, December 4, 2006, <https://www.youtube.com/watch?v=l2BnanDDeFg>.

⁶⁰ “Piano Optiphonique,” YouTube video.

⁶¹ “Piano Optiphonique,” YouTube video.



Figure 2.4: Vladimir Baranoff-Rossiné's Piano Optophonique.⁶²

Vladimir Baranoff-Rossiné (1888-1944) © ARS, NY. Piano optophonique. 1922-23.
Wood, 239 x 164 cm. AM 1972-3. Photo: Adam Rzepka.
Musée National d'Art Moderne
© CNAC/MNAM/Dist. RMN-Grand Palais / Art Resource, NY.

From 1912 to 1927, Alexander Burnett Hector submitted patents for his Color-Music Apparatus, which is an electrical system using the hammers of a piano to close circuits and turn on lights (Figure 2.5).⁶³ His patents cover the physical system, the arrangement of colours on the keyboard, and a rather complicated setup using a hand-operated player piano and a knee-operated organ both connected to a cabinet with a transformer.⁶⁴

⁶² Vladimir Baranoff-Rossiné, "Piano Optophonique", 1922-3, © ARS, NY; Photo by Adam Rzepka, 1972-3, Musée National d'Art Moderne, Paris, © CNAC/MNAM/Dist. RMN-Grand Palais / Art Resource, NY.

⁶³ Betancourt, 58-90.

⁶⁴ Betancourt, 58-90.

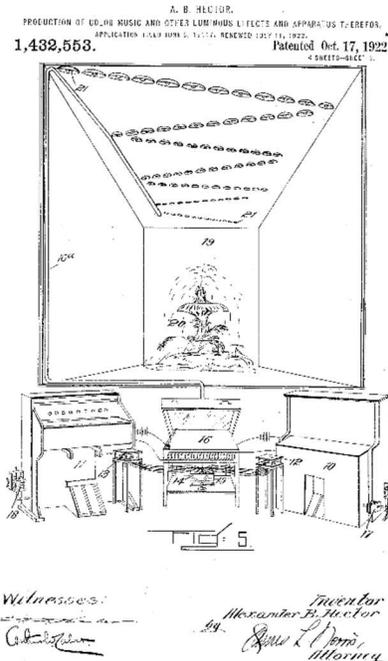


Figure 2.5: Alexander Burnett Hector's Color-Music Apparatus.⁶⁵

Mary Hallock-Greenewalt patented both a system of notation for color music and the Sarabet, a non-keyboard instrument with which to carry out the notation.⁶⁶ A separate invention, one she patented in 1927, describes a way to set up a film roll with a light inside an upright piano.⁶⁷ Another system from this time, a Projection System from 1930 by Clinton W. Hough, used a piano keyboard to lift colour screens for their projection.⁶⁸

Some other instruments patented from 1920 to 1950 sounded like they used a keyboard but did not, namely the Chromopiano of 1921, the Color Piano of 1923, and the Color Harmonium of 1924.⁶⁹ Other instruments from this time that did use keyboards include one reportedly invented by the Czech artist Zdenek Pasanek in the early 1920s, and the Sonchromatoscope by Alexander

⁶⁵ Alexander B. Hector, "Production of Color Music and Other Luminous Effects and Apparatus Therefor", U.S. Patent 1,432,553, issued October 17, 1922, <http://pdfpiw.uspto.gov/.piw?docid=01432553&PageNum=3> (accessed November 14, 2016).

⁶⁶ Peacock, 404.

⁶⁷ Betancourt, 100-106.

⁶⁸ Betancourt, 174-194.

⁶⁹ Betancourt, 113, 131, 137.

Laszlo, which was demonstrated at the 1925 Music-Art Festival in Kiel, Germany.⁷⁰ Laszlo wrote a set of preludes for his instrument using his own system of notation.⁷¹

2.2 Silent Film Pianists and Organists

The history of instruments that controlled projected lights, outlined above, is perhaps not as well-known as the history of musicians accompanying projected lights. The latter is the history of silent films, which of course were not really silent at all and were usually accompanied by live music.⁷² Some excellent books and websites explore the history of silent films, including the comprehensive text by Rick Altman called *Silent Film Sound*. Instead of simply recounting this history, it is my intention to show how the piano and organ were used in silent films, and how this differs aesthetically from both the colour-music instruments described above and current works for pianist and moving images.

Information regarding the sound accompaniments in the very early years of the silent film era is limited.⁷³ We do know that from 1896 to 1906, it was primarily the Vaudeville theatres that were displaying moving pictures.⁷⁴ Between 1893 and 1901, the music in Vaudeville houses was not supplied by an orchestra, but rather by a solo pianist.⁷⁵ Although it may seem natural to assume that the pianist who accompanied the other Vaudeville acts would also accompany these films, whether or not that was indeed the case has not been firmly established; information regarding film sound during this time is incomplete.⁷⁶

By 1905, moving picture shows had become so popular, and the cost to exhibit the films so low, that theatres were opening up all over the United States.⁷⁷ These Nickelodeon theatres would charge five cents per show, and theatres would run the same fifteen- to twenty-minute program continuously throughout the day.⁷⁸ Since many of these shows featured illustrated songs, the

⁷⁰ Peacock, 404.

⁷¹ Peacock, 404.

⁷² Anderson, xiii.

⁷³ Rick Altman, *Silent Film Sound* (New York: Columbia University Press, 2004), 12.

⁷⁴ Altman, 95.

⁷⁵ Altman, 103.

⁷⁶ Altman, 95.

⁷⁷ Altman, 119-120.

⁷⁸ Altman, 120.

musical accompaniment at these theatres was often a pianist and a singer.⁷⁹ At first, the theatre would change the programs twice a week, but by 1907 many theatres were changing the programs daily.⁸⁰

By the 1920s, two tiers of theatres had evolved.⁸¹ Both deluxe and ordinary theatres would present shows from noon to midnight, running four shows a day, seven days a week.⁸² The bigger deluxe theatres employed a music director, a twenty- to eighty-piece orchestra, and an organist.⁸³ A show at a deluxe theatre would include not only a silent film accompanied by music, but also other musical numbers and often the use of Magic Lantern slides.⁸⁴ Smaller ordinary theatres would use a small ensemble, a duo or trio with piano, or just a solo organist or pianist.⁸⁵

Some films had original scores, such as Herbert Bernon's *Beau Geste* from 1926, but Hugo Riesenfeld's complete score for this film would most likely only be used in deluxe theatres with full orchestras.⁸⁶ Deluxe theatres were not obliged to use the original score, and, like smaller theatres, might use cue sheets instead, such as the "Thematic Music Cue Sheets" distributed by M. J. Mintz.^{87,88} These would outline various pieces to be played at different times in the movie. However, the performance of a score or the use of a cue sheet was not strictly necessary.⁸⁹ When not using a score or a cue sheet, deluxe theatres would use their staff and expertise to plan the soundtrack for the films, usually using a library of classical and popular works.⁹⁰

The general aim was to pair suitable pieces to each scene to reflect its mood, and in both the deluxe and ordinary theatres this was generally the extent to which synchronization was attempted.⁹¹ In smaller houses, however, the strategies and successfulness of this goal was not the same as in larger houses with bigger budgets.⁹² To be sure, there were a number of renowned

⁷⁹ Altman, 120.

⁸⁰ Altman, 120.

⁸¹ Anderson, xiii.

⁸² Anderson, xviii.

⁸³ Anderson, xviii.

⁸⁴ Anderson, xvi.

⁸⁵ Anderson, xv.

⁸⁶ Kathryn Kalinak, *Settling the Score: Music and the Classical Hollywood Film* (Madison, WI: University of Wisconsin Press, 1992), 53.

⁸⁷ Kalinak, 52.

⁸⁸ James C. Bradford, compiler, "Thematic Music Cue Sheet" for *Beau Geste*, Silent Film Sound & Music Archive, <http://www.sfsma.org/wp-content/uploads/2014/03/Beau-Geste.pdf> (accessed September 27, 2015).

⁸⁹ Altman, 354.

⁹⁰ Anderson, xxi.

⁹¹ Anderson, xxi.

⁹² Anderson, xxvii.

theatre organists who accomplished this synchronization, some who improvised accompaniments while others would use pieces of existing music.⁹³ Some of these more successful organists wrote books on how to properly accompany films. One of these is a book by C. Roy Carter outlining various effects that could be achieved by a theatre organist; instructions are given on how to imitate sounds such as snoring and laughing, as well as animal sounds and other effects.⁹⁴

From the accounts of film music from this era, however, it appears as though even basic synchronization was often not achieved.⁹⁵ With movies frequently changing daily in the ordinary theatres, not all musicians had the time to properly prepare the music.⁹⁶ An article in *The American Organist* from 1926 states, “We often hear the organist, after the cue for a change has appeared, end the previous number rather indecisively, ramble around in a few aimless chords, fix the stops and finally float into something fitting the scene – when it is half over.”⁹⁷

Not every small theatre had a great musician at the keyboard and it appears as though mistakes were frequently made. A quote from May Meskimen Mills’s *The Pipe Organist’s Complete Instruction and Reference Work on the Art of Photoplaying* from 1922 illustrates what may go wrong:

To give you an idea of how easily a wrong number can be chosen for a scene, a man and a woman were shown on the screen in each other’s embrace. The organist began playing a silly love song, only to find that the couple were brother and sister.⁹⁸

Many books similar to Mills’s book were published during the 1910s and 1920s on how to properly accompany a film. In books by Edith Lang & George West and W. Tyacke George,

⁹³ Anderson, xxi.

⁹⁴ C. Roy Carter, *Theater Organist’s Secrets*, (Los Angeles: C. Roy Carter, n.d.), Silent Film Sound & Music Archive, <http://www.sfsma.org/wp-content/uploads/2014/03/Cartersecrets1.pdf> (accessed September 27, 2015).

⁹⁵ Anderson, xxviii.

⁹⁶ Anderson, xxi.

⁹⁷ Frank Stewart Adams, “On Time or Not at All,” *The American Organist* 9, vol. 1 (1926): 14, quoted in Anderson, xxviii.

⁹⁸ May Meskimen Mills, *The Pipe Organist’s Complete Instruction and Reference Work on the Art of Photoplaying*, (n.p.: May Meskimen Mills, 1922), 7, quoted in Anderson, xxvii.

hundreds of suggestions of themes are given to fit different moods, and many piano books were published at this time with appropriate music.^{99,100}

Other than making mistakes in pairing the music with the video, another way to detract from the film was to play too loudly, or to treat the show as a concert. In Eugene Ahern's *What and How to Play for Pictures* from 1913, he gives this instruction: "Play your music pianissimo so as not to divert the attention of the audience from the picture to the music, but loud enough to be heard all over the house."¹⁰¹ George Tootell warns in his guide: "Your duty is to accompany the film, and not make the film accompany you."¹⁰² Or as Lacey Baker puts it in the introduction to a collection of pieces called *Picture Music, Volume I*:

The accompaniment of a Film [*sic*] should be a musically sustaining *undercurrent*, always subsidiary. It should provide atmosphere and emotional color, but, under no circumstances, dominate. Cinema playing is not an organ recital, neither is it an occasion for the display of digital dexterity and pedal pyrotechnics.¹⁰³

Unlike Father Castel's instrument, the images in silent films dictate the music; the music does not control the visual. Capturing the mood and atmosphere of the film, while not taking the spotlight away from the action onscreen, was the desired effect of the pianist or organist. It is clear from the history that pianists and organists in the silent film era often did not have the time to worry about complete synchronization with the film. And unlike the grand vision of Baranoff-Rossiné – who wished to create a new art form that synthesized music, movement, and light – silent film soundtracks are inherently designed to play a secondary role to the films they accompany.¹⁰⁴ The secondary role of music in film is still generally the norm today.

⁹⁹ Edith Lang and George West, *Musical Accompaniment of Moving Pictures: A Practical Manual for Pianists and Organists and an Exposition of the Principles Underlying the Musical Interpretation of Moving Pictures* (Boston: Boston Music Company, 1920), Silent Film Sound & Music Archive, http://www.sfsma.org/wp-content/uploads/2014/03/Lang_West.pdf (accessed September 27, 2015).

¹⁰⁰ W. Tyacke George, *Playing to Pictures: A Guide for Pianists and Conductors of Motion Picture Theatres*, (London: Kinematograph Weekly, n.d.), Silent Film Sound & Music Archive, <http://www.sfsma.org/wp-content/uploads/2014/11/Tyacke-Playing-to-Pictures.pdf> (accessed September 27, 2015).

¹⁰¹ Eugene Ahern, *What and How to Play for Pictures*, (N.p.: 1913), Silent Film Sound & Music Archive, http://www.sfsma.org/wp-content/uploads/2014/03/Ahern_inst1.pdf (accessed September 27, 2015), 9.

¹⁰² George Tootell, *How to Play the Cinema Organ: A Practical Book by a Practical Player* (London: W. Paxton, n.d.), Silent Film Sound & Music Archive, http://www.sfsma.org/wp-content/uploads/2014/09/Tootell_complete.pdf (accessed September 27, 2015), 86.

¹⁰³ Lacey Baker, "Some Remarks on Picture Playing," in *Picture Music: A Collection of Classic and Modern Compositions for the Organ Especially Adapted for Moving Pictures with Practical Suggestions to the Organist, Volume I* (New York: H. W. Gray, 1919), Silent Film Sound & Music Archive, <http://www.sfsma.org/wp-content/uploads/2014/07/Baker%201.pdf> (accessed September 27, 2015), i.

¹⁰⁴ "Piano Optiphonique," YouTube video.

Chapter 3: A Multimedia Analytical Framework

In order to examine the pieces that are the focus of this research, a certain framework needs to be established that will enable this. The aim of any analysis is to find a technique that helps to elucidate some aspects of the work so that one may gain deeper understanding and a greater enjoyment from the work through insight. When attempting to understand conventional musical works, a theorist has a certain toolbox of methods to employ, and although these methods might apply to the audio part of the works examined here, they are little help in discussing the relationship between the audio and visual elements.

I believe there are four key concepts that are useful for a pianist or composer to be aware of when examining pieces for pianist and projected images. These are based on my research, looking at the works of Nicholas Cook, Michel Chion, Sergei Eisenstein, Claudia Gorbman, Gregg Redner, Robert Robertson, and others. In my opinion, the four concepts I will outline seem adequate, at least as a starting framework, for gaining a better understanding of these works.

The first concept of which the pianist should be aware is that of *diegetic vs. non-diegetic* music. This is the basic idea in film sound studies that the music in the film may or may not be part of the scene itself.¹⁰⁵ Diegetic music describes music that is played by a musician onscreen, or heard on a radio and thus heard by the actors. Non-diegetic music is the standard type of music we hear in movies; it is the music heard only by the audience.

The second concept is *synchronous vs. asynchronous* sounds. In film studies, this refers to sounds that are both seen and heard onscreen together (synchronous) versus sounds that are not seen but only heard (asynchronous).¹⁰⁶ For the works examined in this paper, it would make sense to expand this definition to encompass the live pianist. In film, there is only a video and a soundtrack. In works for pianist and moving images, there exists not only the projected images, the film's soundtrack (if any), and the piano part, but also the potential for the pianist to become an actor involved as a visual element in the performance as well. The term *synchronous* will therefore, in my analysis, refer to any coordination between any of the audio or visual elements, whether live or recorded.

¹⁰⁵ The Art of Film Sound Design, "Diegetic Sound & Non-Diegetic Sound," FilmSound.org.

¹⁰⁶ Jane Knowles Marshall, "An Introduction to Film Sound," FilmSound.org, <http://filmsound.org/marshall/> (Accessed September 21, 2015).

It would also be useful to differentiate the term *synchronous* from *synchronization*. The former will denote in this paper the *composer's* intention to pair the audio and visuals together. The latter, which will be explored later in this document (Chapters 4.4, 5.4, and 6.4), will be used to discuss the strategies the *pianist* must use to accomplish this pairing.

The third analytical concept is one discussed by film theorist Michel Chion. Chion defines the concept of *empathetic* vs. *anempathetic* effects in relation to film music as the distinction between whether or not the music “can directly express its participation in the feeling of the scene, by taking on the scene’s rhythm, tone, and phrasing.”¹⁰⁷ Although silent film pianists were advised to create an empathetic accompaniment, a film director may choose to juxtapose audio and video that are anempathetic to create a certain effect.¹⁰⁸

The fourth concept worth examining by the pianist is one that I call the *balance of audience attention*. A good silent film pianist or organist attempted to balance the audience’s attention so that they paid more attention to the film and less to the music. Fittingly, a book by the film sound theorist Claudia Gorbman is entitled *Unheard Melodies*.¹⁰⁹ Although the music in a film might occasionally enter “the foreground of consciousness,” Gorbman claims that “a few scenes or measures later, we drop off” and the music continues to “saw[] away in the backfield of consciousness.”¹¹⁰

Theorist Michel Chion draws a distinction between works or scenes that are *audio-vision* or *visu-audition*, the former denoting works or scenes that focus the audience’s attention on the visual, while the latter type of work focuses on the auditory experience.¹¹¹ The film director Robert Bresson seems to support this idea, writing “[if] the eye is entirely won, give nothing or almost nothing to the ear. One cannot be at the same time all eye and all ear.”¹¹² The theorist Robert Robertson, however, proposes that there is a continuum between these two opposites, believing a balance is possible.¹¹³ He suggests that there is a “point of equal interaction between

¹⁰⁷ Michel Chion, “Projections of Sound on Image,” 114.

¹⁰⁸ Michel Chion, “Projections of Sound on Image,” 114-115.

¹⁰⁹ Claudia Gorbman, *Unheard Melodies: Narrative Film Music* (Bloomington: Indiana University Press, 1987).

¹¹⁰ Gorbman, 1.

¹¹¹ Michel Chion, “Glossaire,” Lampe-tempête, <http://www.lampe-tempete.fr/ChionGlossaire.html> (accessed December 12, 2015).

¹¹² Robert Bresson, “Notes on Sound: Sight and Hearing” in *Film Sound: Theory and Practice*, ed. Elisabeth Weis and John Belton (New York: Columbia University Press, 1985), 149.

¹¹³ Robertson, *Cinema*, 209.

music and film,” as seen in Figure 3.1. Robertson envisions the “music/film, a new art form, where music and film interact on an *overall* basis of equality, and made by the same artist, who has a sense of the limitations of the notion of background and foreground in both music and film.”¹¹⁴

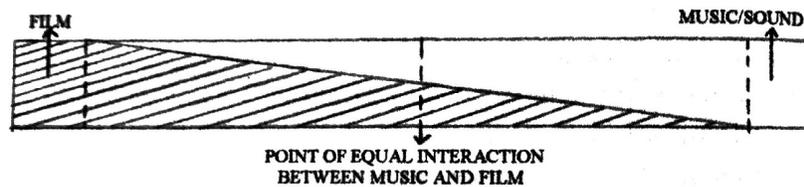


Figure 3.1: “Audiovisual Interaction” from Robertson’s *Cinema and the Audiovisual Imagination*, p. 210¹¹⁵
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As the pieces studied in this document are not films with recorded music, this concept should and can be modified to accommodate a live performer. A more relevant balance to focus on for the three works examined here is, I believe, the balance between the pianist and the external media (both visual and aural). Just as film soundtracks can so easily become unheard melodies, if not carefully managed, the pianist in a work for live pianist and moving images could become an unheard, unseen accompanist. Or alternatively, the film may go unseen if the pianist’s performance dominates, a situation that accompanists for silent films were advised to avoid. In the next three chapters, I will explain how it is, I believe, that each composer achieves this balance between pianist and external media quite successfully, each in his or her own way.

¹¹⁴ Robertson, *Cinema*, 211.

¹¹⁵ Robertson, *Cinema*, 210.

Chapter 4: *Transit*

4.1 Michel van der Aa¹¹⁶

Robert Robertson imagined an art form in which a piece of music/film would be created by a single artist.¹¹⁷ Such is the case with the work *Transit* by Michel van der Aa. Van der Aa is an internationally-acclaimed artist from The Netherlands, born in 1970. He trained as a recording engineer at the Royal Conservatory in The Hague before studying composition with teachers including Diderik Wagenaar, Gilius van Bergeijk and Louis Andriessen. Van der Aa has also studied film direction at the New York Film Academy and stage direction from the Lincoln Center Theater Director's Lab.

His training in many aspects of sound, video, and stage is central to his ability to pull together live musicians with digital or audio-visual technology in a coherent and compelling way. Over his composition career, he gradually incorporated more and more visual elements into his works beginning with his piece *Wake* in which one of the two percussionists is instructed to mime only.¹¹⁸ Other works by van der Aa include directions for physical gestures to be performed by the musicians, instructions for specific stage lighting, and the use of projected video.¹¹⁹ Most recently, his opera *Blank Out* features singers who interact with 3D projections of other singers and objects onstage.¹²⁰

His music has been performed around the globe, by ensembles and orchestras such as musikFabrik, the BBC Symphony Orchestra, the SWR Baden-Baden and Freiburg Symphony Orchestra, and many others. His multimedia operas *One*, *After Life*, and *The Book of Disquiet* have won for him international acclaim with performances in more than a dozen countries.

In 1999, van der Aa was the first Dutch recipient of the International Gaudeamus Prize. Other prizes awarded to van der Aa include the Matthijs Vermeulen Prize, the Paul Hindemith Prize, the Kagel Prize, the Grawemeyer Award for Music Composition, and, most recently, the 2015 Johannes Vermeer Award, the Dutch national prize for the arts.

¹¹⁶ Bibliographical information taken from Michel van der Aa's website: Tim Rutherford-Johnson, "Michel van der Aa: Biography," Michel van der Aa, <http://www.vanderaa.net/biography/> (accessed February 2, 2016).

¹¹⁷ Robertson, 211.

¹¹⁸ Michel van der Aa, phone interview with author, April 21, 2016.

¹¹⁹ van der Aa, phone interview.

¹²⁰ van der Aa, phone interview.

4.2 *Transit* Overview

Transit was premiered in 2009 at the Huddersfield Contemporary Music Festival by the pianist Sarah Nicolls.¹²¹ This piece is a combination of two separate works: a work for piano and CD called *Just Before* and a film created by van der Aa called *Passage*.¹²² Unlike commercially produced films, the soundtrack was written first, and inspired the creation of the film.¹²³ He says that “if I feel that I can’t tell the whole story with just sound, I add the visual layer. [...] I only add the visual layer if I feel it’s needed and I feel I need to extend the music.”¹²⁴

The film itself is about the end of life, and the physical limitations, the fear, the loneliness, and the sense of mortality that the character in the film experiences. It is shot in black and white with natural recorded sounds, some recorded piano excerpts of *Just Before*, and other manipulated sounds. There is an actor in the film, but there is no speaking.

4.3 Technical Setup¹²⁵

For this work, a DVD player with a time display is needed, and is placed underneath the music shelf of a grand piano. The shelf may need to be propped up to make space for the DVD player, depending on the size of the DVD player and the design of the interior of the piano. The stereo audio track from the DVD is played through two speakers and a subwoofer set up behind the piano. The video from the DVD player is output to a projector.

The piano should be set up centre stage, with the projection screen set up to the left of the pianist, who should be able to see the video by turning his or her head. Ideally, the piano is turned slightly counter-clockwise to enable the audience to see the piano keys, which also has the effect of improving the sightline between the pianist and the screen.¹²⁶ If the hall does not allow for this configuration, a video monitor may be necessary for the pianist, although it would be important to have a monitor that does not have a time delay, and that the entire screen can be seen on the monitor.

¹²¹ Ali Bliss, “Press Key No Sound,” Michel van der Aa, <http://www.vanderaa.net/presskeysnosound> (accessed March 2, 2016).

¹²² Bliss.

¹²³ Bliss.

¹²⁴ van der Aa, phone interview.

¹²⁵ Michel van der Aa, *Transit* (Berlin: Boosey & Hawkes – Bote & Bock, 2000), 1.

¹²⁶ van der Aa, phone interview.

There does exist a version of *Transit* that uses a click track, which would involve a similar setup to *Hitchcock Études* described in Chapter 5.3. Van der Aa cautions, however, that a performance using click track is often more rigid, and that there is more elasticity in a performance that uses the time-display method.¹²⁷

4.4 Synchronization and Analysis

In standard, audio-only chamber music, musicians learn to play together by using visual cues, by finding a common tempo in rehearsal, and by a trained sense of musical timing. Nicole Lizée – the composer of *Hitchcock Études* – says that she thinks of the video in her works as another instrument, but it is an instrument that unfortunately does not respond to the pianist’s visual cues.¹²⁸ Once a musician presses play on their computer or DVD player, the film is uncompromising, and it is the live musician’s job to synchronize with it.

In *Transit*, the pianist synchronizes with the video mostly by way of a DVD player’s time display, but audio cues in the soundtrack aid in the synchronization of certain passages, and the video itself may be needed in certain other passages. The score includes time cues, and synchronization is made relatively straightforward by a metronome marking of quarter-note equal to 60 beats per minute. However, some elements of the piano part that need to be synchronized with the video do not line up with precision on downbeats. The pianist playing this work will either have to become used to synchronizing certain moments of the piece with the video itself, or with precise subdivisions of the time display’s counter.

The interaction between the pianist and the DVD extends beyond the synchronization between the piano part and the DVD display. In van der Aa’s conception of the work, there are theatrical elements that are integral to the work as well. In the opening sequence, certain chords are to be played silently in order to mimic the hand movements of the actor onscreen. These movements continue throughout the work, culminating in a climax around ten minutes into the piece, where the pianist is asked to mime low clusters that can be heard in the soundtrack of the DVD. As pointed out by Nicolls recently, there is a sort of melding between the pianist and the recorded elements that occurs as the pianist imitates the actor and the audio.¹²⁹ Perhaps,

¹²⁷ van der Aa, phone interview.

¹²⁸ Nicole Lizée, e-mail to author, February 17, 2016.

¹²⁹ Sarah Nicolls, phone interview with author, February 21, 2016.

commented Nicolls, it is being suggested that the man onscreen and the pianist are both trapped, each in their own world.¹³⁰

Analytically, there are both diegetic and non-diegetic sounds present throughout this work, with the sounds of a door closing and a kettle boiling being diegetic (heard by the elderly man in the film), and the music being non-diegetic. There are synchronous sounds occurring between the piano part and the soundtrack, often for an extended period such as from mm. 55-66 (3:36-4:22). There are synchronous visual elements between the pianist's movements and the movements of the character, such as at the miming that occurs at the beginning of the piece (mm. 1-34). There is also synchronization between the pianist's movements and the recorded audio at the climax of the work, where the pianist pretends to play the low clusters heard in the soundtrack in mm. 117-46 (7:45-9:42). Synchronous effects are also used between the piano playing and the projected visuals, such as the high cluster in m. 28 occurring exactly with the sound and visual of a boiling kettle. In fact, if you consider there to be two audio tracks (the soundtrack and the piano part) and two visual tracks (the video and the pianist), all configurations of synchronous elements are explored in this work.

On the whole, I believe this work is empathetic. As I mentioned above, the video was inspired by the music and therefore the video and the music attempt to capture the same mood. Although the atmosphere is subdued throughout much of the work, this atmosphere is interrupted by frenetic activity both in the piano part and onscreen from mm. 47-50, mm. 74-81, and mm. 101-46 (which occur in the film from 3:02-3:18, 4:52-5:21, and 6:42-9:42 respectively). The latter section is more difficult to categorize in this respect, however, as the film periodically goes black with panicked-sounding music in the piano part.

As for the balance of audience attention, van der Aa says that “when you use video onstage there is a huge responsibility as the maker to balance with the things that are happening live onstage. [...] People watch [the video] and forget about everything else. [...] 75 percent of our brains is then occupied by this film layer rather than listening to the music or watching the stage. Therefore when I'm making the piece, when I'm composing, I [am] already [making] decisions about the foreground and the background of [...] the live part and the film. I sort of alternate them and play with changing perspectives.”¹³¹

¹³⁰ Nicolls, phone interview.

¹³¹ van der Aa, phone interview.

The way that van der Aa achieves this balance is mainly through the inclusion of the pianist as actor; this theatrical element helps to focus attention on the pianist, even if the pianist is only acting some of the time. Van der Aa's use of synchronous elements also helps draw the attention to the interaction of the pianist and film. A third factor that helps balance the audience's attention is the use of a stark, slowly moving, plot-less film. Audiences have a finite amount of attention, and it requires a lot of attention to follow a plot; without one, an audience is more able to focus on the interaction of the visuals and audio.

One important section of the piece, where van der Aa took special care to balance the live elements and the video, is the passage from mm. 101-46 (6:42-9:42). Van der Aa periodically has the video go black in order to avoid having the video become the focus of attention. He states that "the intensity of the film continues in the music and we don't need images for that."¹³² He would rather that the audience focus on the virtuosity of the pianist in this section.¹³³ In van der Aa's film *Passage*, this section does not include these video blackouts, as the balance of audience attention is no longer an issue.¹³⁴ It is obvious to me why the video recordings I have seen of performances of *Transit* necessarily include a view of the pianist.^{135,136}

4.5 Practice and Performance Suggestions

The practice setup for this work is one of the challenges of performing it. When rehearsing this piece, the ideal practice setup would be to position everything exactly as one would in a concert situation (described in Chapter 4.3). However, many pianists may not have access to a grand piano, a projector, and a screen or blank wall during rehearsal.

The challenge is that certain issues arise when the practice setup differs drastically from the performance setup. When learning this work using a laptop (instead of a DVD player and projector), one of the biggest concerns is that the DVD time display on a laptop might not be bright enough or big enough to use effectively. Also, in my experience, I found that the time

¹³² van der Aa, phone interview.

¹³³ van der Aa, phone interview.

¹³⁴ van der Aa, phone interview.

¹³⁵ Sarah Nicolls (hyperpianist), "Transit by Michel van der Aa," YouTube video, 13:24, November 30, 2010, <https://www.youtube.com/watch?v=17gE1Lz2xNE>.

¹³⁶ Yvonne Chen, "Michel van der Aa: Transit (2007/2009) for piano and video," YouTube video, 13:26, March 27, 2015, https://www.youtube.com/watch?v=XhJhvl_h2xY.

display would not count the time completely accurately, even when all other computer programs were closed, frustrating my attempts to synchronize precisely with the time display. Another concern is that, in performance, the pianist will have different sightlines than he or she practiced in rehearsal. The pianist must keep in mind that the time display will be below the sheet music and the video will be to the left of the piano.

In performance, the pianist presses the play button on the DVD player, and has ample time (eight seconds) to prepare for the first notes of the piece. The synchronization between the piano part and the film in the first three minutes of the piece is done by using the DVD time display, cues in the audio soundtrack, and a few visual cues. The soundtrack includes “inhales” and “cresc” markings right before certain passages in the piano part are to be played (mm. 3, 12, 16, 20, 23, 25, and 32) (Example 4.1). These are the easiest of the cues to line up in this section, and the same synchronization technique is used when this passage is reprised at the end of the work.

2

Transit
for piano and video

Michel van der Aa
2009

The image shows a page from a musical score for 'Transit' by Michel van der Aa. At the top left is the number '2'. The title 'Transit' is centered, with 'for piano and video' below it. On the right, the composer's name 'Michel van der Aa' and the year '2009' are listed. Below the title is a small video frame showing a cityscape. The main part of the page is a synchronization chart. It consists of three horizontal lines: 'soundtrack', 'DVD display time', and 'piano'. The 'soundtrack' line has two 'inhale' markers with dots, one at approximately 0:08 and another at 0:44. Below these are 'chord reso' markings. The 'DVD display time' line is a scale from 0:00 to 0:48 in 4-second increments. The 'piano' line shows musical notation for the first 13 measures. Performance instructions are placed above and below the piano staff: 'leave hands on keys' above measure 12, 'quickly remove hands' below measure 28, and 'press keys, no sound' above measure 32. A tempo marking '♩ = 60' is at the top left of the piano staff.

Example 4.1: Two inhales in the soundtrack, from mm. 1-13.¹³⁷

Transit by Michel van der Aa
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The cluster in m. 28 is an instance where the timing marked in the score is not completely lined up with the film. This cluster should coincide with the sound of the kettle which occurs at about 1:43.5 (instead of 1:44 as marked) (Example 4.2). The pianist must time this either by subdividing the beats of the visual metronome, or by memorizing the video (panning across a view of the character’s apartment) and learning exactly when the screenshot changes to show the kettle.

¹³⁷ van der Aa, *Transit*, 2.

The image shows a musical score for a piano piece. At the top right, there is a small video inset showing a man in a dark jacket. Below the video, the score is written on a grand staff (treble and bass clefs). Above the staff, there is a timeline with timestamps: 1:32, 1:36, 1:40, 1:44, 1:48, and 1:52. A vertical dashed line is drawn at 1:44. The score includes dynamic markings like *ff* and *15th*. A performance instruction above the staff reads "press keys, no sound". The score is labeled "chord waves" and "(high reso)".

Example 4.2: The high cluster in the piano part in m. 28 and the silently depressed chord in m. 29.¹³⁸

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As mentioned earlier, this opening section also involves the pianist mimicking the actions of the character in the video. Van der Aa has marked chords to be played silently by the pianist which are designed to coincide with the movements of the actor (Figure 4.2). Unfortunately, these do not line up precisely; however, in a meeting I had with van der Aa on April 9, 2011, he encouraged me to interact in a meaningful way with the character and he was not strict about following the timings of the score. This is further backed up by the video recording of Sarah Nicolls' premiere of the work.¹³⁹ Nicolls worked on this piece with van der Aa and her synchronous movements go far beyond what is written in the score, highlighting the theatrical element that the pianist can play in this work.¹⁴⁰

As such, in my performance of the work, I begin pulling my hands away from the piano at 0:39, and let go at 0:43.5, mimicking the character in the video attempting to open his front door, and subsequently letting go of the door handle. I press the keys as marked at 0:52, repeat the above motion, and let go at 0:55. This is repeated once again, with the pressing of a chord at 0:57 (instead of 0:58 marked in the score), and letting go at 1:01.

¹³⁸ van der Aa, *Transit*, 3.

¹³⁹ Nicolls, YouTube video.

¹⁴⁰ Nicolls, YouTube video.

Once we see the kettle in m. 28, the character in the video reaches for the boiling kettle, lifts it, and then drops it (Figure 4.1). In my performance of this passage, I slowly press the chord as marked at 1:48, place my left hand on top of my right at 1:52, begin to imitate lifting the kettle at 1:55, and drop it at 1:58. I again place my hands on the keyboard at 2:08 (instead of 2:09 as marked) and lift them at 2:09.



Figure 4.1: Screenshot of the man lifting the kettle in *Transit* at 2:01.¹⁴¹

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The passage that follows, mm. 35-46, must be timed with the DVD time display. The end of this passage, mm. 43-46, synchronizes with the DVD soundtrack, and therefore must line up appropriately.

At m. 47, one of the difficult passages of thirty-second notes begins, and it is simply too difficult to watch the DVD time display while playing this passage (Example 4.3). Metronome practice is the best way to ensure that the correct tempo is chosen in performance, as the end of this passage (m. 50) must line up with the soundtrack. This passage is also notable for its pianistic challenges. Sarah Nicolls recalled that quick wrist movements, as if using a slap technique on a bass guitar, were required in order to be successful in this passage.¹⁴²

¹⁴¹ van der Aa, *Transit*, film component, 2:01.

¹⁴² Nicolls, phone interview.

Example 4.3: The first pianistically challenging thirty-second note section, starting at m. 47.¹⁴³

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A repeat of previous material occurs in m. 55; however, this time the pianist must synchronize to a high-pitched passage in the soundtrack mirroring the exact rhythm and contour of the piano part. The timing of the start of this passage is difficult to line up, as it does not occur precisely with the DVD time display. Personally, I relied on the visual of the character’s moving chair, and it was through memorizing this timing that I was able to line up the start of the section.



Figure 4.2: Screenshot showing the man moving his chair, preparing to stand, from *Transit*.¹⁴⁴

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¹⁴³ van der Aa, *Transit*, 4.

¹⁴⁴ van der Aa, *Transit*, film component, 3:35.

A second quick passage in the piano part, mm. 74-81, begins at 4:52, but keeping track of the DVD time display during this section is nearly impossible, except at the very end. Since this passage ends with a repetitive figure, the pianist has the opportunity at this point to pay attention to the time display to coordinate the lifting of the hands and pedal.

The passage from mm. 82-100 relies on visual cues from the DVD player, with a few soundtrack cues that can help the performer stay on track. The final five bars of this section synchronize with the soundtrack, and these are accurately marked in the score.

An extended, pianistically challenging passage, mm. 101-16, relies on the pianist having a good sense of the pulse, as it is again impractical to look at the time display during this section. Certain events in the soundtrack will keep the pianist aware of the section's pacing, such as the clapping sound heard at 7:13, and the changes in the soundtrack at 7:16, 7:21, 7:23, and 7:31 (Example 4.4).

Example 4.4: The clapping sound (“A – G reso”) and the change in resonance (“chord reso”) in m. 109.¹⁴⁵

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The following section, from mm. 116-46 (7:43-9:42), is one of the most complex in the piece, as the pianist is now tasked with miming the low clusters heard in the soundtrack (Example 4.5). This is complicated by the fact that the low clusters are marked on a higher staff, making them look like high clusters in the score. The rhythms here are fairly difficult, and a pianist can

¹⁴⁵ van der Aa, *Transit*, 12.

easily become un-synchronized with the time display causing the miming to be slightly out of sync. This section requires a solid knowledge of the timing of the low clusters.

mime playing the low cluster notated in the soundtrack,
do play the high cluster notated in RH staff

ff

Example 4.5: Miming of the low clusters in the soundtrack starting at 7:45 (m. 117).¹⁴⁶

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To complicate matters further, it is physically impossible to play some of the rhythms of these clusters at the correct speed. Sometimes the exact rhythm of the passage will need to be slightly modified, as the jumps from the high clusters to the low end of the piano take more time than allotted. This is especially true in the climactic passage from mm. 141-46 (Example 4.6). I do not believe this to be a shortcoming of the piece, but rather an exciting feature of this section; the frenetic energy of this passage, striving to do something impossible, adds to the intensity of the climax. Nicolls shares this assessment of this section, and van der Aa confirmed that this was indeed the intended effect.^{147,148}

¹⁴⁶ van der Aa, *Transit*, 14.

¹⁴⁷ Nicolls, phone interview.

¹⁴⁸ van der Aa, phone interview.

The image shows a musical score for a climactic cluster passage. At the top, there is a film time display with vertical lines indicating specific moments: 9:33, 9:35, 9:36, 9:37, 9:41, and 9:42. Above the piano part, there are instructions: "wild piano" with a wavy line and "low thump" with a dot and arrow. The piano part itself consists of two staves. The upper staff shows a dense cluster of notes in the right hand, with some notes marked with 's' for staccato. The lower staff shows a rhythmic pattern of notes in the left hand, also marked with 's'. The score ends with the instruction "stop suddenly".

Example 4.6: Climactic cluster passage from *Transit*, mm. 144-46.¹⁴⁹

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After this climax, the rest of the material of the piece is reprised from earlier sections, and similar strategies to the ones already discussed are required to synchronize the piano part with the film. One detail in this final section which is of note occurs from mm. 161-62: when van der Aa coaches pianists on this work, he encourages them to pull their hands away quickly in m. 162 to mimic the actor's surprised reaction onscreen, and to lean backward on the bench at this moment.¹⁵⁰ Following this passage, the clicks in the soundtrack and the DVD time display are used to synchronize the final section of the piece.

4.6 Concluding Thoughts

Transit is an intricate work, requiring virtuosic pianism, focussed spatial awareness, and an actor's dramatic flair. Although the film exists on its own without the live pianist, *Transit* succeeds in being more than a film with live soundtrack by making the pianist's physicality a part of the conception of the work and an integral component in its performance. Van der Aa's thoughtful treatment of the live performer with the projected visuals and recorded soundtrack is an exemplary instance of how a composer can balance the various competing stimuli in a work for pianist and moving images.

¹⁴⁹ van der Aa, *Transit*, 17.

¹⁵⁰ van der Aa, phone interview.

Chapter 5: *Hitchcock Études*

5.1 Nicole Lizée¹⁵¹

Nicole Lizée is a Montreal-based Canadian composer who received her Master of Music degree from McGill University in 2001. She cites unusual modern influences for a classical composer, such as MTV videos, turntablism, rave culture, Alfred Hitchcock, Stanley Kubrick, 1960s psychedelia and 1960s modernism. In her many diverse compositions, she has fused modern classical music with turntables, Omnichords, Stylophones, the Simon™ game, the Atari 2600 video game console, and karaoke tapes.

One of her biggest influences and passions, however, is glitch: exploring the sounds of malfunctioning electronic equipment. Having grown up with a father who is an electronics salesman, these sounds are part of the soundtrack of her life.¹⁵² She has, in turn, taken these originally unwanted sounds and integrated them into some of her works, including *Hitchcock Études*.

She has been commissioned for over forty works so far by musicians and organizations including the Kronos Quartet, BBC Proms, the CBC, the San Francisco Symphony, and NYC's Kaufman Center. Premieres have taken place at venues such as Carnegie Hall, Royal Albert Hall, the Muziekgebouw in Amsterdam, and Cité de la Musique in Paris.

She was awarded the 2013 Jules Léger Prize for New Chamber Music and the 2002 Robert Fleming Prize for achievements in composition, both from the Canada Council for the Arts. In 2008, her piece for chamber ensemble and turntables *This Will Not Be Televised* was chosen for the UNESCO International Rostrum of Composers' Top 10 Works. *Hitchcock Études* was chosen in 2014 by the International Society for Contemporary Music to be featured at the World Music Days in Wroclaw, Poland.

¹⁵¹ Bibliographical information taken from Nicole Lizée's website: Nicole Lizée, "Nicole Lizée: Biography," Nicole Lizée: This Will Not Be Televised, <http://www.nicolelizée.com/biography/> (accessed March 2, 2016).

¹⁵² Nicole Lizée, e-mail.

5.2 *Hitchcock Études* Overview

Hitchcock Études were commissioned by Megumi Masaki and premiered on July 17, 2010 at the Casalmaggiore International Music Festival in Casalmaggiore, Italy.¹⁵³ They are, in their longer state, a set of seven études that take almost twenty-one minutes to perform. The order, titles and timings of the études are listed in the following figure:

<u>Order</u>	<u>Title</u>	<u>Timings (approx.)</u>
1	“ <i>Psycho</i> – Saul Bass Étude”	0:00 – 2:30
2	“ <i>The Man Who Knew Too Much</i> – Doris Day Étude”	2:30 – 6:15
3	“ <i>Psycho</i> – Stutter Étude”	6:15 – 9:10
4	“ <i>Rope</i> – The Party Étude”	9:10 – 11:45
5	“ <i>The Birds</i> – Schoolhouse Étude”	11:45 – 16:10
6	“ <i>The Man Who Knew Too Much</i> – Phonograph Étude”	15:45 – 17:15
7	“ <i>Psycho</i> – Shower Étude”	17:15 – 20:45

Figure 5.1: The order, titles, and timings of the Lizée’s *Hitchcock Études*.

The timings are approximate in the sense that many of the études fade into the next with no defined start to the succeeding étude. There also exists a shorter, sixteen-minute version of the work which omits the fourth and sixth études.¹⁵⁴ The work has been orchestrated for various ensembles, including string quartet (with optional toy pianos or percussion) and six-member chamber group. A few of the études have also been arranged for soprano and percussion, and for Lizée’s band SaskPower, using percussion, guitar, keyboards and other instruments played by special guest artists.

These études are studies in the sense that they “address issues [...] specifically for piano merged with glitch. They are also études for film treatments [and] the recontextualization of typically non-musical elements: the use of a stutter as musical material, for example.”¹⁵⁵ In a sense, these are not only studies for the pianist, but also for the composer who has appropriated and manipulated famous scenes from Alfred Hitchcock’s films in various novel ways.

¹⁵³ Nicole Lizée, *Hitchcock Études*, self-published, 2010.

¹⁵⁴ Nicole Lizée, *Hitchcock Études* (16-minute version), self-published, 2010.

¹⁵⁵ Nicole Lizée, e-mail.

The scenes are taken from four middle-period Hitchcock movies: *Psycho*, *The Man Who Knew Too Much*, *Rope*, and *The Birds*. Although they are generally treated separately, with each étude using the material from only one of these movies, little clips of *Psycho* show up in all of the études, unifying the work.

5.3 Technical Setup

Of the three works researched in this document, Lizée's involves the most complicated setup, and it is certainly the most labour-intensive for the pianist. It is an excellent example of the extra demands that works for pianist and moving images place on the performer.

The score includes a DVD and a CD, with instructions on how to upload both the film from the DVD and the click track from the CD to a computer, and how to synchronize the movie file with the click track.¹⁵⁶ This can be done by using QuickTime Pro (as per Lizée's suggestion) which can be purchased for about \$40 (or \$30 USD).¹⁵⁷ This creates a file with four audio channels: stereo left and right for the audience, and two separate channels for the pianist. To accommodate this, the laptop's audio needs to be set for surround sound and a 4-channel audio interface connected to the laptop via USB or Firewire.¹⁵⁸ Drivers for the audio interface may need to be downloaded from the interface manufacturer's website.

Lizée also suggests using an Apple laptop for the performance.¹⁵⁹ I attempted to run the interface and the software on a newer PC laptop running Windows 10, but was unable to configure the interface to run four channels in QuickTime Pro. I used an Apple laptop in performance, which was much simpler to configure. From the audio interface, two channels output to a mixer, and from there to a set of speakers or a hall's sound system. Two other channels output from the interface to a headphone adaptor unit set up on the music shelf, which gives the pianist control over the volume of the headphones. (Alternatively, the headphones could be connected directly to the audio interface or mixer.) The video is output from the laptop to a projector.

If the pianist decides to include the optional singing in the second étude (*The Man Who Knew Too Much* – Doris Day Étude), then a vocal microphone and stand are also required, as is a

¹⁵⁶ Lizée, *Hitchcock Études*, introduction.

¹⁵⁷ Lizée, *Hitchcock Études*, introduction.

¹⁵⁸ Lizée, *Hitchcock Études*, introduction.

¹⁵⁹ Lizée, *Hitchcock Études*, introduction.

delay pedal or effects unit. The microphone would be plugged into the effects unit, then the signal sent to the mixing board to be output to the speakers or sound system. The delay effect is controlled by a live sound engineer at the mixing board.

In short, a performer needs access to: an Apple laptop with DVD drive, a four-channel audio interface and its drivers, a projector and screen, speakers, an audio mixer, QuickTime Pro, a video adaptor for the laptop, headphones, (optionally, a microphone, a microphone stand, a delay pedal or effects unit, a mixing board operator, and a headphone adaptor), various cables, and enough expertise to upload the files from the discs to the laptop, merge them, download the audio interface driver, and configure the computer's audio.

For the performer, the technical responsibilities of a work such as *Hitchcock Études* are not to be taken lightly. Performing this piece creates a great deal of work for either the pianist or for the audio technician, if the pianist has a technician available for his or her performance.

5.4 Synchronization and Analysis

The analysis of the études given below will provide an overview of each étude, discuss the synchronization methods used, and explore the relationship between the film component and the pianist, following the four criteria outlined in Chapter 3. I will explore each étude in turn, as each étude explores a different relationship between the pianist and the external media. As not all of the analysis criteria are pertinent to each étude, however, I will highlight the salient features of each, and conclude with a discussion of the balance of audience attention in the work as a whole.

5.4.1 “*Psycho* – Saul Bass Étude”

This étude functions as an introduction to the larger set, to the concept of glitch itself, and to some of the film treatments and musical techniques Lizée explores in subsequent études. The “Saul Bass Étude” clearly establishes glitch as a presence in this work, beginning with the title screen for *Psycho* which is clearly not progressing smoothly. Repetition of the film material, as well as frequent tempo changes – sometimes gradual, sometimes sudden – give the effect that the projection equipment is not working properly.

The pianist must synchronize with the film by using the audio of the soundtrack, as there is no click track used in this étude (except to set the tempo in m. 37). This is not a straightforward

task due to the multiple changes of tempo, and it is difficult to hear the soundtrack when the pianist is instructed to play loudly.

The sounds are all non-diegetic in this *étude*, as there is only music (with no speaking or sounds) occurring with the visuals. There are synchronous elements between the soundtrack and the piano part with changes in the video often lining up with events in the audio (both the soundtrack and the piano part). One could even say that glitch is not confined to the video alone, but that the video and audio (including the pianist) fall in and out of sync and are all effected by glitch.

5.4.2 “*The Man Who Knew Too Much – Doris Day Étude*”

This *étude* begins following a short interlude from mm. 44-54 (2:03-2:30) in which the film is accompanied by a lone sustained chord from the piano in m. 44. The second *étude* features both the singing of Doris Day and the (optional) singing of the pianist. According the Lizée’s markings in the score, the pianist should sing in a “warm, sensuous [way], [with] sweet vibrato.”¹⁶⁰ In an e-mail exchange, Lizée noted that this “guideline is indicative of the 'crooners' of the era, male or female. [...] Male and female performers – each with their own vocal timbre, register, etc. – can absolutely sing the parts.”¹⁶¹ The goal is “[n]ot [to try] to imitate Doris Day in terms of vocal timbre – but rather to sing *with* her as though transported back through time.”¹⁶²

Synchronization is achieved in this *étude* by way of a click track beating on the quarter-note pulse. Some measures don’t include an even number of eighth-notes, and two quick clicks are sometimes needed to re-establish the downbeat.

The interaction between the pianist and the film is more comprehensive in this *étude* than in the others, as it involves not only a duet between the piano part and the electronically manipulated sounds in the soundtrack, but also a duet between the onscreen and live singers.

The only diegetic sound in this *étude* is Doris Day’s singing. All other sounds are not heard by her, and are therefore non-diegetic. However, this assessment is made more complicated by the film treatment. The term *diegetic* comes from the Greek words for “recounted story.”¹⁶³

¹⁶⁰ Lizée, *Hitchcock Études*, 7.

¹⁶¹ Lizée, e-mail.

¹⁶² Lizée, e-mail.

¹⁶³ The Art of Film Sound Design, “Diegetic Sound & Non-Diegetic Sound,” FilmSound.org.

Obviously, in the original film, Day is not repeating herself, and her singing is part of the story of the original movie.¹⁶⁴ Lizée's treatment of these diegetic sounds are manipulated in a way so that the character's original diegetic sounds are no longer telling a story. It would not make sense to argue that Day hears herself repeating herself, or that Day hears the vocal duet that the pianist and audience hear. By categorizing Day's singing as diegetic, it helps to see that this concept is one that is open to manipulation and reinterpretation, such as Lizée does here. Also, various other clips are inserted (a blank screen, scenes from *Psycho*, and another shot of Doris Day), where the audio becomes temporarily non-diegetic.

Also noteworthy in this étude are the synchronous elements. The piano part and electronic sounds in the soundtrack are not in complete rhythmic unison, but are clearly in relationship to one another. This is also true of Day's singing and the pianist's vocal line. The audio also has a mostly synchronous relationship with the singing of Day onscreen. Interspersed clips – as mentioned above – disrupt this synchronous relationship as well.

It must also be noted that both the audio and video from the first étude are brought back in this one. Also inserted in the video of this étude is the composer herself, who sits next to Doris Day at the piano. Lizée's first version of the video did not include her at the piano, but in adding herself into the scene, she has done something that she has "always wanted to do – to actually become assimilated into the video."¹⁶⁵ She also said that, "In addition to, at long last, being absorbed into the scenes that have infiltrated my brain since I was child, it also references Alfred Hitchcock and his 'appearances' in his films."¹⁶⁶

5.4.3 "Psycho – Stutter Étude"

The stuttering of Norman Bates is used as the framework for this étude, which involves an intricate synchronization between his vocal utterances and the piano part. After a short introduction to various scenes featuring Bates's stutter, one video clip is repeated multiple times, becoming a visual and audio ostinato. The video is interrupted by longer and longer shots of the

¹⁶⁴ Alfred Hitchcock, *The Man Who Knew Too Much*, directed by Alfred Hitchcock (1956; Universal City, CA: Universal Studios Home Entertainment, 2005), DVD.

¹⁶⁵ Lizée, e-mail.

¹⁶⁶ Lizée, e-mail.

iconic scene at the end of *Psycho* where the decomposing face of Norman Bates's mother is revealed.

The piano part synchronizes with the film by way of a click track. The rhythms are fairly complicated, but well notated. As with the second étude, the only diegetic sounds are the vocal utterances by the actor onscreen.

As in the previous étude, the synchronous sounds here are worth noting, but in this case what stands out is how they relate to the diegetic sounds of the video. When the piano part enters, it does so in rhythmic unison with the visual and auditory stuttering. However, in m. 179 (6:51), the piano part includes a chord in unison with the non-diegetic music of the soundtrack. The piano part alternates between being synchronous with the diegetic and non-diegetic sounds of the film. Over the course of the many repetitions, the piano part begins adding more and more notes that are not synchronous with either the video or the soundtrack. This process continues until the piano part becomes a continuous stream of notes, more of a presence than simply an imitator of the film, while simultaneously remaining in sync with the film.

This build-up of the piano part coincides with the build-up of the film, as the scenes of Mrs. Bates's face become more prominent. I would suggest that this parallel intensification of the piano part and the film creates an empathetic relationship between the audio and the video.

5.4.4 “*Rope* – The Party Étude”

This is the second étude to show a piano in the film, and in this case, the étude actually includes onscreen piano playing. The étude can be divided into three sections with different piano material in each: mm. 232-47, mm. 248-76, and mm. 277-309. The final section includes another cameo appearance by the composer, this time sitting next to Farley Granger at the piano.

The live piano part synchronizes with the film in each section in different ways. After a short interlude during m. 232, the score continues with a “warped piano” heard in the soundtrack at 9:21 as Granger sits down at the piano. The live pianist is cued to enter in m. 237 (approx. 9:31) where it is marked “Freely” in the score (Example 5.1).

Example 5.1: “Warped Piano” cue in the soundtrack with the piano part marked “Freely,” mm. 235-38.¹⁶⁷
© Nicole Lizée

There is no click track at this point, and the cues in the score of the warped piano are somewhat difficult to follow as there are more notes played in the soundtrack than are marked in the soundtrack line of the score. In fact, when following the pulse laid out in the soundtrack in mm. 233-36, there appears to be too many beats in the score from mm. 233-47, forcing the pianist to make a choice as to when he or she wishes to play the piano part. When asked about the synchronization in this section, Lizée commented that “freely” means “[...] in terms of placement of the phrase – the performer can begin when he/she likes. It changes from performer to performer, which is interesting – some want to synchronize and others want to be in canon/phase.”¹⁶⁸

The second section of this étude, beginning in m. 248 (9:58), uses a click track. The piano part is marked “Choppy/glitch,” asking the pianist to now essentially become the glitch. Beginning at m. 277, the final section does not use a click track, but instead uses the actual piano part from the film and the onscreen metronome to keep time.

The use of the onscreen piano has interesting implications for the diegetic and non-diegetic paradigm of this étude. In Hitchcock’s original scene from *Rope*, the pianist is heard playing the piano, but in Lizée’s reworking of the scene, the pianist’s playing is warped. What do the actors hear on screen? Is the warped piano playing diegetic? What is the relationship, in a diegetic sense, between the warped piano and the live pianist? It is obvious from the questions that arise in this section that Lizée has considered the diegetic implications of her treatment of the onscreen pianist.

This is also true of the final section of the étude, mm. 277-309, where the live pianist joins the onscreen pianist in playing the same right-hand passage in unison at 10:43. This passage is

¹⁶⁷ Lizée, *Hitchcock Études*, 24.

¹⁶⁸ Lizée, e-mail.

obviously diegetic, but of course, the actors cannot hear the live pianist. The live pianist also adds bass notes which *could* conceivably be diegetic, but obviously are not, since they are not part of the film itself. This overlaying of diegetic and live material is quite clever.

The only anempathetic element of this étude is the comedic pairing of the comment “How lovely!” at 9:37 from one of the actors in *Rope* with the gruesome visual of Mrs. Bates’s face from *Psycho*. However, in contrast to the next étude, the video and audio are not at odds in terms of emotional content, and they are generally empathetic overall.

5.4.5 “*The Birds* – Schoolhouse Étude”

The “Schoolhouse Étude” begins similarly to most of the others, with the pianist entering after a pause, although in this case it is marked as a grand pause in m. 310. The schoolhouse from *The Birds* is shown and we hear children singing. As Tippi Hedron enters the school, we see the children being conducted in song by their teacher. The children’s song then begins to loop, at which point the pianist begins playing. The étude makes consistent use of similar musical material throughout, except for a short section from mm. 365-69 (13:40-13:55), which uses different material in the piano part and the soundtrack. Another appearance by Lizée is featured in this étude, sitting next to Tippi Hedron on a bench outside the school.

Synchronization between the pianist and the film is relatively straightforward: a click track is used, and there are no tempo changes. There are meter changes, especially later in the étude, but the tempo is slow enough that these are not particularly challenging pianistically.

Lizée again plays with the concept of diegetic sounds in this étude. Although we see the teacher conducting her students, we do not see the children’s mouths actually singing. The singing in the film begins to loop, which does not occur in the original movie. The video at this point begins to play backwards and forwards, slowing and speeding up, accompanied by the looped voices. At this point, can one still call the singing diegetic? This is an interesting question to ponder as we realize how Lizée has manipulated this scene.

Eventually, we no longer see the children in the classroom, and the audio becomes non-diegetic. Similarly, the piano part is synchronous with the soundtrack throughout, but only synchronous with the video while in the schoolhouse.

Until now, the études have been generally empathetic in nature. The pairing in this étude of the children’s folk song with the children being attacked by birds is, in contrast to earlier études,

clearly anempathetic. In the movie *The Birds*, the children are singing the repetitive folk song as the crows gradual amass outside, building the tension of the scene.¹⁶⁹ By pairing the folk song with the attack instead, Lizée is emphasizing Hitchcock’s original juxtaposition: rather than simply reusing Hitchcock’s anempathetic setting – having the children’s singing accompany the growing threat of violence against them – Lizée pairs the folk song with the violence itself.

5.4.6 “*The Man Who Knew Too Much* – Phonograph Étude”

This short étude begins at 16:12 with a clip of a man using a phonograph to play a piece of music that has an important diegetic role at the climax of the film *The Man Who Knew Too Much*. When the piano enters in m. 427, Lizée uses scenes from the choir in Hitchcock’s movie, as well as a different clip of a man with a phonograph, and a few scenes from *Psycho*.

It is the synchronous elements that seem the most relevant in this work, as the piano part and the soundtrack line up in rhythmic unison, as does the film for the most part. Lizée edits the video so that the visuals change at the same time as the audio. In a sense, one could imagine that the visuals are changing in unison with the piano part, while the soundtrack plays an accompanying role to the pianist.

Synchronization is easily accomplished by way of the click track. Diegetic elements are present only in the opening scene (m. 425) before the piano enters. At the end of this étude, Alfred Hitchcock himself makes an appearance in the bathroom from *Psycho*, leading us into the final étude.

5.4.7 “*Psycho* – Shower Étude”

The “Shower Étude” is possibly the most pianistically challenging of the études. Lizée has edited and looped sounds and clips from the iconic shower scene, and asks the pianist to play in unison with the complex rhythms. The rhythms increase in complexity until they stop suddenly in m. 491 (19:08). At this point, a gradual increase in the tempo builds up the intensity once again, leading to the unmistakable high-pitched violin sound from the shower scene in *Psycho* in m. 503

¹⁶⁹ Alfred Hitchcock, *The Birds*, directed by Alfred Hitchcock (1963; Universal City, CA: Universal Studios, 2000), DVD.

(19:49). Relatively subdued musical material concludes the piano part of the piece with a shot of the shower drain, and a few last remnants of audio glitches are then heard at the end of the work.

Synchronization is achieved by way of a click track in this étude, with some changes of meter throughout, and sudden changes of tempo from mm. 491-503. The interaction between the pianist and film is reminiscent of the rhythmically complex “*Psycho* – Stutter Étude.”

The raw sounds of the shower itself are manipulated, again blurring the distinction between diegetic and non-diegetic sounds in the étude. Obviously, the soundtrack and piano part are synchronous, as stated earlier, and the audio is synchronous in relation to the video: the video loops, changes speed, freezes, and goes black in close relationship to the audio.

The visuals in the “Shower Étude” – the darkly-lit, knife-wielding killer and a screaming, showering Janet Leigh – invoke a strong emotional reaction, and the audio is mostly in empathetic harmony. The video and audio are complementary until the final scene, in which a fairly quick, but not particularly disturbing piano part accompanies the visual of the shower drain, with short clips of Mrs. Bates seen in the darkness of the drain.

5.4.8 The Balance of Audience Attention

The balance of audience attention between pianist and external media can be difficult to achieve when using film clips with such strong visuals, and is especially challenging when talking is heard in these clips. In *The Voice in Cinema*, Michel Chion defines *vococentrism*, which is the concept that a hierarchy is created when there is speaking in a film.¹⁷⁰ He posits that the voice attracts our attention more than the other sounds (including music) and dominates our perception.¹⁷¹ Lizée states that the “videos (and the characters therein) are treated like a second performer,” but how do you write music for a duo when one performer has a natural tendency to steal the audience’s attention?¹⁷²

I believe Lizée mitigates the vococentrism of the spoken characters in multiple ways. Speaking, singing, or screaming occur in all of the études except for the first (and in the penultimate, it only occurs in m. 425, before the pianist enters). The spoken elements, however,

¹⁷⁰ Michael Chion, *The Voice in Cinema*, trans. by Claudia Gorbman (New York: Columbia University Press, 1999), 5-6.

¹⁷¹ Chion, *The Voice in Cinema*, 5-6.

¹⁷² Lizée, e-mail.

are not used as they normally are in a movie; they do not further any direction in the plot and we are not interested in the meaning of the text as much as the rhythm of the spoken words. Lizée's use of glitch, and the looping and repeating of movie clips taken out of context, stall the normal progression of action onscreen and help to focus the audience's attention on the overall effect of the audio and video taken together.

Another way Lizée balances the attention between the live and external media is through the synchronous elements between the pianist and the film. In every *étude* that has spoken or sung elements in the soundtrack while the pianist is playing, the piano is synchronous with the rhythms of the text. Rhythmically identical passages between the soundtrack and the piano occur in both "*Psycho* – Stutter *Étude*" and "*Psycho* – Shower *Étude*" (in the former, as mentioned earlier, the piano is perfectly synchronous with Bates's speech patterns). Passages that are generally synchronous, but do not feature exact rhythms between the voice and piano part, occur in "*The Man Who Knew Too Much* – Doris Day *Étude*," "*Rope* – The Party *Étude*," and "*The Birds* – Schoolhouse *Étude*."

Lizée further balances the audience's attention by having the pianist sing with Doris Day and by using multiple scenes in which an onscreen piano is seen and/or heard. This use of diegetic music and the creation of a duet between diegetic and non-diegetic elements achieves a balance between pianist and film. Finally, the role reversal in "The Party *Étude*" – using the piano to mimic the glitch which, by definition, can only really occur in an electronic medium – tries to further blend the elements of the pianist and the external media.

Lizée states that the film and piano parts "are both treated as equals - both very considered, written simultaneously so that each is informed by the other."¹⁷³ This attention to the details of the interaction, and Lizée's understanding and deft manipulation of the film, create a work that, I believe, successfully achieves a balance between the live pianist and external media.

5.5 Practice and Performance Suggestions

There are many challenges to learning Lizée's *Hitchcock Études*, including synchronization, pianistic challenges, and the technical setup. The pianist Rosie Whiting, who also plays this work, commented that:

¹⁷³ Lizée, e-mail.

Once all the notes were learned and I had pretty much memorised the sound track, I then came across a new challenge. Since I had spent so much time trying to do these two things, I had forgotten about making the music expressive or exciting (which clearly it is). I was concentrating so much on the mechanics of playing the work that I had actually forgotten about the music.¹⁷⁴

Each of the seven études has multiple sections, each presenting its own difficulties, making the synchronization of the work a challenge. Whiting points out that she essentially memorized the soundtrack, something that I also found crucial in many sections of this piece. She also used a computer program to slow down the visuals, in order to practice the work at different speeds (which can be accomplished with QuickTime Pro).¹⁷⁵ Slowing down the video is a useful technique for not only this work, but for many works for pianist and moving images.

Challenges concerning the technical setup in *Hitchcock Études* have already been addressed above, in Chapter 5.3. I will outline below some of the other difficulties of the work in detail and outline some strategies to learn the piece effectively.

5.5.1 “*Psycho* – Saul Bass Étude”

The “Saul Bass Étude” can be divided into three sections. The first section, from mm. 1-22 is not pianistically difficult, but the changes of tempo and the use of rubato in the soundtrack make memorization of the soundtrack’s pacing essential (Example 5.2).

The image shows a musical score for a piano piece. It consists of two staves: a treble clef staff and a bass clef staff. The key signature is one sharp (F#). The time signature is 4/4. The score starts at measure 17. Above the first measure, there is a tempo marking 'Sub' and a quarter note with a dot, followed by '= 42'. Above the second measure, there is a tempo marking '= 58'. Above the third measure, there is a tempo marking '= 42'. The piano part in the bass clef staff has a dynamic marking 'mf' (mezzo-forte) with a hairpin crescendo leading to it. The score ends at measure 18.

Example 5.2: Sudden tempo changes from mm. 17-18.¹⁷⁶
© Nicole Lizée

¹⁷⁴ Rosie Whiting, e-mail to the author, February 17, 2016.

¹⁷⁵ Whiting, e-mail.

¹⁷⁶ Lizée, *Hitchcock Études*, 2.

The second section, from mm. 23-36, is challenging: as the piano part becomes louder and faster, it becomes nearly impossible to hear the pulse in the soundtrack. For the final four measures of this section (beginning at m. 33) (Example 5.3), it is useful to practice with a metronome in order to become accustomed to the speed required so that the last note of the section ends at the right moment.

Example 5.3: Quintuplets in mm. 33 after a sudden tempo change.¹⁷⁷
© Nicole Lizée

The piano part of the final section, from mm. 37-54, is in rhythmic unison with the soundtrack. The “Rit.” that occurs at the end of each of the first six measures here is subtle (Example 5.4). It is only through practice with the soundtrack that the rhythms can be properly learned.

Example 5.4: Click track and piano part in rhythmic unison, with subtle tempo changes, mm. 40-41.¹⁷⁸
© Nicole Lizée

¹⁷⁷ Lizée, *Hitchcock Études*, 4.

¹⁷⁸ Lizée, *Hitchcock Études*, 5.

5.5.2 “The Man Who Knew Too Much – Doris Day Étude”

Despite the large number of meter changes, and the tempo changes that occur in the middle section, the “Doris Day Étude” comes together relatively easily with the soundtrack – if one decides to omit the optional vocal line. However, if the pianist is able to sing the sung passages in the style indicated, they are incredibly effective (Example 5.5). They are also very challenging. The sung pitches are not always related to the pitches occurring in the piano part and soundtrack. It is only through the memorization of the sung pitches that I can conceive of learning this étude with the vocal line.

The image shows a musical score for measures 71-72. It consists of three staves: a bass clef staff at the top, a grand staff (treble and bass clefs) in the middle, and a bass clef staff at the bottom. The top staff contains a vocal line with lyrics "Be". The middle staff contains piano accompaniment. The bottom staff contains a bass line. The score is in 4/8 time. A dynamic marking of *mf* is present. Below the score, there is a note: "*Dynamic marking. Vocals should blend with track. Vocal style should mimic Doris Day (warm, sensual, sweet vibrato)".

Example 5.5: Optional vocal line, with Lizée’s vocal style indications, m. 71-72.¹⁷⁹
© Nicole Lizée

5.5.3 “Psycho – Stutter Étude”

Because the “Stutter Étude” is so repetitive, it is also not as difficult as it may seem at first, despite the complicated-looking rhythms (Example 5.6). The key to learning this étude is to memorize the 3-measure rhythmic stuttering of Norman Bates (mm. 172-74). As this is repeated almost continuously throughout the étude (except for mm. 203-4), once this is learned, synchronization is relatively easy. Surprisingly, one of the biggest challenges in this étude is to follow the damper pedal markings. It may be wise to colour-code the depression and release of the damper pedal, as there is no discernable pattern to these.

¹⁷⁹ Lizée, *Hitchcock Études*, 7.

The image shows a musical score for Example 5.6. It consists of two staves: a vocal line and a piano accompaniment. The vocal line begins at measure 201 and contains the lyrics: "fal- fals- fals i ty because w- because". The piano part features a complex rhythmic pattern with eighth notes and chords, marked with "mp" and "cresc.". The score is in 2/4 time and includes various musical notations such as slurs, accents, and dynamic markings.

Example 5.6: Rhythmic unison between Norman Bates’s stuttering and the piano part, mm. 201-2.¹⁸⁰
© Nicole Lizée

5.5.4 “Rope – The Party Étude”

As mentioned in the analysis, the timing and tempo of the piano part in the first section, mm. 233-46, is left up to the performer. The next section is more difficult due to its speed and large jumps, and it is useful to mark in the score which hand is responsible for which notes. Metronome practice is helpful in getting this passage up to speed.

The third section, mm. 277-309, poses some of the biggest challenges of the piece. Although it might seem simple to play eighth-notes in unison with the soundtrack, the soundtrack is not completely metronomic. The constantly changing meters add a level of difficulty, with slight tempo inconsistencies in the soundtrack threatening to derail the passage unless the pianist is aware of them (the ending of the measures in 2/4 + 1/8 time are of particular note). In either 2014 or early 2015, Lizée updated this section to include a click track for the pianist, making this passage much more manageable.¹⁸¹

The left hand in this section is responsible for chords larger than it is possible to play without either creating grace notes out of the lowest notes or rolling the chords; Lizée offers both of these methods as possible workarounds. (Example 5.7).¹⁸² In discussing this section with Megumi Masaki, for whom the work was written, she noted that this section originally did not include the right-hand eighth-notes, and both hands were used to play the low chords.¹⁸³ Masaki,

¹⁸⁰ Lizée, *Hitchcock Études*, 20.

¹⁸¹ Lizée, e-mail.

¹⁸² Lizée, e-mail.

¹⁸³ Masaki, phone interview.

in her performances and her recording, has therefore decided to leave out some of the notes instead of rolling the chords.^{184,185}

I found Lizée’s suggested methods difficult to manage without a click track: as the dynamics increase, the danger is that the low notes, being difficult to keep quiet while rolling the chords or jumping quickly from grace notes, can easily overpower the soundtrack, thus disrupting synchronization. It is perhaps for this reason that a click track has been added to this section, as it would make synchronization using any of the above-mentioned methods certainly much easier to accomplish.



Example 5.7: Left hand chords that are too large to play as solid chords, mm. 301-3.¹⁸⁶
© Nicole Lizée

Lizée does not give explicit instructions on which method performers should use to address the chords in this section, saying that “the way [that this section is] approached really depends on the player.”¹⁸⁷ She does state, however, that rolling the chords creates a “boomy, quasi tam-tam effect” which adds an “interesting texture - sort of rolling, growling underneath Farley Granger's tense, uneasy text/piano.”¹⁸⁸

¹⁸⁴ Masaki, phone interview.

¹⁸⁵ Megumi Masaki, “Megumi Masaki Performs *Hitchcock Études* for piano, electronic soundtrack & Video (2010) by Nicole Lizée 21’,” Vimeo video, 20:39. Posted November 22, 2013. <https://vimeo.com/80063226>.

¹⁸⁶ Lizée, *Hitchcock Études*, 29.

¹⁸⁷ Lizée, e-mail.

¹⁸⁸ Lizée, e-mail.

5.5.5 “*The Birds* – Schoolhouse Étude”

The piano part in this étude is not particularly difficult and it is relatively straightforward to put together with the film. A few passages require some decisions regarding the division of the notes between the hands, such as mm. 329-30 and m. 380. Other passages require quick lateral hand position changes. However, once these are sorted out and rehearsed, practicing with a metronome is enough to prepare the first large section of this étude (mm. 311-90). The final section includes meter changes in every bar, which must be rehearsed with the click track (Example 5.8).



Example 5.8: Frequent changes in meter in the final section of “Schoolhouse Étude,” mm. 405-9.¹⁸⁹
© Nicole Lizée

5.5.6 “*The Man Who Knew Too Much* – Phonograph Étude”

Similar issues that exist in the “Schoolhouse Étude” are also present in the “Phonograph Étude,” with divisions of the notes between the hands not obvious at first. For example, from mm. 431-37, the left hand could take all notes lower than (and including) A^b2 (Example 5.9). However, this is the shortest and easiest of the études. I would suggest playing all notes from mm. 427-38 slightly marcato, to match the soundtrack.

¹⁸⁹ Lizée, *Hitchcock Études*, 38.



Example 5.9: Suggested division of the notes between the hands, from mm. 434-35.¹⁹⁰
© Nicole Lizée

5.5.7 “*Psycho – Shower Étude*”

This may be the most difficult of the études, as the rhythms in the first section (mm. 445-90) occur in unison with the soundtrack and become more intricate and complex as the étude progresses (Example 5.10). As mentioned above, is it possible to adjust the speed of playback with QuickTime Pro, which may be particularly useful in practicing this section. It is essential to memorize the rhythms of the soundtrack to assure synchronization.



Example 5.10: Rhythmic unison between the soundtrack and the piano part, mm. 458-59.¹⁹¹
© Nicole Lizée

From mm. 491-504, the most difficult issue is lining up the second beat of the measures that follow the tempo changes. Timing this correctly simply requires experience with these transitions so that the changes are well-known enough to make it comfortable.

The final section of the last étude is more difficult than it appears. As in some of the other études, the dividing of the notes between the hands is the first consideration. Slow practice in

¹⁹⁰ Lizée, *Hitchcock Études*, 40.

¹⁹¹ Lizée, *Hitchcock Études*, 42.

sections is as helpful here as it ever is. The slight changes in patterns (and where the downbeat falls within the patterns), along with the tempo and meter changes and the fairly quick overall tempo, add somewhat unexpected levels of difficulty to this section (Example 5.11).



Example 5.11: Sudden tempo and meter changes in the final section of “Shower Étude,” mm. 513-14.¹⁹²
© Nicole Lizée

5.6 Concluding Thoughts

Lizée’s choice to use strong, iconic visuals in this work certainly risks upending the balance between live performer and the recorded audio-visual track. However, I believe that it is Lizée’s masterful implementation of glitch that helps decontextualize the visuals, and the scenes lose some of their heft with her skillful repetition of scenes and scene fragments. These short visual motifs are then reincorporated in such novel ways, exploring all facets of the analytical multimedia framework that I set out. In contrast to van der Aa, who sought to bring the performer into the visual realm in *Transit*, Lizée’s reimagining of the film and soundtrack in *Hitchcock Études* help to bring the visuals into the musical realm.

¹⁹² Lizée, *Hitchcock Études*, 49.

Chapter 6: *Surface Tension*

The biographies of the two artists who created *Surface Tension* are notable for the fact that neither self-identifies as a composer, yet they together have created an audio-visual work of art completely worthy of study.

6.1 Eve Egoyan and David Rokeby^{193,194}

Eve Egoyan self-identifies as “an artist whose medium is the piano.”¹⁹⁵ She has received global acclaim as an interpreter of contemporary piano music, having commissioned works by a prestigious list of international composers including Michael Finnissy, James Tenney, Alvin Curran, Ann Southam, Rudolf Komorous and Nicole Lizée. Some of her eleven albums have been chosen by critics as “Top Classical Disc of the Year” and one of the top ten discs of any genre by the Globe and Mail, and “Top Ten” classical discs by The New Yorker magazine.

This year, Egoyan will tour a program of works she calls *EarWitness*, exploring sound and visuals. *Surface Tension*, as well as Nicole Lizée’s new *Lynch Études* based on films by David Lynch, are part of this program.

David Rokeby is an installation artist with a performance history spanning over 30 years. On his website, he states that his earlier work focusses on “interactive pieces that directly engage the human body, or that involve artificial perception systems. In the last decade, his practice has expanded to include video, kinetic and static sculpture.”¹⁹⁶

His works have been seen around the world, including at the Venice Biennale, Ars Electronica in Linz, Austria, the Kwangju Biennale in Korea, Synthetic Time in Beijing, and other festivals across Europe, North America, and Asia.

He is the recipient of numerous awards including the first British Academy of Film and Television Arts Award for Interactive Art in 2000, a Governor General’s Award in Visual and Media Arts in 2002, and the Prix Ars Electronica Golden Nica for Interactive Art also in 2002.

¹⁹³ Egoyan’s biographical information is taken from her websites: Eve Egoyan, “Long Biography,” EveEgoyan.com, <http://eveegoyan.com/new/press-2/biography/> (accessed January 15, 2016), and “EarWitness,” EveEgoyan.com, <http://eveegoyan.com/new/earwitness/> (accessed April 1, 2016).

¹⁹⁴ Rokeby’s biographical information is taken from his website: David Rokeby, “David Rokeby – Artist,” <http://www.davidrokeby.com/> (accessed January 15, 2016).

¹⁹⁵ Eve Egoyan, “Long Biography.”

¹⁹⁶ Rokeby, “David Rokeby – Artist.”

Egoyan and Rokeby are married to each other and are based in Toronto, Ontario.

6.2 *Surface Tension* Overview

There is a clear, albeit interrupted, line that traces from Father Castel through colour organs and leads us to this modern work for Yamaha Disklavier and Apple MacBook-controlled moving images. Rokeby designed five interactive visual screens that change in real time when they receive MIDI input from the Disklavier played by Egoyan. Through the computer interface, the visuals respond to dynamics, pitch, note duration, harmonic relationships, and the damper pedal.¹⁹⁷

This work was created and premiered in 2009, commissioned for the Open Ears festival in Kitchener, Ontario with the help of the Canada Council for the Arts and Ontario Arts Council Inter-Arts Project funding.¹⁹⁸ Egoyan and Rokeby wished to create a work in which the pianist and the visuals had greater interaction and were on equal footing.¹⁹⁹ With this in mind, Egoyan and Rokeby set out to construct the five movements of *Surface Tension*, a piece where the moving images were created with special attention to the fact that visuals can often overpower the music they accompany.²⁰⁰

I have avoided using the term *composer* in relation to Eve Egoyan for an important reason. There is, in fact, no written score for *Surface Tension*: the piano part is improvised by Egoyan in performance. Although there is no score, the structure of the piece is similar in each performance, as Egoyan and Rokeby have discussed what the goals for each movement are, based on how the visuals react to the pianist's playing.²⁰¹

Additionally, it should be noted that Egoyan is the only pianist who has ever played this work. Since it is improvised, the piece retains a certain character under her hands that would change under the hands of a different improviser. It is also very rare these days for a pianist to have exclusive performance rights to a piece for longer than a year or two, and it makes sense that this work created by husband and wife would remain in their sole possession.

¹⁹⁷ David Rokeby, "Works: Surface Tension (collaboration with Eve Egoyan) (2009)," <http://www.davidrokeby.com/SurfaceTension.html> (accessed January 15, 2016).

¹⁹⁸ Rokeby, "Works: Surface Tension".

¹⁹⁹ Toronto Social Review, "Eve Egoyan and David Rokeby discuss Surface Tensions," YouTube video, 6:23, May 23, 2014, <https://www.youtube.com/watch?v=xcRqfldp7eM>.

²⁰⁰ Egoyan, phone interview with the author, February 7, 2016.

²⁰¹ Egoyan, phone interview.

6.3 Technical Setup

Instead of using a hundred candles to generate projected moving images, as was done by Father Castel, *Surface Tension* is a sophisticated, high-tech, twenty-first century version of a similar idea. The setup for this piece involves a Yamaha Disklavier, which is an acoustic piano fitted with fibre optic sensors to record a pianist's performance on the instrument.²⁰² (A Disklavier also uses solenoids for playback; however, these are not used in this piece.²⁰³) In *Surface Tension*, the Disklavier's MIDI output is connected to a computer running MaxMSP and softVNS.²⁰⁴ MaxMSP is a visual programming language useful for building audio, MIDI, video and graphics applications.²⁰⁵ SoftVNS is software developed by David Rokeby for real-time video tracking and processing.²⁰⁶

The visuals are then output to a projector and displayed on a screen set up to the left of the piano, usually directly behind the piano body.²⁰⁷ Ideally, there would not be much of a vertical gap between the bottom of the screen and the piano, so that the notes that seem to somehow rise visually from the piano in the fourth movement (which will be discussed in Chapter 6.4.4) truly appear to do so. A second screen or computer is set up for Egoyan on the piano, as she uses the visuals to help influence what she is going to play next.²⁰⁸

6.4 Synchronization and Analysis

The synchronization and interaction between the pianist and the visuals are the *raison-d'être* of this work. Each movement of the work is designed to process the audio output from the pianist in a different way to produce the visuals. I will discuss the interaction of the pianist and the moving images for each movement, after which I will examine the work as a whole in terms of the analysis criteria set out in Chapter 3.

²⁰² Yamaha, "Disklavier E3 Series," Yamaha.com, http://usa.yamaha.com/products/musical-instruments/keyboards/disklaviers/e3_series/?mode=series (accessed January 23, 2016).

²⁰³ Yamaha, "Disklavier E3 Series."

²⁰⁴ David Rokeby, e-mail to the author, February 18, 2016.

²⁰⁵ Amanda Ghassaei, "Intro to MaxMSP," Instructables.com, <http://www.instructables.com/id/intro-to-MaxMSP/> (accessed January 30, 2016).

²⁰⁶ David Rokeby, "softVNS 4.5 real time video processing and tracking software for Max5," <http://www.davidrokeby.com/softVNS.html> (accessed January 15, 2016).

²⁰⁷ David Rokeby, e-mail.

²⁰⁸ Egoyan, phone interview.

6.4.1 “The Pool”²⁰⁹

In the first movement, “The Pool,” a view of the inside of a piano is seen onscreen and behaves like the surface of a still pool of water. When notes are played by Egoyan, ripples appear as if water drops were disrupting the water’s surface, with louder notes creating larger ripples. When the ripples reach the edge of the screen, they ripple back on themselves like real ripples would, or, as Rokeby points out, like the reverberations of the piano sounds in a concert hall. Higher pitched notes create ripples on the right side of the screen, with lower notes displayed on the left. The damper pedal controls the speed of decay of the ripples: a depressed pedal will sustain the ripples longer than one would naturally expect, while no pedal will cause the ripples to fade quickly.



Figure 6.1: Screenshot of Egoyan performing “The Pool.”²¹⁰
© David Rokeby

²⁰⁹ Information about each movement is taken from Rokeby’s website: David Rokeby, “Works: Surface Tension (collaboration with Eve Egoyan) (2009),” DavidRokeby.com, <http://www.davidrokeby.com/SurfaceTension.html> (accessed January 15, 2016).

²¹⁰ David Rokeby, “Surface Tension Montreal 2010,” Vimeo video, 1:54, <https://vimeo.com/20532599> (accessed February 15, 2016).

6.4.2 “Harmonic Orbits”²¹¹

Reminiscent of early colour organs, this movement associates different pitches with different colours. In a way that Father Castel had probably never even dreamed of, however, each note creates a collapsing, spinning circle, and the harmonic relationships between multiple played notes cause the circles to interact and loop. The more complicated the dissonance, the more complex the image that is produced. The visuals are programmed to decay at a similar rate to the notes played, with lower-pitched notes creating circles that fade slower than higher-pitched notes.

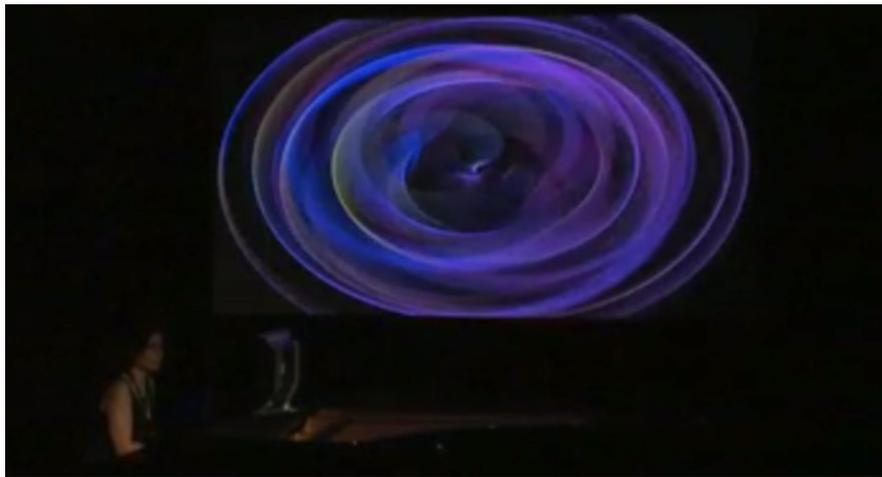


Figure 6.2: Screenshot of Egoyan performing “Harmonic Orbits.”²¹²
© David Rokeby

²¹¹ David Rokeby, “Works: Surface Tension (collaboration with Eve Egoyan) (2009).”

²¹² David Rokeby, “Surface Tension Montreal 2010,” Vimeo video, 3:42.

6.4.3 “The Tower”²¹³

A 3D tower is constructed onscreen by the pianist, each pitch adding a wall to the outside of a spinning circular shape. Louder notes create walls further from the centre and longer held notes create higher sections of wall. Staccatos produce sharp points jutting out from the side of the tower, while loud chords create platforms, and silences create gaps. The pitches are organized in a clock-like pattern, so that a chromatic scale creates a spiral around the centre.

The emerging tower descends slowly, providing space for more and more walls to be created. Two duplicates of the tower can be seen in the distance, giving far-off perspectives and showing a more complete image of the structure.



Figure 6.3: Screenshot of Egoyan performing “The Tower.”²¹⁴
© David Rokeby

²¹³ David Rokeby, “Works: Surface Tension (collaboration with Eve Egoyan) (2009).”

²¹⁴ David Rokeby, “Surface Tension Montreal 2010,” Vimeo.com, 8:01.

6.4.4 “Tendrils”²¹⁵

When notes are played by the pianist, they seem to rise visually from the piano itself as darting lines that mimic both planetary gravitational forces and the swarming, flocking or schooling movements of groups of insects, birds or fish. The colour spectrum is used in representing the pitches of the notes, with low notes rising red from the left side of the screen, and purple high notes rising from the right.

As in the second movement, harmonic relationships between the notes played by the pianist are used to influence the visuals. The darting lines onscreen will tend to swarm together if they are in a more consonant relationship.

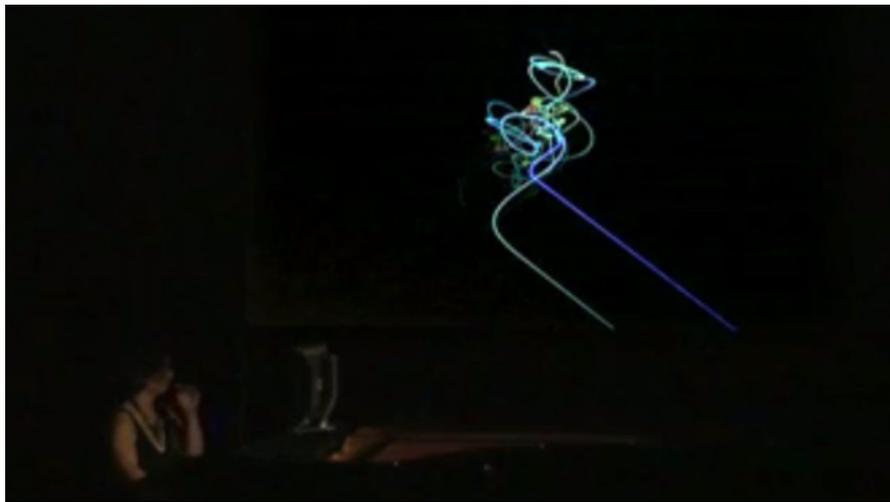


Figure 6.4: Screenshot of Egoyan performing “Tendrils.”²¹⁶
© David Rokeby

²¹⁵ David Rokeby, “Works: Surface Tension (collaboration with Eve Egoyan) (2009).”

²¹⁶ David Rokeby, “Surface Tension Montreal 2010,” Vimeo.com, 12:19.

6.4.5 “Flurry”²¹⁷

This is the only one of the movements to depict a scene: a typical wintry day in downtown Toronto is shown onscreen, complete with a passing pedestrian and cyclist. The pianist controls not only the amount of snow falling, but also time itself: falling sequences of notes create falling snowflakes, but rising sequences reverse time, sending snowflakes upwards and the cyclist biking backwards.

The length of the notes and the use of the damper pedal influence the duration of time the snowflakes are seen onscreen. Notes held with the fingers will cause the snowflakes to continue to rise or fall, while the damper pedal will visually sustain the trajectory of the snow. Holding many notes simultaneously can create a complete white-out of downtown Toronto.



Figure 6.5: Screenshot of Egoyan performing “Flurry.”²¹⁸
© David Rokeby

²¹⁷ David Rokeby, “Works: Surface Tension (collaboration with Eve Egoyan) (2009).”

²¹⁸ David Rokeby, “Surface Tension Montreal 2010,” Vimeo.com, 13:59.

6.4.6 Analysis

The music in this work is non-diegetic, since there are no characters that might be hearing Egoyan's piano playing. The music is also obviously synchronous, because the visuals respond directly to the sound. I would also say that the music here is empathetic: in the first movement, louder sounds create larger ripples in the watery surface; in the second, more dissonant sounds create more complex patterns, and so on. In fact, in each movement, the visuals have been linked to the piano part in various novel ways, but always with attention to making the piano sound come alive visually.

As for the balance of audience attention, in an online interview with Brian Colley of the Toronto Social Review, Egoyan and Rokeby say that they created these visuals with the intention of not having them be overbearing.²¹⁹ Their goal was to find this balance, and I believe they did this through the interaction of the pianist and the moving images, and through the carefully chosen visuals.

6.5 Practice and Performance Considerations²²⁰

As mentioned above, no one has performed this work other than Eve Egoyan, making it impracticable for me to offer performance suggestions. However, in conversation with her, she outlined some of her goals with the movements, and some of the differences of opinion between her goals and those of Rokeby. Because this work does not have a score, these goals are some of the considerations that influence Egoyan's performance.

In the first movement "The Pool," Egoyan explained that "because that piece shows register [of the piano] well – [Rokeby] likes to have the highest and lower registers articulated in a very specific way."²²¹ However, the two of them disagree on how long some of these events should happen.

In the second movement, "Harmonic Orbits," Rokeby would like Egoyan "to keep it really simple for a lot longer than [she] would like to."²²² A similar situation occurs in the third movement, "The Tower": Egoyan explained that Rokeby "want[s] [her] to do repeated patterns

²¹⁹ Toronto Social Review, "Eve Egoyan and David Rokeby discuss Surface Tensions," YouTube video.

²²⁰ Egoyan, phone interview.

²²¹ Egoyan, phone interview.

²²² Egoyan, phone interview.

much longer than [she]’d like to do them for, so that it becomes really obvious to the audience what is happening.”²²³

In the fourth movement, Egoyan would “like to have the tendrils be much more dramatic than he does – so that when they have again certain intervallic [relationships], and they can span across many registers, [she]’d really like to see that happening – shooting across – but he’s not interested in that.”²²⁴

In general, it seems to be the sense of architecture of the movements that is different between these two artists. As Egoyan explains: “[he] wants things to be revealed quite slowly, and I [wonder]: [...] why do they all have to be revealed slowly? [...] [The audience] can be overly stimulated visually and acoustically, and then [the piece] could be deconstructed. We have different approaches to how we would approach an audience.”²²⁵

As Egoyan also notes, however, once she is on stage, the piece is in her hands.²²⁶ Although she respects Rokeby’s ideas, as the performer, she has control over what the piece ultimately sounds and looks like.

6.6 Concluding Thoughts

The core conception of this piece is rooted in a balanced integration between the live pianist and the projected images. This balance is further reinforced by the careful attention in the making of visuals that are highly interesting, yet still complementary to the music. I believe that when a performer improvises, there is a certain sense of anticipation in the audience – a feeling that there is a deep creative process occurring before their eyes. *Surface Tension* taps into this energy, leaving the audience to wonder what they will hear next, and how those sounds will be immediately translated into the projected moving images onscreen.

²²³ Egoyan, phone interview.

²²⁴ Egoyan, phone interview.

²²⁵ Egoyan, phone interview.

²²⁶ Egoyan, phone interview.

Chapter 7: Technology in Performance

Prior to submitting this dissertation to an external examiner for consideration, I gave a lecture-recital about my research, which needed to be videotaped and submitted along with this document. The video of the lecture-recital was uploaded to a hard drive, and it was only after the video was deleted from the camera that it was discovered that the hard drive was damaged and my file was irretrievable. (An unsuccessful attempt to recover the file was made, but further attempts were cost prohibitive.) This was upsetting, but also fittingly rather ironic, as part of my research explored the difficulties in working with technology.

As anyone who owns a computer knows, every once in a while it crashes, or a hard drive is damaged, or it becomes infected with a virus, or any number of technical problems might arise. These issues are sometimes going to present themselves when we most need the electronics to work properly. Thus, in addition to all of the normal preparations that go into a recital, presenting works for pianist and moving images are faced with two more: complicated time-consuming setups and technical equipment problems.

7.1 The Challenges of Technical Setups

One of the main challenges that faces performers of these works is that the technical setups can be daunting, and classically-trained pianists may need to be (or become) quite competent with computers to set up the piece they are performing. Also, in my own experience as a solo classical pianist, I have not normally had to co-ordinate with technicians to put on a concert. Pianists, unlike other instrumentalists, are not even tasked with the setup of our own instruments, which is usually taken care of by the concert hall where the performance is taking place.

My own experiences with mounting works for pianist and moving images has taught me a lot about how naïve and inexperienced I was when I first began performing these works. Never having worked with audio or video technicians before, I had, at first, simply assumed that the concert halls would always have the capability to handle the technical requirements for these pieces. I gradually came to understand that not all concert venues had the equipment I needed, and that it would be my responsibility to procure some of that equipment.

For professional performers, a technical rider is very important, and the use of diagrams for technicians can also be helpful.^{227,228} A technical rider is an equipment list for the technicians so that they are aware of what is needed for a performance. Technical riders and diagrams for *Transit* and *Hitchcock Études* are included in the appendices of this document. David Pay, the artistic director for Music on Main, suggested that the rider is just the first step, and that a performer should maintain communication with the technicians before the concert.²²⁹ Depending on the technical requirements of the work, it may even be necessary to negotiate with the technicians for the equipment desired.²³⁰

Megumi Masaki, who premiered *Hitchcock Études*, tours with her show *Music 4 Eyes and Ears* and takes all of the hardware and software needed for a performance with her, including all cables, adaptors, and a UBC stick with the required files.²³¹ In addition to sending a technical rider to the concert hall technicians, and depending on the technical requirements of the pieces she will be performing, she will sometimes ask the hall to supply an equipment list to her, along with photos of the equipment and their placement in the performance space, to ensure that her pieces will work without any technical issues.²³²

David Pay suggested that if a performer were to go on tour with many works for piano and multimedia, it would be wise to bring a technician along.²³³ As the technical demands in performance increase, Pay has witnessed concerts where the technician was considered an equal partner in the musical creation and was listed as a performer in the concert.²³⁴

For pianists studying at an academic institution, it may not be possible to maintain this type of close contact with the school's technicians prior to a performance. Although the Director of Recording and Audio at UBC's School of Music, David Simpson, was very helpful in setting up my lecture-recital, his time and resources are limited. If there were to be an influx of students at UBC all wishing to perform multimedia works, these students may demand more of his time, and rehearsal time in the hall, than there is available to be had. In this case, an additional professional

²²⁷ Nicholas Jacques, interview with the author, February 18, 2016.

²²⁸ Jeremy Baxter, interview with the author, February 16, 2016.

²²⁹ David Pay, interview with the author, February 19, 2016.

²³⁰ Baxter, interview.

²³¹ Masaki, phone interview.

²³² Masaki, phone interview.

²³³ Pay, interview.

²³⁴ Pay, interview.

technician may need to be hired by the student, or a student technician recruited, to make a performance possible.

7.2 The Unreliability of Technology

Another issue for pianists that perform works for pianist and moving images is that the technology can be temperamental. A recent performance by Miranda Wong of Stefan Prins's work *Piano Hero* (at the Roundhouse Performance Centre in Vancouver) was impacted by electronic technical glitches, necessitating a restart of the performance.²³⁵ The technicians for that show rehearsed the piece smoothly multiple times the week prior, but the MaxMSP patch simply decided to stop working properly in performance.²³⁶ I have heard other stories over the course of my research of speakers being accidentally turned off by audience members²³⁷, cords being tripped over unplugging equipment²³⁸, and performers and audiences waiting for extended periods while the technicians try to figure out why things are not working.²³⁹

For classically-trained pianists, these uncertainties about the technical aspects of a performance may be more of a headache than they bargained for. Obviously, confirming with the technicians that the technical setups are correct is an important aspect of ensuring that a performance will go smoothly. As David Simpson remarked, "the key to successful multimedia performances is communication as much as early and comprehensive preparation. [...] Almost anything is possible with early, full and constant communication."²⁴⁰ In addition to bringing all of the equipment with her, Masaki also owns duplicates of all of her equipment and checks it routinely to ensure its working order.²⁴¹ Despite her careful preparation, she also reported an experience at a concert hall when, during the dress rehearsal, it was discovered that the audio from her computer was not being transmitted to the speakers of the hall.²⁴² The technician, realizing the

²³⁵ Miranda Wong, pianist, *Piano Hero*, by Stefan Prins, Roundhouse Performance Centre, Vancouver, BC, November 17, 2015.

²³⁶ Jacques, interview.

²³⁷ David Simpson, interview with the author, February 11, 2016.

²³⁸ Jacques, interview.

²³⁹ Simpson, interview.

²⁴⁰ Simpson, interview.

²⁴¹ Masaki, phone interview.

²⁴² Masaki, phone interview.

problem was the concert hall's sound system, proceeded to replace all of the cables over the next hour and a half, finally correcting the problem.²⁴³

The exploration of works for pianist and moving images is necessarily a process of learning about the challenges and uncertainties of technology along the way. Although this process can be daunting, the rewards are also great. Masaki called her experience with technology a “journey.”²⁴⁴ I believe it is a journey that can be started by any pianist wishing to perform this genre of work, as long as they stay open to learning about technology and their responsibility in relation to it.

²⁴³ Masaki, phone interview.

²⁴⁴ Masaki, phone interview.

Chapter 8: Conclusion

In performing and researching these works for pianist and moving images, it has become clear to me that this is a genre worthy of further study by performers, composers, and music theorists. Although these works present numerous challenges beyond the normal scope usually faced by classical pianists, there already exists high-quality repertoire written for this medium that deserves not only the attention of this current research document, but indeed of a much wider audience.

In an age when screens are not only commonplace but ubiquitous in daily life, it would seem a natural progression that they would be incorporated into the creation of live classical musical works. Van der Aa believes that it would in fact be “very artificial to keep [technology] out of the performance space.”²⁴⁵ Since technology is such a big part of modern life, pianist Megumi Masaki suggests that programming works written for live musicians and projected visuals may be one approach to broaden the appeal of classical music.²⁴⁶ Reaching new audiences also seems to be the aim of symphony orchestras that perform live soundtracks to video projections of popular movies and video games in concert, such as the NAC Orchestra’s production of *The Lord of the Rings: The Fellowship of the Ring in Concert* in 2012 and the current *The Legend of Zelda: Symphony of the Goddesses* tour produced by Jason Michael Paul Productions and Nintendo.^{247,248} Masaki believes that technology can be used for more than bringing popular culture to the concert hall; it has the ability to facilitate the creation of new multimedia works that could bring in a new audience.²⁴⁹

The future of this genre rests not only in gaining a larger audience for the excellent pieces already written for this medium, but also in the technological advances that are currently (and will undoubtedly continue) being made. Both *Transit* and *Hitchcock Études* rely on the pianist to synchronize with an unchanging film. As *Surface Tension* demonstrates, technology now allows for interaction between the pianists and projected visuals. Other composers, including UBC’s own Drs. Bob Pritchard and Keith Hamel, are developing other ways to have performer and multimedia

²⁴⁵ van der Aa, phone interview.

²⁴⁶ Masaki, phone interview.

²⁴⁷ Gerald Morris, “*The Lord of the Rings: Fellowship of the Ring in Concert*,” National Arts Centre, <http://nac-cna.ca/en/stories/story/the-lord-of-the-rings-fellowship-of-the-ring-in-concert> (accessed April 22, 2016).

²⁴⁸ Jason Michael Paul Productions Inc., and Nintendo, “Concert,” *The Legend of Zelda: Symphony of the Goddesses*, <http://zelda-symphony.com/pages/concert> (accessed April 22, 2016).

²⁴⁹ Masaki, phone interview.

interact. Hamel's new work *Corona* uses audio input from a microphone to create projected visuals.²⁵⁰ Hand gestures are tracked by an optical sensor and certain arm movements will change how the computer processes and displays the audio input, affecting the visuals onscreen.²⁵¹ Score-tracking software, to follow an artist's performance can also be used trigger multimedia at the appropriate time.²⁵²

Dr. Pritchard, a member of my thesis committee, imagines that one day technology will be able to capture the sensitivity of classically-trained pianists.²⁵³ He believes that the subtleties of a pianist's motions, touch, and emotions could intricately control projected visuals.²⁵⁴ In addition, it is indeed already possible for music to interact with kinetic sculptures, such as the HypoSurface in Chicago, Illinois.²⁵⁵ As mentioned earlier, van der Aa is using 3D video and asks his opera singers to interact with projections of other singers and objects.²⁵⁶ One day it might be feasible for composers to write works for musicians with other types of holograms or projected cyberthespians.²⁵⁷

As technology improves to make new, exciting works possible, it is tempting for artists to find ways to use it. This technical progress, by definition, means that there will always be pieces pushing the boundaries of what is barely possible. The technical setups used in the works described in this document may soon seem uncomplicated. Or alternatively, as older technologies become obsolete, it may be difficult to find a DVD player in order to perform *Transit!*

Depending on how these pieces are conceived, there may be greater or lesser demands placed on the performer (in terms of the synchronization with the external media and the technical setup), and greater or lesser demands placed on the technology itself. This is an important consideration for composers, because a technical setup that is too onerous for the pianist, or a method of synchronization that is too difficult or unreliable, may lead to fewer performances of a work. Successful works for this medium will have been carefully planned by their composers to

²⁵⁰ Hamel, interview with the author, March 24, 2016.

²⁵¹ Hamel, interview.

²⁵² Keith Hamel and Bob Pritchard, "Integrated Multimodal Score-following Environment (IMuSE)," Music Sound & Electracoustic Technologies, "<http://debussy.music.ubc.ca/muset/imuse.html> (accessed April 3, 2016).

²⁵³ Bob Pritchard, conversation with the author, March 31, 2016.

²⁵⁴ Pritchard, conversation.

²⁵⁵ HypoSurface Corp., "HypoSurface," <http://www.hyposurface.org/> (accessed April 3, 2016).

²⁵⁶ van der Aa, phone interview.

²⁵⁷ Pritchard, conversation.

enable the pianist to present technically reliable, enjoyable, and satisfying performances of the work.

Performers and composers who have never performed or written a work for pianist and moving images are indeed faced with a steep learning curve. However, I hope that this study is helpful in illuminating some of the challenges of performing these three works, and has helped to show that this medium is well worth continued exploration.

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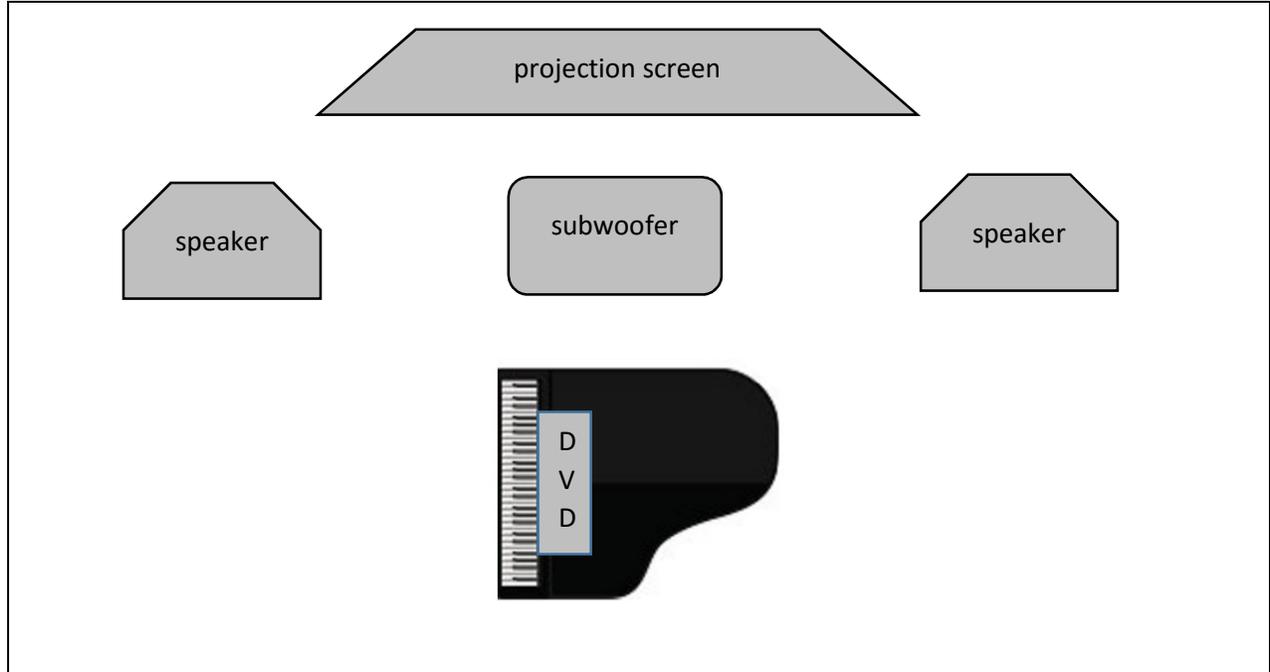
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Appendices

Appendix A: Technical Rider for *Transit*



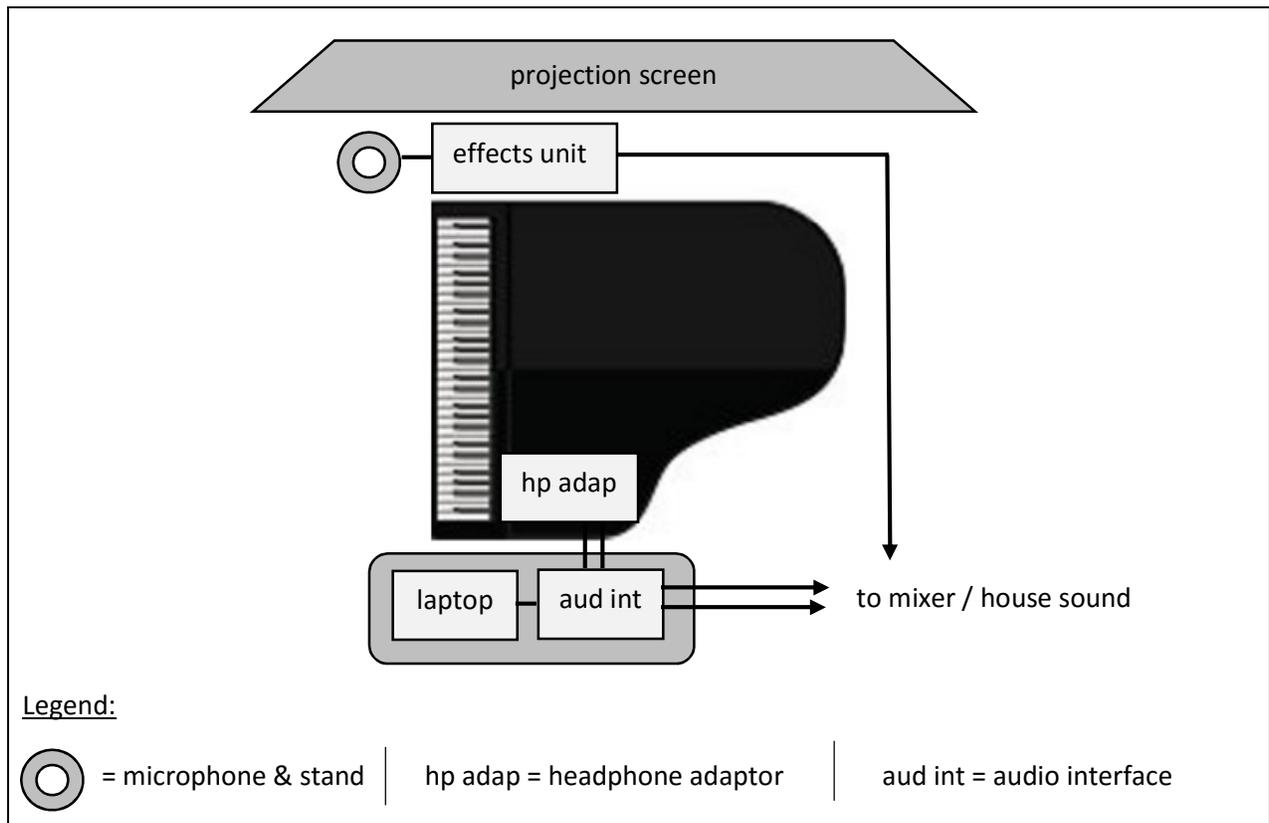
Performance Requirements:

1. DVD player (with time display) is set up inside the piano, under the piano shelf. Piano shelf may need to be propped up on foam blocks (or something similar) to accommodate this.
2. Projector screen should be above the height of the grand piano, and visible to the pianist.
3. Video is output from the DVD player to a projector (HD preferred).
4. Stereo audio is output from the DVD player to 2 speakers on stands and a subwoofer.
5. Piano should be turned slightly counter-clockwise to facilitate the audience's view of the keyboard.

Gear Summary:

1 x grand piano	2 x speakers
1 x DVD player with time display	2 x speaker stands
1 x projector	1 x subwoofer
1 x projection screen	

Appendix B: Technical Rider for *Hitchcock Études*



Performance Requirements:

1. The Apple laptop must be running QuickTime Pro, and configured to run 4 audio channels through the audio interface.
2. The Apple laptop and audio interface are placed on a table to the right of the piano.
3. The headphone adaptor is placed on the piano shelf.
4. Video is output from the laptop to the projector.
5. Audio is output from the laptop via USB (or Firewire) to the audio interface.
6. From the audio interface, stereo audio is output to the sound system.
7. A second stereo audio feed is output to the headphone adaptor connected to earphones.
8. A vocal microphone and stand (with boom arm) are placed on the left side of the piano.*

Gear Summary:

1 x grand piano	1 x vocal microphone*
1 x Apple laptop with QuickTime Pro	1 x microphone stand with boom arm*
1 x 4-channel USB audio interface	1 x headphone adaptor
1 x projector	1 x earphones
1 x projection screen	1 x small table
1 x mixing board, with operator needed during performance*	

*Only needed if the pianist is singing the optional voice part.