REPRESENTATIONS OF VISUAL AND EMOTIONAL PERCEPTION IN TWO SOLO OBOE WORKS BY ALYSSA MORRIS

By

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LECTURE DOCUMENT ABSTRACT

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Title: Representations of Visual and Emotional Perception in Two Solo Oboe Works by Alyssa Morris

Alyssa Morris is an award winning oboist and composer with two recent solo oboe works that highlight contrasting musical representations of different forms of perception. In the first piece, *Collision Etudes*, two movements utilize a musical translation of synesthetic perception based on the color wheel of Alexander Scriabin according to the color palettes by artists Joan Mitchell and Alma Thomas. For the second piece, *Ruminations*, Morris notated musical representations of her own perceptions of the strenuous emotions brought on by the COVID-19 pandemic. This work examines these two pieces closely, highlighting the uses of sensory and emotional perception through compositional similarities and differences in performing each work.

Table of Contents

I.	Introduction and Overview:	6
	Perception and its Representation in Music by Alyssa Morris	
II.	Visual Perception	9
III.	Emotional Perception	14
IV.	Collision Etudes	20
V.	Ruminations	27
VI.	Application as a Performer	32
VII.	Conclusion	39
VIII.	Bibliography	41

I: Introduction and Overview

Alyssa Morris is an award-winning oboist and composer with a catalog of works extending from unaccompanied solos to full ensemble pieces. Two of her recent solo oboe works highlight contrasting musical representations of different forms of perception. The first piece is *Collision Etudes* in which Morris utilizes a musical version of synesthetic perception according to the color wheel of Alexander Scriabin. The second piece, *Ruminations*, is a musical representation of Morris's own perceptions of strenuous emotions brought on by the COVID-19 pandemic. This work is an examination of the methods employed by Morris to represent sensory and emotional perception in *Collision Etudes* and *Ruminations*.

In *Collision Etudes*, Morris uses synesthetic perception as the compositional focus in two movements: "City Landscapes" and "Rainbow." This work was composed in 2018 and is a collection of six movements in which Morris translates visual art into musical material. In these two movements, Morris utilizes the color wheel of composer and synesthete Alexander Scriabin to represent the colors in the paintings. Morris's typical compositional style involves creating rules or parameters for herself to follow. For the second movement of *Collision Etudes*, "City Landscapes," Morris created a two-minute timeline to work with as there is no clear pattern or structure in the painting by Joan Mitchell. Morris was compelled by the vast array of colors that Mitchell used in a condensed space and delineated specific times to indicate when there would be a shift in pitch or tonal center. In "Rainbow," the fourth movement of *Collision Etudes*, Morris said Alma Thomas's work had a clearer structure to follow. During an interview with me, Morris said, "I decided since it was in color blocks, it reminded me of block form in composition. So, I thought it might be nice to have each color block represent a different section of the music or motive. The color determines the sort of basic key that I would be in at that

6

moment."¹ Later in our interview, Morris discussed how sometimes her ears guided her to pitches outside of the color scheme and in these cases she would either break the rule or find a way around it. However, she did try to avoid breaking her own rules to see where the music would lead based on Scriabin's color wheel and the colors of the paintings.

The second work, *Ruminations*, acts as Morris's emotional response to the pandemic. This piece was composed during 2021 and consists of three movements, each representing specific emotions which Morris experienced during the pandemic. While working with a group in Houston in 2021, Morris's free time was spent in her hotel room due to COVID-19 restrictions. She used this time to focus and compose *Ruminations* the "old fashioned" way with pencil and staff paper. In our interview, Morris said that this piece was "more free flowing because it was just sort of already there and I was notating it from what I was already hearing. For some of it, I relied a little bit more on the improvisational part; when I was hearing things, I would play it then try to improvise on the oboe and let that guide me to what I should write next."² The first two movements were completed during this short trip in Houston and the final was completed in similar fashion shortly thereafter.

Morris received her bachelor's and master's degrees in oboe performance from Brigham Young University and her doctoral degree in oboe performance with a cognate in composition from the University of Cincinnati College-Conservatory of Music. Currently, she teaches oboe, music theory, music business, woodwind methods, and aural skills at Kansas State University. A former member of the Richmond Symphony Orchestra, Utah Wind Symphony, and the Utah Baroque Ensemble, Morris currently holds the position of principal oboe of the Topeka Symphony. Alyssa is a co-founder of the Aglow Trio with flutist Karen Large and pianist

¹ Alyssa Morris, phone interview with author, February 10, 2023.

² Morris, phone interview.

Amanda Arrington. Her chamber work is performed extensively around the world and has been presented at the National Flute Association Convention, the Society of Composers, Inc. National Convention, and multiple International Double Reed Society Conventions.

II: Visual Perception

As defined by British psychologist Jeffrey Gray, synesthesia "is a condition in which stimulation in one sensory modality reliably elicits the report of a sensation in another modality."³ The stimulus triggering the synesthetic perception is called an inducer and the percept, or resulting experience, is called the concurrent. Some psychologists believe that all individuals have some form of synesthesia, though it is more present and intense in 15% of the population than the other 85% who may not have any noticeable traces of synesthesia.⁴ Among the population of synesthetes, most do not recall a specific experience which led to the association, for example a word with a color.⁵ For individuals with colored-hearing the part of the brain which processes seen and/or heard words projects to the color-selective region of the visual system.⁶ In this chapter I examine the specifics of color-hearing synesthesia and timbre semantics, and how Morris employed the color wheel of Alexander Scriabin in *Collision Etudes*.

In their article, "Pathways to Seeing Music," Anna Zamm et al. define colored music synesthesia as "a form of synesthesia in which musical sounds such as tones, chords, and instrumental timbres elicit colored percepts."⁷ Studies have shown that people with colored-music synesthesia possess an enhanced structural connectivity between visual and auditory association areas and the frontal lobe.⁸ For synesthetes, colored-sounds are simply facts even if the colors differ from person to person. They may disagree on colors of sound, but they will all agree that the colors are real and not just fantasy, no matter how rare they might actually

 ³ Jeffrey Gray, "Synesthesia: A Window on the Hard Problem of Consciousness," in *Synesthesia: Perspectives from Cognitive Neuroscience* ed. Lynn C. Robertson and Noam Sagiv (Oxford: Oxford University Press, 2005), 139.
⁴ Donielle Johnson, Carrie Allison, and Simon Baron-Cohen, "The Prevalence of Synesthesia: The Consistency Revolution," in *Oxford Handbook of Synesthesia*, ed. Julia Simner and Edward M. Hubbard (Oxford: Oxford University Press), 13–14.

⁵ Gray, 143.

⁶ Gray, 144.

 ⁷ Anna Zamm, Gottfried Schlaug, David M. Eagleman, and Psyche Loui, "Pathways to Seeing Music: Enhanced Structural Connectivity in Colored-Music Synesthesia," *NeuroImage* 74 (2013): 359–60.
⁸ Zamm, et al., 363.

be.⁹ Some studies relating colors to music including both synesthetes and non-synesthetes have produced similar outcomes, though not as vivid or detailed for non-synesthetes. An exciting, fast line of music might be visualized as a bright red photism with jagged lines in sharply etched colors for a synesthete, where a non-synesthete may agree, however describing it with verbal metaphors such as "fiery, bright, or red-hot."¹⁰

Synesthesia related to music can be classified into four different groups 1) synesthesia based on compositional styles, (2) synesthesia based on timbre, (3) synesthesia based on pitch, and (4) synesthesia based on tonalities.¹¹ The first is expanded on the concept of color-hearing; this includes association of colors with particular compositions or outputs by certain composers. The second is a connection of various colors to musical instruments. An example provided by Kenneth Peacock is how the color scarlet is often considered exciting because of its use in royalty and pageants. The trumpet is often connected with royalty and fanfares in pageants, so both the trumpet and the color scarlet evoke similar emotions.¹² The third is the most common and does not require a sense of absolute pitch; studies have shown that many individuals consider low sounds closer to darker colors whereas higher sounds are brighter. The fourth is considered the most widespread among musicians, where colors and tonalities are analogous.¹³

Expanding upon the classification of synesthesia based on timbre, Zachary Wallmark and Roger Kendell discuss various conceptual metaphors that are linked to timbre semantics. With the first, SOUND IS TEXTURE, various timbral qualities are understood on the basis of tactile sensations, with smooth and velvety sounds on one end with the opposing being rough or harsh.¹⁴

 ⁹ Cretien Van Campen, *The Hidden Sense: Synesthesia in Art and Science* (Cambridge, MA: MIT Press, 2008), 118.
¹⁰ Kenneth Peacock, "Synesthetic Perception: Alexander Scriabin's Color Hearing," *Music Perception: An Interdisciplinary Journal* 4, no. 2 (1985); 489.

¹¹ Peacock, 490.

¹² Peacock, 491.

¹³ Peacock, 491–92.

¹⁴ Zachary Wallmark and Roger A. Kendall, "Describing Sound: The Cognitive Linguistics of Timbre," *Oxford Handbooks* (2018), 21.

The second, SOUND IS LIGHT, is based on basic visual contrast between dark and light colors and related to timbral spectral centers; lower spectral centers are heard as darker and higher spectral centers are heard as brighter with visual impressions such as a shimmer or sparkle.¹⁵ SOUND IS LIGHT, commonly referred to as "tone color," explains how the actual incorporation of specific colors to timbre is rare: a singer's voice may be colored in the abstract, but it is uncommon to explicitly conceptualize voices as orange or indigo, for example.¹⁶

Composer Alexander Scriabin was purportedly synesthete, and he wrote some of his compositions with the intention of having light alongside the music in performance. In his compositions, each note of the scale corresponded to a particular color, and these designations were according to Scriabin alone.¹⁷ Scriabin "believed integration of colored light within a symphonic work would act as a powerful psychological resonator for the listener," and this belief in correspondence between stimuli was implemented in his color-symphony *Prometheus*.¹⁸ Figure 2.1 is a table that indicates the synesthetic perceptions of Scriabin and Rimsky-Korsakov – note that the only identical correlation between the two is D-major – yellow, while there are also similarities between E \flat and B \flat .

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ L.E. Marks, "On Colored-Hearing Synesthesia: Cross-Modal Translations of Sensory Dimensions," *Psychological Bulletin* 82, no. 3 (1975): 313.

¹⁸ Peacock, 483–84.

Major Tonality	Scriabin	Rimsky-Korsakov
С	Red	White
G	Orange	Indefinite brown-green
D	Yellow	Yellow
Α	Green	Rosy
E	Light blue	Blue, with glitter
В	Whitish-blue	Dark blue, steel
F-sharp	Blue, saturated	Indefinite gray-green
D-flat	Violet	Dark brown, metallic
A-flat	Purple	Gray-violet
E-flat	Dark, steel-blue	Dark gray-blue
B-flat	Blue-gray, metallic	Dark gray-blue
F	Red, dark	Green

Synesthetic Perceptions of Scriabin and Rimsky-Korsakov

Figure 2.1

Morris composed Collision Etudes during her time at CCM and took composition lessons

to explore the synesthetic implications of music. As she explained in an interview,

"I was intrigued with the synesthetic ideas when I was in my master's and took a composition class that was a survey course on 20th and 21st century composition techniques. So, I thought it would be nice to attempt to pair synesthesia with the paintings and try to come up with music that was based on a certain set of rules. In some cases, like Alma Thomas's work, the paintings were pattern based, however others like Joan Mitchell's were a bit more randomized."¹⁹

Morris herself does not have synesthesia and recognized in her research that individuals

with synesthesia will have different experiences and associate different colors or scents to specific notes. When asked about her process of selecting a synesthete, Morris said that she "decided to choose one at random, one I thought I could get behind the most as I was looking at the different notes and associated colors. Synesthesia isn't how I identify pitch, so I chose Scriabin's color keyboard and started using it to see what happened when I wrote the piece." Two movements in *Collision Etudes*, "City Landscape" and "Rainbow," use Scriabin's color

¹⁹Alyssa Morris, phone interview with author, February 10, 2023.

wheel which was inspired by his "clavier à lumières" (keyboard with lights) where the notes correspond to specific colors.

Synesthesia is a condition that has several different forms, including chromesthesia or colored-hearing, which is one of the more common types of synesthesia. Composer Alexander Scriabin was purportedly synesthete and his belief in the coordination of colors and sounds was implemented in his color-symphony *Prometheus*. Alyssa Morris used Scriabin's color wheel for her composition of two movements in *Collision Etudes*, "City Landscape" and "Rainbow" which are musical depictions of art. Though Morris was already familiar with and enjoyed Scriabin's work, this did not influence her selecting his color wheel; her selection was based on colors she felt made the most sense to her own compositional style.

III: Emotional Perception

John Sloboda and Patrik Juslin define emotions as "relatively brief, intense, and rapidly changing responses to potentially important events in the external or internal environment, usually of social nature, which involve subcomponents that are more or less synchronized."²⁰ Individuals are able to perceive or recognize emotions without experiencing them by simply observing others. One can also experience an emotion internally without having perceived an event or action to induce a new emotion.²¹ Emotions are reactionary and are perceived in everyday life, and they have been connected to musical performance and composition throughout history.

One way that performers can connect their own emotions to their performance is through mood induction. As defined by music psychologist Roland Persson, mood induction may be used by a performer in order to reflect upon personal memories and experience emotions while performing.²² When one performs a melancholy melody, for example, they may reflect upon an impactful personal event that was sad and use that emotional energy to enhance their own performance. Emotions affect both psychological and physical functioning, thus shaping the performer's musical intention.²³ For listeners, it is common to confuse the perceived emotion of a piece with the emotion they actually feel. When asked how one feels after hearing a piece of music, the listener may respond with what they perceived from the music rather than what they actually feel after listening to the piece.²⁴ Listeners rely on musical cues in performances to help them determine the emotions being presented in the music.

²⁰ Patrik N. Juslin and John A. Sloboda, "At the Interface Between the Inner and Outer World: Psychological Perspectives," in *Music and Emotion*, ed. Patrik Juslin and John Sloboda (Oxford: Oxford University Press, 2010), 75.

²¹ Juslin and Sloboda, 76.

 ²² Gary E. McPherson, and Robert H. Woody, "Emotion and Motivation in the Lives of Performers," in *Music and Emotion*, ed. Patrik Juslin and John Sloboda (Oxford: Oxford University Press, 2010), 411–412.
²³ Ibid

²⁴ Juslin and Sloboda, 83.

The Doctrine of Affections provides one historic example of humans making connections between emotions and music. During the Medieval and Renaissance periods, vocal music was thought to be superior to instrumental as words could convey meaning in a way that instruments could not.²⁵ The Doctrine of Affections, introduced during the Baroque era, was an attempt to explain arbitrary reactions to music.²⁶ The doctrine, however, provided vague explanations of how to express the different affects.²⁷ In a modern scientific model, Patrick Juslin illustrates cues performers use to communicate emotions to their audiences through levels of musical activity and pleasantness of an emotion. These cues can be recognized cross-culturally as they are regarded as typical emotions that appear as expression marks in musical scores.²⁸

As seen in Figure 3.1, Juslin attributes certain compositional cues to five basic emotions through a categorical and dimensional model, measuring them according to activity/arousal level and valence. In this case, activity/arousal levels measure intensity and musical activity, where valence measures the pleasantness/unpleasantness of an emotion. Those with higher activity levels tend to have a faster tempo and varied articulations whereas those with lower activity levels typically have more slurs, fewer accented notes and slower tempos.²⁹ These compositional devices are nonverbal musical cues that are used in order to display certain emotions or moods in music, with or without text, which are then perceived by the audience. Some of these cues may have a larger influence on the overall effect of a piece, like tempo and articulations, whereas timbre and vibrato are additional cues that can be used to further develop the emotion.³⁰

²⁵ Sharri K. Hall, "The Doctrine of Affections: Where Art Meets Reason," *Musical Offerings* 8, no. 2 (2017): 52-53. ²⁶ Hall, 53.

²⁷ Alf Gabrielsson, "Emotion Perceived and Emotion Felt: Same or Different?" *Musicae Scientiae* 5, no. 1 (2001): 132.

²⁸ Patrik N. Juslin, "Communicating Emotion in Music Performance: A Review and Theoretical Framework," in *Music and Emotion*, ed. Patrik Juslin and John Sloboda (Oxford: Oxford University Press), 314-15.

²⁹ Juslin, 315.

³⁰ Juslin, 314-316.

Positive	• HAPPINESS				
• TENDERNESS slow mean tempo (Ga96) slow tone attacks (Ga96) low sound level (Ga96) small sound level variability (Ga96) legato articulation (Ga96) soft timbre (Ga96) large timing variations (Ga96) accents on stable notes (Li99) soft duration contrasts (Ga96) final ritardando (Ga96)	fast mean tempo (Ga95) small tempo variability (Ju99) staccato articulation (Ju99) large articulation variability (Ju99) high sound level (Ju00) little sound level variability (Ju99) bright timbre (Ga96) fast tone attacks (Ko76) small timing variations (Ju/La00) sharp duration contrasts (Ga96) rising microintonation				
Low activity		→ High activity •ANGER			
• SADNESS slow mean tempo (Ga95) legato articulation (Ju97 <i>a</i>) small articulation variability (Ju99) low sound level (Ju00) dull timbre (Ju00) large timing variations (Ga96) soft duration contrasts (Ga96) slow tone attacks (Ko76) flat microintonation (Ba97) slow vibrato (Ko00) final ritardando (Ga96)	• FEAR staccato articulation (Ju97 <i>a</i>) very low sound level (Ju00) large sound level variability (Ju99) fast mean tempo (Ju99) large tempo variability (Ju99) large timing variations (Ga96) soft spectrum (Ju00) sharp microintonation (Oh96 <i>b</i>) fast, shallow, irregular vibrato (Ko	high sound level (Ju00) sharp timbre (Ju00) spectral noise (Ga96) fast mean tempo (Ju97 <i>a</i>) small tempo variability (Ju99) staccato articulation (Ju99) abrupt tone attacks (Ko76) sharp duration contrasts (Ga96) accents on unstable notes (Li99) large vibrato extent (Oh96 <i>b</i>) no ritardando (Ga96)			
Negative valence					

Figure 3.1

All of these cues are then utilized by composers in order to effectively portray emotions, whether they fall within the cues for the five basic emotions or if they are a combination of cues representing subtler shades of emotions or complex emotions, which are a combination of two basic emotions. The cue utilization chart is based on the Circumplex Model of Affect, proposed by James Russell in 1980, which is a depiction of similarities between two variables that are

measuring emotions based on valence and arousal (intensity of the emotion).³¹ The cue utilization chart by Juslin uses Russell's model to graph emotions according to musical activity/arousal and pleasantness/unpleasantness of an emotion.

Sound and emotion can be connected together in composition to present musical emotions and this is exactly what Morris does in *Ruminations*. The stress of the pandemic and being in isolation caused feelings of worry for Morris, who upon reflection wondered what it might be like to express those feelings musically on the oboe. With regard to composing during the pandemic, Morris said that "in some ways it was easier to compose and in other ways I think stress can make it harder to write music. I know some composers experienced the heaviness of the time of COVID and that made it hard to write. I felt like in some ways that the writing was an expression, a way to vent the struggles of the time."³² Morris uses various compositional cues, indicated in the chart from Juslin, to musically depict three distinct emotions that she felt and perceived during the pandemic.

The three movements of *Ruminations* provide examples for how Morris used various cues to present three separate emotions. Morris describes the first movement of *Ruminations* as an obsessive thinking pattern with outbursts of frustration. She marks "anxious" at the beginning of the movement, which is represented in the sixteenth-note motive placing it in the lower right quadrant of the cue utilization chart.³³ This motive creates a high level of action which remains constant for a majority of the movement. The frustrated outbursts are displayed in the quick runs to the upper register of the oboe. Obsessive thoughts are further represented through the lack of

³¹ James A. Russell, "A Circumplex Model of Affect," *Journal of Personality and Social Psychology* 39, no. 6 (1980): 1163–1164.

³² Alyssa Morris, phone interview with author, February 10, 2023.

³³ Morris, phone interview.

slurs and strong articulations, which according to the table provided by Juslin are on the left side with less activity.

The second movement is a combination of moods, beginning with fragmented pieces of a melody embodying loneliness and longing in isolation, the phrase unhurried and reserved. The level of activity here is low and the writing is in the resonant middle range of the oboe. This melody is then juxtaposed by a jazzy and lively rendition of the opening lines. There are a few strong articulations and quick trills in this portion of the movement which suggest the upper right quadrant of the cue chart. While this section is not displaying the exact cues found in the high activity range, the tendencies hint at a more cheerful emotion than what the opening displays. Morris introduces more rhythmic variation here, as well as climbing up in the oboe register, peaking on an Ab6 before returning to a lonely recapitulation of the opening.

The third and final movement of *Ruminations* follows many of the cues presented in the Anger category on the chart. It opens with a declamatory "shout" and there is a higher level of rhythmic activity and articulation, providing a stark contrast to the first two movements. Most of the cues of this movement match with the Anger category in the chart: short articulations, high sound level, and fast mean tempo. In addition to staccato notes and accents, Morris includes the physical motion of stomping on some beats to further emphasize "Enough's Enough." The main rhythmic pattern, two sixteenth notes followed by an eighth note, acts as a repetitive motor ornamented by the stomps and multiphonics. Multiphonics mimic the voice of someone who is angry; they are loud and rough, acting as non-vocal cues portraying anger.

Emotions are responses that change quickly based upon perceived events both internally and externally and have been linked to musical performance and composition for centuries. While early music ideas believed vocal music to be superior in expressing emotion, the Doctrine of Affections provided new directions so all genres of music could show emotion. Composers utilize different musical cues in order to portray specific emotions which are perceived by the audience; these cues include tempo, articulation, volume, and rhythm. Morris employs these cues in *Ruminations* to portray the different emotions represented in each of the three movements.

IV: Collision Etudes

Collision Etudes is a six-movement solo piece for oboe based on paintings by five female American artists that Morris composed during her time at the University of Cincinnati College-Conservatory of Music in 2018. The program notes indicate that *Collision Etudes* is a work that "highlights a collision of contemporary art styles, while bringing awareness to several significant female American artists."³⁴ Morris wrote *Collision Etudes* as a sort of response to Gilles Silvestrini's *Six Etudes Pour Hautbois*, discussing how she wanted to compose an unaccompanied work that called upon some of the ideas of Silvestrini's piece. She commented on her appreciation for the focus on paintings as the subject of Silvestrini's work, and ultimately decided to follow suit. During the early stages of research for this piece, Morris wanted to focus on paintings by American artists since the Silvestrini work was inspired by French Impressionist paintings by male artists; eventually the focus narrowed to works by female American artists.

For Morris, the research process was one of the most exciting parts of putting *Collision Etudes* together.³⁵ It began with an online search for "female American artists," and Morris came across multiple female artists with whom she was not familiar. In learning about Alma Thomas, Morris said her work was very compelling with the dots, splotches, and blocks common across her works. Though she was previously familiar with the work of both Georgia O'Keeffe and Mary Cassatt, Joan Mitchell and Margaret Bagshaw were new artists for Morris. When it came to narrowing down the art selection for the subject of *Collision Etudes*, Morris worked to select pieces that were naturalistically based, whether they were about scenery, seasons, or outdoor materials. They all share something that has to do with the beautiful world around us, whether it has "world" in the title or the subject of the painting is a flower or some other part of nature. In

³⁴ Morris, *Collision Etudes* (Tallevast, FL: TrevCo Music Publishing), 2017.

³⁵ Alyssa Morris, phone interview with author, February 10, 2023.

the case of "City Landscape," while it is outside in a city, Morris believed that the landscape concept fit the theme well, and "Rainbow" is atmospheric and organic.

Joan Mitchell's *City Landscape* uses a synesthetic system to depict an urban environment using rhythmic pulsations and chromesthesia. In our interview, Morris discussed how the vast number of colors used by Mitchell compelled her; she decided to map out a timeline for the movement that symbolized a walk through the city. She printed a picture of Mitchell's painting and looked for the most color contrast, then added a two-minute timeline determining approximately which color would appear at specific times. Using the idea of Scriabin's clavier à lumières with notes corresponding to colors as given by Scriabin's synesthetic system, Morris charted the colors that fell on this "color-line" resulting in the pitches used throughout the movement.

"City Landscape" was produced in 1955, during a decade in which Joan Mitchell created many paintings depicting urban environments. These works are meant to evoke memories of Mitchell's time spent in the Midwest. "In City Landscape the dynamism of the city is felt in the white blocklike forms – sensations of structures – and in the intense reds, blues, and yellows reminiscent of neons...these paintings deal with the imagery of the city mainly by their suggestive energy."³⁶ "The effect is not unlike that of city streets and surrounding architecture, where the activity of moving traffic and pedestrians surges between the solid structure of buildings."³⁷ Mitchell did not consider herself to be an action painter like some of her abstract impressionist contemporaries; rather she deliberately controlled the transpositions of her memories of landscapes or cityscapes. She generally painted from a distance, and she would

³⁶ Judith E. Bernstock and Joan Mitchell, Herbert F. Johnson Museum of Art, *Joan Mitchell*. 1st ed (New York: Hudson Hills Press, 1988), 31.

³⁷ Art Institute of Chicago, *City Landscape, Joan Mitchell,* Department of Museum Education, Educator Resource Packet. N.D.

physically position herself away from her canvases while planning her brushstrokes.³⁸ Joan Mitchell discusses her experience as a painter a few years after City Landscape was produced. "I am very much influenced by nature as you define it... My paintings are titled after they are finished. I paint from remembered landscapes that I carry with me – and remembered feelings of them which of course become transformed. I could certainly never mirror nature. I would like more to paint what it leaves with me."³⁹

The opening of the second movement is a simple rhythmic motive of sixteenth notes in 5/8 played on E and G in varying octaves, which according to Scriabin's system are light blue and orange. These short, staccato notes in the beginning indicate a driving energy which gives the movement its momentum, allowing the walk through the city to move forward. This short theme does return throughout the movement as variations; the opening theme never comes back in its original form. As shown in Figure 4.1, the short motive repeats itself throughout in a variety of ways, never fully returning to the original. It also explores different keys and colors on Scriabin's color-line. The third bar is similar to the colors from the first two, with B \flat and C being blue (gray/metallic) and red, with addition of A \flat (purple). One of the lyrical yet rhythmic features that Morris includes is the dotted eighth notes, propelling the line forward. This example is shown in Figure 4.2, where it lies in a lower, more mellow range of the oboe matching with the corresponding colors of dark steel-blue (E \flat), purple (A \flat), blue (B \flat), and red (C). Starting this statement in the lower range of the oboe allows for the line to blossom and open, as though walking from shade into sunshine.

³⁸ Art Institute of Chicago.

³⁹ Bernstock and Mitchell, 31.



Figure 4.2

The final notated version of the rhythmic theme in Figure 4.1 takes on the colors dark red (E#), blue (F#), and violet (C#), with a hint of whitish blue (B). At this moment of the movement, the mood slightly changes as Morris takes the line into a lyrical, meditative section. As before, this lyrical section is in the low range of the oboe, starting on the lowest Bb. This section rises slowly, through quarter notes on B \flat (blue), C (red), and E \flat (steel blue), and a whole note on F (dark red). This connection with the notes and the timbre of the oboe is important here, acting as a meditation point in the chaos of a busy city, a quiet place to take everything in.



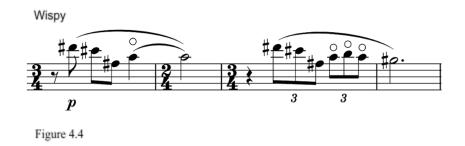
Joan Mitchell, City Landscape, 1955.

Alma Thomas was an African-American Expressionist painter and an inspiring art educator. "Rainbow" (1978) comes from her collection "Moving Heaven and Earth," in which each painting provided an expressionistic depiction of various atmospheric and space-centered subjects. Morris's "Rainbow" was composed in a similar manner to "City Landscape" though with a looser timeline, with each color block inspiring the overall form of the etude. The painting is made up of five main color blocks (purple, blue, yellow paired with green, blue, red) and follows the form ABCBA', and Morris pairs the color blocks with certain tonal centers or new motives. Thomas's picture is set up with the cooler colors on the left and right sides of the painting and the warm colors in the center.

The opening of the fourth movement is very delicate and slow; Morris's tempo marking is quarter note = 40 and she indicates"Ethereal." It begins with eighth notes alternating between



standard and harmonic fingering of a single pitch, as shown in Figure 4.3. Harmonics on the oboe are a little more resistant and have softer, airy quality. Morris said in her process composing this movement, "another layer of it was how to mimic the cloudy sounds and the hazy look of the painting in the music. That's where I was exploring timbral trills and harmonics to experiment creating a hazy mask of sound over the overall oboe sound, mimicking cloudy sounds and the hazy look of the painting."⁴⁰ The colors here are purple (G#), blue (D#), and green (A), representing the first color block in Thomas's work. This pattern is the A section of the arch form, and each repetition expands upwards while remaining in the cool tone color scheme. The B section continues in the cool tones, though begins even higher than the A section. This material is a little faster and consists of a fragmented melody as shown in Figure 4.4.



As noted by Morris, this wispy motive repeats before moving to alternating harmonic and standard fingerings of F#5 (dark blue). This pattern speeds up as it leads into C, which contains the warm colors of the tonal center. Section C is the only part of the music that does not have any harmonic fingerings, representative of the brighter colors and perhaps moving out of the clouds.

⁴⁰ Alyssa Morris, phone interview with author, February 10, 2023.

This material is more triumphant and spirited than the earlier sections with a declamatory statement at the beginning, as shown in Figure 4.5. While this section is still slurred, there is a sense of urgency as the line moves up in the register, landing on an A6, before returning down an octave, ending the C section on an A4.



Figure 4.5

Following the conclusion of the C material, the B section is revisited once again beginning on D#6. While the first few bars strictly imitate the material from the first presentation of the B section, the alternating harmonic and standard fingerings on F# changes to C6, and the ending of the B material this time is altered to prepare the return of the A material. The returning material in the final A section consists of the same pattern heard at the beginning, though placed down a minor third from the original material.



Alma Thomas, Rainbow, 1978.

V: Ruminations

Ruminations was composed during the COVID-19 pandemic and is a three-movement solo piece for oboe, portraying musical impressions of Morris's own thoughts and feelings from 2020–2021. This work is a response to the pandemic, examining how to express feelings of worry in isolation and frustration and how it impacts typical mental functioning.⁴¹ At the start of the pandemic, Morris was able to catch up with her backlog of commissioned works and explained how her compositions could reflect the struggles and emotions experienced during this time. One work Morris was composing around the start of the pandemic was a cello concerto, and the original premiere date was canceled, creating uncertainty as to when it would be performed. This made the collaborative experience of the work difficult, and Morris had to think about how she would write it if she were performing it. This ultimately led to her composing *Ruminations* and another work called *Chameleon Lament* for a single performer of oboe and piano. *Chameleon Lament* is another response to the pandemic illuminating the struggles of having to wear different hats and working hard while doing so many things at the same time.⁴²

Morris was the composer-in-residence with the Texas-based River Oaks Chamber Orchestra for the 2020–2021 season. Outside of rehearsals for her work, Morris spent a lot of time alone in her hotel room where she was able to think about emotional ideas with quiet focus. *Ruminations* was composed in the "old-fashioned" way with pen and paper and in an improvisatory manner. Morris already had some idea of what she wanted to compose, so having free time in the hotel allowed her to focus and write the material down. Morris shared in our interview that when composing other pieces like this, she hears an idea and plays it first on the piano and then improvises on the oboe, allowing those lines to guide her. While she did not have

⁴¹ Morris, *Ruminations*, (Tallevast, FL: TrevCo Music, 2021).

⁴² Alyssa Morris, phone interview with author, February 10, 2023.

access to a piano while composing *Ruminations*, Morris notated her ideas in shorthand and continued improvising on the oboe. She said once the piece was completed "I think the most challenging part was learning it after and figuring out how I was going to play it."⁴³

While *Ruminations* focuses on the thoughts and ideas of Morris herself, her program notes mention the impact of obsessive thoughts when they interfere with typical mental

functioning.

"Most of *Ruminations* is more of a mental health reflection on how trying times can affect us. It is about going through grief and trials and the mental health implications of what that's like; the mental health expression of going through those things. Not necessarily about the recovery aspects but rather how communicating pain is a part of the healing process... Talking about what you are going through and all of those feelings; worry in the case of the first movement, this feeling of sadness but having to put on a happy face in the second movement or just complete frustration and anger like the third movement."⁴⁴

The first movement of *Ruminations* is titled "Woulda, Coulda, Shoulda," exploring obsessive thinking in a 7/8 sixteenth-note pattern which in two measures represent the fourteen syllables "woulda, coulda, woulda, coulda, woulda, coulda, shoulda," creating a sense of uncertainty or anxiety. The beginning of the movement alternates between 7/8 meter and 12/8,





suggesting some stability through stressful thoughts as seen in Figure 5.1. As the material continues, the anxiousness does settle as 12/8 becomes the consistent meter, however there are

⁴³ Morris, phone interview.

⁴⁴ Morris, phone interview.

running notes up the scale that do get faster and higher before settling again and repeating the opening material and moving into a new section.



Figure 5.2

This new section is grounded in 4/4 time and includes fluctuations in the number of notes per bar as well as motion through the whole range of the oboe, as seen in Figure 5.2. Morris also introduces timbral trills in this section, providing a shift in tonal color adding to the fluctuation of emotions here. After this B section, the opening material returns and upon reaching the end of the movement, the performer lands on a high pianissimo E6 – an uncomfortable note to end on after continuous playing – representing anxiousness and uncertainty.

The second movement, "Emotions: Masked and Unmasked" presents a fragmented, mournful tune as a representation of loneliness in isolation. This line is a string of ideas that are all separate from one another, each "phrase" ending with a fermata as seen in Figure 5.3. These phrases are representative of being isolated and the lonely thoughts which an individual could have experienced in the pandemic.



The contrafact material, as seen in Figure 5.4, is based on the opening melancholic tune, and resembles artificial happiness while still feeling sad and lonely underneath a "mask," convincing others that everything is okay. The imitation of the opening material is expanded upon in an up-tempo, jazzy tune that dances along and reaches a piercing climax on Ab6. There is relief in the melody as it returns to the opening material, though still feeling melancholic and lonely.



Figure 5.4

In the third movement "Enough's Enough," Morris writes "A Juxtaposition of Rage and Grief" as a performance note at the beginning of the movement. This movement is a representation of anger and frustration which is present from the beginning with a declamatory shout as the oboe plays an E4 and a multiphonic then jumps up to F6. Following this statement, there are fragments of a slow melody, a possible time of reflection or contemplation with cries of frustration in the upper octave which are exaggerated by timbral trills. The material moves on from the slower section to introduce a repetitive motor as seen in Figure 5.5. This rhythmic pattern goes on for a few bars, accelerating until the eighth note equals 200 beats per minute. Once reaching this tempo, the down beats are accented and emphasized with a stomp, which Morris notes in the score as "X on C = Stomp Foot," and multiphonics are added in as well. The material alternates between 3/4 bars and 5/8 or 2/4 as seen in Figure 5.6, which represent agitation as the feeling of anger builds through this driving motive.



The final section of this movement is in 6/8 time, with a new rhythmic pattern that maintains stomps and multiphonics throughout as seen in Figure 5.7. As with the earlier motor, this section continues to drive forward with more frustrated outbursts, leading to a furious climax with a timbral trill on A6, before ending with a final statement of "enough's enough."



Figure 5.7

VI: Application as a Performer

In *Collision Etudes*, Morris relied on paintings for the compositional structure of each movement and set specific rules and guidelines for herself to utilize the pitches according to the color palettes provided by painters Joan Mitchell, Alma Thomas, and alleged synesthete Alexander Scrabin. In contrast, *Ruminations* was based on Morris's own emotions and did not require the same guidelines that she had put in place for *Collision Etudes*. Instead, Morris notated musical ideas and further improvised on those lines to reference emotional content. While these two pieces are representing different forms of perception, the performer is working to embody and represent the paintings and feelings Morris intends within these two pieces.

Movement two of *Collision Etudes* is a musical exploration of a city following the color palette provided by Joan Mitchell. The sixteenth-note material acts as the "roadmap," leading the listener and observer from one location to another. For the performer, this movement requires endurance and air support as the line moves through the full range of the oboe, and Morris incorporates various articulations to represent the different areas in the city. Though rests in this movement are minimal and it is easy to take quick breaths, continuously taking these smaller breaths builds up extra air, making the latter half of the movement less comfortable to play. It would be helpful for the performer to plan breaths, especially noting where it would be beneficial to breathe out and release the stale air. The staccato and accented notes versus the slurred melodic material are representative of the different parts of the city, and Morris takes the performer and listener on a journey through Mitchell's abstract city depiction.

The shortest movement in *Collision Etudes*, "Rainbow" has three separate motives which Morris matched with Thomas's artwork by using arch form. Since each section is only a few bars in length, the performer needs to effectively portray the varying qualities of the different sections so that the listener can distinguish these sections along with the artwork. Though the colors in Thomas's work are distinct, they still blend together to portray the rainbow; thus the performer should connect the motives. The addition of harmonics in this movement produces a hazy quality that aids the performer in distinguishing the different motives. The performer has to practice the transition from the standard to harmonic fingerings, in addition to determining the difference between the air and how each note speaks. The standard fingerings do speak a little easier than the harmonic fingerings, so the performer will need to balance the two in order to create a smooth, horizontal line and avoid a metronomic phrase. The C section offers the most contrast to the others in that there are no harmonics and the material is more triumphant. This material rises to a high A6, which requires air support and engagement from the embouchure; it is important then to relax the embouchure for the descent in range so that the pitch does not stay too high and the tone does not stay too bright. Each motive is distinctive and clearly shows listeners the arch form Morris uses to represent the arch of a rainbow.

During the first movement of *Ruminations*, Morris uses sixteenth-note melodic material to create an anxious character that the performer needs to maintain. In a similar fashion as the opening bars of "Rainbow," it is easy to play this material vertically by pulsing the big beats in 7/8, which takes away from the smooth, continuous line. Another perspective for this movement is playing within the given dynamics. For example, the opening starts on a pianissimo E4, which requires good air support. While the performer can play solo level dynamics, distinguishing the subtle, anxious thoughts from the frustrated outbursts is important in maintaining the character created by Morris.

While representing loneliness in isolation, the fragmented melody at the beginning of "Emotions: Masked and Unmasked" should be connected and create a horizontal line. This idea should also be reflected at the end of the movement. Though the end material is not as fragmented as the beginning, it is still important to connect the lines together. Similar to the first movement, the ending moves upward and concludes on a high note, though only a C6 here. Morris includes a contrafact jazz melody of the opening material which is expanded upon and concludes with a piercing Ab6. It is important for the performer to accurately incorporate the jazz tune and maintain a consistent tempo, as it is easy to rush. Part of accurately playing the jazz-influenced motive in this movement is to continue feeling the rhythm within the rests. This will help in keeping up the ruse of artificial happiness and hiding true emotions.

In the third movement, "Enough's Enough," the performer can play in a more overt expressive manner in order to represent anger through the repetitive motor, short articulations, and multiphonics. Once reaching the repetitive motor, it will be important for the performer to focus and keep track of where they are in this progression. There are some meter changes in which the pattern is slightly different and as the motor progresses, new notes are incorporated as well as multiphonics. One of the more difficult aspects of this movement is the addition of foot stomps, where the standing performer has to maintain their balance while keeping the motor moving and stomp their foot in rhythm. Morris said, "trying to do some sort of physical action while I was playing was new, like stomping while I was playing, and it took some coordinated practice."⁴⁵ One of the other parts of performing this piece is imitating the shouts and representing anger while continuing to produce a musical line. It is easy to let the line take over and simply play the notes and rhythms on the page; the challenge here is creating variety within the bursts of anger and rage that Morris writes into the music.

These two pieces require specific abilities in order to effectively portray the paintings or emotions. There is an overlap in Morris's compositional style which is displayed through similar

⁴⁵ Alyssa Morris, phone interview with author, February 10, 2023.

figures in each piece that are representing the different forms of perception. The first movement of *Ruminations*, "Woulda, Coulda, Shoulda" has running sixteenth-note lines in 7/8 and 12/8, mimicking the words "woulda, coulda, woulda, coulda, woulda, coulda, shoulda," creating a swirling, anxious motive that is somewhat unstable as it moves back and forth between the two time signatures. Similarly, "City Landscape" has an alternating sixteenth-note line in 6/8, though this line acts as a steady pulse and transitional material to a new area rather than a main motive. Figure 6.1 from *Ruminations* shows the movement within the swirling motive, and Figure 6.2, from *Collision Etudes* shows the alternating pattern between two notes. In "Woulda, Coulda, Shoulda," the line stays in the lower register longer before moving to the upper octave and immediately back down. This perhaps suggests some hesitation as the anxiety turns to frustration and quickly returns to anxiousness. In "City Landscape," the line slowly ascends in range as the listener continues their journey. The larger, more frequent jumps towards the end lead to a previous statement before moving on to new material. This represents seeing a glimpse of something familiar before seeing something new in the city.



Figure 6.1



Figure 6.2

The opening of "Emotions: Masked and Unmasked" seen in Figure 6.3, and "Rainbow" seen in Figure 6.4, are examples showing how Morris uses fragmented melodies in these compositions. The whole melody is divided into smaller gestures with fermatas. The second movement of *Ruminations* showcases sadness and isolation, and though the fragmented melodies represent different thoughts and ideas, they are still connected. In *Collision Etudes*, "Rainbow" evokes clouds floating above the earth in an ethereal melody. While this material is not fragmented in the same way as in *Ruminations*, it resembles the colored blocks within each section in Alma Thomas's painting. Side-by-side, these two figures do not have much in common except that they each have fermatas, and even in performance they sound different from one another. These fragmented melodies create space for the material to settle. In *Ruminations*, the sadness is amplified by this space and supports Morris's emotions in isolation, whereas in *Collision Etudes* it acts as naturally occurring space and is illustrated in Thomas's painting.



Figure 6.3



In each piece, Morris composes quick moving lines that represent different themes or feelings. The second theme in the first movement of *Ruminations* is more intense and frustrated than the previous anxious material. This frustration is shown as the oboe quickly moves through its range, increasing the dynamic level as the line reaches the upper register as shown in Figure 6.5. In *Collision Etudes*, Morris utilizes the quick moving passage as a driving energy that propels the piece to the end as shown in Figure 6.6. In each figure, there is some time spent in the middle range of the oboe before continuing to the top, and in the case of "City Landscape," Morris does the same as the line comes back down to the lower register.

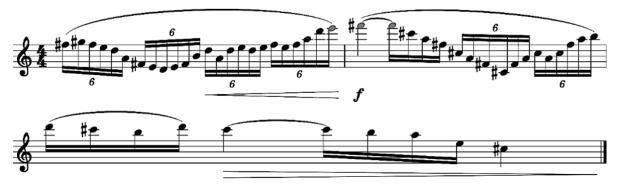


Figure 6.5



Figure 6.6

While these two pieces share some compositional similarities, each work offers a different challenge as a performer. *Collision Etudes* is about playing Morris's musical depictions of art through various compositional styles, embodying Morris's intentions that she felt best represented the paintings. In a similar manner to the compositional approach to this work, the performer follows the guidelines and rules put in place by Morris in order to portray the paintings as seen through Scriabin's color wheel. For example, in "Rainbow" the performer is creates a musical arch like a rainbow. The three distinct sections help to guide both the performer and listener through Thomas's artwork by way of Scriabin's synesthetic lens and Morris's musical translation.

Ruminations is about interpreting specific, strenuous emotions that the performer should be able to relate to, without feeling those sentiments while performing. This piece is more programmatic as the performer is telling an emotional story and interpreting Morris's feelings in a way that is relevant to the performer. The "story" begins with dealing with anxiety and frustration early in the pandemic as so many things were uncertain. It moves to feeling lonely in isolation as COVID-19 restrictions kept people at home; this movement also presents artificial happiness as individuals must keep going on with their lives as if everything were normal. In the last movement, "Enough's Enough," the story reaches its breaking point with an emotional combination of rage and grief. While this movement begins with a contemplative section, it picks up quickly and gradually shows more anger through rhythmic variation and multiphonics adding a harsh timbre to emphasize "enough's enough."

38

VII: Conclusion

These two pieces by Alyssa Morris aim to embody and represent non-musical concepts through music. While there are similarities between these two works, each piece represents a form of perception that is highlighted by the differences in compositional devices and experience as a performer. Each work utilizes a compositional style that Morris felt represented the subjects of the two works. For *Collision Etudes*, Morris was able to follow rules to create a musical translation of the paintings according to the color wheel of Alexander Scriabin. Both "City Landscape" and "Rainbow" offered different structures that Morris utilized to create musical depictions of each painting. *Ruminations* was composed improvisationally to create a musical representation of emotions during the COVID-19 pandemic. Morris selected distinct emotions to portray in the three movements, each an interpretation of what she thought they would sound like on the oboe, and utilized specific musical cues, like tempo, rhythm, and articulation to represent the different emotions perceived.

The compositional structures in *Collision Etudes* and improvisation in *Ruminations* can be related to the performing aspect of each work. *Collision Etudes* is about playing the depictions of these paintings through the lens of Scriabin and Morris's own translation of the notes and colors. While there is some room to interpret Morris's score markings, it is important to follow the material closely to relate to the subjects of the paintings. *Ruminations*, on the other hand, has more room for interpretation of the material as each performer may have their own way of presenting the selected emotions in each movement.

These two pieces are representations of Morris's style and voice in the way she uses the oboe and similar motivic material. The second example from the previous chapter shows how Morris creates natural space in fragmented melodies allowing the musical line to settle. The third

example shows how Morris utilizes the whole range of the oboe in a short period of time in order to portray the experiences of the pandemic and journey through a city. These pieces are programmatic in their own way; the performer tells a story about each painting in *Collision Etudes*, and in *Ruminations* the performer explores a series of emotions felt during the pandemic.

These works highlight and embody the non-musical concepts of sensory and emotional perception through varying compositional devices and the experiences as a performer. While these two works are quite different, they are representations of Morris's own voice as a composer and oboist.

Bibliography

- Art Institute of Chicago. *City Landscape, Joan Mitchell*. Department of Museum Education, Educator Resource Packet. N.D.
- Bernstock, Judith E., and Joan Mitchell, Herbert F. Johnson Museum of Art. *Joan Mitchell*. 1st ed. New York: Hudson Hills Press, 1988.
- Gabrielsson, Alf. "Emotion Perceived and Emotion Felt: Same or Different?" *Musicae Scientiae* 5, no. 1 (2001): 123–147.
- Gray, Jeffrey. "Synesthesia: A Window on the Hard Problem of Consciousness." In *Synesthesia: Perspectives from Cognitive Neuroscience*, edited by Lynn C. Robertson and Noam Sagiv, 136–55. Oxford: Oxford University Press, 2005.
- Juslin, Patrik N. "Communicating Emotion in Music Performance: A Review and Theoretical Framework." In *Music and Emotion*, edited by Patrik Juslin and John Sloboda, 309–337. Oxford: Oxford University Press, 2010.
- Juslin, Patrik N. and John A. Sloboda. "At the Interface Between the Inner and Outer World: Psychological Perspectives." In *Music and Emotion*, edited by Patrik Juslin and John Sloboda, 71–97. Oxford: Oxford University Press, 2010.
- Hall, Sharri K. "The Doctrine of Affections: Where Art Meets Reason." *Musical Offerings* 8, no. 2 (2017): 51–63.
- Marks, L.E. "On Colored-Hearing Synesthesia: Cross-Modal Translations of Sensory Dimensions." *Psychological Bulletin* 82, no. 3 (1975): 303–331.
- McPherson, Gary E. and Robert H. Woody. "Emotion and Motivation in the Lives of Performers." In *Music and Emotion*, edited by Patrik Juslin and John Sloboda, 401–424. Oxford: Oxford University Press, 2010.
- Morris, Alyssa. Collision Etudes. Tallevast, FL: TrevCo Music Publishing, 2018.
- Morris, Alyssa. Ruminations. Tallevast, FL: TrevCo Music Publishing, 2021.
- Peacock, Kenneth. "Synesthetic Perception: Alexander Scriabin's Color Hearing." *Music Perception: An Interdisciplinary Journal* 4, no. 2 (1985): 483–505.
- Russell, James A. "A Circumplex Model of Affect." *Journal of Personality and Social Psychology* 39, no. 6 (1980): 1161–1178.
- Van Campen, Cretien. *The Hidden Sense: Synesthesia in Art and Science*. Cambridge, MA: MIT Press, 2008.
- Wallmark, Zachary and Roger A. Kendall. "Describing Sound: The Cognitive Linguistics of Timbre." Oxford Handbooks (2018): 1–37.
- Zamm, Anna, Gottfried Schlaug, David M. Eagleman, and Psyche Loui. "Pathways to Seeing Music: Enhanced Structural Connectivity in Colored-Music Synesthesia." *NeuroImage* 74 (2013): 359–66.

Figures:

2.1 - Peacock, Kenneth. "Synesthetic Perception: Alexander Scriabin's Color Hearing," *Music Perception: An Interdisciplinary Journal* 4, no. 2 (1985): 494.

3.1 - Juslin, Patrik N., "Communicating Emotion in Music Performance: A Review and Theoretical Framework." In *Music and Emotion*, ed. by Patrik Juslin and John Sloboda, (Oxford: Oxford University Press), 315.

4.1 - 4.2 - Morris, Alyssa, *Collision Etudes*, Tallevast, FL: TrevCo Music Publishing, 2018, "City Landscape"

4.3 - 4.5 - Ibid., "Rainbow"

- 5.1 5.2 Morris, Alyssa, *Ruminations*, Tallevast, FL: TrevCo Music Publishing, 2021, "Woulda, Coulda, Shoulda"
- 5.3 5.4 Ibid., "Emotions: Masked and Unmasked"
- 5.5 5.7 Ibid., "Enough's Enough"
- 6.1 Morris, Ruminations, "Woulda, Coulda, Shoulda"
- 6.2 Morris, Collision Etudes, "City Landscape"
- 6.3 Morris, Ruminations, "Emotions: Masked and Unmasked"
- 6.4 Morris, Collision Etudes, "Rainbow"
- 6.5 Morris, Ruminations, "Woulda, Coulda, Shoulda"
- 6.6 Morris, Collision Etudes, "City Landscape"