THE CORRELATION BETWEEN ORCHESTRATION AND FORMAL STRUCTURES IN CONTEMPORARY WORKS FOR LARGE ENSEMBLES

by

BEN ROBICHAUX

(Under the Direction of Adrian P. Childs)

ABSTRACT

As the Lights Go Out, a wind ensemble and quadraphonic electronics piece by Ben Robichaux, applies formal structures that correlate with orchestrational techniques particularly as it pertains to the role of electronics. Select purely acoustic models by John Corigliano and Joseph Schwantner suggest that large-scale forms are in fact paralleled by stark contrasts in orchestration. Carrying this method of analysis into further analyses of wind ensemble and electronics pieces by Steven Bryant and Christopher Stark yields valuable conclusions about the role of electronics in such mediums moving forward. The electronics used in the works of these composers often correlate to formal structures, while rarely exhibiting isolated characteristics. This informs a careful balance of aesthetic variety among the electronics and the ensemble in Robichaux's approach to composing *As the Lights Go Out,* focusing on equality of formal drive between the two forces, while keeping the role of the electronics in check at all times.

INDEX WORDS: Orchestration, Orchestrational Choices, Form, Formal Structures, Corigliano, Schwantner, Bryant, Stark, Electronics

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B.A., Nicholls State University, 2014

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A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF MUSICAL ARTS

ATHENS, GEORGIA

2018

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December 2018

DEDICATION

This work is dedicated to my wife Alex whose support throughout my academic and compositional endeavors has been invaluable. In addition to her support, her honest feedback has been a cornerstone of my progress.

ACKNOWLEDGEMENTS

I would like to acknowledge the professors who assisted me in the process of writing *As the Lights Go Out* including Adrian Childs, Emily Koh and Peter Van Zandt Lane. I would also like to acknowledge Leonard Ball, Emily Gertsch, Rebecca Simpson-Litke and Natalie Williams whose mentorship set the stage for the execution of such a project. On so many levels, my time at the Hugh Hodgson School of Music has shaped me as a composer, musician and teacher. I am most appreciative for their acknowledgement of my potential by accepting me into the program in the first place.

I would also like to thank my parents who have always encouraged my creative output despite the several instances that my music clashed with their own personal tastes. I would finally and most importantly like to thank my wife Alex whom I cannot acknowledge enough. I love you very much and look forward to our future together.

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CHAPTER 1

INTRODUCTION

When considering which pieces to analyze for this project, I pondered works in the late 20th and 21st centuries in similar styles and durations to my own composition, an analysis of which concludes the dissertation. In doing so I decided to choose the first movement of John Corigliano's Symphony No. 1 for its manipulation of traditional formal structures in a modern style. For the same reasons I analyzed Steven Bryant's *Ecstatic Waters*, which more abstractly manipulates traditional formal structures but in a more similar instrumentation to my own work. I also analyzed pieces with more abstract, nontraditional formal structures such as Joseph Schwantner's *...and the mountains rising nowhere* and Christopher Stark's *Augenblick*. My own work *As the Lights Go Out* has a more abstractly strewn traditional form that closely resembles the four pieces analyzed. Stylistically and formally my work aims to be a combination of all of the most effective elements of the pieces analyzed both formally and orchestrationally.

When creating my analyses I frequently reference orchestrational choices referring to the meticulous placement of musical ideas among the ensemble and the electronics. I often refer to the formal development that corresponds to these orchestrational choices. I make use of the term "formal intensity" to draw focus to a moment in the piece that has particular interest in regards to an advancement of the form. This may include a transitional section for example. The main focus of the paper is to draw correlational, not causational, connections between form and orchestration. Every analysis concludes with a formal diagram that rehashes the formal

development and orchestrational choices used in the corresponding pieces. Every analysis also includes assigned names for the thematic and orchestrational choices made in the pieces.

Careful attention should be paid to the interweaving of different musical ideas particularly as it relates to the subtle differences utilized in orchestration. In the Corigliano for example, the texture at times becomes a tapestry of interwoven themes existing with meticulously chosen orchestrations. These subtle changes in orchestration of themes over time directly correlate to the advancement of the form of the piece. This often manifests itself in the form of timbral and dynamic extremes of the orchestra. A theme could hypothetically first appear in the dynamically tame bassoon at a piano volume and ultimately move into the high register of the trumpets at a fortissimo volume. My analysis of this variation of orchestration would acknowledge an advancement of the form of the piece that parallels said orchestration.

Continuing this process into the Schwantner proves to be more difficult for the mere fact that thematic cues are not entirely present in his piece. He does, however, repeat his orchestrational nuances, thus creating a monotony of large-scale gestures that add definition to the form. The gestures in question involve a bombastic and loud texture that is immediately juxtaposed by a contrastingly thin and soft texture. Because of the piece's non-repetitive thematic nature, this repeated orchestrationally-driven gesture gives the form of the piece clarity. This indicates to me that *...and the mountains rising nowhere* does not contain contrasting sections but rather that the different sections more closely resemble variations. This adds to the abstract nature of the work because the different sections of the piece certainly *feel* different from one another. My analysis acknowledges this formal anomaly in detail.

Bryant's approach to form in *Ecstatic Waters* proves to be a combination of both the Corigliano and the Schwantner as it loosely follows a traditional rondo structure but does not

utilize repetition in any significant way. Unlike the Schwantner, however, the Bryant has sections that isolate themselves from each other enough to distinguish them as contrasting. This manifests itself through orchestration and through the presentation of contrasting large-scale gestures. I clarify that the various uses of electronics here correlate to this form and add an extra layer of clarity to the form that a purely acoustic medium lacks. The large-scale formal structures that I establish are entirely based on the aesthetic effect that the piece's sections exude. This is important to note because my formal diagram for Bryant's piece includes A, A' and A" sections. In the traditional sense these A sections would have a repetition of materials establishing their connectivity whether they be harmonic, rhythmic, melodic, etc., but my analysis notes these formal returns as callbacks to aesthetic. In other words the opening A section has a serene and calming aesthetic, and the corresponding A' and A" sections have this same aesthetic without repeating materials from the opening A section.

The Stark piece is similar to the Schwantner and the Bryant in that it does not utilize repetition of ideas to clarify a formal structure that suggests a cyclical nature. There are a few key differences that isolate the Stark, however, including the lack of repetitive large-scale gestures as is prevalent in the Schwantner. Instead, the piece has three large-scale sections with an introduction and a coda. Establishing the role of orchestration in analyzing this piece proves to be the most crucial. Indeed, the form of the Stark is most apparent when superimposing the indirectly proportional elements of the ensemble and the electronics. This is the only means I employed that seemed to give the structure of the piece any coherence. The indirectly proportional elements in question involve the level of electronic activity in relation to the textural complexity of the ensemble. For example, as the texture in the ensemble simplifies towards the end of the work, the electronics become more active. This relationship persists throughout the

work. I chose to analyze the Stark because it offered a similar formal abstractness to the Schwantner without the clarity of large-scale gestural repetition. It has similar formal abstractness to the Bryant without the clarity of the aesthetic repetitions and contrasts. In fact all of the pieces differ in their approach to form both in their references, or lack thereof, to traditional forms and in their abstractness of formal development.

In composing my own large-scale work, I combined the thematic repetitions used by Corigliano and the aesthetically-driven formal divisions used by Bryant. I took a more concrete approach to electronic sounds just as Stark did, while also including a hint of the electronically cliché as in the Bryant. Influences of Schwantner's large-scale gestures are present in my own work. This manifests itself primarily in the form of abrupt dynamic shifts through the use of rapidly thinning and expanding orchestration of ideas. By organizing what I believe to be the most effective elements of these four pieces, I created a piece that can be analyzed through the same means. At first glance, the resulting formal diagram for my own work most resembles the ones created for the Corigliano and the Bryant, but upon further observation, it can be determined that the diagram is in fact a combination of *all* of the styles of the formal diagrams preceding it.

CHAPTER 2

ORCHESTRATION AND FORMAL DEVELOPMENT IN ACOUSTIC WORKS OF THE LATE 20TH CENTURY

In acoustic works of the late 20th century, orchestration and formal development are almost always interleaved in such a way that gives clarity to the work's formal structure. Often times individual instruments, sections or instrument families will timbrally cue a move to a new section or, at the very least, an increase or decrease in the tension of different sections. The intensity of this interplay between orchestrational choices and clarity of formal development is directly related to the size and diversity of an ensemble. A work for orchestra and its accompanying piano transcription, perhaps identical in harmonic and rhythmic material, offer very different textural and timbral contextualization for musical ideas. Offering even greater clarity is a large-scale work with a soloist. A concerto, for instance, is a work that hangs on the actions of the soloist. Indeed, the accompanying ensemble is typically orchestrated around the textural and timbral needs of the solo instrument. This creates great clarity as to the direction of the form especially in moments where there is *only* orchestra without the soloist or *only* the soloist without the orchestra. Whether or not these large ensembles include a solositic element, this formal clarity as cued by orchestrational choices is a result of both the timbral variety of the ensemble in question and the enormous dynamic range of the ensemble. This chapter will examine two examples from the late 20th century in which said timbral variety and dynamic range are utilized to demarcate the formally important moments of the pieces.

The first piece I will analyze is the first movement of John Corigliano's Symphony No.1. Throughout the work Corigliano establishes and develops very recognizable thematic materials. One of the most obvious means of developing said materials is through the varying of the orchestrating of these ideas. I will analyze the formal development these varying orchestrational choices parallel and observe the role these orchestrational choices play in emphasizing the form of the movement. The various repetitions and variations on these themes add clarity to the large-scale structure that Corigliano establishes. Later in the chapter, I will analyze Joseph Schwantner's *...and the mountains rising nowhere* which, in a very different manner from the Corigliano, does not make use of repeated thematic materials. Instead, Schwantner makes use of repeated large-scale gestures to clarify the formal structure of his work. These large-scale gestures are made apparent by the orchestration of these ideas particularly through the rapid expansion and thinning of the orchestration of said gestures. The resulting formal diagrams I created for these pieces reflect their contrasting approaches to form and orchestration.

John Corigliano's Symphony No.1 – I. Apologue: of Rage and Remembrance

The opening movement of John Corigliano's first symphony is a prime example of an orchestrationally-led formal structure. The composer masterfully develops several motives that are often designated for specific instruments or instrument groups. He arranges these motives in a way that manipulates large-scale formal structures and dictates formal intensity in the process. The composer tactfully coordinates these ideas to manipulate the finely tuned transitions, climaxes and resolutions of the movement.

Corigliano begins his Symphony No.1 with a chilling gesture. The string section pairs with the piano, brake drum, anvil, and xylophone to create a startling attack. Here Corigliano

brilliantly imitates the sound of a horn by manipulating the perceived sound envelope through tactful orchestration: See Figure 2.1.

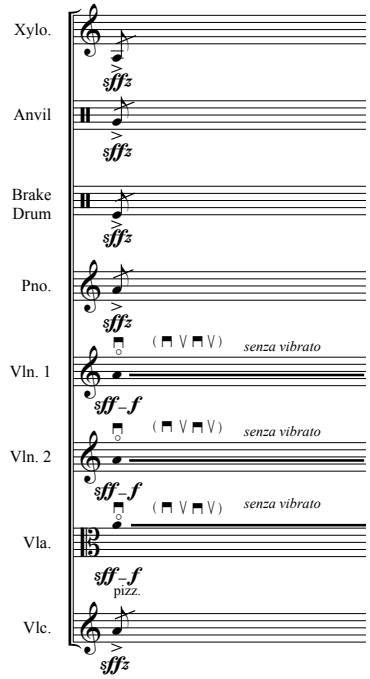

Figure 2.1 – John Corigliano's Symphony No. 1 – Apologue of Rage and Remembrance, m. 1.; The orchestration of harshly attacking percussion instruments coupled with equally harsh but sustained strings creates the timbre of a horn attack and sustain.

By contrasting the brief but pervasively loud percussion with the intense yet markedly softer string section, Corigliano successfully creates an organic sounding attack and initial decay as is present in an ADSR (Attack, Initial Decay, Sustain, Release) envelope. Because this is an imitation of an ADSR envelope and he is not restricted by the acoustic necessities to complete a typical envelope, Corigliano warps the expected shape of the sustain and release to maximize the intensity of the gesture. The sustain builds in intensity to an accentuated release on octave G-sharps.

The next gesture is very similar with some pitch development in the sustain and release of the gesture as a development of the figure. Corigliano utilizes the terrifying aesthetic he has

created after this gesture with an expansion of the orchestration during a bombastic moment accentuated by the horn's pickup into bar 7. The orchestrational choice to spearhead this gesture with fortissimo horns appears to be a nod to the approximation of the horn's timbre in the opening gestures of the piece. This makes the gesture both timbrally satisfying and indicates a development of said timbre through orchestrationally clever means. Because this opening section is effectively orchestrated to accentuate an aesthetic of terror, the remaining form of the work now has meaningful options that the listener will likely expect because of this opening. This is not to say that anyone who hears this opening could map out the entire form of the work, but now there are approximations about what the piece is capable of from an aesthetic viewpoint. This is a construction of expectation that Corigliano has built for his piece, and it serves him well going forward. Said aesthetic expectations could include anything from a terrifying, bombastic climax to a chillingly soft form haunted by the horror of the opening bars. While these are contrasting approaches to the form going forward, Corigliano effectively makes use of both.

Developments in the brass orchestration of the first movement are the defining surface-level sound of the introduction and the new section reached at measure 7, but the development of the metrically strict rhythmic motive (henceforth known as the plodding motive) first heard in this measure is the formal driver of the movement and this section (henceforth known as A). The plodding motive is most commonly used at the onset or end of formal structures. It appears in its most varied form in the middle of sections. The motive also indicates the occurrence of new material as in the lead-up to measure 27.

Bar 27 introduces new material in a jarringly orchestrated way, thus accentuating the onset of increased formal activity. Corigliano does this by scoring 5 separate trumpet parts each

with frantic frame notation (henceforth known as the frantic motive) at fortissimo: See Figure 2.2.

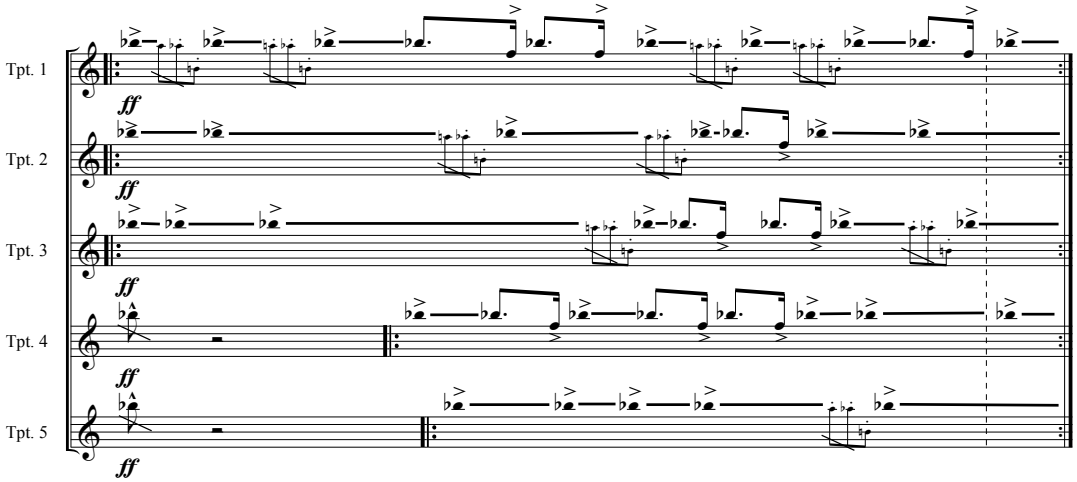

Figure 2.2 – m. 27 of the Corigliano; the frantic motive utilizes 5 separate trumpet parts in a jarring figure that advances the form. The trumpets have not been transposed in this figure.

Up to this point the trumpets have been widely underused, adding textural support at best. Here they are at the forefront of the texture. This orchestrational switch in the role of the trumpet section is both sudden and well prepared all at once. Corigliano offers a few orchestrational nuances to prepare this trumpet feature.

The effectiveness of the preparation for the frantic motive in bar 27 can be examined in two ways: 1) the overall dynamic of the orchestra leading up to this moment and 2) the use of timbrally similar orchestration prior to this moment. Corigliano perhaps surpassed the dynamic intensity of this trumpet feature if only briefly in bar 7, but he very quickly decrescendos from this outburst both in dynamic and in density of orchestration. In bars 25 and 26, however, he utilizes the plodding motive to foreshadow the incoming trumpets: See Figure 2.3.

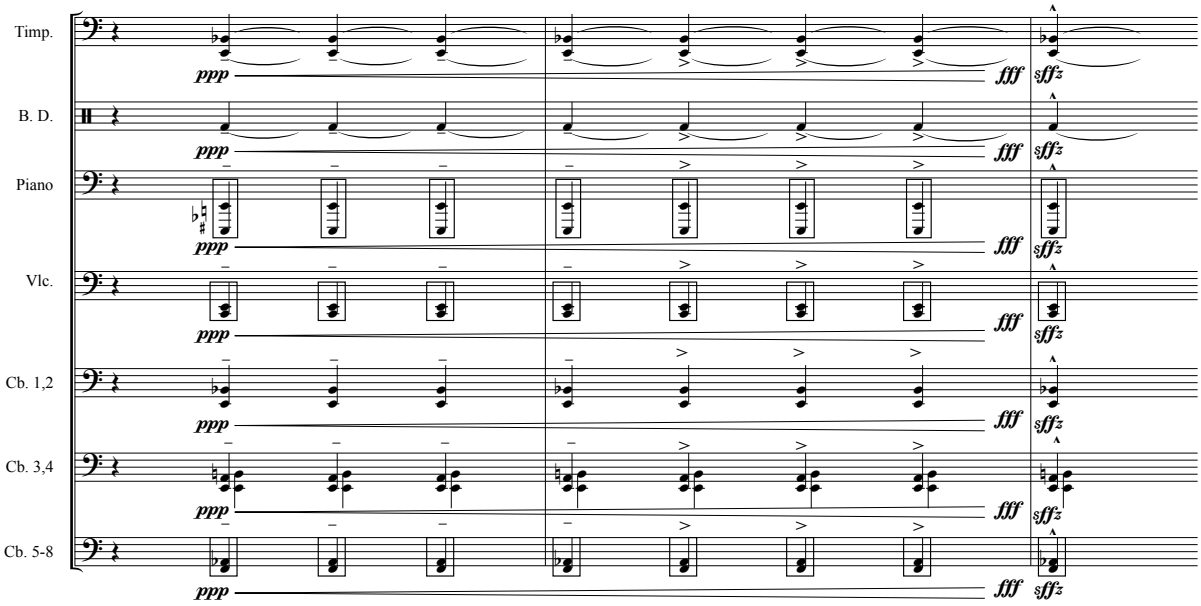

Figure 2.3 – mm. 25–27 in the Corigliano; the plodding motive is often used transitionally, usually indicating the onset of loud and bombastic sections. The Contrabasses sound an octave lower than written.

When examining timbral similarity to this point, the development of the use of brass instruments, particularly in the horns and trumpets, should be noted. The previously discussed opening gestures timbrally develop the sound of the horn with further development via trumpet nuances in mm. 7-11 and mm. 22-24 that sharpen the timbre. Although the dip in dynamic intensity between mm. 7-25 is also present in the thinning of the orchestration, the preparation still proves effective, and the quick orchestrational swell in mm. 25-27, while jarring, is not out of place.

Once this frantic trumpet idea finishes its first iteration, both the trombones and the percussion demonstrate a variation on the plodding motive cueing a building of energy in the form of the work: See Figure 2.4.

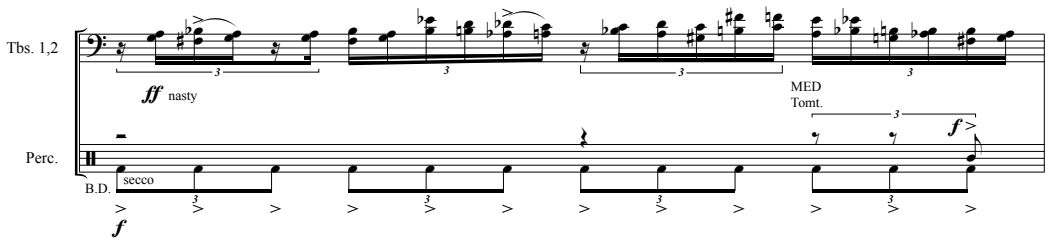

Figure 2.4 – m. 32 in the Corigliano; the variation of the plodding motive seen here by the trombones and the percussion is the most abstract form of the motive.

While at first glance the trombones appear to be a development of the already-developing brass timbres of this movement, they exhibit a few features that contradict the notion that this is their primary purpose here. Considering the trombones in isolation, they are far too rhythmically strict. The brass up to this point have been largely textural utilizing rhythmic strictness in simpler forms as a means of either introducing the motive that is first seen in the horns in their pickup to measure 7 or as adding timbral color as seen in the early uses of the trumpets in the work. Otherwise, the rhythm of the trumpets and horns at measure 27, while undoubtedly more rhythmically complex than their previous contributions, are satisfyingly aleatoric. The trombone feature here is also in synchronization rhythmically with the percussion. While not playing exactly the same rhythms, the trombones are sounding sixteenth-note sextuplets, while the percussion is sounding eighth-note triplets. Considering the strictness of rhythms here in combination with the use of percussion, this is clearly a development of the plodding motive. Ultimately, this cycles back to a second iteration of the frantic motive. In fact two more interchanges between the frantic motive and this variation of the plodding motive occur in diminished fashions, increasing the formal drive of this section and leading to the beginning of a climax/transition at the hands of the plodding motive starting in measure 43.

Considering the different orchestrations of the frantic motive and this particular variation of the plodding motive, the horns play a very connective role. They exist as imitators in both cases. First in the frantic motive they have rips and figures of frame notation just as the trumpets do, but they occur as afterthoughts, existing almost as echoes. The same can be said for their adoption of the plodding motive from the trombones in m. 33 leading back to the second occurrence of the frantic motive in which they play their similar role of echoing the sentiment of the trumpets. The development of the plodding motive in the variations between mm. 33-43 are more abstract, taking more imagination to draw them back to the original occurrence of the motive in bar 7. The development of the motive beginning at bar 43 is far more straightforward and, as a result of this, organic.

The low strings, tubas, timpani, contrabass clarinet, and bassoons begin a slow but menacing iteration of the plodding motive that sees a gradual accelerando (henceforth known as the accelerando gesture) through bar 64. This creates an inevitable sense of forward motion that eventually a majority of the instruments imitate. Interestingly enough, as the accelerando presses on, the original instruments that began the accelerando gesture begin to play longer sustained notes almost as if the advancement of the accelerando has the opposite effect on them. A few other instruments to go against the fray of the accelerando gesture are trumpets 2-5 and all of the horns. Once the accelerando gesture picks up steam, the snare drum's timbral dominance puts the gesture over the top. The plodding motive is defined by the rhythmic strictness of the percussion that spearheads the motive. This emergence of the snare drum as a bright, pervasive percussion sound that ultimately exhibits a frantic nature as the accelerando gesture persists parallels the development of the brass section throughout the opening and section A. Said development began in the opening gestures with the timbral imitation of the horns in the strings

and percussion, moving into bar 7 with the harsh emergence of the horn and reaching a timbral peak in the frantic motive with the brash use of the trumpet section. Considering that the plodding motive periodically moves from the bass drum, to the tom-toms, and ultimately here into the snare drum is an orchestrational parallel, particularly considering the registral movement, that Corigliano effectively employs.

The gravity of the accelerando gesture has formal implications that take the movement out of section A and into section B. To this point the woodwinds and strings have taken backseat roles to the brass and percussion by sounding out mere echoes, adding meek harmonic support, or (in the case of the strings) playing a secondary role in the opening gestures. The woodwinds do have a motive that occurs as secondary activity in the A section serving as connective tissue between the bombastic outbursts in the brass and percussion. The piccolo has the most identifiable figure in these moments: See Figure 2.5.

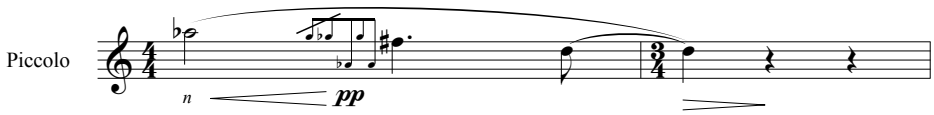

Figure 2.5 – mm. 15-16 in the Corigliano; the searching motive is a highly secondary feature of the work. It is used transitionally and is often overshadowed by something that is more relevant motivically. The piccolo is transposed down an octave in this figure.

This motive (henceforth known as the searching motive) occurs three times in the opening section alone. Said motive occurs twice as frame notation and once as a strictly written motive. Its first occurrence from mm. 8-12 accompanies the hellish activity that begins in m. 7. This makes this moment more of a collage of ideas than an exposition of the searching motive. A much more expositional moment for the searching motive is mm. 15-17 where the texture has

thinned significantly. Considering that this falls in the small gap between two instances of prominent plodding motive occurrences, this motive seems like an afterthought.

Corigliano has made use of the idea of echoing instruments to this point, particularly in the horns. Perhaps this is a more prominent example of said echoing. Indeed, even within the small collection of woodwind instruments taking part in the first two instances of the searching motive, there is an orchestrational hierarchy demonstrated via echo-like entrances. The piccolo supersedes the oboe, and the oboe supersedes the clarinet. This is a third instance of Corigliano's prioritization of orchestration based on register. The trumpet outranks the horns and trombones to this point, and similarly, the snare drum outranks the tom-toms and bass drum. In this case "outranks" refers to an instrument's role in the advancement of the form of section A. Because the searching motive does not advance the form in any prominent way to this point, the idea of hierarchy has less to do with form and more to do with the prominence of the individual instruments' roles in the motive.

The third instance of the searching motive occurs in mm. 43-48. At first this occurrence appears to rival the irrelevance of the first occurrence in mm. 8-12 but picks up significant steam only due to the piano and percussion's adoption of the motive, ending with a prominent flourish in m. 48 in which the harp is added. This is a glaring formal cue in the section as accentuated by the orchestrational additions of the piano, harp and percussion effectively triggering the beginning of the accelerando gesture. This is also a further downplaying of the role of the woodwinds in this section. To this point the role of the searching motive and the secondary contributions of the woodwinds have been synonymous. Corigliano uplifts the motive in m. 48 by leaving the woodwinds behind. This is a prominent trend of section A and begins to change at the conclusion of the accelerando gesture.

The transition out of A and into B utilizes both the woodwinds and the strings as transitional material. Corigliano triggers a dramatic fall in the woodwinds and strings in mm. 65-69 and in doing so accentuates the end of a dramatic A section that had just reached its peak. This is a necessary fall from action that Corigliano creates to undo some of the enormous momentum the accelerando gesture just generated. Paired with the strings, this is likely the most significant contribution the woodwinds have seen to this point, and even so, it is still vastly inferior in importance to the accelerando gesture it is meant to echo. Nevertheless, this sets the stage both orchestrationally and formally for section B, which begins with a heart-wrenching feature in the violins.

This melodic and dirge-like feature in the violins begins with both violins 1 and 2 playing at fortississimo starting in m. 65, the conclusion of the accelerando gesture. Between mm. 65-80 Corigliano decrescendos via dynamics, and orchestration. By the time m. 80 arrives the dynamic has reached pianissimo and only violin I is playing. This feature utilizes the upper extremes of the instrument and the range spanned in these measures is a minor 10^{th}. This falling action is far more drawn out than that which occurs in the woodwinds and the other string sections that quickly flourish downwards from mm. 65-69. While they are basically the same gestural ideas, one serves as an echo to the end of section A, while the other is the introduction to section B.

The introductory nature of the violin melody between mm. 65-80 sets a reflective tone but Corigliano's interjection of this melody is jarringly haunting. He quotes Leopold Godowsky's piano arrangement of Isaac Albéniz's Tango No. 2 in D major, op. 165 on an offstage piano to counter the strings here. This eerie choice is accentuated by the fact that the piano is both offstage and completely out of synchronization with the violins whose haunting counterpoint persists nearly to the end of the first occurrence of the tango in the piano. The

conclusion of the aforementioned counterpoint between the violins in m. 101 and the dwindling of the tango in the piano cues the dovetailing of the low strings and the bass clarinet and clarinet 2. The orchestrational nuances involving gracefully placed dovetailing entrances used in section B to this point are a contrast to the often-jarring entrances of instruments used in the A section, but the formal advancement that these entrances imply are very much the same.

For instance, the second occurrence of the tango in the piano is cued by the brief, quasi-climactic swell of instrumentation in mm. 119-124, which sees the return of the violins that ultimately dovetail into the familiar orchestration present in the first occurrence of the tango in the piano. This graceful dovetailing gets slightly more aggressive as the section progresses, however, with instruments beginning to imitate the Albéniz quote as opposed to offering a contradictory accompaniment as was originally the case. This is originally hinted at in mm. 99-125 during which the cellos initially imitate the tango with a similar imitation in the flute before the tango in the piano returns. After this second tango in the piano is where the more aggressive imitations begin, namely in the clarinets, bassoons, flutes and cellos. The orchestrational technique of building momentum by more aggressively and concretely quoting the off-stage piano is another example of the advancement of form as signaled by orchestrational choices. As the section progresses, the orchestration becomes more aggressive, and therefore, the form becomes more aggressive. In fact, not shortly after the imitation of the piano becomes more aggressive, familiar themes from section A begin to reemerge.

From m. 144 to the end of the movement, Corigliano makes use of all of the motives and gestures he has developed and introduced to this point by creating a collage (henceforth known as collage technique) of said motives and gestures. The driving force formally from here to the end of the movement is the orchestration of these motives and gestures. In m. 144 the all-too-

familiar plodding motive returns in the harp, oboes, English horn, bassoons and trumpet I. This triggers an enormous swell from m. 144 to the return of section A in the pickup to m. 209. This swell is defined by occurrences of the plodding motive with a return of the accelerando gesture preceding m. 209. While the return of the plodding motive occurs as mentioned before in m. 144, it disappears again by m. 152. A more sinister recurrence occurs in mm. 170-172 in the oboes and the tambourine. This stacking of different ideas is likely the most prominent example of collage technique Corigliano uses in this movement aside from perhaps the first occurrence of the tango in the piano. This startling use of collage technique is a formal cue to the enormous build Corigliano is about to create orchestrationally.

The particular recurrence apparent in mm. 170-172 is a resurgence of the variation of the plodding motive developed in the trombones and horns earlier in the movement. In fact, Corigliano very clearly intends on returning this motive to the trombones as he passes it through the orchestra. After the oboes and tambourine, he gives the motive to the bassoons and tenor drum in mm. 174-175. He then transfers the variation back to the brass via the trumpet in m. 177 but quickly hands it off to the trombones in mm. 178-179. The shift in momentum of this variation is made possible through Corigliano's orchestrational choices, although his initial choice to move the motive from the oboes and into the bassoons is a bit counter-productive considering the dynamic dip that this choice creates (the bassoons being one of the quietest instruments in the ensemble). Ultimately, his movement of this variation of the plodding motive dovetails nicely with the march-like development of the motive seen in m. 180 with the rhythmically strict figures in the timpani. Corigliano proceeds to offset this rhythmic strictness in a gesture that destabilizes the plodding motive and cues the return of the accelerando gesture: See Figure 2.6.

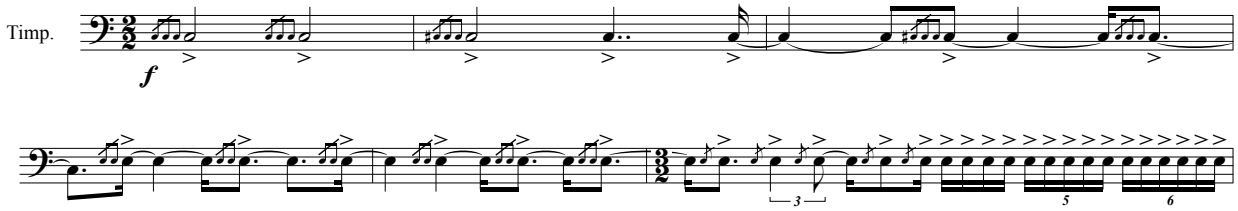

Figure 2.6 – mm. 188–193 in the Corigliano; the composer creates a sense of rhythmic strictness and proceeds to break said strictness as a means of increasing tension.

A horn feature that was not present in the original version of the gesture highlights the onset of the accelerando gesture in m. 180. This manifests itself in the form of an extended melodic development of the Albéniz tango. The collage technique reaches its peak in this moment that spans mm.180-208 as the driving intensity of the accelerando gesture is coupled with the emotional gravity of the tango. A third layer to this collage that Corigliano adds occurs in mm. 182-188 and again in mm. 198-208. This is an almost identical repeat of the introduction (mm. 1-7) with the exception of the use of the violas, cellos, and double basses. This is an extreme example of dovetailing that persists into the pickup to m. 209, which is also an exact repetition of the pickup to m. 7. Corigliano perhaps over-commits to this repetition of the introduction by including the two percussive attacks from m. 6 in m. 208. Considering that the accelerando motive ends with an arrival on beat 1 of m. 208 and the first of two quarter note attacks occurs on beat 1 in the bass drum and piano, this moment almost sounds like a mistake even when played correctly. Seemingly aware of this dilemma, the composer seems to make an attempt to mask this problem, while avoiding a pregnant pause in the orchestration between beats 2 and 4 in m. 208, by including a loud snare drum roll. While effectively bridging the sonic gap between beats 2 and 4 here, the disconcerting rhythmic dissonance caused by the bass drum and piano is still present.

The return of A (henceforth know as A') in the pickup to m. 208 begins with yet another iteration of the accelerando gesture. The first four measures of this iteration of the accelerando gesture sees a flurry of previously developed motives reappear including the frantic motive in the trumpets, the plodding motive in the cellos, double basses and bass drum, and the searching motive in the xylophone, piano and harp. The remainder of this occurrence of the accelerando gesture is essentially the same as its first iteration at the end of section A, but as a means of escaping the accelerando gesture, Corigliano immediately reverses the momentum via a polarizing rallentando gesture. The axis between these two gestures exists at the onset of m. 235, which is also the point at which the composer suddenly drops the percussion from the texture. This is a formal cue as indicated by the orchestration that the section is losing its momentum. Corigliano does this by gradually leading to a halt in momentum in mm. 249-250 as the texture is thinned out to just the strings.

This halt in the strings is broken by a recurrence of the searching theme in its expositional orchestration, and as in its exposition, the motive is used to bridge the transitional gap between the end of A' and the onset of B'. In fact, a melodic variation of the introductory motive from the pickup to m. 7 (a clearly more primary feature in this transition) immediately follows this return of the searching motive. Almost as an attempt to assert its dominance in the texture, echoes of the searching motive appear in m. 255 and a complete repetition of the motive occurs in mm. 256-257 with a final echo of the motive occurring in m. 258. These attempts are futile as the variations of the introductory motive from m. 7 in the horn more aggressively disrupt the searching motive's pleas in m. 256. This assertion of dominance by the horn thins the texture of the orchestra completely as the horn is the only remaining instrument at the peak of this phrase in

mm. 259-260. The harmonic and orchestrational cues of the phrase in the horn in mm. 256-262 cue an unsettling development in the momentum of this transition.

As is so often the case in this movement, Corigliano uses the plodding motive as a transitional tool to bridge the gap between A' and B'. This occurs prominently in the basses, cellos, trombones, timpani, bassoons and bass clarinet. The marked return from the variations of the melodic material from the tango of the original B section dominates this transition in the trumpets and horns.

While the trumpets and horns mark the axis between A' and B' in mm. 264-267, the resignation of the plodding motive in mm. 267-268 cues the ultimate fall in momentum for the entire movement. As with the transition from sections A and B, the violins in the high extremes of their registers dovetail this final occurrence of the plodding motive with their entrance in m. 266. This parallels the exit from the first accelerando gesture at the axis of sections A and B, and as before, this ultimately thins the orchestration out to two final iterations of the tango quotation in the offstage piano coupled with the violins.

The formal implications here are vastly different from the initial iteration of the tango. In mm. 284-288 where this reemergence of the clashing rhythmic and harmonic ideas occur between the violins and the offstage piano, it is unclear what Corigliano's intentions may be formally. Based on what has already happened in the movement, the listener could speculate that Corigliano couldn't possibly return to the driving momentum that characterizes the A and A' sections, but this is an uncertainty at this point. When the violas and cellos echo the sentiments of the tango in mm. 289-291, the impending conclusion of the movement becomes apparent. The brief swell in mm. 296-298 in the high extremes of the violins aesthetically informs the listeners that there is not as much resolution in the ending as they might hope for at the

conclusion of such an active movement. From a formal perspective, such a gesture could be a subtle cue to the immediately startling activity of the second movement.

The overall form of the first movement of Corigliano's Symphony No. 1 is Introduction-A-B-A'-B': See Figure 2.7.

Intro	**A**	**B**	**A'**	**B'**
(mm. 1-6)	(mm. 7-65)	(mm. 65-208)	(mm. 209-263)	(mm. 264-end)

Figure 2.7 – A chart of the form of the first movement of Corigliano's Symphony No. 1 as defined by orchestrational choices.

Every aspect of the form is cued or paralleled by an orchestrational choice. The introduction cues the development of the brass moving forward without using any brass. The plodding motive that occurs in m. 7 at the onset of A signals formal development throughout the form, particularly at transitions or during the arrivals of new sections as at section A. The searching motive manifests itself during lulls in momentum in the piece, downplaying the importance of the woodwinds in the process. The frantic motive indicates the advancement of formal intensity creating a rise in action that is paired with an equally active variation of the plodding motive in section A. The plodding motive gains enough rhythmically strict momentum to create the accelerando gesture, which is characterized by its militaristic beginning and its frantic conclusion as spearheaded by the snare drum's activity. The fairly immediate fall from action at the axis of A and B is highlighted by a feature in the high register of the violins serving as an introduction to a more important feature in the section.

The Albéniz tango quotation lies at the center of the piece and is the biggest dip of surface-level intensity. It is, however, a formal and orchestrational trigger for an enormous build

into A'. This organic growth up from the tango is a developmental arc that the piece, wildly frantic in swells to this point, had not yet seen. Such organic growth out of section B is intensified by the plodding motive but also includes a concrete yet orchestrationally buried repetition of the introduction. In the meantime, the frantic variations of the plodding motive are layered on top of the texture as the accelerando gesture from section A reemerges. The pickup into A' is identical to the pickup into A, however, the orchestrational choices in the first full bars of A' signal a very different formal arc for the section. Indeed, A' begins with a collage of pre-developed themes including an immediate sounding of the frantic motive in the trumpets, the onset of the accelerando gesture via the plodding motive in the timpani, tubas and low strings and the echo of the searching motive in the piano, mallet percussion and harp. This triggers the immediate onset of another accelerando gesture, which experiences a palindromic rallentando gesture immediately following.

This rallentando gesture is cued orchestrationally by the removal of percussion creating an almost immediate dip in intensity and momentum. This results in an eventual pause in all momentum with a thinning out to sustained strings. To no surprise, the searching motive returns in the strings as a transitional filler, but they are upstaged by the solo horn, the scoring of which marks an eventual return of momentum. With the plodding motive making its final return to transition the form into B', the brass can be heard blaring out a marcato variation of the tango. This is short-lived, however, as the strings emerge in their high register, formally cueing a return of the offstage piano to quote the tango once again. There is no organic build after these quotations, however, as the accompanying lower strings are quick to echo the quotation's sentiments. There is an extremely brief codetta in the violins that does inform the listener of a lack of resolution. Looking at this movement in isolation, this could be perceived as a forgiven-

not-forgotten aesthetic in which there is a resolution of momentum with scarring from the journey. Viewing the instantly frantic beginning of the second movement of the symphony hints that this codetta is merely a foreshadowing of the impending movement. Perhaps Corigliano intended for this codetta to achieve both of these aesthetic and formal goals, although Corigliano's own program note defies this interpretation.

Theorist Cara Stroud rationalizes the composer's description of form in his program note by determining the specific measures Corigliano is referring to in said note: See Table 2.1.

Table 2.1 – An outline of form created by Cara Stroud based on the program note provided by Corigliano.

Section	Text from Program Note	Measures
A		1–65
	"nasal open A of the violins and violas. . . . grows in intensity and volume"	1–3
	"answered by a burst of percussion"	3
	"A repeat of this angry-sounding note"	4–6
	"entrance of the full orchestra, . . . accompanied by a slow timpani beat."	7–11
	"start of a series of overlapping *accelerandos* interspersed with antagonistic chatterings of antiphonal brass."	12–42
	"A final multiple acceleration"	43–65
B		65–208
	"reaches a peak climaxed by the violins in their highest register, which begins the middle section (**B**)."	65–79
	"a distant (offstage) piano is heard, as if in a memory"	80–103
	"an extended lyrical section in which nostalgic themes are mixed with fragmented sections of the *Tango*."	104–169
	"the chattering brass motives begin to reappear, interrupted by the elements of tension that initiated the work"	170–179
	"lyrical 'remembrance' theme is accompanied by the relentless, pulsing timpani heartbeat."	180–195
	"the lyrical theme continues in its slow and even rhythm, but the drumbeat begins simultaneously to accelerate."	196–208
A'		209–299
	"a recapitulation of the multiple accelerations heard earlier in the movement, starting the final section (**A**)."	209–231
	"the accelerations reach an even bigger climax in which the entire orchestra joins together playing a single dissonant chord in a near-hysterical repeated pattern that begins to slow down and finally stops."	231–249
	"A recapitulation of the original motives along with a final burst of intensity from the orchestra and offstage piano concludes the movement"	250–288
	"which ends on a desolate high A."	289–299

In doing so, she creates an emotional trajectory for the piece that fits the literary idea of an apologue as a story told with emotionally driven characters. In this way, Stroud defines two primary thematic 'characters' in the piece through which the form is driven with the A section denoting a "Rage" character and the B section denoting a "Nostalgia" character: See Table 2.2.

Table 2.2 – An outline of form created by Cara Stroud. This interpretation was informed by the indicated ABA' form of the composer

Section	Thematic content	Role in Emotional Trajectory
A	Rage motives	Presents initial state: rage Rage intensifies until it becomes exhausted
B	Remembrance themes Tango quotation	Contrasting emotional state: nostalgia Memories bring about painful thoughts
A'	Rage motives Remembrance themes	Return to rage Rage intensifies due to painful memories, becomes exhausted

Stroud goes on to acknowledge that viewing the form as strictly in ABA' has its flaws and describes the movement as having "blurry boundaries."[1] She creates another interpretation of the form based on these boundaries, while still clinging to the notion of ABA': See Table 2.3.

Table 2.3 – An outline of form created by Cara Stroud. This interpretation was informed by 'blurred boundaries' acknowledged by Stroud.

Section	Thematic content	Role in Emotional Trajectory
A	Rage motives	Presents initial state: rage Rage intensifies until it becomes exhausted
B	Remembrance themes Tango quotation	Contrasting emotional state: nostalgia Memories bring about painful thoughts
A'	Rage motives Remembrance themes	Return to rage Rage intensifies due to painful memories, becomes exhausted
Coda	Tango quotation	Painful memory exposed, nostalgia exhausted—multiple interpretations possible

[1] Cara Stroud, "Juxtaposition, Allusion, and Quotation in Narrative Approaches to Music Composed After 1975" (PhD diss., Florida State University, 2016), 17.

Stroud goes on to provide a wonderfully detailed analysis of harmony and motivic materials justifying this form, but there is still a gaping hole in the explanation of what I have previously defined to be the B' section. Both the Stroud and the composer downplay the importance of these moments, particularly what I have defined as the transition from A' to B', which the composer describes as "a final burst of intensity"[2] and Stroud describes via her tracing of emotional trajectory as "Rage intensifies due to painful memories, becomes exhausted."[3]

In Stroud's mapping of form based on Corigliano's program note for the piece, this burst of energy occurs somewhere between mm. 250-288, but based on my mapping of form, it is clear that the burst they are referring to occurs in or around m. 264. Neglecting this moment as a more substantial formal development is unusual for a number of reasons. Considering the duration of this outburst and the following "exhaustion" that concludes the movement, this stretch of material, left largely undefined by both Stroud and the composer, lasts an extensive thirty-five measures. If we ignore the significance of the duration alone of this burst, then we could perhaps acknowledge that the motivic materials used in these moments differ greatly from any materials in the A or A' sections. Stroud passively acknowledges this in her formal tables in which she recognizes that the thematic materials used in these moments are derived from the remembrance themes. Interestingly enough, both of Stroud's tables denote the beginning of the B section with this same remembrance theme. Why then is there no indication of formal development once these themes return in what is being called A'? It would seem that the next logical step would be a nod to the return of the B section as a result of this. As with the formal B section denoted by Stroud, the remembrance themes noted in the A' section are followed by the tango quotation. Only one of Stroud's tables even acknowledges the return of this quotation denoting it as a Coda

[2] John Corigliano, Symphony No. 1 (New York: G. Schirmer, 1990).
[3] Cara Stroud, "Juxtaposition, Allusion, and Quotation in Narrative Approaches to Music Composed After 1975" (PhD diss., Florida State University, 2016), 17.

that is open to interpretation. While this is certainly a justifiable explanation for the brevity of the tango quotation in isolation, the contextual placement of the quote after the remembrance themes in the upper strings is undeniably reminiscent of the onset of the formal B section. The persistent downplaying of these parallels is unusual and could perhaps be an avoidance of an untraditional form (ABA'B') or an affirmation of the composer's stated intentions.

Joseph Schwantner's *…and the mountains rising nowhere*

Joseph Schwantner's wind ensemble piece *…and the mountains rising nowhere* utilizes a number of non-traditional orchestrational elements that give the work a unique character. The inclusion of crystal glasses, amplified piano, singing and whistling gives the orchestration great depth. This is not even mentioning the enormous percussion array that Schwantner employs including 5 separate percussion parts not including the timpanist. The orchestrational depth at his disposal also gives Schwantner increased powers of manipulation over the form of the work. Treating the amplified piano as a soloist, using bombastic percussion as a formal driver and including drawn out sections of whistlers, singers and crystal glasses allows Schwantner to give the piece great formal shape.

Like the opening movement of the Corigliano, Schwantner begins his piece with a tone-setting gesture. Three percussionists wielding tom-toms, timbales and bass drums immediately emerge with a fortissimo figure that culminates in a sforzato at the onset of the senza misura in bar 2: See Figure 2.8.

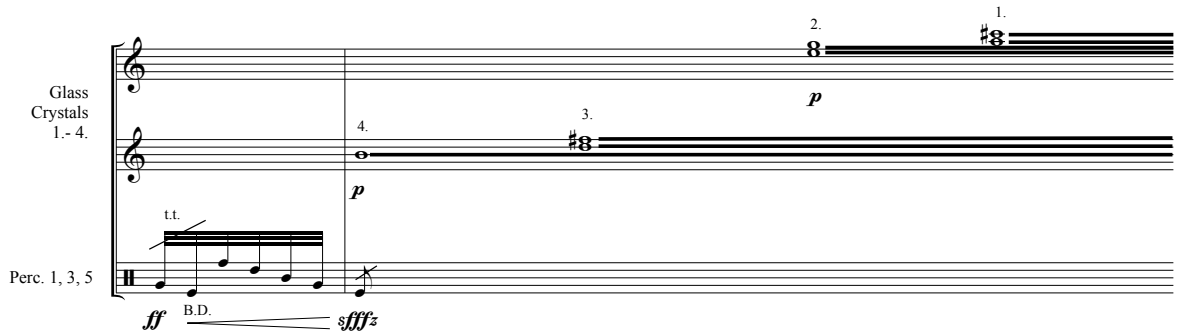

Figure 2.8 – m. 1 with pickup of Joseph Schwantner's *...and the mountains rising* nowhere; the opening of the work is bombastic and involves extensive percussion that is immediately contrasted by the serene sounds of glass crystals.

Schwantner immediately contrasts this incredibly loud gesture with an incredibly soft one. Seven crystal glasses placed next to the four oboists are played as a dovetailed gesture to the opening measure of percussion. The dynamic range developed within this opening gesture spanning approximately fifteen seconds creates an expectation for the listener that the work will be extremely loud and grandiose at times but will also be extremely subdued at other times. The listener, however, has no indication of when these fluctuations in dynamic will occur. Certainly Schwantner now has the option to stay at pianissimo volume for the next ten minutes, but he also has the option to be lopsidedly loud for just as long. The opening gesture grants the composer any variety of options as a result of the effectiveness of the opening. This effectiveness is made possible by the unusual instrumentation of the work as is pointed out by Chris Sharp:

> The use of an amplified piano as part of a traditionally acoustic ensemble may have raised issues among band purists at the time as to what is appropriate to include as part of this ensemble. Schwantner obviously felt no obligation to conform to this convention, as it would have limited his creative palette to only the already accepted sounds.[4]

The second measure sees the emergence of the amplified piano and some less traditional percussion instruments like the water gong. The composer's use of the piano in these subdued

[4] Chris Sharp, "A Study of Orchestration Techniques for the Wind Ensemble/Wind Band as Demonstrated in Seminal Works" (PhD diss., The University of Florida, 2011), 242.

moments of the work is surprisingly soloistic. His choice to include such soloistic gestures in the piano is a formal indicator of the type of section in which the piece currently resides. The metallic percussion such as the water gong, the bowed tamtam and triangles typically accompanies such sections secondarily: See Figure 2.9.

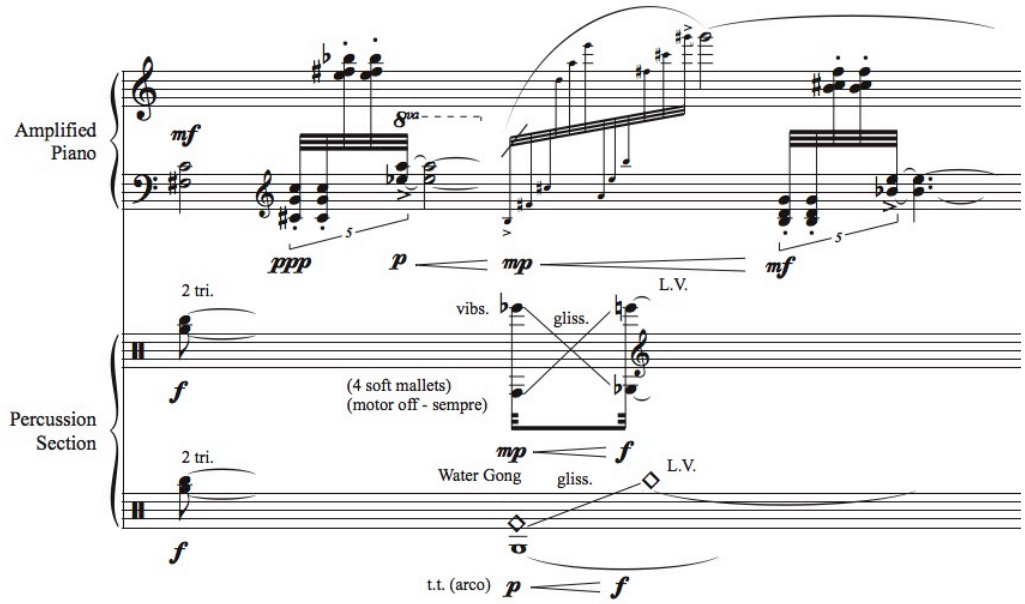

Figure 2.9 – m. 1 from the Schwantner; the soloistic use of the amplified piano coupled with various percussion gestures is a characteristic texture for the piece.

A raucous percussion interjection in the membranous instruments creates a gesture that feels eerily similar to the accelerando gesture of the Corigliano. This proves to be a mere interjection as the gesture's momentum-boosting energy is subdued after only 6 bars.

This interjectory motive does, however, cue the onset of the singing by the instrumentalists. Regarding the singing, Schwantner instructs in his performance notes: "No vibrato should be used – the desired result should be that of a distant ethereal choir.[5]" Indeed, the result of the ethereal choir beginning in m. 8 is incredibly distant. This is emphasized by the fact that the interjectory motive that leads into this moment is much louder and perceptually much closer. In terms of dynamic contrast via orchestration, this is a repetition of the opening

[5] Joseph Schwantner, *...and the mountains rising nowhere* (Mainz, Germany: Schott, 1977), ii.

gesture. While the singing gesture is a parallel to the gesture in the crystal glasses from earlier (which are still sounding to this point), the voices are much more malleable in terms of pitch manipulation than the glasses. Schwantner uses this characteristic to his advantage as he calls for the independent wavering of the singers as the section persists. He also adds to this element of the section through the use of whistlers in addition to the singers. Schwantner adds dynamic weight to these gestures by including support from the horns. The inclusion of the horns here formally indicates a rising trajectory in the dynamic intensity of the glass crystals, singers and whistlers. There is an expectation created by this that eventually the singing will stop and that the instrumentalists will accompany the persisting soloistic gestures of the amplified piano and the mallet percussion.

The piano is persistent with its virtuosic gestures throughout this section, but the mallet percussion have begun to play more of a doubling role to the piano as opposed to the secondary textural role they were previously playing. This switch in the percussion's role cues a development in the dynamic intensity of the piano's gestures signaling a rising action in the overall volume of the ensemble. This rise includes several orchestrational cues that begin to appear more rapidly in m. 27.

This measure exhibits a few characteristics that cue a rise in formal development. The mallet percussion and the amplified piano are in rhythmic and harmonic unison save for some octave displacement. This gesture is also doubled in the 6 flute parts with a parsing out feature that sees the lower flutes sustaining some of the earlier notes in the figure as opposed to playing all of the notes in the gesture like the percussion and piano. While this gesture is a contrast from the previous texture, one could argue that these features alone are not necessarily significant formal indicators. Schwantner leaves no doubt, however, when he concludes the measure with a

dynamically intrusive gesture in the timpani. This leads to the introduction of the full brass section that has been largely underused to this point save for the harmonic support the horn offered in the previous section.

The brass section emerges in m. 30 and takes very little time in asserting its dynamic dominance. While this swift swell in dynamics is fairly harsh, Schwantner seems to acknowledge the suddenness of the brass' emergence with reactionary gestures in the piano and percussion. Almost conceding that the mallet percussion and piano are no match dynamically for the brass, Schwantner includes a downward gesture in the piano followed by a reiteration of the interjectory motive in the membranous percussion. Dynamically, the membranous percussion competes with the brass where the mallet percussion could not. Similarly to the way the mallet percussion and piano reacted to the brass, the brass react to the membranous percussion in an almost panicked, threatened way. A highly reactionary motive follows in mm. 38-40 highlighted by horn glissandi leading into bar 40. While the woodwinds and piano double the brass in this gesture, they are hardly the feature. The end of bar 40 sees a collective swell between the winds and the membranous percussion. The following ten bars spanning mm. 41-51 see a more call-and-response texture between the brass and membranous percussion with screeching woodwind accompaniment to add to the enormous tension created. As a larger-scale version of the opening gesture and the gesture in bar 8, this unruly interplay between the brass and percussion is harshly halted with a return to quiet serenity in m. 52.

The following more subdued section includes a feature in the double reeds with interjections from the brass, percussion and piano. While accompanied by the other woodwinds in certain phrases of this stretch, the oboes and English horn persist as the dominant voices from mm. 52-83 with melodic gestures somewhat uncharacteristic of the work: See Figure 2.10.

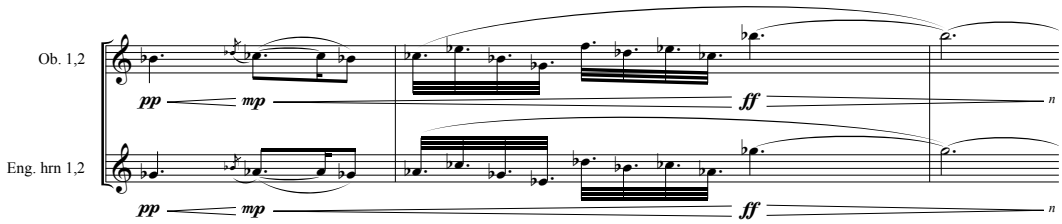

Figure 2.10 – mm. 79-81 in the Schwantner; the double reed feature highlights this subdued section. The English Horn is not transposed in this figure.

The uncharacteristic nature of the double reed feature in this section stems from the homophonic writing among the instruments. Additionally, the melodic lines present in these figures greatly contrast the primarily textural gestures prevalent in the piece. These gestures are accompanied by harsh interjections in the piano and brass leading to a phrase in the trumpets that brashly transitions out of this serene section. Perhaps unexpectedly, this clashing moment in the trumpets is an orchestrational cue to the dryly-diatonic brass feature that immediately follows.

In addition to the orchestrational cues to the pending diatonic section, the interjectory trumpet phrase also sets the harmonic stage by sounding an A-flat Aeolian collection. This begins prominently in the brass spanning mm. 84-91 after this trumpet gesture. The jarring nature of this section's diatonicism is matched by its cut-and-dry orchestration. The brass are accompanied by tremolandi in the mallet percussion, which are followed by shrill attacks in the mallet percussion, piano and flutes perhaps to add color to the somewhat plain harmonies of the section. All the while the timpani, eventually joined by the bass drums, provide an intrusive counterpoint with abrupt and spaced attacks. Sharp notes this change in aesthetic:

> The A-flat sustained by the horns grows out of this moment to introduce the only strong melodic section within this predominantly textural piece. This melody occurs at measure 85. Accompanied by the vibraphone tremolos and a unison trombone line, the horns play their three-measure A-flat minor melody in a 12/8 meter (expressed unconventionally as a 4 over a dotted eight note). The mood

> here shifts suddenly from ethereal to heroic. The A-flat natural minor tonality is formally confirmed by the brief appearance of a seven-flat key signature.[6]

This initially only sounds like the stereotypical brass and percussion fanfare counterpoint but is likely an orchestrational cue to the following section.

Beginning in m. 91 as a transition out of this diatonic section, the timpani and bass drums create a strictly metered, march-like texture. The heightened anxiety of this section, acting as a stark contrast to the previous section, is accentuated by a frantic gesture in four piccolos and two flutes. Picking up where they left off, the brass return in m. 108 and persist until the sudden dynamic, aesthetic and orchestrational shift in m. 120A. The brass and percussion in this section emphasize the most metrically driven portion of the work. Their sudden disappearance at the onset of m. 120A, while jarring, is typical of the previous gestures in the work. The startling nature of these disappearances makes the advancement of the form at this moment clear.

The disappearance of the brass, the timpani and the bass drums is accompanied by the return of the whistlers and the crystal glasses. The section develops the whistlers, as supported by the flutes, mallet percussion and piano, more so than any of the previous sections of this kind with increased activity via aleatoric gestures accompanied by significant swells in dynamics. As a continuation of this development, Schwantner creates a steady onset of 32nd notes in the piano with doubling in the first flute.

Perhaps as a way of maintaining the sound of aleatory, he creates a high level of rhythmic and harmonic counterpoint in the five other flute parts: See Figure 2.11.

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[6] Chris Sharp, "A Study of Orchestration Techniques for the Wind Ensemble/Wind Band as Demonstrated in Seminal Works" (PhD diss., The University of Florida, 2011), 249.

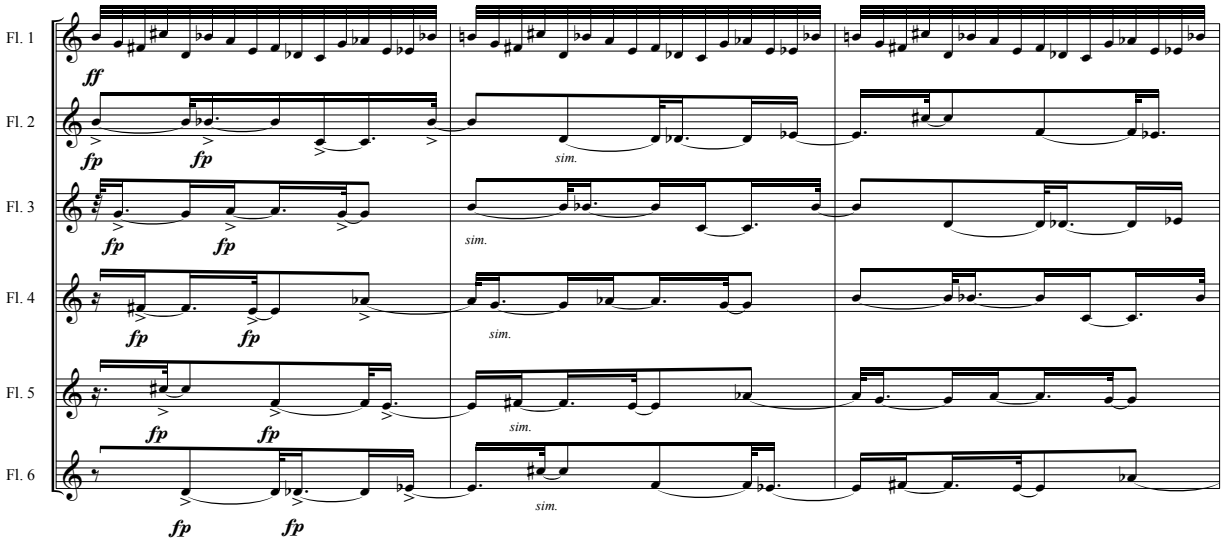

Figure 2.11 – mm. 121-124 of the Schwantner; highly rhythmicized figures imitate aleatoric gestures.

Schwantner briefly repeats this process in the mallet percussion. The inclusion of the mallet percussion in this dynamic development is soon followed by the bombastic return of the timpani, the other membranous percussion instruments and the brass. Like the mallet percussion of the previous gesture, this jarring dynamic boost is short-lived. For a final time Schwantner creates an enormous dynamic and orchestrational divide in his transition from m. 133 to m.134 by juxtaposing extremely loud dynamics and bombastic orchestration in the brass and percussion with subdued and thin textures highlighted by crystal glasses and singing.

The form of *...and the mountains rising nowhere* is defined by swells of textural content utilizing non-traditional means such as singers, whistlers and crystal glasses that are followed by intrusively loud percussion and brass moments with even harsher cuts back to thinner textures: See Figure 2.12.

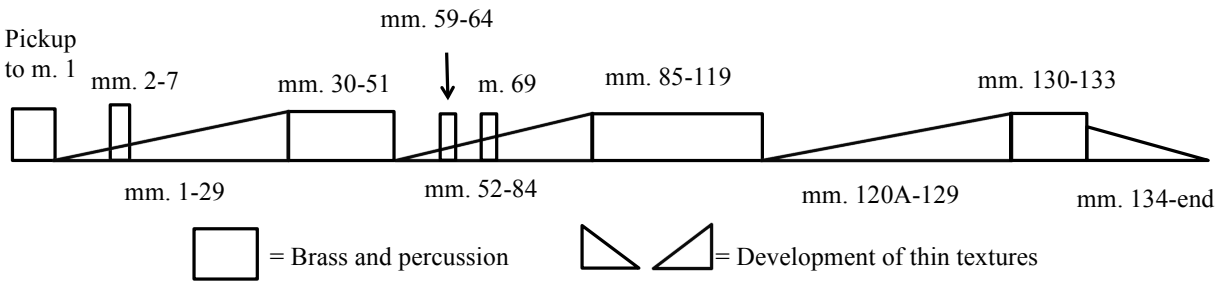

Figure 2.12 – A formal chart demonstrating the use of orchestrational choices in correlation with form in Joseph Schwantner's *...and the mountains rising nowhere.*

The diagram above creates a visual representation of the form as opposed to the traditional demarcation of sections using letters or numbers. The loud and climactic moments are indicated using block shapes. These moments all include extensive use of brass and percussion. Moments that have smaller block shapes indicate loud flares from the brass and percussion. The triangular shapes demonstrate the long textural builds in the work. These builds always include an increasingly extensive use of layered orchestration as a means of building tension. The larger blocks juxtaposed with the triangles indicate the most formally important parts of the piece. Occurring three times, this juxtaposition of the incredibly loud and the incredibly soft is the formal driver for the piece.

This juxtaposition of delicately soft moments and incredibly loud ones is first explored in the pickup to m. 1 and m.1 itself, which sees a juxtaposition of tom-toms playing at a fortissimo volume and crystal glasses playing at a piano volume. This occurs again in the transition between m. 7 and m. 8 without formal implications as the development of the whistlers, singers and crystal glasses persists through this moment. The intrusions by the brass and membranous percussion eventually *do* have formal implications as in the dynamic divide established with the sudden disappearance of the brass and percussion between mm. 51 and 52. This occurs again

between mm. 119 and 120A after a more drawn out feature of brass and percussion with textural highlights in the woodwinds. This leads to the most elaborate development of the whistling, singing, and crystal glass textures in m. 120A through the end of the work with a short-lived and final interjection from the brass and percussion spanning mm. 130-133.

The figure above is a more abstract explanation of form that defines *...and the mountains rising nowhere* as a piece that includes three large-scale gestures each of which builds gradually to a point of sustained climactic energy before harshly returning to extremely soft gestures. This makes it difficult to define the form of the piece by traditional means. Sharp's take on the form, as informed by the return of the crystal glasses and whistlers beginning at 120A, indicates otherwise:

> This section, another extended measure in free time ("X"), is delineated once again in seconds, and lasts for over a minute. Rehearsal letters from A to G provide reference points for the various cued entrances that follow. After 15 seconds, a roll on the gongs signals the return of the singing tones produced by the water glasses, and also the whistlers (letter B). This is a faint suggestion of a possible cyclical form to the piece.[7]

Sharp brings up a good point about the return of the whistlers and crystal glasses, and his notion that the piece is cyclical because of the return of these unique sounds is an approach to viewing form as being cued by orchestrational choices similar to my own. Despite the absence of these sounds in previous sections, there aren't any definitively contrasting sections among the three large-scale gestures present in the work. Nevertheless, the work can in fact be viewed with cyclicity if we acknowledge the large-scale repetitions of texturally-driven gestures. This would require cyclicity in terms of form to be defined quite simply as the perhaps redundant return of ideas. In this way, the Schwantner is in fact cyclical, whether you acknowledge the repetition of the use of glasses and whistlers to define said cyclicity as Sharp does or through the use of

[7] Chris Sharp, "A Study of Orchestration Techniques for the Wind Ensemble/Wind Band as Demonstrated in Seminal Works" (PhD diss., The University of Florida, 2011), 253.

repeated large-scale gestures as I do. It is, however, difficult to pin a traditional formal label on such a structure. If there *must* be a categorization of the form of Schwantner's piece that conforms to traditional formal structures, it would more concretely be a theme and variations. While the piece is composed of three large-scale gestures that show a rise in tension, a sustain of climactic energy and a sudden drop in energy, the work *begins* with a small-scale, highly energetic gesture that is immediately followed by an enormous drop in energy. Essentially, the opening gesture is a microcosm of the three large-scale gestures that comprise a majority of the work. In this way the opening gesture is like a theme, while the three large-scale gestures of the piece are like variations, but I do not feel it is necessarily useful to assign a traditional form to the more abstract nature of Schwantner's piece.

CHAPTER 3

THE ORCHESTRATIONAL ROLE OF ELECTRONICS IN WORKS FOR WIND ENSEMBLE AND ELECTRONICS

This chapter analyzes several approaches to the use of electronics in an ensemble setting. I will first examine two uses of electronics in combination with chamber ensembles in Jonathan Harvey's *Bhakti* and Kaija Saariaho's *Lichtbogen*. The inclusion of brief overviews of these pieces demonstrates two effective approaches to the orchestration of electronics on a moderately large scale. These two approaches are also more one-dimensional and in some ways more directed than the wind ensemble and electronics examples I will analyze. *Ecstatic Waters* by Steven Bryant and *Augenblick* by Christopher Stark, the wind ensemble pieces that will be extensively examined in this chapter, have eclectic electronics that serve several roles in their respective pieces. Considering the demonstration of a single focused goal in the use of electronics that the chamber ensemble examples exude, they are a necessary presence in my argument. The reference to the orchestrational use of electronics considers first and foremost that the electronics are considered as either another instrument of the ensemble or an additional instrument section. For this reason, the placement of musical ideas in the electronics is referenced in the same sense orchestrationally as with the acoustic instruments and sections of the ensemble in question.

The inclusion of electronics in large ensemble works presents a myriad of issues. Similar to the distinction that a soloist creates for itself in a concerto, electronics immediately create an expectation for the listener. Inevitably, the inclusion of electronics in a large ensemble work

creates anticipation for the use of electronics as an orchestrational outcast. Electronics used in such settings will often times take a secondary role, doubling a section of instruments harmonically and/or rhythmically or acting in place of a section. An example of the latter option would be the use of electronics as a rhythm section in place of a percussion section. Both of these typical uses of electronics might leave the listener questioning the necessity of the electronics at all. A third commonality for the use of electronics in large ensemble works sees the conservative use of live electronics. Depending on the extent to which this live electronic element manipulates the ensemble, this too could be seen as a secondary use of the electronics. If, for instance, the live electronics merely add a heavy reverberation effect to a single instrument, then the electronics *must* be considered secondary. Despite the somewhat passive nature of using electronics as a secondary force in the ensemble, this often presents itself as a necessity depending on the composer's vision for the piece. This also brings up the notion of the use of electronics as a blending mechanism either as a means of concealing its presence or accentuating it.

Jonathan Harvey's *Bhakti* for fifteen instruments and electronics is certainly an example of utilizing the electronic element in this way. Georges-Elie Octors describes the effectiveness of this orchestrational technique:

> Written in 1982, *Bhakti* puts a simple and finally rarely exploited idea into operation: the quadraphonic band diffuses a kind of instrumental playback which completes the instrumental lines, in a perfect illusion. But without warning, it tips over into the electronic space, projects its chords into the space, reverses the brass attacks, surrealizes the sound of the percussions…At any moment, the music can change scale and the ear finds itself overwhelmed.[1]

Indeed, Harvey utilizes the electronics in a way that so effectively blends with the ensemble that it often completes instrumental lines seamlessly, while existing in a polar-opposite context in

[1] Georges-Elie Octors, "Jonathan Harvey: *Bhakti*" (ICTUS, Contemporary Music, Brussels. Accessed October 6, 2018 https://www.ictus.be/bhakti).

other parts of the work. This work fluctuates between numerous aesthetics, and the electronics effectively conform to these alterations in aesthetic. Chris Kennett goes into detail about these varying aesthetics in his review of John Palmer's book about the piece:

> The music of *Bhakti*, for 15 instruments and tape, is rich, complex, profound, and many-layered – indeed, the last three adjectives could apply to the composer himself - and consists of 12 movements (with a total of 36 sections) exploring in sound the nature of devotion, adoration, and the merging of the soul with the godhead. As with many works by Mr. Harvey, the impulse for the composition is as much literary as it is philosophical, with texts from the Hindu *Rig Veda* providing a meditative framework for the compositional superstructure, and all bar one of the movements suffixed *à la* Claude Debussy with quotations as challenging rebarbative in interpretation as they are simple in syntax. Again in common with much of Mr. Harvey's output since his first contact with the Institut de Recherche et Coordination Acoustique/Musique (IRCAM) in 1980, the technical vehicle for this mysticism is at once simple and complex. It consists of the exploration of the partials of a single pitch (a quarter-tone above the G below A440), and a series formed by the symmetrical intervals above and below the axis frequency, subsegments and tropes of which are distributed irregularly across each of the 36 sections. Amid the rigorous interplay of serial elements there is space in the movements for what Mr. Harvey calls "glossing," the bringing of an improvisational spirit to the development of the serial pitch-cells.[2]

Contrary to Harvey's approach to electronics is Saariaho's piece *Lichtbogen* for seven or more players and live electronics in which the electronic element is utilized as a superhuman way of magnifying microscopic acoustic gestures and stretching them out over long periods of time. The piece is inspired by a similar analysis of the northern lights as a phenomenon that occurs in an "immense and limitless space."[3] The notion of examining this natural phenomenon led Saariaho to examine acoustic phenomenon as a programmatic parallel. In fact, all of the harmonic material for the piece is derived from a few recorded cello strokes analyzed at IRCAM. The piece acts as a sort of acoustic microscope in this way as is examined in the opening gesture during which a single F-sharp drone persists for two minutes. In this span, the acoustic

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[2] Chris Kennett, "John Palmer: Jonathan Harvey's 'Bhakti' for Chamber Ensemble and Electronics," *Computer Music Journal* 27, No. 2 (Summer 2003), 111.

[3] Anne Sivuoja-Gunaratnam, "Miniatures and Tensions: Phenomenological Reverberations in and Around Kaija Saariaho's *Lichtbogen* (1985-86)," *Intersections* 25, No. 1-2 (2005), 48.

instruments examine timbrally varied ways that F-sharp can be heard including the use of pure sounds versus noisy sounds. The composer's goal in composing this way is to highlight the parts of sound that we often take for-granted, calling attention to the finer details in the sounds of spoken word:

> I remember having read in Goethe's Theory of Colours something about the transitional states between light and shade. There was something that inspired me enormously, in the same way as an extreme slowing down of speech, just when the vowel turns to a consonant, the transitional state between them. This transition is slowed down to the extreme, the transition that usually is so tiny that we wouldn't even notice it. There is something significant.[4]

The opening drone in the electronics acts as a starting point for the exploration of these forgotten acoustic transitions, allowing the composer to venture away from a pure starting point. She also utilizes an amplification of acoustic instruments in her piece as a further way of analyzing noises under an auditory microscope. This allows Saariaho to amplify transient sounds that would otherwise be lost in a performance space. The composer takes this opportunity to amplify the flutist of the ensemble who is sounding out phonemes that originate from a poem by Henry Vaughan about the northern lights. Saariaho describes the cathartic nature of selecting the poem to be a part of her piece:

> The poem grants access to a dazzling view of endless light, space: beneath the lights, peace and eternity, the time passes on as hours, days, years. I was surprised when I found the poem, because its atmosphere was exactly what I wanted to express in my piece.[5]

Throughout the work the composer makes use of the ability for the electronic element to stretch and exaggerate the acoustic properties of a live ensemble. For these reasons, the electronics do not necessarily accompany or offer any sort of counterpoint in the piece. Instead, they purely enhance the acoustic properties of the ensemble in a rewardingly supernatural way.

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[4] ibid, 46.
[5] ibid, 55.

Employing effective utilizations of electronics as made by Harvey and Saariaho (in pieces for fifteen and seven players respectively) to works for wind ensemble is no easy task. There are practical considerations at play with the addition of dozens more players, and the flexibility of the role of the electronics becomes stricter as a result. Utilizing the electronics as a force that creates a meaningful counterpoint with the ensemble is an undertaking that involves the careful orchestration of the ensemble in question as well. In works for wind ensemble and electronics, this is undoubtedly true considering the loud nature of the acoustic element of the medium. Like in a concerto, the orchestration of the ensemble will likely need to be thinned to accommodate the softer electronic element in most instances. Creating an environment in which the electronic element and the acoustic element compete for dynamic dominance is far from ideal. Such moments should be reserved for climaxes considering the overwhelming nature of such an environment.

Meaningful uses of electronics in such mediums require a careful tailoring of orchestration whether the roles of the electronics present themselves as primary or secondary. This means that regardless of the level of importance of the electronics their presence creates clarity in the formal structure of a work. A secondary role is likely a means of accentuating a rise of tension in the development of a piece, while a primary role is often an indication of large-scale formal development. Creating such a simple hierarchy regarding the use of electronics in large ensemble settings can be limiting. Examining the roles of electronics based on their timbral and textural deviations from the ensemble in question can prove to be a more valuable practice. Primary and secondary descriptions serve more so as contrasting poles for the roles of electronics rather than two exclusive categories in which the electronics fit. The remainder of this chapter examines instances of these roles in Steven Bryant's *Ecstatic Waters* and

Christopher Stark's *Augenblick*, two 21st century works for wind ensemble and electronics. These works deserve equal attention to the Corigliano, Schwantner, Saariaho and Harvey despite the emerging statuses of both composers in contrast to the established nature of the other composers in question.

Steven Bryant's *Ecstatic Waters*

Steven Bryant's five-movement work *Ecstatic Waters* is a piece that utilizes fixed and live electronic elements. The electronics are mixed stereophonically with two speakers placed at the front of the stage on the far left and far right of the ensemble. The role of the electronics in this work is largely secondary with uses that highlight acoustic elements present in the ensemble or uses that act as a rhythm section. Jamie Nix describes Bryant's vision for the electronics:

> Bryant chose to utilize a combination of sampled acoustic sounds (digitally manipulated human-generated sounds) and digitally manufactured sounds. His goal was to create a color palette that could blend seamlessly with the wind ensemble. He strove to "organically augment and interact with and orchestrate with a wind ensemble and the electronics in a way that's not gimmicky," essentially to create a "band with super powers."[6]

Bryant wanted to utilize the electronics in a way that beefed up the ensemble rather than offer any materials that present any conflicting contrary ideas.

Despite their secondary nature, the inclusions and exclusions of the electronics in the work create concrete formal divides. Bryant demonstrates this on a large-scale beginning with the exclusion of the electronics in the first movement. The opening movement of the work titled *Ceremony of Innocence* is void of electronics. The exclusion contextualizes not only an orchestrational role but also a programmatic role that the electronics play. The outer movements

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[6] Jamie L. Nix, "Steven Bryant's *Ecstatic Waters* for Wind Ensemble and Electronics: Compositional and Performance Perspectives for Conductors" (DMA diss., The University of Miami, 2010), 57.

of the work demonstrate both innocence and a sense of spiritual reflection. Bryant emphasizes this in his program note:

> The first movement, *Ceremony of Innocence*, begins as a pure expression of exuberant joy in unapologetic B-flat Major in Celesta and Vibraphone. The movement grows in momentum, becoming perhaps *too* exuberant – the initial simplicity evolves into a full-throated brashness bordering on dangerous arrogance and naiveté, though it retreats from the brink and ends by returning to the opening innocence.[7]

The absence of electronics in the first movement demonstrates by contrast that the electronics are part of the conflict of the piece. The purity and innocence of the beginning and end of the work imply this conflict and perhaps sets up a basic ABA' framework through the orchestrational choice to withhold the electronics until the supposed B section or rather the middle three movements. The first and last movements could also be viewed as introductions and postludes respectively. This is another possible option perhaps debunked by the durations of the movements alone. Considering that the first movement is approximately five minutes and the last movement is approximately four minutes, it is difficult to say that these movements are merely an introduction and a postlude. It is equally difficult to say that the middle three movements are a giant B section considering that these movements are approximately a combined fourteen minutes long. This may contribute to a more complex form altogether or may instead indicate that the work has proportionally unusual sections.

Movements II-IV all have a sense of mechanically driven cynicism as the electronics emerge. These movements aesthetically contrast the purity of the first two movements with a sense of impending terror distinguishing movement two titled *Augurs.* While the electronics contribute to this aesthetic shift, their presence is hardly isolated from the ensemble. With a

[7] Steven Bryant, *Ecstatic Waters* (Durham, NC: Gorilla Salad Productions, 2009), iii.

series of dyads the electronics have a meaningful counterpoint primarily with the trombones: See Figure 3.1.

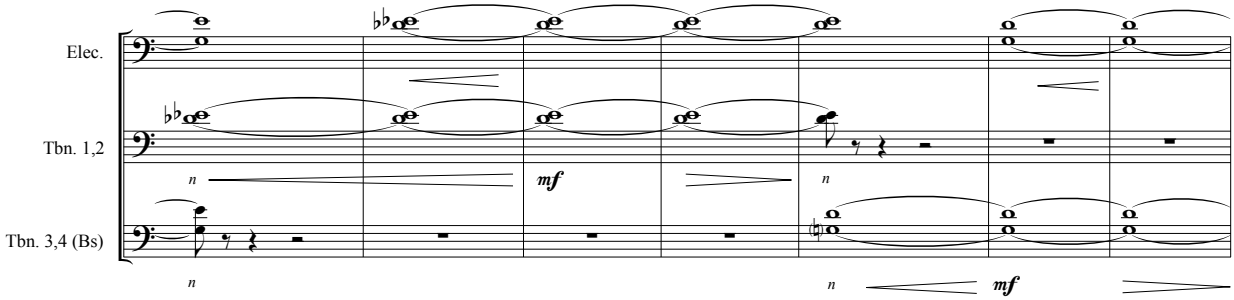

Figure 3.1 – mm. 21-27 of Steven Bryant's *Ecstatic Waters;* in this moment the electronics have a meaningful counterpoint with the trombones. They are acting as a blending instrument of the ensemble.

Here the electronics are an equal contributor to a much larger texture, but they eventually contribute a more percussive and driving force with the emergence of an accelerating pulse that first appears in m. 257 but ultimately transitions the second movement into the third. The emergence of the electronics as a percussive force in the piece is frequently an indication of the advancement of the piece's form and this instance is no exception.

The third movement of *Ecstatic Waters* titled *The Generous Wrath of Simple Men* begins with a frantic transition out of *Augurs* that utilizes the great build of the movement. This segue lasts a mere five measures before the electronics are alone for the first time in the piece. This feature spanning only six measures from mm. 278-283 is quickly moved into the flutes as the electronics fade out entirely: See Figure 3.2.

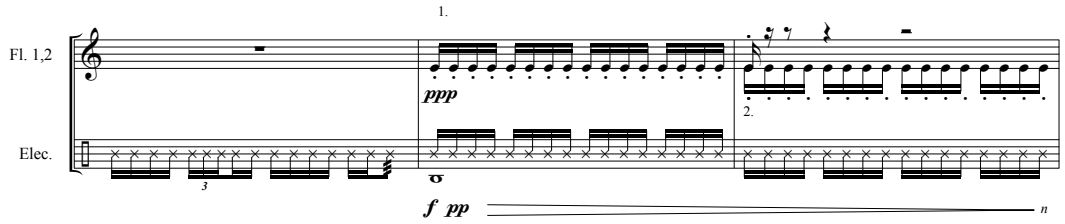

Figure 3.2 – mm. 281- 283 in the Bryant; this steady rhythm in the electronics is quickly transferred into the flutes.

As before, this highly rhythmicized iteration in the electronics advances the form seeing that the textural second movement becomes the rhythmic third movement. The transference of this material out of the electronics, however, is a large fall in the previously ascending relevance of the electronic element.

Throughout the third movement the ensemble feeds off of the steady rhythm provided by the electronics. The figure transitions throughout the ensemble seamlessly often times with creative orchestration. This is the primary role of the electronics in this movement aside from a few moments in which the electronics either transfer their rhythms into other instruments or provide brief textural nuances.

The fourth movement titled *The Loving Wrath of Machinery* is yet another intense drop in the momentum of the piece. Much of the movement involves a clarinet solo that is manipulated via live electronics. The electronics here are entirely secondary to the clarinet as Bryant explains in the score:

> Amplified Clarinet is processed through a quasi-random delay, which will leave 'trails' of sound softly shimmering and bubbling behind the clarinet solo. This effect is random, and won't necessarily produce a sound on every single note.[8]

Bryant develops this clarinet solo and ultimately the surrounding accompaniment for much of the movement. The manipulated clarinet solo alone spans mm. 395-410. The return of other instruments in m. 410 demonstrates a mechanically strict accompaniment: See Figure 3.3.

[8] ibid, 53.

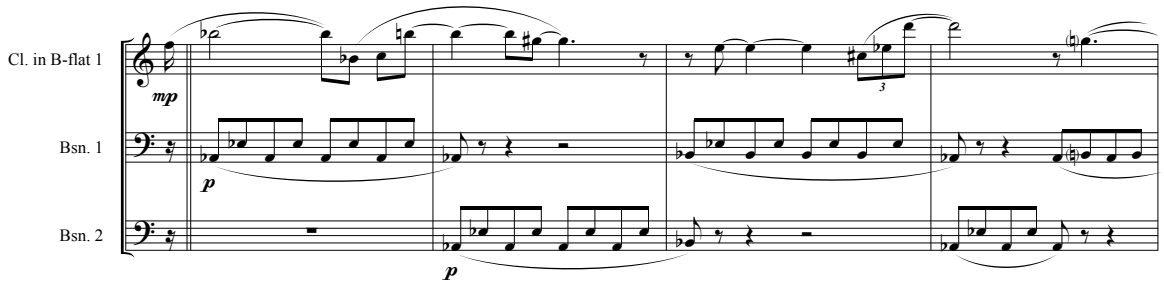

Figure 3.3 – mm. 410- 413 in the Bryant; despite creating a rhythmically flexible environment with a drawn out clarinet solo at the beginning of the fourth movement, Bryant returns to the plodding, machine-like rhythmic drive emblematic of the work with the entrance of the bassoons. The clarinet is transposed up a major second in this figure.

The mechanical aesthetic of the accompaniment here advancing the momentum of the movement is similar to the formal advancements established by the electronics throughout the work. This lays the groundwork for the fixed electronic element to return.

The re-emergence of the electronics in m. 442 generates a quick change in aesthetic. Considering the reflective nature of the movement up to this point, the text accompanying the electronics in the score reveal this shift: "Quirky, quasi-funky 'groove' begins…Band should lock into this groove."[9] This aesthetic change is not necessarily a strict formal change considering that much of the material (especially the clarinet solo) remains the same. Much of the work to this point has utilized formal sections with blurred boundaries. The somewhat jazzy nature of the accompaniment in the wind ensemble here is an indication that this is a moment with blurred formal boundaries: See Figure 3.4.

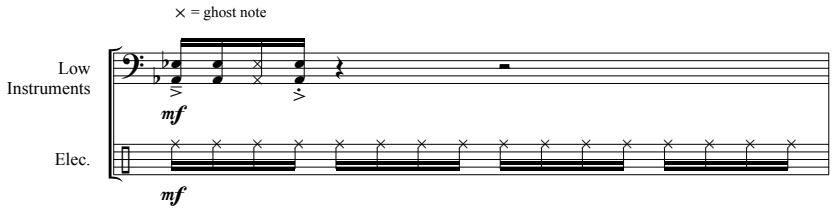

Figure 3.4 – m. 448 in the Bryant; the characteristic reflectiveness of the opening of movement 4 is significantly blurred by the reemergence of the fixed electronic element. This return hints at a jazzy, big-band style, which is a suspicion that is confirmed with the climax of the movement.

[9] ibid, 58.

The conclusion of this transition is indicated via the orchestration of the electronics. The complete isolation of the electronics in mm. 460 and 461 leads into the climax of the movement. As before, the complete isolation of electronics is an indication of a large formal shift. The brief climactic section of the movement sees a long decrease in dynamic intensity with a persisting rhythmic drive in the electronics. As with most sections of the piece, this decrescendo is blurred by the re-emergence of the solo clarinet and, more importantly, the final movement of the work.

The electronics in the concluding movement of the piece resort back to their initial role as harmonic support of the ensemble as opposed to rhythmically driving. This final movement is a textural and aesthetic combination of movement one and the beginning of movement four. The harmonies are peaceful as in the first movement with the reflectiveness of the beginning of the fourth movement. Considering the large-scale formal blurring that occurs in the piece, the division of the piece into five movements may in fact be contradictory to the true form of the piece. The final movement's character as a combination of the opening movement and the drawn out opening of the fourth movement perhaps hints at a rondo form. In terms of motivic material, the piece isn't necessarily as cohesive as a rondo form, but considering aesthetic and orchestrational choices, the idea of a rondo makes sense: See Figure 3.5.

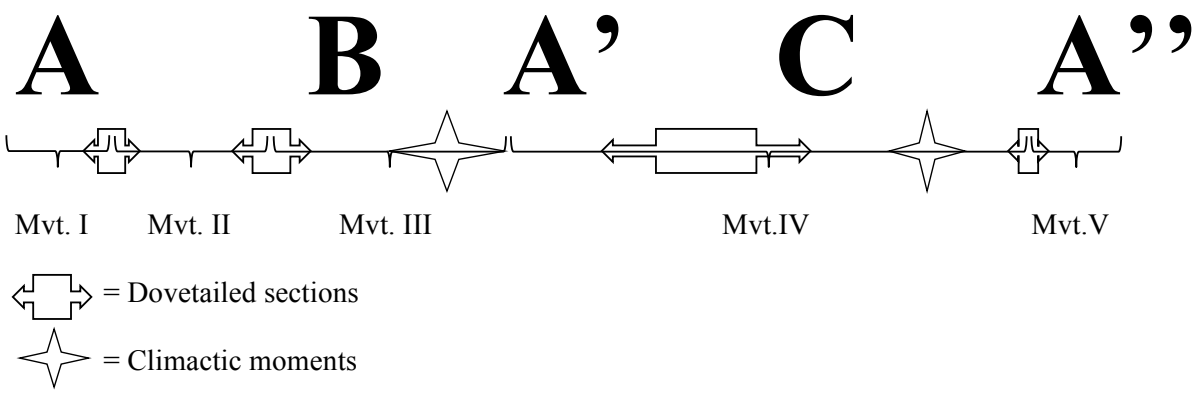

Figure 3.5 – Formal diagram for *Ecstatic Waters.*

This figure demonstrates a formal outline for Steven Bryant's *Ecstatic Waters* as a loose rondo form. This rondo is more so defined by fluctuations and returns to and from aesthetic environments as opposed to the traditional motivic returns characteristic of such a form. The A areas involve reflection and peacefulness, while the B and C sections are unsettled and involve climactic moments. The B section is one of agitated aggression, while the C section is one of jazzy rebellion. The various possibilities for the form of Steven Bryant's *Ecstatic Waters* are a direct result of the piece's eclectic nature. This eclecticism is instigated by the role of the electronics throughout the work as either a driving rhythm section, harmonic support or a provider of textural nuance.

It is quite possible that Bryant sketched the form of his piece before any of the notes were actually written as is common for students of Corigliano. Jamie Nix describes this process:

> Corigliano is known for having his students draw colored pencil sketches of the architecture and flow of a piece before a single note or chord is written. As Bryant recalled, "It was very useful and often very frustrating because, you can draw the prettiest picture in the world, but there's still that chasm between that and 'what the hell are the notes?'"[10]

Bryant's notion of form is far from the classical tradition. He is much more interested in the notion of story telling and feels strong connections to literary art forms as a means of developing a meaningful narrative.[11] One of the key elements that drives this story telling is Bryant's careful attention to orchestration as Nix describes:

> As a work becomes more fully shaped, Bryant uses orchestrational and harmonic "levers" to "ratchet up the energy in levels." One of the most common ways he achieves this is to set up a certain expectation of arrival, but then take the listener one level beyond where it seemed obvious. Often he attains this through the suspension of full orchestration. A moment of impact might include the full ensemble excerpt, for example, the tubas and percussion. He will then

[10] Jamie L. Nix, "Steven Bryant's *Ecstatic Waters* for Wind Ensemble and Electronics: Compositional and Performance Perspectives for Conductors" (DMA diss., The University of Miami, 2010), 45.
[11] ibid.

> unexpectedly play another phrase using those omitted instruments to push the energy level up another notch.[12]

Certainly this journey that Bryant describes explains the lack of formal returns of materials but also explains why the piece can be rationalized when thinking more abstractly about the shifts in aesthetic between the large-scale sections. This falls in line with the notion of his interest for captivating story telling.

Christopher Stark's *Augenblick*

Christopher Stark's *Augenblick* is a piece for wind ensemble and fixed quadraphonic electronics. In contrast to the previously examined Bryant piece, the Stark piece makes use of more straight-forward sampled sounds with the idea of musique concrète in play. In doing so, the aesthetic value of the electronics play a different role than the electronics play in *Ecstatic Waters.* The sounds used are also at an advantage as far as their existence in a performance space considering the use of four speakers as opposed to two. The highly rhythmicized elements in the electronics are therefore capable of taking advantage of an acoustic space more meaningfully than a piece with stereophonic electronics and can create a more encompassing textural environment. The striking nature of sampled sounds in a quadraphonic environment in combination with a wind ensemble allows the electronics to clarify the form of the piece in question.

The introduction of the work is one of disorientation and, to some degree, illusion. As is typical in a concert setting, the procession of the conductor from backstage is typically followed by applause in the audience. Stark uses this as an opportunity to introduce the electronics by

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[12] ibid, 50.

using the sounds of applause in the electronics as is indicated in the performance notes. He indicates the progression as such:

> Electronic Cue 1 should be triggered immediately after the audience begins applauding the conductor's entrance to the stage…Electronic Cue 2 should be triggered immediately after the conductor bows.[13]

Stark makes his intentions with this gesture clear in his notes:

> You may find the opening to be quite loud, this is intentional. The opening should build to a level that is almost unbearable before the ensemble enters at measure 3.[14]

The opening gesture in the electronics is in great contrast with the opening gesture in the wind ensemble a measure later. This creates a moment that takes chaos and focuses it into a very concentrated and subdued texture.

Considering mm. 1-91 as the opening section, the electronics serve a purpose that can be described as short bursts of chaos. These bursts serve to enhance subito gestures in the ensemble that are jarring and chaotic in their own right. Because of this, the electronics of this section are supplementary, providing a more secondary role than their initial applause gesture, and yet, despite this secondary role, their appearance alone is an indication of the advancement of the form. The music of this section grows more agitated as the chaotic outbursts persist creating less and less of a stark contrast between the chaotic outburst and the initially preceding material. Because of this indication of formal advancement, it is also no surprise that the large-scale conclusion of this section is accompanied by the emergence of a click track with a suggestion of impending rhythmic involvement in the electronics.

The electronics in this section appear at rehearsal letter E. With a sforzando-piano gesture in the trumpets crescendoing to forte in mm. 101 and 102, the electronics immediately

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[14] Christopher Stark, *Augenblick* (Ithaca, NY: Sommerso Publishing, 2008), iv.
[15] ibid

reverse this gesture in mm. 102 and 103. The original gesture in question was also accompanied by a sizzle cymbal attack, which, in the reverse form of the gesture that appears in the electronics, creates what sounds like a roll on the cymbal that is suddenly choked: See Figure 3.6.

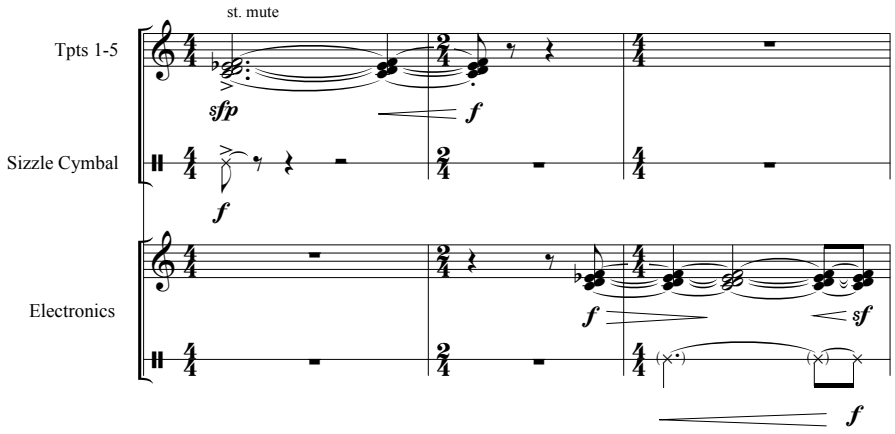

Figure 3.6 – mm. 101-103 in Christopher Stark's *Augenblick*; in this moment in the second section the trumpets and percussion play a figure that is sounded in reverse in the electronics. The trumpets have not been transposed in this figure.

Through meticulously used dynamics and orchestration, Stark creates a meaningful counterpoint between the acoustic and the electronic elements. This form of electronic manipulation defines this section. The progression of the section is very similar to the opening section. As the electronics become more complex, the wind ensemble becomes more agitated. This culminates to a section that is entirely electronic. Almost as if giving in to the dominance of the electronics, the ensemble stops playing altogether save for the percussion section in mm. 134-136. The exclusion of the ensemble in this moment is a large-scale indicator of a third section.

It is at this point that the electronics begin to utilize strict rhythms. The ensemble remains silent for a moment longer before returning with a chorale the likes of which the piece has not yet seen: See Figure 3.7.

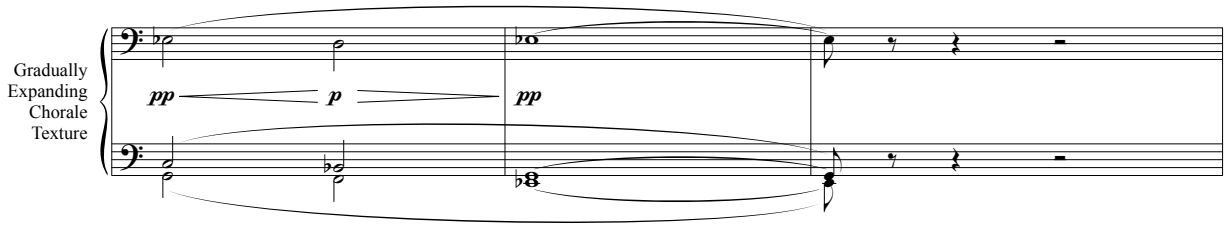

Figure 3.7 – mm. 137-139 in the Stark; the third section involves steady rhythmic accompaniment from the electronics and a repeated chorale first appearing in the low brass and double bass. The scoring of this chorale expands gradually to include the entire ensemble.

Considering the developmental arc of the piece, it is reasonable to assert that the strictly rhythmicized gesture in the electronics and this unexpected chorale section are equally surprising. Neither is hinted at in the previous sections save for the piece's tendency to become less agitated aesthetically as the work progresses through its sections. Additionally, the involvement of the electronics becomes more regular as the piece progresses. In the opening section, the electronics exist in brief outbursts. The second section sees a meaningful counterpoint that emerges after the wind ensemble develops the aesthetic of the section briefly. This chorale section is initiated by the electronics, which exist throughout the entirety of the work.

The end of this third section is signaled by an unexpected re-entry of the applause sound in the electronics in m. 159. This accompanies the climactic moment of the section with the entire ensemble sounding out an E-flat major sonority. This chorale section utilizes a repetition of three chords (C minor, B-flat major and E-flat major in varying inversions) repeated eight times with gradually growing instrumentation and dynamic. Upon beginning what first appears to be a ninth iteration of this chord progression, Stark unexpectedly ends the work with a gesture that has the wind players blow air through their instruments at varying degrees of dynamic. This gesture, appearing in all the winds, concludes the work. Considering the textural simplicity of

the chorale from the third section, the textural complexity this gesture achieves is a meaningful contrast.

Formal divisions as indicated clearly by the electronics in *Augenblick* are easily deciphered. The eclectic trajectory of the piece, however, makes it difficult to define the form. Indeed, the three main sections of the piece are made up of considerably different materials. While the electronics make the formal divides of the work clear, the extreme contrasts between all of the sections including the introduction and the coda make the formal divisions well defined. As stated before, the aesthetic trajectory demonstrated by the sequence of sections in the piece defines the development of the work. Looking at the acoustic element alone, the opening section, excluding the applause gesture, is extraordinarily textural with highly complex rhythms among the many wind parts combining to effectively create a wash of sound. The following section demonstrates a more vertically aligned version of this counterpoint, creating a texture that is very nearly homophonic but variant to the point of remaining quite textural. The final section is entirely homophonic using chorale-like textures. Considering the electronics, their use in the opening section, excluding the applause gesture, is sparse, only appearing in loud outbursts of dissonant harmony. In the following section they are more present, creating a meaningful counterpoint with the ensemble. In the final section, they are entirely present, utilizing a persistent rhythmic drive.

The introduction and the coda are mirror images. The audience claps and the electronics swell up loudly to begin the work. At the very end of the final section the loud applause returns, and the breathy gesture takes over as the conclusion of the work. The applause gesture exists as a parallel to this acoustic element that sonically resembles it. At the beginning, it echoes live applause and at the end it is echoed by a gesture in the ensemble that approximates it. This

highlights the many reversal techniques used by both the ensemble and the electronics. The overall form of the work also resembles a reversal technique that is overlapping in such a way that creates an indirect proportionality among the activity of the electronics and scoring in the ensemble: See Figure 3.8.

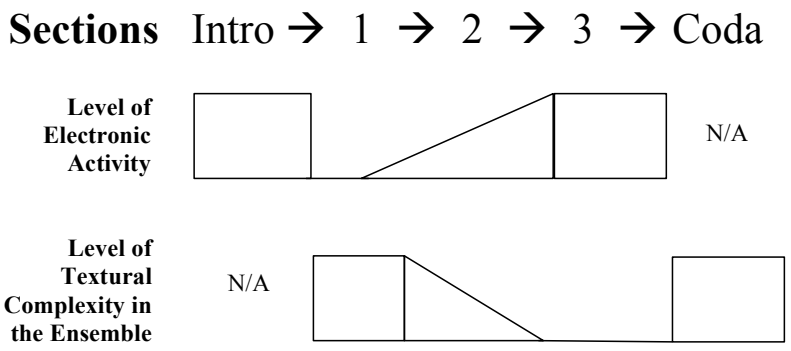

Figure 3.8 – formal diagram of Christopher Stark's *Augenblick.*

This figure demonstrates the indirectly proportional relationship between the level of electronic activity and the level of textural complexity in the ensemble used in Christopher Stark's *Augenblick.* The degree of activity for these two indirectly proportional elements is demonstrated using blocks, triangles, lines and "N/A" indications. Blocks indicate the peak level of activity for these elements. The triangles indicate either an increase or a decrease in activity. The lines indicate an extremely low level of activity for the elements in question. The "N/A" indication means that the element in question is completely absent. With this in mind the above diagram indicates that the two elements in question are in fact indirectly proportional throughout the work.

Stark's implementation of electronics is often times very apparent in its execution, and this fluctuation between overt and covert uses of electronics presents itself in a way that clarifies

the progression of the work's formal structure. Explicit manipulations of sounds such as applause or the heavily spatialized rhythmic figures near the end of the work are evident shifts in form the Stark provides the listener. My work for wind ensemble and electronics also uses explicit formal cues in the electronics via the implementation of sounds that have a very clear connotation. Sounds such as a flatlining heart monitor and a baby crying demonstrate the extreme of this approach. The more intricate role that electronics play when including sounds that have a cultural connotation (i.e. the sound of a flatlining heart monitor cues an emergency in which someone is dying) presents an interesting argument for the varying degrees in which electronics advance formal structures in a piece. This topic is, however, beyond the scope of this paper.

CHAPTER 4

CORRELATIONS BETWEEN ORCHESTRATION AND FORMAL STRUCTURES IN *AS THE LIGHTS GO OUT*

With the same tools of analyses used in the previous chapters regarding the orchestrational roles of both acoustic and electronic elements, I can examine such roles in *As the Lights Go Out*, my own composition for wind ensemble and quadraphonic electronics. As in the previously discussed pieces, my work includes formal elements that have blatant orchestrational cues to clarify the form. These cues manifest themselves in a variety of ways and combine what I perceive to be the strongest features of the acoustic and electroacoustic works previously discussed. Said features are primarily what I perceive to be most compatible with my own writing style. Additionally, my work is very programmatic in nature, which was another factor in my decision-making process regarding my approach to orchestration as a formal guide. The story that the piece tells is one of a dying brain and an individual's first-person perception of such an experience. A movement between two polarized aesthetics dictates the form: 1) the physiological response of the body to a lethal event and 2) the quasi-spiritual response of the mind as it loses oxygen. The story in question is not necessarily portrayed in a single chronological timeline. While the physiological and conscious aesthetics described above do in fact happen one after another with a significant dovetail between them, they are in fact happening simultaneously. In this way the piece tells two sides of a single story, which allows for a meaningful blending and isolating of the two aesthetics. Utilizing the great orchestrational

potential of a wind ensemble accompanied by quadraphonic electronics, emphasizing the relationship between these polarized aesthetics proved to be both challenging and rewarding.

Movement I. Aftermath

As the Lights Go Out begins with an ominous and hazy texture. It seemed too obvious to include an element in the piece that implied a lethal event. I didn't want to include the sound of a car crash for example. Instead, I chose to imply the protocol that the body has when experiencing something along the lines of a lethal car crash. With the introductory passage from mm. 1-11, I chose to portray the moment of confusion that occurs when something shocking happens. In conceptualizing this moment, I envisioned being struck by a vehicle but not realizing for several moments. The opening gesture is an abstraction of these several moments.

My orchestrational choices regarding this moment are of the textural variety. The work fluctuates between moments defined by large textures and complex counterpoint throughout. Much of the time this is a representation of the interplay between the brain's physiological and conscious responses to dying with counterpoint characterizing physiology and texture characterizing consciousness. In this opening gesture an ominous texture signifies the initiation of the two isolated processes examined in the piece. While textural moments are prominently used as a demonstration of consciousness, the opening instead serves as an introduction to the processes. In measure 12 the actual application of these processes begins.

To this point the electronics have acted as a blending mechanism that matches pitch with the instruments that drone out the low, gloomy texture of the opening. In m.12 they embody a completely different role: See Figure 4.1.

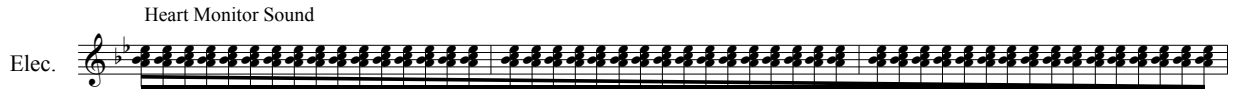

Figure 4.1 – The electronics in Ben Robichaux's *As the Lights Go Out* include several recurring gestures including the heart monitor sound, which first appears in m. 12 of movement one.

Here one of the more concretely programmatic elements of the electronics first emerges with the sounding of the heart monitor. In this moment the acoustic and electronic elements branch out from one another with the sounding of the four pitches used in the heart monitor sound (A, B-flat, C and E-flat) being held in the woodwinds. This sustain deviates from the multiple attacks of the electronics, which ultimately depart to more processed sounds. The initial iteration of the heart monitor sound is a slowing of the heartbeat meant to further emphasize the breathlessness that characterizes the initial moments of a lethal event during which the brain has not yet processed the gravity of the situation. This changes in m. 20 where cue 5 sees the acceleration of the heart.

With a level of rhythmic and textural activity rising, cue 8 is another sound of a slowing heart monitor that ultimately flatlines. The slowing and flatlining heart monitor sounds coupled with the activity in the ensemble demonstrates that while the body is failing the mind is hyperactive in its attempt to survive. The sound of a heart monitor flatlining is, by most means of evaluation, a docile sound, and yet its recognition as a sound that demands immediate action defies its docile characteristics. Because of this, its inclusion in the electronics is an orchestrational cue that the music is gaining significant momentum.

Said momentum gained in the acoustic element of the work is a nod to the brain being the central programmatic focus of the piece. The separation between the heart monitor and the wind ensemble represents this abstractly with the electronics demonstrating the actions of the heart

and the ensemble demonstrating the actions of the brain. The electronics more concretely demonstrate this relationship in cues 9-11. Here the sound of electricity is a programmatic indicator of the physiological phenomenon known as hyperfiring. This occurrence is an activation of the synapses in the brain as it struggles to keep itself alive in a physiological panic.

In the style of Wagnerian leitmotives, the trumpet is given the following motive in mm. 43-46: See Figure 4.2.

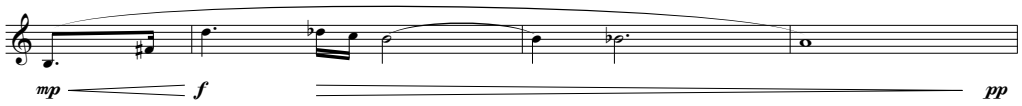

Figure 4.2 – The dichotomy between the physical body and the conscious mind is represented in a few ways throughout Robichaux's piece. The most traditional of these representations is through recurring motives. This motive (the brain motive) represents the clarity of the physical body's dire situation.

There are two primary motives of this nature in *As the Lights Go Out*. This particular motive (henceforth known as the brain motive) first appears in the opening bars of the work in the soprano sax. The occurrence of the brain motive is another nod to the physiological response prevalent in the first movement. Its initial iteration in the opening bars is as hazy as the rest of the opening gesture embodying the overall confusion of the mind in the beginning. Eventually the brain gains clarity on its unfortunate predicament as was abstractly and concretely represented by both the ensemble and the electronics. The trumpet's iteration of the brain motive is a melodic demonstration of this clarity. Once the brain motive is clearly sounded, variations of the motive demonstrate a destabilization of the brain indicating it is losing this fight for survival: See Figure 4.3.

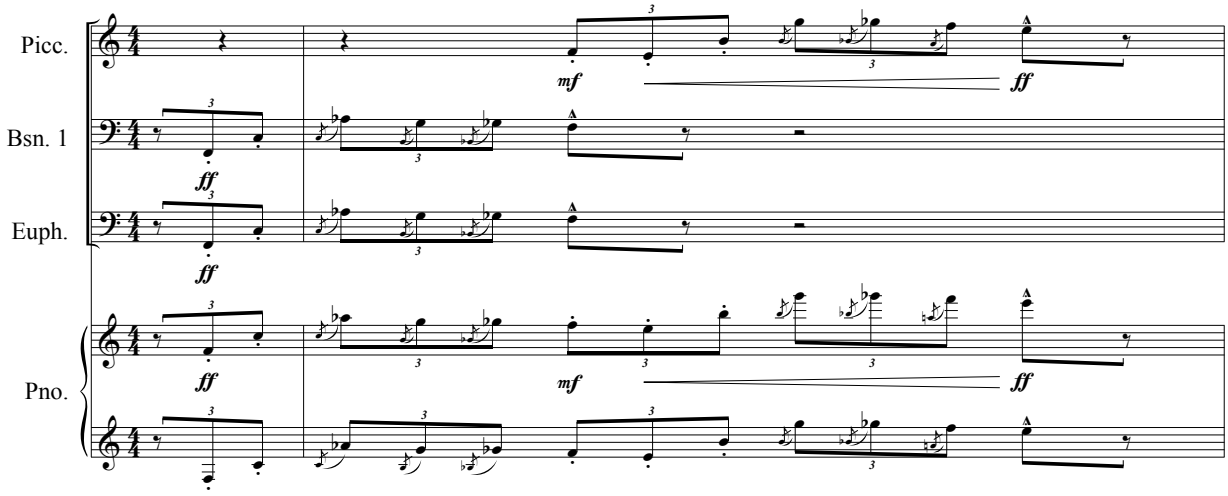

Figure 4.3 – mm. 55-56 in movement one of the Robichaux; variations of the brain motive demonstrate a destabilization of the brain. The piccolo is transposed down an octave in this example.

Ultimately, the brain loses touch with the physiological aspect of this struggle and begins to give in to the state of rest that death offers. This initial letting up is cued by the thinning out of orchestration most glaringly in mm. 62-66.

The following section is one that shows an unprecedented relaxation for the work. The superimposition of the sounds of electricity and the peaceful textures and harmony of this section are a representation of a brain that is neglecting its need to survive as the struggle to stay alive becomes more futile. With the emergence of more serene textures in the ensemble, the brain's acceptance of death becomes more apparent. Eventually, chorale-like textures emerge in the brass. Chorales of this nature indicate an advanced relaxation of the mind: See Figure 4.4.

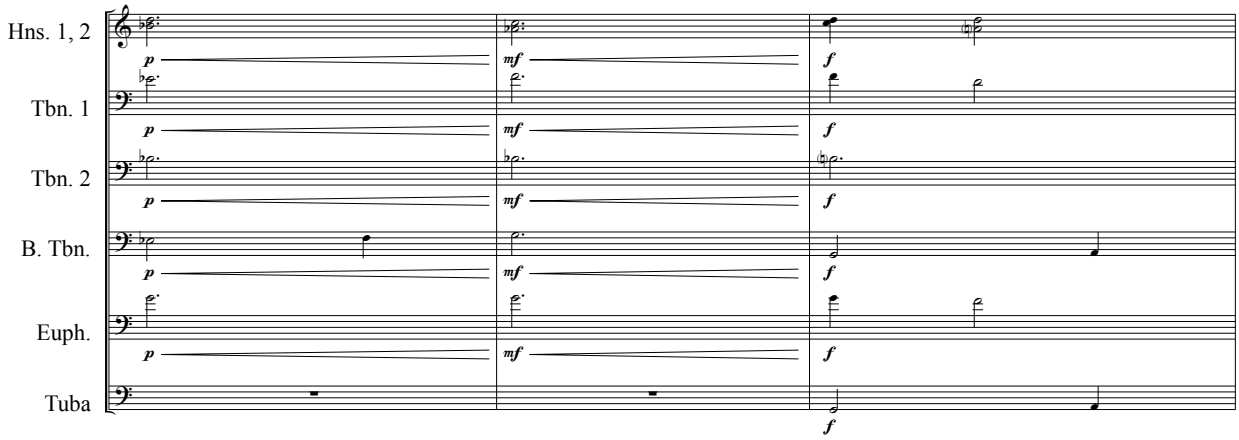

Figure 4.4 – mm. 91-93 in movement one of the Robichaux; chorale textures indicate a level of relaxation that implies the brain is willing to embrace death. The Horns have been transposed up a perfect fifth.

This section of relaxation is a mental state into which the mind is slowly being seduced. The brain is not done fighting, however, as flares of the activity from earlier sections reappear gradually culminating in a gesture that snaps the brain out of its peaceful trance: See Figure 4.5.

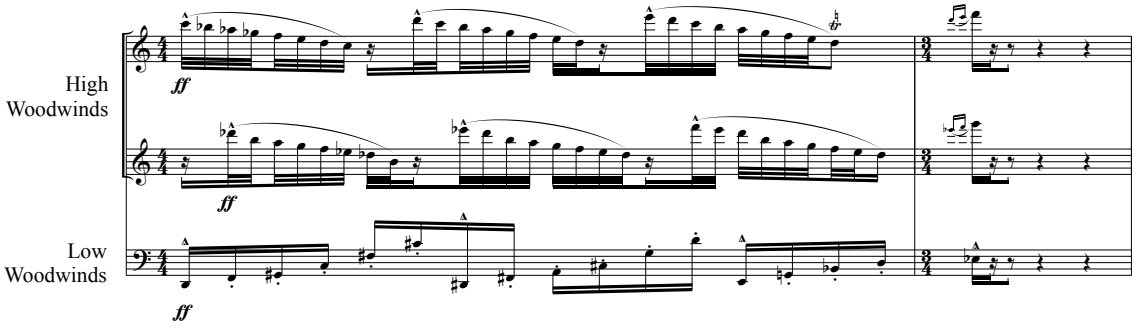

Figure 4.5 – mm. 104 and 105 in movement one of the Robichaux; as if realizing how complacent it has become, the brain tries to snap itself out of contentment with this gesture in the woodwinds.

The conflict between this deadly relaxation and the exhausting struggle persists to the end of the movement with a return to chorale-like structures in the clarinets. The heart monitor gestures return to the electronics towards the end of the first movement to demonstrate this struggle from a more physiological perspective as before. The flatlining in the electronics is preceded and followed by chorale textures accompanied by the more concrete emergence of the sounds of

voices in the electronics. The slow introduction of vocal sounds is an orchestrational cue to the conclusion of the first movement. They first appeared in m. 70 in a warped, processed way as the music was becoming more relaxing. The clarity of the sounds of these voices as the piece progresses is a demonstration of the brain's gradual resignation to death. They also represent a movement away from the technical aspect of the body's physiological response to a lethal event towards a state of spiritual awareness in the mind.

The movement concludes with a return to the initial ominous texture heard in the opening gesture. In its original iteration this sound was of a hazy confusion that ultimately led to a physiological panic. As stated before, the juxtaposition of this physiological panic seen in the opening movement and the spiritual experiences of the consciousness in the movements that follow are not chronologically aligned. The return to the opening texture is a rewinding of sorts demonstrating the notion that the piece is a snapshot of two polarized perspectives. To this point we have only heard the physiological perspective, and we are set to hear the perspective of the conscious mind next. The idea of the two polarized perspectives existing simultaneously as is prevalent in the closing sections of the opening movement is a foreshadowing of the conscious mind's resignation to death.

Movement II. Down the Tunnel

The death of the brain in question only occurs once in reality, but the piece demonstrates this death in two stages. The first one of these the piece demonstrates is the mind's resignation to a white light. This phenomenon of seeing a light at the end of a tunnel experienced by individuals whose brains are lacking oxygen is the story told by the second movement. Of equal intrigue is the notion that the mind's response to seeing a white light at the end of a tunnel has a

direct correlation with the body's physical state in near-death instances. If the mind resigns to head toward the light, the body succumbs to death, and if the light is resisted by the mind, the body's fight continues. The former of these options describes the narrative of movements II and III.

Movement II persists with the ominous texture that returns from the very beginning of the piece. While the development out of this texture in movement I was a brief 11 measures demonstrating a panicked state of mind, movement II's treatment of this ominous texture is less apologetic. In fact the droning low C that is indicative of this section persists in the bassoons and contrabassoon from mm. 1-19 with a brief pause in mm. 20-21 before resuming in mm. 22-26. This persistent drone in the bassoons is a key difference between the beginnings of movements I and II. The tempo indication "Ominous, yet Ethereal" accurately describes the difference in mood from the opening movement. This mood is aided by the spirituality implied by the return of the voices in the electronics in measure 6 with a somewhat mischievous counterpoint in the ensemble demonstrating a curiosity of the mind.

Slow-moving gestures in the bass voices appear with far less motion than the mischievous counterpoint happening in the higher voices but imply a daunting advancement of the piece's momentum and form. In a climactic moment for this opening section, these intimidating bass figures reach a bombastic volume and are followed by a reactionary flourish in the woodwinds. A light at the end of the tunnel is seducing the mind. The mischievous woodwinds represent a playful curiosity, while the slow-moving basses imply a cautionary warning. The brass adopts this cautionary plea in the next section of the movement.

With a majestic plea, the horns, bass trombone and tuba sound out a final warning as a contrasting section for the movement begins. This brash, fanfare-like section acts as the voice of

reason during the mind's acceptance of death. This fanfare-like moment is only brass, percussion and double bass, leaving out the curiosity-driven woodwinds. As the section moves on the brass become less homophonic in texture and as a result they are less foreboding. Additionally, the woodwinds return with their mischievous texture. This return to mischievous counterpoint is an indulgence of a deadly curiosity. This movement towards more complex counterpoint sees a peak in the bassoon section that previously droned out a single note for almost 26 straight bars to begin the movement: See Figure 4.6.

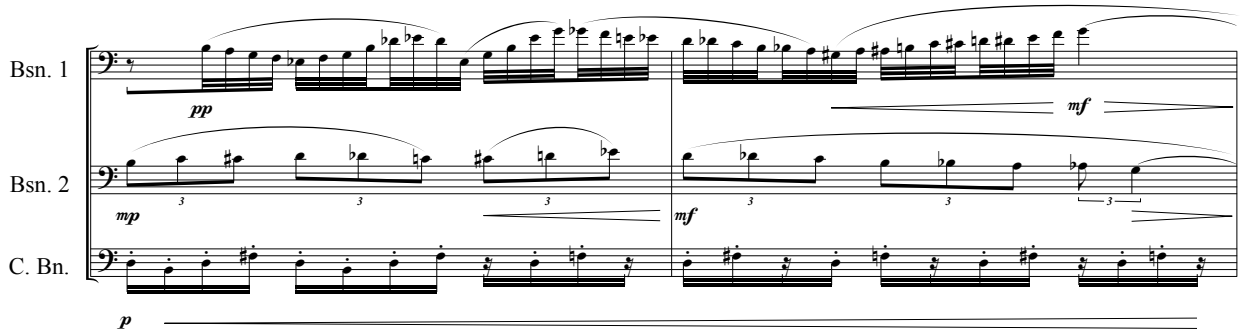

Figure 4.6 – mm. 41 and 42 in the second movement of the Robichaux; the bassoons began this movement droning out a single note for an extended period and by this point have a very intricate counterpoint. This is an example of the mind succumbing to deadly curiosity. The contrabassoon has not been transposed in this figure.

The mind's movement towards resignation in this movement has lethal consequences, and the advancement of counterpoint from playful to complex is a nod to similar textures in the opening movement that implied physiological panic.

As in the first movement, the moments of highest activity are offered clarity by a trumpet solo that immediately follows. The second movement offers a very similar clarity with another trumpet solo: See Figure 4.7.

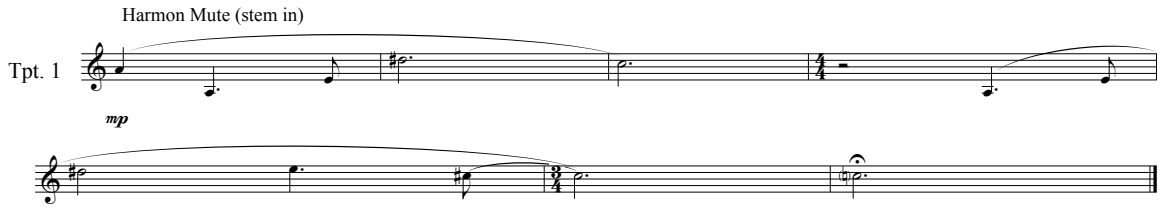

Figure 4.7 – mm. 45–51 in movement two of the Robichaux; this motive in the trumpet is the antithesis of the brain motive of the first movement. The motive in the trumpet concludes the second movement. The trumpet is transposed up a major second in this figure.

This melody (henceforth known as the resignation motive) is the mind's submission to the light and, ultimately, death. The complete thinning out of the ensemble leaving the trumpet by itself in m. 51 is an orchestrational cue to the beginning of the third movement, which is a critical axis point in the piece.

Movement III. Resignation

The third movement adopts two trends from the end of the second movement: 1) the resignation motive and 2) the orchestration of a single instrument. A suspiciously peaceful harp solo begins the second movement. Taking the trumpet's lead from the end of the second movement, the harp immediately plays the resignation motive. Once the second phrase of this motive begins, the voices return with their greatest clarity yet offering an echo of the resignation motive. This inclusion of the voices as accompaniment and then as an echo implies an advanced state of resignation for the mind. With a return to textures reminiscent of movement I, the horn takes the next iteration of the resignation motive spanning mm. 8-13. The aggressiveness of the second phrase in this iteration of the motive coupled with the growing intensity of the ensemble is an orchestrational cue to an enormous spike in momentum.

The following transitional section is representative of transportation from the perspective of the conscious mind back into the perspective of the physical body. Here the cause-and-effect idea of the mind's resignation triggering the body's death is in full force. The opening of the third movement is the cause and mm. 14-21 are about to reveal the effect that concludes the movement and the entire work. This transitional section utilizes a variant of the resignation motive in the low voices. With the movement back into the physiological panic of the body, elements of the second movement that were exclusively a representation of the mind's perception of death begin to reappear. Namely, the low, foreboding texture in the opening of the second movement returns accompanied by the franticness of the opening movement. This is accompanied by an equally frantic moment in the electronics that see the return of the accelerating and flatlining heart monitor along with the sounds of hyperfiring: See Figure 4.8.

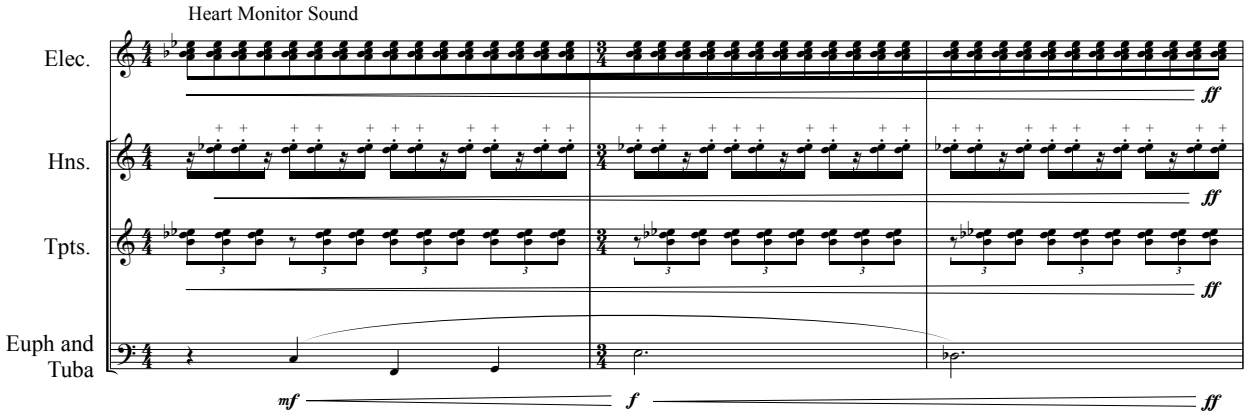

Figure 4.8 – mm. 37 – 39 in the third movement of the Robichaux; this final return of the heart monitor sound in the electronics coupled with the frantic nature of the ensemble indicates that the heart has stopped permanently. The Horns are transposed up a perfect fifth, and the Trumpets are transposed up a major second in this figure.

This texture cues both the climax and the conclusion of the piece. Considering that the flatlining moments have previously been accompanied by less aggressive music, the implication of the sound in the electronics was that, despite the heart's momentary stoppage, it could be

restarted. The accompanying ensemble part in this instance, however, implies that the heart is flatlining for good, hence the panic of the ensemble before and after the gesture. The flatlining persists through the most aggressive iteration of the resignation motive yet in trombone 1. The movement out of this aggressive iteration of the resignation motive is cadential in nature. The movement in the bass voices particularly implies a sense of cadence as is apparent in the brass. The sense of finality of this gesture is accentuated by the trills in the woodwinds indicative of such a finish.

The final bars are a bombastic final appearance of the resignation motive occurring under trilling woodwinds. Though the final bars of the piece are orchestrated in the typical manner for a finale, there is little resolution harmonically. The piece concludes on a highly dissonant harmony with the menacing nature of this harmony being emphasized by brash textures in the horns and trombones. The brashness of the final dissonant harmony is accentuated by glissandi in the trombones and horns. This harsh ending in the ensemble lends itself to a philosophical ending in the electronics. In fact there are three possible endings for *As the Lights Go Out* made possible by the electronics. The ensemble director determines which ending of the piece will be performed. The aesthetics for the ending of the work are intentionally very different and are designed to represent three possible scenarios for the conscious mind, or spirit, after death.

As the Lights Go Out tells the story of a dying brain whose futile struggle for survival is decided by the mind's seduction to resignation. The programmatic interplay between the physiological struggle of the body and the conscious mind determines the form of the piece, while numerous orchestrational choices in the ensemble and the electronics cue the development of this form. Indeed, concrete sounds in the electronics offer clarity to the piece's narrative, while the ensemble presents the listener with the more traditional programmatic clues of

recurring motives and complex textures. The piece has the following formal structure: See Figure 4.9**.**

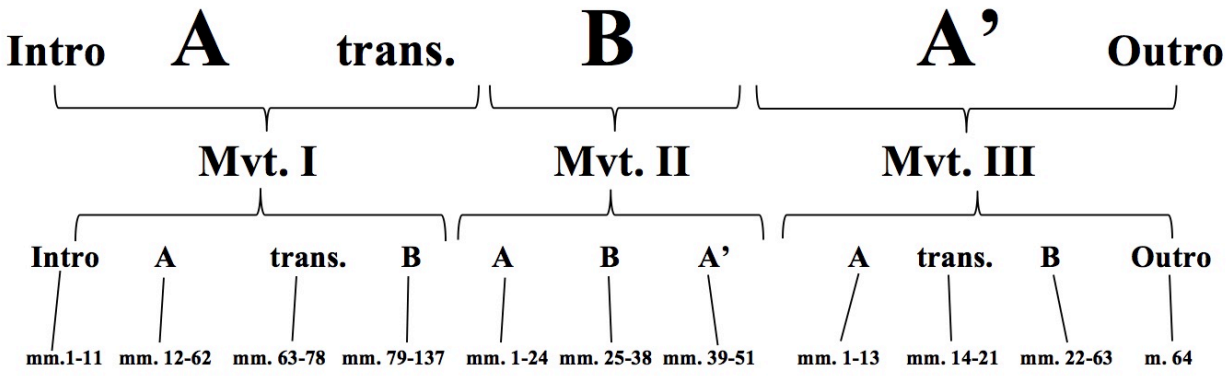

Figure 4.9 – On a large scale, the form of *As the Lights Go Out* is a fairly straightforward ABA'. The subsections of the piece are a little more ambiguous, especially the first movement whose second half acts primarily as a large-scale transition.

With a large-scale ABA' form, the piece can be broken into smaller subsections. Large-scale formal section A can be broken into introduction, A, transition, and B subsections. The most ambiguous of these is subsection B considering that on a larger scale this section acts as a transition into the next large-scale section. Large-scale section B is a more transparent ABA' form, while large-scale section A' is very similar to large-scale section A with a more definitive B subsection. The alternate endings are of no particular consequence to the form and act as codettas. As with the pieces discussed in previous chapters, this formal analysis of *As the Lights Go Out* includes structural returns that are based on orchestrationally driven aesthetics as opposed to the traditional return of themes and harmonies that define the formal structures of classical music for example.

Conclusion

By analyzing four pieces in similar styles and durations to my own piece, I have acknowledged a correlational pattern between orchestrational choices and formal structures. In doing so, I approached my own work with this correlation in mind, thus creating a framework for a piece that is just as effective as those analyzed. I have also demonstrated that contemporary pieces for large ensembles can be analyzed using orchestrational choices as a formal guide. Considering that many contemporary works either do not conform to traditional formal structures or have more abstract formal parameters, orchestrational choices provide extremely valuable context. Nevertheless, contemporary works often *do* conform to traditional formal structures, but this conformity does not necessarily present itself in traditional ways. In fact, conformity to traditional forms in contemporary works often presents itself via variations in aesthetics as opposed to thematic repetitions and harmonic nuances. Analyzing four large ensemble pieces in this way allowed me to quantify which means of formal development and the correlating orchestrational choices suited my musical ideas best. This also allowed me to combine all of the most effective elements of the pieces analyzed in the paper into my own work. Because of this my piece manipulates formal structures by orchestrational means and thus adds clarity to the aesthetic fluctuations in my work.

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APPENDIX A

SCORES

Ben Robichaux

As the Lights Go Out

For Wind Ensemble and Electronics

Ben Robichaux

As the Lights Go Out

(2018)

For Wind Ensemble and Electronics

Approximate Duration: 16'00"

Instrumentation

Piccolo
Flutes 1, 2 & 3
Oboes 1 & 2
Clarinets in B-flat 1, 2 & 3
Bass Clarinet
Bassoons 1 & 2
Contrabassoon
Soprano Saxophone
Alto Saxophone
Tenor Saxophone
Baritone Saxophone

Electronics

Horns in F 1, 2, 3 & 4
Trumpets in B-flat 1, 2 & 3
Trombones 1 & 2
Bass Trombone
Euphonium
Tuba

Double Bass

Piano
Harp

Timpani

Percussion 1 (Vibraphone, Xylophone, Glockenspiel)
Percussion 2 (Mid Tom, Low Tom, Bass Drum, Tamtam)
Percussion 3 (Suspended Cymbal, Temple Blocks)
Percussion 4 (Brake Drum, High Bongo, Low Bongo, Snare Drum)

Performance Notes:

- The score is transposing.

- All accidentals carry through the entire measure and only apply to the octave in which they appear.

- The electronic part indicates accurate pitch material, but the rhythms of the electronic material need not synchronize strictly with the acoustic element. Of primary concern is the onset of the electronic cues and, in several cases, the ending of the electronic gesture in correlation with the acoustic element. The cue should be triggered in correspondence with the left side of the box surrounding the cue indication. **See Figure 1.**

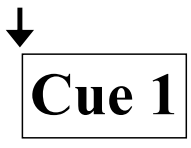


Fig. 1 The cue is triggered when the left side of the box is reached in the music

- The speakers and corresponding Max/MSP patch can be setup one of two ways: 1) stereophonic – accommodating a two-speaker setup in which said speakers are placed at the front of the stage on the left and right extremes of the ensemble OR 2) quadraphonic – accommodating a four-speaker setup in which the speakers described in the first option remain and two additional speakers are set up behind the audience.

- Depending on the ensemble's limitations regarding speaker availability, venue or simply personal taste, a director can decide upon which performing option he/she would like to pursue. These options require two separate max patches, each accommodating the speaker setup chosen by the director. Upon request, the composer will send both versions to a director should they be unsure which version they prefer. The cueing system for the stereophonic and quadraphonic versions are identical and would present no performance issues, but they do require different routing procedures.

- The composer can be contacted for materials at robichauxbenjamin@yahoo.com.

- A run-time version of Max/MSP can be downloaded at www.cycling74.com. The max patch provided will include instructions for setting up the electronic element of the piece.

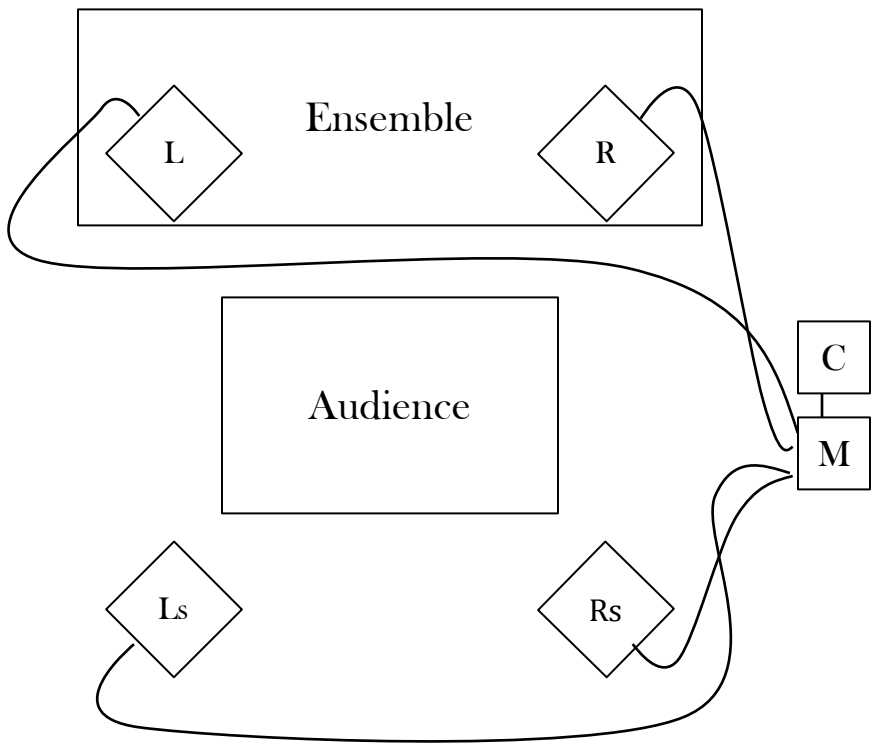
- The electronics must be cued from a laptop. The operator of the laptop can be anywhere in the performance hall where they can effectively see the conductor of the ensemble. They should receive a copy of the score to follow.

- The speakers used should have enough power supply to effectively balance with the volume of the wind ensemble.

- The speakers should always be arranged in a square in the quadraphonic version. Do not distort the shape of the speaker setup. Maintaining the square shape will idealize the spatialized elements of the quadraphonic electronics. Any other shape used will misrepresent the electronic element.

-Diagram of Setup:

Front Speakers (L and R) – used in both the stereo and quad versions.



Back Speakers (Ls and Rs) – used in the quad version only.

Laptop (C) and Audio Interface and/or Mixer (M) – The laptop is connected to the interface or mixer, and the mixer is connected to the speakers: Channel 1 goes to the Left front speaker (L), Channel 2 goes to the Right front speaker (R), Channel 3 goes to the Left back speaker (Ls), Channel 4 goes to the Right back speaker (Rs). The laptop and interface/mixer can be situated anywhere in the hall where the operator can see the conductor.

-There are three alternate endings for three interpretations of life (or lack thereof) after death. The first ending is a harsh and abrupt cut of the ensemble with no electronics following. The second sees a more resonant acoustic ending with a purposefully ambiguous electronic postlude, and the third ending has an equally resonant acoustic ending with a vocally driven electronic postlude. The meanings of the individual alternate endings are entirely up to the director and the listener. The desired endings are primarily controlled by the electronics and require little-to-no extra rehearsal time when deciding among them.

Program Note:

As the Lights Go Out is a physical and spiritual immersion into the brain of a dying person. This immersion involves the body's panicked physiological response to a lethal event, while covering the conscious mind's simultaneous perspective of this event. Said perspective is a direct result of the brain's loss of oxygen resulting in a near-death experience that leaves much to the imagination. While near-death experiences often involve a full recovery back to health, this piece offers insight into a brain that does not recover.

Movement I titled *Aftermath* is the bodily response to the event. With frantic figures and intense, bombastic counterpoint, this opening movement slowly segues from panic to reserved acceptance. As the fight becomes more futile, the body's acceptance of death is more a result of exhaustion than a desire for the end. While this transition is somewhat linear, there are signs of the body's resurgence in the form of intrusive interruptions in the ensemble even near the end of the movement. Voices in the electronics represent a conscious resignation to death to accompany the bodily resignation to the same fate.

Movement II titled *Down the Tunnel* is a rewinding of sorts to the first-person perspective of the conscious mind during the events of movement I. As the brain loses oxygen, spiritual encounters (or encounters that, at the very least, *seem* spiritual) occur in the mind. Survivors of such experiences describe a bright light, meeting passed loved ones or meeting a deity of some kind. This movement introduces more concrete sounds of voices that become prominent as the situation grows dire. Interjectory fanfares in the brass represent a fruitless effort to survive.

Movement III titled *Resignation* begins with a complete surrender to the spiritual encounter. The conclusion of the movement is the bodily failure that accompanies this surrender. With the sound of a flat lining heart monitor in the electronics, the corresponding wind ensemble evokes the impending death. The event is both awe-inspiring and frightening with the closing gestures offering little resolution and even fewer answers.

-Ben Robichaux

Transposing Score

As the Lights Go Out

Atlantic Coast Conference Band Directors Association, James E. Croft Grant for Young and Emerging Wind Band Composers, 2018 Award Recipient

Ben Robichaux

I. Aftermath

♩ = 52 Ominous and Foreboding — *rit.* — (♩ = 42) ♩ = 52 *a tempo*

Piccolo
Flute 1 2 3
Oboe 1 2
Clarinet in B♭ 1 2 3
Bass Clarinet
Bassoon 1 2
Contrabassoon
Soprano Sax
Alto Sax
Tenor Sax
Baritone Sax

Cue 1 Low texture with mechanical rhythms that do not match the tempo of the piece

Cue 2

Electronics
Horn in F 1 2 3 4
Trumpet in B♭ 1 2 3
Trombone 1 2
Bass Trombone
Euphonium
Tuba
Double Bass
Piano
Harp
Soft Mallets
Lowest timpani bottomed out
Timpani

♩ = 52 Ominous and Foreboding — *rit.* — (♩ = 42) ♩ = 52 *a tempo*

Vibraphone
Soft Mallets
Bass Drum
Soft Mallets
Percussion 1 2 3 4

1 2 3 4 5 6

Picc.

Fl. 1

Fl. 2

Ob. 1

B♭ Cl. 1

B♭ Cl. 2

B♭ Cl. 3

B. Cl.

Bsn. 1

Bsn. 2

C. Bn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Elec.

Hn. 1

Hn. 2

Hn. 3

Hn. 4

B♭ Tpt. 1

B♭ Tpt. 2

B♭ Tpt. 3

Harmon Mute (stem in)

Harmon Mute (stem in)

Harmon Mute (stem in)

Mute Out

Mute Out

Mute Out

Tbn. 1

Tbn. 2

B. Tbn.

Euph.

Tuba

D. B.

Pno.

Hp.

Timp.

Perc. 1

Perc. 2

Perc. 3

Perc. 4

Suspended Cymbal

Soft Mallets

Snare Drum

7 8 9 10 11

♩ = 66 With Growing Tension

Picc.
Fl. 1 2 3
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1 2
C. Bn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.

Cue 3 Heart monitor sound — Slowing — Gurgling

Cue 4

Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3 — Harmon Mute (stem in)
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp. — Hard Mallets

♩ = 66 With Growing Tension

Perc. 1 2 3 4 — Choke — Rimshot — Xylophone, Hard Mallets — Temple Blocks, Hard Mallets — Brake Drum, Brass Mallets

12 13 14 15 16 17

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

B. Cl.

Bsn. 1 2

C. Bn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Cue 5

Accelerating

Cue 6

Cue 7

Elec.

Hn. 1 2

B♭ Tpt. 1 2 3

Tbn. 1 2

B. Tbn.

Euph.

Tuba

D. B.

sul pont.

Pno.

Hp.

Timp.

Vib.

Glockenspiel

Brass Mallets

Low Tom

Mid Tom

Perc. 1 2 3 4

High Bongo

Snare Sticks

(Snare Sticks)

18 19 20 21 22 23

Picc.
Fl. 1 2 3
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1 2
C. Bn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 1 2 3 4

a3
a2
Mute Out
Mute Out
Mute Out
ord.
Xylo.
High Bongo
Snare Sticks

Cue 8
Slowing
Flatlining

24 25 26 27 28 29

As the Lights Go Out

Picc.
Fl. 1 2 3
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1 2
C. Bn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 1 2 3 4

Cue 9
Cue 10
Cue 11
Slowing
Accelerating
Electricity
Slap Tongue Closed
Harmon Mute (stem in)
sul pont.
Xylo.
(Snare Sticks)

30 31 32 33 34 35 36

♩ = 56 Becoming Agitated

molto rit. *poco accel.*

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

B. Cl.

Bsn. 1 2

C. Bn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Cue 12 **Cue 13** **Cue 14**

Slowing Flatlining

Elec.

Hn. 1 2 3 4

B♭ Tpt. 1 2 3

Tbn. 1

Euph.

Tuba

D. B.

Pno.

Hp.

Timp.

♩ = 56 Becoming Agitated

molto rit. *poco accel.*

Perc. 1 2 3 4

(Hard Mallets)

37 38 39 40 41 42

As the Lights Go Out

♩ = 72 Mysterious

Picc.
1
Fl. 2
3
1
Ob.
2
1
B♭ Cl.
2
3
B. Cl.
Bsn. 1
2
C. Bn.
S. Sx.
A. Sx.
B. Sx.
Elec.
Hn. 1 2
3 4
B♭ Tpt. 1 2
3
Tbn. 1
B. Tbn.
D. B.
Pno.
Hp.
Timp.
Xylo.
(Hard Mallets)
1
Perc. 3
4

Harmon Mute (stem in)

Mute Out

a2

Picc.
Fl. 1 2 3
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1 2
C. Bn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 1 2 3 4

a2
Harmon Mute (stem in)
Mute Out
ord.
(Brass Mallets)

50 51 52 53 54

Picc.
Fl. 1 2 3
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1
C. Bn.
S. Sx.
A. Sx.
T. Sx.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 1 2 3 4

55 56 57 58 59 60

poco a poco rit. ♩= 48 rit.

Fl. 1 2 | B♭ Cl. 1 | B. Cl. | C. Bn. | S. Sx. | Elec. | Hn. 1 2 3 4 | B. Tbn. | Tuba | D. B. | Pno. | Hp. | Timp. | Perc. 1 2

Cue 15 — Electricity — Cue 16

pizz. — sul pont. — 8va — Ped.

Xylo.

poco a poco rit. ♩= 48 rit.

61 62 63 64 65 66

♩= 48

Fl. 1 2 3 | Ob. 1 2 | B♭ Cl. 1 2 3 | B. Cl. | Bsn. 2 | C. Bn. | S. Sx. | A. Sx. | B. Sx. | Elec. | Pno. | Hp. | Timp. | Perc. 1 2

Cue 17 — Electricity — Cue 18 — Voices — Cue 19

Tamtam — Soft Mallets

67 68 69 70 71 72

Picc.
Fl. 1 2 3
Ob. 2
B♭ Cl. 1 2 3
Bsn. 1 2
C. Bn.
S. Sx.
A. Sx.

Cue 20

Cue 21

Elec.
Hn. 1 2 3 4
D. B.
Pno.
Hp.
Perc. 1 2 3

73 74 75 76 77

Fl. 1 2 3
B♭ Cl. 1 2 3
S. Sx.
A. Sx.
Elec.
Hn. 1
Tbn. 1 2
B. Tbn.
Euph.
Timp.
Perc. 1 2

Xylo.

78 79 80 81 82 83

Picc.
Fl. 1 2 3
S. Sx.
Cue 22
Cue 23
Elec.
Hn. 1 2 3 4
Timp.
Perc. 1 3
Vib.
Soft Mallets

84 85 86 87 88 89 90

Picc.
Fl. 1 2 3
B♭ Cl. 3
B. Cl.
Bsn. 1 2
C. Bn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Elec.
Hn. 1 2
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Hp.
Timp.
Perc. 1 2 3
Snare Sticks
pizz.

91 92 93 94 95 96 97 98

accel.

♩ = 60

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

B. Cl.

Bsn. 1 2

C. Bn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Cue 24

Elec.

Hn. 1 2 3 4

B♭ Tpt. 1 2 3

Tbn. 1 2

B. Tbn.

Euph.

Tuba

D. B.

Pno.

Hp.

Timp.

accel.

♩ = 60

Xylo.

Perc. 1 2 3 4

Soft Mallets

Ob. 1
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1
B. Sx.
Elec.
D. B.
Pno.
Perc. 1 4

1., 2. 3. a3

Cue 25

106 107 108 109 110 111 112 113

B♭ Cl. 1 2 3
B. Cl.
Bsn. 1 2

Cue 26

Elec.
Hn. 1 2 3 4
D. B.
Pno.
Perc. 1 4

114 115 116 117 118 119 120 121 122

Picc.
1
Fl. 2
3
1
Ob.
2
1
B♭ Cl. 2
3
B. Cl.
1
Bsn.
2
C. Bn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.

Cue 27

Elec.
Accelerating
Flatlining

D. B.
Pno.
Hp.
1
Perc.
3

123 124 125 126 127 128

poco a poco rit.

(♩ = 42)

attacca

Picc.

1

Fl. 2

3

1

Ob.

2

Bsn. 1 2

C. Bn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Cue 28

Cue 29

Elec.

1

2

Hn.

3

4

Harmon Mute (stem in)

1

B♭ Tpt. 2

Harmon Mute (stem in)

Harmon Mute (stem in)

3

1 2

Tbn. 1

2

B. Tbn.

Euph.

D. B.

arco

Pno.

Hp.

Timp.

poco a poco rit.

(♩ = 42)

1

Snare Sticks

Soft Mallets

2

Perc.

3

4

129 130 131 132 133 134 135 136 137

II. Down the Tunnel

♩ = 60 Ominous, yet Ethereal

1 Bsn.
2
C. Bn.
A. Sx.
T. Sx.
Elec.
1 Hn. 2
3
D. B.
Pno.
Timp.

Cue 30
low tone persists through ~m.22
Cue 31
Voices

1 2 3 4 5 6

Picc.
1 Fl.
2 3
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
1 Bsn.
2
C. Bn.
A. Sx.
T. Sx.
Elec.
1 Hn. 2
3
D. B.
Pno.
Timp.

Cue 32
Cue 33

7 8 9 10 11 12

Picc.

Fl. 1

2

3

Ob. 1

2

B♭ Cl. 1

2

3

B. Cl.

Bsn. 1

2

C. Bn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Cue 34 Cue 35 Cue 36

Elec.

B. Tbn.

Euph.

Tuba

D. B.

Pno.

Timp.

Tamtam
(soft mallets)

Perc. 2

13 14 15 16 17 18 19

Picc.
1
Fl. 2
3
1
Ob.
2
1
B♭ Cl. 2
3
B. Cl.
1
Bsn.
2
C. Bn.
S. Sx.
A. Sx.
B. Sx.

Cue 37

Elec.

Hn. 1 2 3 4
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Timp.
Perc. 2

Bass Drum and Tamtam
(soft mallets)

20 21 22 23 24 25 26

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

S. Sx.

Elec.

Hn. 1 2 3 4

B♭ Tpt. 1 2 3

Tbn. 1 2

B. Tbn.

Tuba

D. B.

Pno.

Timp.

Perc. 1 2

Glockenspiel
(hard mallets)

27 28 29 30 31 32 33

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

B. Cl.

S. Sx.

A. Sx.

T. Sx.

Cue 38

Elec.

Hn. 1 2 3 4

B♭ Tpt. 1 2 3

Tbn. 1 2

B. Tbn.

Euph.

Perc. 1

34 35 36 37 38 39

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

B. Cl.

Bsn. 1 2

C. Bn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Elec.

D. B.

Perc. 1

40 41 42 43 44

Picc.

Fl. 3

B♭ Cl. 1 2

Bsn. 1 2

C. Bn.

Elec.

B♭ Tpt. 1

D. B.

Pno.

Timp.

Perc. 1 2

45 46 47 48 49 50 51

III. Resignation

♩ = 48 **Transcendent**

molto rit.

(♩ = 36)

Cue 40

Cue 41

Voices

Elec.

Pno.

Hp.

1 2 3 4 5 6

♩ = 48 *a tempo*

Picc.

Fl. 1

Ob. 1 2

1

B♭ Cl. 2

3

B. Cl.

S. Sx.

A. Sx.

Elec.

Hn. 1

Pno.

Hp.

♩ = 48 *a tempo*

Tamtam
(soft mallet)

2

Temple Blocks
(hard mallets)

Perc. 3

Snare Drum
(snares off)

4

7 8 9 10 11

accel.

♩ = 60

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

B. Cl.

Bsn. 1 2

C. Bsn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Elec.

Hn. 1 2 3 4

B♭ Tpt. 1 2 3

Pno.

Hp.

accel.

♩ = 60

Bass Drum and Tamtam
(soft mallets)

Perc. 2 3 4

Snare Drum
(snares on)

Picc.
1
Fl. 2
3
1
Ob.
2
1
B♭ Cl. 2
3
B. Cl.
Bsn. 1 2
C. Bsn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Elec.
1
2
Hn.
3
4
B♭ Tpt. 1 2 3
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
2
Perc. 3
4

15 16 17 18

molto rit. (♩ = 48) ♩ = 96

Picc.
Fl. 1 2 3
Ob. 1 2
B♭ Cl. 1 2 3
Elec.
Hn. 1 2 3 4
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 2 3 4

Cue 42

Accelerating

Suspended Cymbal

molto rit. (♩ = 48) ♩ = 96

19 20 21 22 23 24

Picc.
Fl. 1 2
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1 2
C. Bsn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Accelerating
Elec.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 2 3

25 26 27 28 29 30

Picc.
1 Fl.
2
B♭ Cl. 1 2 3
Bsn. 1 2
C. Bsn.
S. Sx.
A. Sx.

f
a2
p *mf* *pp*

Accelerating

Elec.

1 2 Hn.
3 4

a2 *pp*
a2 *pp*

a3
Harmon Mute (stem in)
1.
2., 3.
B♭ Tpt. 1 2 3
pp

Euph.
Tuba
D. B.

p *mf* *pp*

Pno.

p *mf*

Hp.

f *p*

Timp.

p *mp* *mf*

2 Perc. 3

mf

31 32 33 34 35

B♭ Cl. 1 2 3
Bsn. 1 2
C. Bsn.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 2 3 4

a2

Accelerating

Flatlining

36 37 38 39 40

Bsn. 1 2
C. Bsn.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 2 3 4

a2

Flatlining

sffp ff pp mp f mf

41 42 43 44 45 46 47

Picc.
Fl. 1 2 3
Ob. 1 2
B♭ Cl. 1 2 3
B. Cl.
Bsn. 1 2
C. Bsn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Tbn. 1 2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
Perc. 2 3 4

a2
a3
1., 2.
3.
Mute Out

48 49 50 51 52

molto rit.

Picc.
1
Fl. 2
3
1
Ob.
2
1
B♭ Cl. 2
3
B. Cl.
Bsn. 1 2
C. Bsn.
S. Sx.
A. Sx.
T. Sx.
B. Sx.
Elec.
Hn. 1 2 3 4
B♭ Tpt. 1 2 3
Tbn. 1 2
a2
B. Tbn.
Euph.
Tuba
D. B.
Pno.
Hp.
Timp.
molto rit.
2
Perc. 3
4

53 54 55 56

= 48 Grandiose!

As the Lights Go Out

Picc.

Fl. 1 2 3

Ob. 1 2

B♭ Cl. 1 2 3

B. Cl.

Bsn. 1 2

C. Bsn.

S. Sx.

A. Sx.

T. Sx.

B. Sx.

Elec.

Hn. 1 2 3 4

B♭ Tpt. 1 2 3

Tbn. 1 2

B. Tbn.

Euph.

Tuba

D. B.

Pno.

Hp.

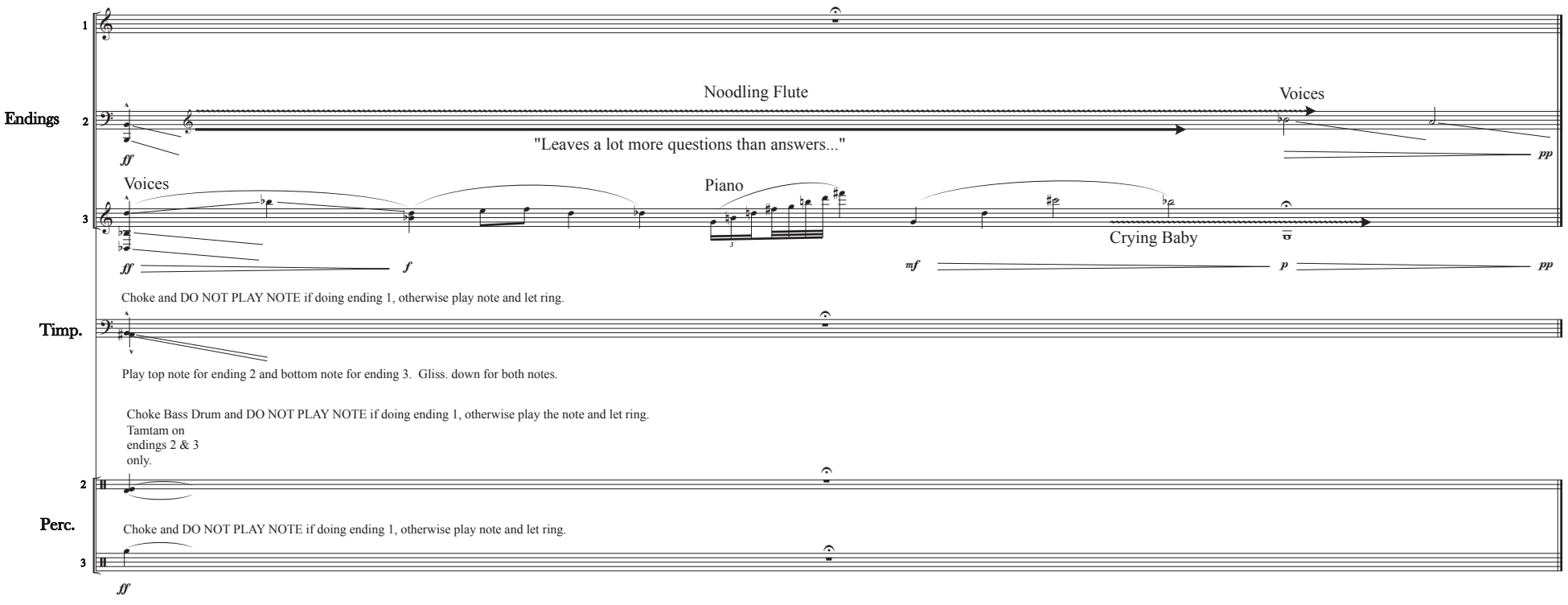
Timp.

= 48 Grandiose!

Perc. 2 3 4

a2 a3 bell up Choke Tamtam on endings 2 & 3 Choke (if doing ending 1) Lift pedal on ending 1, let ring on endings 2 & 3

57 58 59 60 61 62 63


Endings
Timp.
Perc.
Noodling Flute
Voices
"Leaves a lot more questions than answers..."
Voices
Piano
Crying Baby
Choke and DO NOT PLAY NOTE if doing ending 1, otherwise play note and let ring.
Play top note for ending 2 and bottom note for ending 3. Gliss. down for both notes.
Choke Bass Drum and DO NOT PLAY NOTE if doing ending 1, otherwise play the note and let ring.
Tamtam on
endings 2 & 3
only.
Choke and DO NOT PLAY NOTE if doing ending 1, otherwise play note and let ring.