

## Luminosity: Analytical Approach

The purpose of this analysis is to aid the conductor in an artistically meaningful and musically informed performance of Joseph Schwantner's *Luminosity: Concerto for Wind Orchestra*. In support of this objective, some guiding principles of analysis have been adopted. In order to be applicable to the conductor, the analysis will focus on the experience of a performance by considering the aural realization of the score through time. This will be achieved by framing the analysis in a narrative format, applying elements of sonata principle to the large-scale musical discourse, and applying the concept of teleological genesis to the development of musical goals in *Luminosity*. Consideration of the aural realization of the score will include discussion of the perceptual effect of pitch relationships, and Schwantner's use of tonal elements in the context of set-class theory. These principles will be discussed, supported by a brief review of some applicable writing. Building on that foundation, a practical analytical plan will then be outlined in order to support a meaningful and informed musical understanding for the conductor.

### Focus on Performance

The first principle concerns the intended application of this analysis to a performance. The ideal behind this principle is that in order to be relevant to the performing artist, a written analysis must resonate with the experience of a performance of the work. This ideal serves a practical purpose, but does not limit a rigorous and illuminating analysis. Instead, it fosters a creative approach to understanding the music in

the context which it was intended: the aural reality of a performance. This experiential approach has allowed this analysis to move beyond a mere description of the printed score to a consideration of how aural elements function across time to articulate the composition. The focus on time and sound is the strategy used to focus this analysis of *Luminosity* on the experience of a performance, and thus remain relevant to the conductor.

### Narrative

Consideration of the element of time includes the recognition that an audience does not comprehend the entire composition simultaneously, but temporally. Musical events experienced in the present moment are related to the memory of past events and the anticipation of future events. This simple observation has profound consequences for an understanding of musical form not as a structural object, but as a linear sequence that resembles a narrative in function. Eero Tarasti describes a narrative approach to understanding music in his book *Signs of Music: A Guide to Musical Semiotics*. The understanding of narrativity he applies is described as “a way of shaping the world in its temporal, spatial, and actorial course.”<sup>1</sup> This implies a view of musical performance in the broader context of how we experience the world around us, specifically how we connect observed events, separated by time and space, into a narrative of causal relationships. In his later book, *Semiotics of Classical Music: How Mozart, Brahms and Wagner Talk to Us*, Tarasti refines his definition of narrativity in a musical context,

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<sup>1</sup> Eero Tarasti, *Signs of Music: A Guide to Musical Semiotics*, (Berlin: Mouton de Gruyter, 2002), 112.

specifying three distinct forms: conventional, organic, and existential. Conventional and organic forms of narrativity have been applied to the analysis of *Luminosity*. The conventional model of narrativity “takes shape as clear-cut narrative programs in which the musical subject appears, as actor(s), and does something.”<sup>2</sup> Describing musical elements in these terms gives them a powerful agency. In *Luminosity*, individual musical “subjects” are introduced and can be followed throughout the composition. The conventional model of narrativity has been applied to a description of their development in various contexts, their relation to each other, and how they interact. Tarasti writes about organic narrativity that it “exceeds borderlines; it resists clear segmentation as it strives for continuous growth in accomplishing the musical *telos*, the goal(s) or gene-signs toward which the musical process drives, unfolding in cyclic patterns.”<sup>3</sup> Tarasti directly relates his concept of organic narrativity to a description of musical form. The understanding of form not as a static structure, but as what Tarasti calls a “dynamic formal process” is particularly applicable to a performance-focused analysis.<sup>4</sup> For a conductor preparing a performance, this ideal can be realized through a chronological narrative description of form in which specific musical events unfold over time, rather than using a structural metaphor in which the entire form is perceived simultaneously. Often, these musical events work to bring about some kind of goal, or *telos*. Musical goals are realized in *Luminosity* through the application of sonata principle and

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<sup>2</sup> Eero Tarasti, *Semiotics of Classical Music: How Mozart, Brahms and Wagner Talk to Us*, (Berlin: De Gruyter Mouton, 2012), 48.

<sup>3</sup> Ibid.

<sup>4</sup> Tarasti, *Signs of Music*, 112.

teleological genesis. These two large-scale formal principles are general patterns that can be applied to the analysis of a wide range of music.

### Sonata Principle

The application of sonata principle used in this analysis is not a prescriptive formal structure, but a broader understanding of the interaction and eventual resolution of contrasting elements. As described by Wilfred Mellers, sonata is "not so much a form, as a principle, an approach to composition. . . . One might even say that there is no such thing as sonata form; there are only sonatas."<sup>5</sup> Charles Rosen outlines details of a typical textbook description of a sonata movement, which he concludes is appropriate for many eighteenth century sonatas, but increasingly untenable with later works.<sup>6</sup> In order to arrive at a more useful model, Rosen derives some functional principles of sonata movements, while attempting to avoid the "traps" of "definition of form on the basis of a

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<sup>5</sup> Wilfrid Mellers, *The Sonata Principle*, (New York: Schocken Books, 1969), 581.

<sup>6</sup> Charles Rosen, *Sonata Forms*, Rev. ed., (New York: Norton, 1988), 1. He gives a detailed description of a prescriptive textbook formal model: "The *exposition* presents the principal thematic material, establishes the tonic key and modulates to the dominant or to some other closely related key. (In works in the minor, this will generally be the relative major.) The first theme or *first group* of themes is stated at the tonic. . . . This section ends either on the dominant or, more often with a half-close on V of V. The second theme, or *second group*, is stated in the dominant: it is traditionally supposed to have a more lyrical and tranquil character than the first group, and is sometimes said to be more 'feminine.' At the end of the second group, there is a *closing theme*. . . with a cadential function. . . . The *development* section may begin in one of several ways: with the first theme now played at the dominant; with an abrupt modulation to a more remote key; with a reference to the closing theme; or—in rare instances—with a new theme. . . . It is in this part of sonata form that the most distant and the most rapid modulations are to be found, and the technique of development is the fragmentation of the themes of the exposition and the reworking of the fragments into new combinations and sequences. The end of the development prepares the return to the tonic with a passage called the *retransition*. The *recapitulation* starts with the return of the first theme in the tonic. The rest of the section 'recapitulates' the exposition as it was first played, except that the second group and closing theme appear in the tonic, with the bridge passage suitably altered so that it no longer leads to the dominant but prepares what follows in the tonic. Longer works are rounded off by a *coda*."

predetermined set of masterpieces,” and the use of statistical abstractions.<sup>7</sup> Through a close analysis of a range of historical examples, Rosen gradually accumulates aspects of these sonata principles throughout his book. The principles he derives not only describe the sample compositions, but can be applied to the analysis of other sonata movements. These principles are of value to analysis in preparation for performance because they relate to the narrative concept of events unfolding over time to achieve a telos. In sonata movements, the telos is the resolving of conflicting elements in the recapitulation. In *Luminosity*, the articulation of sonata principle coincides with multiple levels of small- and large-scale goal attainment.

The most fundamental aspects of Rosen’s observations involve contrasting elements which have a readily recognizable character even when altered, and the ultimate goal of their reconciliation. In roughly chronological order, Rosen first observes the development of the “polarization” and “resolution” of “striking and memorable” motives or themes.<sup>8</sup> Then, in perhaps his most broadly applicable point, he observes that the prescribed sonata harmonic structure is not necessary for the necessary contrast and reconciliation. He writes “it is not, in the end, helpful to claim that sonata form is basically harmonic rather than melodic. . . . Sonata style is essentially a coherent set of methods of setting the contours of a range of forms into high relief and resolving them symmetrically.”<sup>9</sup> From this broader perspective, the harmonic polarization of themes in the tonic and dominant key areas and their eventual resolution in the tonic is one of many

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<sup>7</sup> Ibid., 7.

<sup>8</sup> Ibid., 143.

<sup>9</sup> Ibid., 181.

compositional strategies for articulating sonata principle. In *Luminosity*, the principle of defining and intensifying contrasting elements is extended to rhythmic motives, intervallic content, and orchestration in addition to a large-scale tonal strategy.

*Rosen* then extends the concept of contrasting themes to contrasting motivic characters, with traits that are recognizable even when transferred from the melody to the accompaniment.<sup>10</sup> In this case, general motivic characters set up the fundamental contrast rather than fixed themes. *Rosen* writes that this more flexible conception of contrasting motivic characters required “clearly separable elements” that “could be clearly recognized as they appeared at different points of the work.”<sup>11</sup> These observations suggest a less restrictive approach to the definition of contrasting elements. The polarized elements could result from contrasting themes, different harmonic areas, distinct motivic characters, or any other method by which a composer can create clearly discernible musical contrast. *Wilfred Mellers* takes a similar historically derivative approach, focusing more on contemporary cultural context. He describes the development of contrasting elements as a dualism derived from popular music in the eighteenth century, and an intensification of musical conflict observed in sonata movements in the nineteenth century.<sup>12</sup> In *Luminosity*, the reconciliation of contrasting characters is applied to the first movement, but also to the composition as a whole in a symphonic expansion of sonata principle.

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<sup>10</sup> *Ibid.* In a discussion of the polarization of characters even in Haydn’s monothematic sonata movements, *Rosen* describes the transfer of motivic ideas from accompaniment to melody, allowing Haydn to “make themes out of formulas of conventional accompaniment.”

<sup>11</sup> *Ibid.*, 201.

<sup>12</sup> *Mellers*, 593.

The approach of these authors does indeed avoid the traps of relating all sonata movements to a few predetermined models or a statistical abstraction, by examining what composers were trying to accomplish musically. While there are a variety of methods to articulate sonata movements, composers fundamentally set up contrasting characters and their eventual resolution in the recapitulation. Instead of a prescriptive musical form to be populated, this understanding appreciates sonatas as dynamic temporal processes, a musical embodiment of dramatic conflict and reconciliation. This dramatic conception of sonata principle can be described as humanistic and experiential, and resonates with the way a listener experiences a performance of a sonata movement.

Edward Cone articulates a common conception of sonata movements, arguing that form is essentially a rhythmic phenomenon. He describes the form of compositions as the balance of large structural “upbeats” and “downbeats.”<sup>13</sup> His large-scale rhythmic conception of form is inclusive enough to include a range of specific compositions. However, Cone is more interested in “explaining” the structure of a composition than understanding how the individual musical details articulate that structure.<sup>14</sup> In describing how his rhythmic structural theory applies to performance, he suggests that the performer reduce the composition to its rhythmic structure, or the “upbeats” and “downbeats” of phrases, sections, and movements. He states that “valid performance depends primarily on the perception and communication of the rhythmic life of a composition.”<sup>15</sup> The

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<sup>13</sup> Edward T. Cone, *Musical Form and Musical Performance*, (New York: W.W. Norton, 1968), 25.

<sup>14</sup> *Ibid.*, 39.

<sup>15</sup> *Ibid.*, 38.

rhythmic principles, he explains, “can ultimately be invoked to explain an entire composition as one all-embracing rhythmic impulse.”<sup>16</sup> And to clarify his hierarchical view of understanding form, he summarizes:

Such a comprehensive form can be made clear in performance, however, only by virtue of another principle: that the whole is more important than any of its parts. Any conflict of interest must be resolved by suppressing the formal claims of the part in favor of those of the whole.<sup>17</sup>

This rhythmic structural view is not as conducive to analysis for performance, because it emphasizes the large scale form over the musical details that articulate it. This view seems to imply the existence of musical form as a platonic ideal, existing independently of the organized sounds that articulate it. The result is a hierarchical analysis of musical relationships divorced from the temporal reality of a performance, and thus not a helpful approach for the conductor. While a conductor must understand the overall compositional context of all details, this understanding is a means to the end of informed decision making. In service of an analysis that resonates with the experience of a performance of *Luminosity*, the sonata principle applied is not a large-scale formal abstraction, but the dramatic action and interaction of conflicting musical subjects, and their reconciliation.

### Teleological Genesis

Like the dramatic conception of sonata described, teleological genesis is an experiential principle of large scale temporal organization that resonates with the way listeners comprehend music. Also similar to the dramatic sonata principle, teleological

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<sup>16</sup> Ibid., 39.

<sup>17</sup> Ibid.

genesis describes how a composition works to achieve an ultimate goal, or telos. However, instead of the reconciliation of contrast in a recapitulation of already established material, teleological genesis can be described as the gradual realization of an ideal that appears in its ultimate form only after development. James Hepokoski describes teleological genesis as “the concept of a composition as gradually generative towards the revelation of a higher or fuller condition.”<sup>18</sup> This process is often used in analysis of music by Jean Sibelius, especially his major works.<sup>19</sup> In an early observation of this phenomenon, Cecil Gray poetically describes the gradual development of melodic fragments into a fully formed musical idea in the first movement of Sibelius’s Second Symphony: “Sibelius here presents a handful of seemingly disconnected and meaningless scraps of melody, and then breathes life into them, bringing them into organic relation with each other and causing them to grow in stature and significance with each successive appearance, like living things.”<sup>20</sup> Hepokoski describes a similar process in Sibelius’s Fourth Symphony, “which gradually generates a *telos* theme out of disparate fragments.”<sup>21</sup> This process is used extensively throughout *Luminosity*, defining multiple levels of the composition from sections to entire movements. In conjunction with other musical processes such as sonata principle, orchestrational development, and set-class aggregation, Schwantner constructs developmental arcs beginning with elemental

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<sup>18</sup> James A. Hepokoski, *Sibelius, Symphony No. 5*, (Cambridge: Cambridge University Press, 1993), 26.

<sup>19</sup> Ibid.

<sup>20</sup> Cecil Gray, *Sibelius*, (London: Oxford university press, 1934), 135-136.

<sup>21</sup> Hepokoski, 26.

musical ideas that gradually evolve into ideal statements at the end of the section or movement.

J. Peter Burkholder describes a concept called cumulative form that he describes as “a thematic, non-repetitive form in which the principal theme is presented, not at the beginning as in traditional forms, but near the end, and is preceded, not followed, by its development.”<sup>22</sup> Cumulative form is related to teleological genesis but is specifically applied to defining the form of movements, whereas teleological genesis has been used in this analysis to refer to a more general process of gradually generating a telos. While this description applies to a wide range of developmental procedures, it has been applied to *Luminosity* to describe sections or movements in which the gradual development of an ideal statement at the end is the primary organizing principle. However, the term cumulative is a fitting adjective to describe the particular application of teleological genesis in *Luminosity*, as the ideal statement is often formed through a gradual accumulation of musical material resulting in the telos.

### Consideration of Sound

An experientially oriented analysis involves the consideration of the aural effect of elements in the written score. As Mellers warns in the preface to his book: “our comments about music are invalid unless they are based on the facts of sound.”<sup>23</sup> This corollary involves the aural imagination of the analyst in translating notation into an aural

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<sup>22</sup> J. Peter Burkholder, *All Made of Tunes: Charles Ives and the Uses of Musical Borrowing*, (New Haven: Yale University Press, 1995), 137.

<sup>23</sup> Mellers, x.

image, and also a consideration of those sounds on a listener. While the latter consideration can involve a much broader discussion of psychoacoustics, there are some practical applications that bear on this analysis. For example, despite the systematic avoidance of tonal centers by some atonal composers, there is the possibility that a listener may intuitively hear tonal relations in certain situations. Many musical thinkers have remarked on the inevitability of certain tonal relationships. Mellers summarizes a common view: “The intervals of octave and fifth—whether sounded in sequence (melodically) or simultaneously (harmonically)—suggest stability because of the vibration rates of the two tones bear to one another a simple arithmetical relationship.”<sup>24</sup> Paul Hindemith, in an effort to devise an analytical system capable of describing atonal music, builds an elaborate hierarchical system of tonal relations in his book *The Craft of Musical Composition*.<sup>25</sup> He argues that these tonal relations, derived from the overtone series, are present whether or not intended by “atonal” composers:

Whenever two tones sound, either simultaneously or successively, they create a certain interval-value; whenever chords or intervals are connected, they enter into a more or less close relationship. And whenever the relationships of tones are played off one against another, tonal coherence appears. It is thus quite impossible to devise groups of tones without tonal coherence. Tonality is a natural force, like gravity.<sup>26</sup>

While these overtone-derived explanations articulate a commonly held belief about the universality of consonant intervals, experimental data demonstrating preference for certain intervalic relationships is more applicable to an analysis focused on the

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<sup>24</sup> Ibid., viii.

<sup>25</sup> Paul Hindemith, *The Craft of Musical Composition*, 4th ed., (New York: Schott Music Corp., 1941).

<sup>26</sup> Ibid., 152.

experience of the listener. In his book *Pitch-Class Constellations: Studies in the Perception of Tonal Centricity*, Erkki Huovinen explores the perception of pitch-class centers based on empirical research. For instance, Huovinen's experimental data suggests that listeners tend to favor the lower tone of a perfect fifth (and the upper note of a perfect fourth) as the local tonal center.<sup>27</sup> While the perfect fifth and perfect fourth (interval-class 5) are the strongest indicators of a tonal center in the perception of listeners, preference was also shown for both major and minor thirds (interval-classes 4 and 3).<sup>28</sup> This data was collected outside the context of tonal music, which implies that these tonal relationships are at work even in "atonal" music. The emphasis of pitch-class centers outside the context of traditional tonality has been consciously applied by Joseph Schwantner in *Luminosity*. Cynthia Folio describes Schwantner's use of set theory:

Many of the analytical methods of a-tonal music theory, especially those of Allen Forte, are relevant to Schwantner's music; in fact, Schwantner is quite familiar with set theory and uses it to some degree in composing and teaching composition.<sup>29</sup>

Pitch-class centers are established in this work through exploitation of interval-class 5, the development of the diatonic set-class (7-35), and emphasis of pedal tones. In the analysis of *Luminosity*, this approach resulted in progressing from a technical description of the music to an account of its effect on the listener.

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<sup>27</sup> Erkki Huovinen, *Pitch-Class Constellations: Studies In the Perception of Tonal Centricity*, (Turku: Suomen Musiikkitieteellinen Seura, 2002) 325. "In a pitch environment where each stimulus included only one possible ic5-root among its five distinct pcs, it was found that ic5-roots were, indeed, chosen as TCs by a highly significant ( $p < .01$ ) number of subjects in 75% of the trials."

<sup>28</sup> Ibid. 327-328.

<sup>29</sup> Cynthia Folio, "An Analysis and Comparison of Four Compositions by Joseph Schwantner: And The Mountains Rising Nowhere; Wild Angels of the Open Hills; Aftertones of Infinity; and Sparrows," (Ph.D. dissertation, University of Rochester, 1985), 8.

These general models can help frame an analysis in terms that will be comprehensible to the listener, even without special training. Thus, the analyst is able to consider the perceptual effect of a performance of the composition. However, in order to prepare a musically informed performance, a conductor must understand the specific application of these general concepts.

### Supporting Art with Knowledge

In order to support artistic musical decisions by the conductor, this document will build all analysis on a detailed knowledge of the score, translated into an aural image articulated over time as described above. The analytical plan described below is based on an approach outlined by Pierre Boulez, in which analysis of musical features takes place only when all details have been assimilated and understood. He writes:

It must begin with the most minute and exact observation possible of the musical facts confronting us; it is then a question of finding a plan, a law of internal organization which takes account of these facts with the maximum coherence; finally comes the interpretation of the compositional laws deduced from this special application.

This model derives a general knowledge of how the music works through an understanding of the particular details. Boulez's model also takes an important step in analyzing a work in preparation for performance: it extends a detailed knowledge of a score to an artistically meaningful interpretation. The word interpretation has become a point of contention within music analysis literature. In his book *The Complete Conductor*, Gunther Schuller warns the conductor not to "willfully or inadvertently impose some self-indulgent, over-personalized 'interpretation' on that work of art [the

composition]. . . . Indeed, if I had my druthers, I would in this context abolish the term—and the idea of—‘interpretation’ altogether.”<sup>30</sup> However, in the context of Boulez’s description and throughout this document, the term interpretation will refer to the creative process of synthesis that follows from a detailed observation of musical elements in a score rather than a personal agenda. The extension of an analysis beyond mere technical description to a meaningful interpretation is an important aspect of preparing a score for performance, however the interpretation must follow from the facts of the printed score.

A review of some representative thinking will help frame issues specific to this analysis. A good general view of analysis is suggested by Nicholas Cook: “The practical process of examining pieces of music in order to discover, or decide, how they work.”<sup>31</sup> The term “practical” implies that there is a real world application intended. Cook’s concise definition also recognizes that an analysis is not simply a description of musical elements, but that it must articulate how a piece “works.” This implies discovering relationships among musical elements and a creative decision making process. Cook goes on to emphasize the importance of this decision-making process in determining which relationships are more important than others in the context of a particular work. This gives the analyst an active role, and also leaves room for discrepancy from one analyst to the next. A more specific focus on synthesis is put forth by Joseph Kerman, who describes the analytical process as the discovery of elements of unity in apparently contrasting materials. His approach emphasizes the need to “discern and demonstrate the

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<sup>30</sup> Gunther Schuller, *The Compleat Conductor*, (New York: Oxford University Press, 1997), 7.

<sup>31</sup> Nicholas Cook, *A Guide to Musical Analysis* (London: Dent, 1987), 1.

functional coherence of individual works of art, their ‘organic unity.’”<sup>32</sup> And, borrowing a definition from the *Harvard Dictionary of Music*, Kerman writes that the focus of analysis is “the synthetic element and the functional significance of the musical detail.”<sup>33</sup> Despite the difference in focus, we again see an emphasis on exploring how musical details are related and their active role in a larger functionality. Like Cook, Kerman recognizes that musical analysis is not a unified, scientific method, but a process of coming to an artistic understanding of a composition: “I do not think we will understand analysis and the important role it plays in today’s music-academic scene on logical, intellectual, or purely technical grounds. We will need to understand something of its underlying ideology.”<sup>34</sup> He then continues to describe examples of how ideology has shaped the music analysis of several influential writers. Summarizing the active and creative aspects of analysis, the editors of *Histories and Narratives of Music Analysis* aptly describe the predicament of the analyst:

The phenomenon of music assumes countless forms of expression and a vast range of meanings, rendering it impossible for a single history or a single grand narrative to encompass its innumerable aspects. This very recognition of the fertility of musical phenomena weaves an intricate web of readings and interpretations, revealing music analysis as a contextual and above all, a creative act.<sup>35</sup>

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<sup>32</sup> Joseph Kerman, *Write All These Down: Essays On Music* (Berkeley: University of California Press 1994), 13.

<sup>33</sup> Willi Apel, *Harvard Dictionary of Music*, 2d ed., rev. and enl. (Cambridge: Belknap Press of Harvard University Press), XX.

<sup>34</sup> Kerman, 14.

<sup>35</sup> Miloš Zatkalik, Milena Medić, and Denis Collins, *Histories and Narratives of Music Analysis*, (Newcastle upon Tyne, UK: Cambridge Scholars Publishing), x.

The writings referenced recognize that since analysis is a creative act, there is no such thing as a definitive analysis of a composition. In order to achieve an artistically meaningful performance, the conductor must invest themselves in the analytic process. Therefore, the results are partly dependent on the goals and priorities of the analyst.

### Analytical Plan

In order to aid the conductor in an artistically meaningful and musically informed performance of Joseph Schwantner's *Luminosity: Concerto for Wind Orchestra*, a three step analytical plan has been adopted. The first step is a detailed survey of all musical features, including tonal relations, orchestrational structure, motivic development, and rhythmic structure. The musical details will be assimilated and will establish an overall context from which analytical decisions will be made. The next step is to illuminate relationships emerging among the musical details, and from them derive some compositional principles that can be applied to an understanding of how Schwantner's compositional goals are articulated. These compositional principles will be outlined, supported by musical details. The third step is a creative synthesis of musical materials in the context of the compositional principles in order to arrive at an artistic musical conception of *Luminosity*. In service of the creative synthesis phase, this composition will be considered in the context of late twentieth century American compositional practice and among Schwantner's wind works. Temporal and aural considerations will be brought to bear on this creative synthetic gestalt, in the form of a chronological compositional narrative describing the teleological unfolding of events, their contrast, interaction, and

reconciliation in generating ideal statements of musical goals at the ends of sections, movements, and the entire composition. However, this chapter does not include a specific, personal interpretation beyond the description of these relationships in their musical context, in recognition of the necessity of the personal creative investment of the conductor.