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A Salience-Based Analytic Method Applied to André Jolivet's *Concertino for Trumpet, String Orchestra, and Piano*

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A SALIENCE-BASED ANALYTIC METHOD
APPLIED TO ANDRÉ JOLIVET'S
CONCERTINO FOR TRUMPET, STRING ORCHESTRA, AND PIANO

by
Martin G. Bolt

A THESIS

Presented to the Faculty of
The Graduate College at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Master of Music

Major: Music

Under the Supervision of Professor Stanley V. Kleppinger

Lincoln, Nebraska

May, 2010

A SALIENCE-BASED ANALYTIC METHOD
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Martin G. Bolt, M.M.

University of Nebraska, 2010

Adviser: Stanley V. Kleppinger

André Jolivet's music is eclectic, and his compositional process is often enigmatic. Broadly speaking, Jolivet's music falls into that category of twentieth-century repertoire described as post-tonal and pitch-centric.

This thesis will provide an analysis of Jolivet's *Concertino for Trumpet, String Orchestra, and Piano*. It thus serves as a model of an analytic approach for post-tonal pitch-centric music of the twentieth century. My analytical method is based on the theories of Fred Lerdahl posited in his writings on pitch salience.

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Acknowledgments

I would like to express my gratitude to my committee: Dr. Kleppinger, Dr. Foley, and Dr. Hibbard.

To Dr. Kleppinger, your unwavering support and encouragement helped me persevere through the grueling process of writing this thesis. I cannot thank you enough for your tireless proof-reading and invaluable suggestions.

To Dr. Foley, your encouragement (a week before my graduate studies began) to pursue a degree in theory was sage advice. All of my course work with you has been a pleasure.

To my parents, you have always encouraged me through my many career changes. Thank you for always being ready with a listening ear and a kind word. I don't know what I would do without our weekly phone conversations.

Chapter 1

Introduction

The Need for a New Analytical Method

The music of the twentieth century is incredibly diverse, and has been generally described as post-tonal. Within this body of music, there exists a large repertoire which is pitch-centric. Although this body of pitch-centric music is tonal, it cannot be analyzed according to functional harmony—its tonality is established by pitch centers, not keys. In 1963, Arthur Berger, calling for a new branch of theory, described the music of Stravinsky as being “organized in terms of tone centers but not tonally functional.”¹ Berger’s description of the music of Stravinsky is also an accurate description of twentieth-century, pitch-centric music. Because this body of music is tonal (but not “functionally” tonal), it has historically proven somewhat resistant to various analytical methods. At the same time that Berger was calling for a new analytical method that would “start from what this music itself is, rather than dwelling upon its deviation from what music was previously,”² Felix Salzer and Roy Travis (and others) were applying quasi-Schenkerian techniques to this repertoire. For example, in Roy Travis’s analysis of

¹ Arthur Berger, “Problems of Pitch Organization in Stravinsky,” *Perspectives of New Music* 2, no. 1 (1963): 11.

² *Ibid.*, 11.

Schoenberg's *Kleine Klavierstücke*, op. 19/#2, Travis identified a *sonic sonority* (Travis's term for the tonic triad), structural pitches, and chromatic embellishing tones. Travis's quasi-Schenkerian approach is, according to Joseph Straus, "a modified tonal approach which runs into severe problems at every turn."³ Because this is a post-tonal piece, lacking a consonant-dissonant dichotomy, it proves difficult to distinguish a sonic sonority, structural pitches, and embellishing pitches—these all demand a functional harmonic idiom.

Felix Salzer, one of the chief proponents of prolongational analyses of post-tonal music, also utilizes quasi-Schenkerian criteria in analyzing post-tonal pitch-centric music. For example, in analyzing the opening of Stravinsky's *Symphony in Three movements*, Salzer strives to posit the Schenkerian concept of "consonant" harmonic sonorities supporting specific melodic (structural) pitches. This piece does not utilize functionally harmonic sonorities. In fact, Stravinsky constructs his vertical sonorities from pitch-class sets, making it impossible to distinguish between consonant and dissonant harmonies and hence, structural vs. embellishing pitches. According to Straus,

Salzer's approach is essentially ad hoc, unsupported by a secure theoretical foundation. There are isolated passages of post-tonal music that might be considered prolongational, but these occur mainly where some tonal vestige is present. The more overtly tonal the context, the more amenable it is likely to be to prolongational explanations. For the larger musical spans, however, and for music that is most characteristic of the twentieth century, prolongation has proven an attractive but ultimately useless tool.⁴

This is not a dismissal of Schenker's analytical method. It is, however, a critique of using an analytical method designed for functionally tonal music (Schenkerian prolongation) to

³ Joseph Straus, "The Problem of Prolongation in Post-Tonal Music," *Journal of Music Theory* 31, no. 1 (spring 1987): 8.

⁴ *Ibid.*, 13.

analyze post-tonal pitch-centric music. In short, a quasi-Schenkerian, prolongational analytical approach for this repertoire, according to Straus, falls short because it is rooted in functional tonality and counterpoint. Consequently, it is unable to distinguish between structural and embellishing pitch events.⁵ Both Berger and Straus have recognized the need for a new analytical method specifically designed to address this large corpus of pitch-centric post-tonal music.

Fred Lerdahl, like Berger and Straus, also recognizes the need for an appropriate analytical method which could make sense of this unique body of twentieth-century music. Lerdahl contends that a piece of music, no matter by what system it is composed, is perceived in a hierarchical fashion, and that many contemporary compositional methods have disregarded listener-based principles of hierarchical organization.⁶ Lerdahl, addressing this issue in his 1998 article “Prolonging the Inevitable,” stated that,

...the listener organizes the musical surface by its fluctuating salience, through the processing of factors such as duration, loudness, density, and registral extremes. The atonal prolongational theory represents this fluctuation by progressively reducing out events that are less salient in their immediate prolongational context, leaving a residue of perceptually prominent events at each reductional stage.⁷

Perceptually “prominent” events possess more salience than other events in the immediate context. Lerdahl proposes a set of criteria to distinguish the perceptually prominent events from those that are less prominent—generating a hierarchy of aural events. These criteria are labeled *salience conditions*,⁸ and are presented in figure 1.1.

⁵ Straus, “The Problem of Prolongation,” 1-21.

⁶ Fred Lerdahl, “Prolonging the Inevitable,” *Revue belge de Musicologie* 52 (1998), 305.

⁷ *Ibid.*, 306.

⁸ Fred Lerdahl, “Atonal Prolongational Structure,” *Contemporary Music Review* 4, (1989), 73-74.

Events are to be preferred if they possess more of these criteria than other events in the immediate prolongational context.

- I. Local levels
 - a) Attacked within a region⁹
 - b) In a relatively strong metrical position
 - c) Relatively loud
 - d) Relatively prominent timbrally
 - e) In an extreme (high or low) registral position
 - f) Relatively dense
 - g) Relatively long in duration
- II. Global levels
 - h) Relatively important motivically
 - i) Next to a relatively large grouping boundary (the beginning/end of a section)
 - j) Parallel to a choice made elsewhere in the analysis

Figure 1.1. Salience conditions

Lerdahl's division of the above criteria into two categories—*local* and *global* levels—denotes the importance of first observing local salience conditions before arriving at any conclusions regarding global salience conditions. In other words, time spent identifying local salience conditions from the beginning to the end of a piece is the necessary foundation for identifying global salience conditions. By observing both local and global salience conditions over the course of a piece, a hierarchy of aural events emerges. Lerdahl's "Prolongational Method for Atonal Music" appears to be the appropriate analytical tool for the host of compositions from the twentieth century which fall into the category of post-tonal, pitch-centric repertoire.

⁹ Stanley V. Kleppinger, "A Perception-Based Model for Analysis of Post-Tonal Pitch-Centric Music [2010]," unpublished manuscript. Kleppinger, in example 2, provides a helpful paraphrase of this salience condition: "Begun in the span of music it is meant to represent."

It is also important to note that Lerdahl's salience conditions are not intended to be exhaustive, but to represent "essential" salience criteria from which other sub-categories can easily be derived based on the musical context. For example, in a given passage, the overall dynamic may be characterized as *forte*. Yet within the passage, one pitch may be treated more expressively from a dynamic perspective (i.e., attacked with a *sf*, then crescendo to *ff* and decrescendo back to *f*). In a case like this, all other pitches are statically *f*, while this one pitch is being highlighted through dynamic expression, granting it prominence over the consistent loudness of the other pitches. The point is that the general salience condition of "extreme dynamics" (and all other essential salience conditions) can have a variety of gradations. The immediate musical context always serves to highlight the gradations of the salience conditions.

Overall Character

This thesis will focus on one composition in this unique body of twentieth-century repertoire: *The Concertino for Trumpet, String Orchestra, and Piano* by André Jolivet. This particular piece appealed to me because I have studied both piano and trumpet. Furthermore, its length (ca. ten minutes) seemed well-suited for the scope of this thesis.

Composed in 1948, this composition exhibits clear pitch centricity, unique vertical structures, and subtle tonal references. The piece consists of one movement which can be divided into seven sections. At first glance, the score appears daunting—displaying a myriad of unorthodox vertical structures and a highly chromatic melodic line. When listening to the piece, there are many aural events that clearly demand notice.

It is these aural events which serve to highlight both the pitch-centricity and form of this piece. These cursory observations raise several important questions. What pitch classes are most saliently emphasized in this music? How do these pitch classes relate to one another? How are formal divisions identified? I believe that Lerdahl's "Prolongational Method for Atonal Music" is the appropriate analytical tool to address these questions.

Although this piece does not behave according to the dictates of functional harmony, it does demonstrate a semblance of tonality in a post-tonal idiom. These tonal tendencies (tonal residue) can be heard and observed melodically, as pitch centers, and harmonically (in a few cases) as major triads.

It seems most appropriate, given this work's tonal landscape, to focus upon those prominent aural events (pitch centers) which most saliently define this piece of music. Although the vertical structures in this piece of music are intriguing, they are so ubiquitous and complex that they rarely aid in identifying prominent aural events.

Figures 1.2 and 1.3 demonstrate the complexity of the concertino's harmonic language. Figure 1.2 is an excerpt from the beginning of section II (reduction of piano and strings).

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The musical score consists of two systems of staves. The first system starts at measure 88 and the second at measure 95. Both systems show a piano part with a treble and bass clef and a strings part with a bass clef. The piano part is characterized by dense, multi-note chords with numerous sharps and flats, creating a complex harmonic texture. The strings part provides a more rhythmic and harmonic foundation with fewer notes per measure.

Figure 1.2. Vertical structures—piano and strings reduction (mm. 88-101)

The second example of Jolivet's vertical structures (figure 1.3) is an excerpt from the solo piano introduction to section VI.

The musical score consists of two systems of staves. The first system starts at measure 317 and the second at measure 321. Both systems show a solo piano part with a treble and bass clef. The piano part is characterized by dense, multi-note chords with numerous sharps and flats, creating a complex harmonic texture. The bass line is more rhythmic and provides a harmonic foundation. The score ends with "etc. →".

Figure 1.3. Vertical structures—solo piano intro to section VI (mm. 317-323)

These examples are fairly representative of the complexity of Jolivet's vertical sonorities. From the listener's perspective, ten minutes (the duration of the piece) of this type of consistently dense/complex harmonic support is perceived as a steady flow of advanced (and possibly intimidating) harmonies. Consequently, the rare occasions when Jolivet utilizes simple triadic harmony results in a very striking aural event—these four triadic harmonic events, in which Jolivet always utilizes a major triad, occur in the final two sections of the piece (two in VI, and two in VII). These triadic events will be discussed as they relate to prominent pitch centers. Before delving into an analysis of the pitch centricity of this piece, it is important to first discuss formal divisions.

Formal Divisions

Although this piece consists of only one movement, sectional divisions may be inferred based upon salience conditions. Jolivet's use of tempo changes (table 1.1)

Sections	Tempo	Measures
I	♩ = 120	1-87
II	♩ = 126	88-142
III	♩ = 152	143-96
IV	♩ = 126	197-243
V	♩ = 72-80	244-308
VI	♩ = 132	309-76
VII	♩ = 138-144	377-472

Table 1.1. Sectional tempo changes

serves as an obvious starting point which may aid in identifying sectional divisions.

These tempo changes are highly suggestive, and will serve as one of many criteria used to segment this piece into multiple sections. Tempo changes, when considered with other salience conditions, infer a large-scale sectional organization of this concertino.

Jolivet's use of rhythmic motives also aids in identifying sectional divisions.

In appendix B, the distinctive motives have been exhaustively collated as they occur in each section. In light of the sectional divisions posited in table 1.1, a few examples taken from appendix B should suffice to demonstrate the convergence of distinct rhythmic identities with the sections' distinct tempi. For example, the primary trumpet rhythmic motive in section II is shown in figure 1.5. This motive, and variations thereon, occurs in



Figure 1.5. Primary trumpet rhythmic motive (Section II)

the trumpet in a sequential fashion at the close of section II (mm. 120-142), culminating with an agogic, melodic cadence on G#. The conclusion of this rhythmic motive coincides with Jolivet's rehearsal mark 7 and with his new tempo indication ($\downarrow = 126$). Rehearsal mark 7 also coincides exactly with the inferred boundary between sections II and III. To lend further credence to this sectional boundary, the primary rhythmic motive of section III begins, after a ten-measure rest for the trumpet, in m. 153, with the new and distinct motive shown in figure 1.6. This new motive is introduced by the piano and strings in the first ten measures of this section (mm. 143-152).



Figure 1.6. Primary trumpet rhythmic motive (Section III)

The primary rhythmic motives in this piece are all separated from one another by the proposed sectional divisions set forth in table 1.1, thus reinforcing the veracity of those divisions. Additional salience conditions collude to further support formal divisions.

Consider the conclusion of Section II as an example (figure 1.7). These final six

Figure 1.7. Section II conclusion

measures of section II display numerous salience criteria which signal the conclusion of this section. There is a blatant textural change from rhythmic “motion” in all voices (mm. 137-140a) to rhythmic “stasis” in all voices (mm. 140b-42). The stasis begins with the quarter-note on beat two of m. 140, and is tied to two half notes (mm. 141-42). What I

have described as rhythmic stasis can be categorized, according to Lerdahl's salience criteria, as *durational* emphasis (p. 4, condition g). This event is further emphasized by the *ff* dynamic which begins in m. 140 and continues through m. 142. This dynamic emphasis fulfills the salience condition described as *relatively loud* (p. 4, condition c). Finally, the trumpet is in a relatively high register. The high register of the trumpet fulfills the salience condition described as an *extreme registral* position (p. 4, condition e). Because the trumpet is in its upper tessitura at *ff* dynamic, it is also fulfilling the salience condition described as *timbrally* prominent (p. 4, condition d). All of these salience conditions serve to distinguish this as a very prominent event in the hierarchy of this section. The fact that this texturally dense environment is immediately followed by five measures of textural sparseness (mm. 143-147)—without the trumpet, and introducing a new rhythmic motive (figure 1.6)—further demarcates this as a sectional boundary.

In the next example (figure 1.8), the collection of salience conditions which surround the trumpet's melodic cadence serve to reinforce the sectional boundary between sections I and II. In this excerpt, the trumpet accomplishes a melodic cadence on the C pitch-class (m. 79).

The musical score is divided into two systems. The first system (measures 77-91) shows the C Trumpet part and the Piano & Strings part. The C Trumpet part starts at measure 77 with a dynamic of *f*, followed by a crescendo to *ff* at measure 80. The Piano & Strings part starts at measure 77 with a dynamic of *f*. The transition section (measures 80-87) is marked "Transition (80-87)" and "Tpt. - tacet". The second system (measures 92-91) shows the C Trumpet part starting at measure 92 with a dynamic of *f*, followed by a crescendo to *ff* at measure 91. The Piano & Strings part starts at measure 92 with a dynamic of *f*. The section II begins... section (measures 88-91) is marked "Section II begins... (88-91)" and "Introductory Material". A box with the number 7 is placed above the transition section.

Figure 1.8. Boundary demarcation between sections I and II

This cadence is emphasized by the manner in which C is approached: beginning with a held G above the target C (suggesting an authentic cadence), the trumpet descends to C4, and then reinforces C with an octave repetition and a leading-tone grace note. The trumpet is then silent for twelve measures. During the trumpet's silence, the piano and strings trade off, and finally come together at the end of the strings' ascent (m. 88) with a climactic *ffff* dynamic, signaling the beginning of section II. This prominent event is also emphasized with a new tempo indication ($\text{♩} = 126$). As the trumpet enters in m. 92, it introduces a new rhythmic motive (figure 1.5)—another event which aids in distinguishing a new section.

A review of the prominent events that have been observed at the boundaries between sections I-II and II-III is helpful in understanding how these salience criteria have provided an analytical tool to aid in identifying formal sectional divisions. The specific criteria that have been observed thus far at sectional boundaries are as follows: registral extremes, durational emphasis, extreme dynamics, textural density followed by textural sparseness, introduction of new rhythmic motives, tempo changes, rehearsal marks, and melodic cadences. All of these criteria do not always occur exhaustively at every sectional boundary. However, each sectional boundary does display a majority of the criteria which I have identified. Furthermore, each section always concludes with a salient pitch event. In summary, based upon the consistent application of Lerdahl's salience criteria, the seven sectional divisions of this piece can be clearly identified.

Thesis Structure

Thus far I have demonstrated the need for a theoretical method specifically designed to analyze the large body of twentieth-century post-tonal pitch-centric music. I have identified Fred Lerdahl's salience conditions as the ideal criteria for analyzing this unique body of pitch-centric music. Finally, I have used Lerdahl's salience criteria to identify sectional divisions in André Jolivet's *Concertino for Trumpet, String Orchestra, and Piano*.

In chapter 2, I will use Lerdahl's salience conditions to identify the prominent pitch centers in each section of Jolivet's concertino. I will also discuss various analytical issues that arise in the application of this theoretical tool. During this process, I will

typically focus to the greatest extent upon the trumpet. This analytical decision is supported by several facts. Throughout this piece the strings and piano provide only harmonic support. Furthermore, because of their harmonically complex sonorities, the strings and piano do not project particular pitch classes into prominence. Consequently, most musical examples will not include the strings and piano. Due to the prominent timbral nature of the trumpet, it is easily heard over the orchestra. Based on the fact that the melody is carried exclusively in the trumpet, it is able to clearly project particular pitch classes over the harmonically complex piano and strings. When the context warrants, I will include the entire ensemble in a given music excerpt (with a reduction of the piano and strings in a grand staff). All excerpts are in a C-score format.

In chapter 3, I will focus on the relationships between cumulative pitch centers, and then demonstrate the unique pitch-centric pattern which governs this piece of music.

Chapter 2

Analysis

In this chapter I will demonstrate how, through the application of Lerdahl's salience conditions, I identified the most salient pitches in each of the seven sections. In section I, my analytical explanations will be more detailed than subsequent sections. Section I will serve to acquaint the reader with the details involved in choosing salient pitches. In the remaining sections I will spare the reader the tedium of culling through each measure, and present my analysis from a broader perspective.

Before beginning the analysis, it is also necessary to address the goal of this method. Within each section, the process of beginning the analysis at lower levels (individual measures and individual phrases) and progressing to larger spans of music (passages of multiple phrases, then large portions of sections, and finally entire sections) results in reducing out less salient pitches in favor of those with greater salience. For example, each measure of a phrase contains one most salient pitch. In order to identify the single most salient pitch within a phrase, all but one pitch will be reduced out of the numerous measures of the phrase. This process of selecting numerous prominent pitches at lower levels and reducing out pitches at higher levels will be repeated in each section.

In each section, the conclusion of this process will always result in choosing one most salient pitch for a given section. The final goal of this chapter will be to identify the single most salient pitch of the seven sections and, thus, the most salient pitch of the piece.

As I mentioned at the conclusion of chapter one, most music examples will include only the trumpet because it exclusively carries the melody, and is able to clearly project pitch centers due to its timbral prominence. Furthermore, due to the consistently complex harmonic sonorities of the piano and strings, they rarely project or support pitch centers. I will only include the entire orchestra in music examples when the context warrants. For example, there are four occasions in this piece where the harmonic support provided by the strings and piano plays an important role in emphasizing a pitch center in the trumpet (sections VI and VII). These exceptions clearly warrant inclusion of the entire ensemble in the music examples. There are other less prominent examples within each section where it is also appropriate to include the entire ensemble in a music example.

Section I

I begin my analysis with the opening ten-bar trumpet phrase (figure 2.1). In this

The musical score for the opening trumpet phrase (mm. 4-12) is presented in two staves. The first staff (measures 4-7) shows dynamics *ff*, *p*, *ff*, *pp*, *ff*, and *p*, with accents and slurs. The second staff (measures 8-12) shows dynamics *mf*, *p*, *f*, and *sf*, with an 'Accel.' marking and slurs. The phrase ends with a final F4 note.

Figure 2.1. Opening trumpet phrase (mm. 4-12)

passage, G5 is emphasized durationally in the first four measures of this phrase, receiving an agogic accent twice. There are no other pitches in this entire phrase that receive this kind of durational accent. G5 is also emphasized registrally. Although there are other pitches higher than G5, none of these pitches receive this combination of durational and registral accent. In the context of these four measures (mm. 4-7), the significant duration (on two occasions) of G5 serves to project this pitch more prominently than the surrounding pitches. The perceptual conditions of duration and register favor G5 as a salient pitch. One other pitch which cannot be ignored in this phrase is the final F4. Salience conditions clearly favor this pitch in the second half of this phrase (mm. 7b-12). This ending pitch is approached as the goal of a four and one half measure descent. F is also being emphasized by the fact that it is in a metrically strong position (downbeat of a new measure). Furthermore, it represents the lowest note of the entire phrase (registral

extreme). This pitch is immediately preceded by a lengthy fermata. This fermata creates a heightened sense of expectation (through silence) for the conclusion of this phrase. As a result, the conclusion of the phrase is perceptually more powerful, adding prominence to the concluding F pitch. The triplet sixteenth-note figure immediately following the fermata creates a sense of acceleration toward the phrase's conclusion on F. Emphasis is also provided by the crescendo into and *sforzando* on F. The second half of this phrase is also highlighted texturally because the orchestra has dropped out (mm. 9-12). No other pitch in the second half of this phrase possesses such a multitude of salience conditions. This phrase is somewhat of an exception because two salient pitch classes (G and F) seem especially significant to this passage. Only after carefully analyzing this section, and the entire piece, can a decision be made regarding the roles of these two pitches.

Figure 2.2 illustrates another passage which puts forth two pitch classes more saliently than the other pitches. In this instance, I have identified one pitch class as more salient than the other choice based on the following observations. The primary salient

Figure 2.2. Passage R2—C pitch salience

pitch class of this nine-measure phrase is C, the final pitch. C has prominence as the concluding pitch of this phrase in a metrically strong position, and is accented durationally, registrally, and dynamically. Also, the fact that the strings and piano are silent for the entire passage, until the last measure of the phrase, serves to emphasize the arrival of C. The 11-note tuplet ascent (m. 24) to C (m. 25), from nearly the lowest note of the trumpet's range (G3), also serves to highlight C. This high C is attacked at a soft dynamic, followed by a crescendo to *ff*, and decrescendo to *p*. All of these overt salience conditions point to C as the prominent pitch class of the entire passage. This conclusion is also affirmed aurally, leaving little doubt as to the prominence of C. Another pitch class in this passage which is salient (secondary to C) is the B \flat that begins the passage. It is in a high register, in a metrically strong position (the beginning of the passage), and is emphasized with both durational and dynamic accent. The durational accent is emphasized through the use of a fermata, while the dynamic accent is emphasized with a crescendo that begins at *forte*. This pitch class is further emphasized through repetition an octave lower. While there is another pitch in this passage (D \flat 6 in m. 22) that is higher than the B \flat 5, it is not favored by any salience criterion but register. Although C is more salient, B \flat is noted because it may yet play a role in the overall pitch-centric pattern in this piece of music. Between these two prominent passages (figures 2.1 and 2.2), there is a six-measure passage (mm. 12-17, shown in figure 2.3) in which a short rhythmic figure is repeated twice in the trumpet.

Contextually, this six-measure passage is not as prominent as the two passages we have just considered. Nevertheless, it is important to demonstrate that even in less prominent passages there are salient pitches.

These two similar rhythmic motives (mm. 13-14 and 15-16) both emphasize F as the salient pitch class. Each rhythmic motive begins and ends with F. Each rhythmic motive places the beginning/ending F in a metrically strong position (as a downbeat). Also, the F at the end of each rhythmic motive is emphasized dynamically. The F at the end of motive 1 is emphasized via a crescendo to *ff*, while the F at the end of motive 2 is emphasized by a *sf*. Furthermore, each rhythmic motive utilizes a timbrally unique effect: flutter-tongue in motive 1, and a trill in motive 2. Each rhythmic motive outlines the octave with F4 and F5. There is also a mirror emphasis in these two rhythmic motives: the F4 pitch serves as a bookend when these two cells are observed as a unit; the F5 pitch serves as the center-point of these two rhythmic motives. The overall shape of this four-measure unit is similar to that of an arch with beginning-middle-end—all emphasizing F. Interestingly, the previous prominent phrase (mm. 3-12) ended with emphasis of F. The F focus of this brief interlude thus strengthens the F salience of the previous passage.

For the remainder of my analysis of section I, I will focus on pitch salience within phrases and phrase groups (passages). In figure 2.4, Jolivet has demarcated the passage with rehearsal mark 3. While Jolivet's consistent use of rehearsal marks are very helpful in identifying passages, the rehearsal marks themselves are not to be viewed as a criterion for determining pitch salience.

Analysis of phrase 2 might also begin by considering pitches at the endpoints and registral extremes. G# is emphasized as the beginning pitch in a strong metrical position (downbeat of beat two), and it appears again in m. 38 as a sixteenth note in a weak metrical position. D occurs once as the phrase's lowest pitch in a metrically strong position (the downbeat of beat one, m. 38). G is both the highest and last pitch of this phrase, and is the final goal of this *ascending* phrase. Furthermore, the manner in which G is approached is also telling. In the penultimate measure of this phrase (m. 43), beat one stresses F#, the leading tone to the final G. Also, the G is approached by the figure G4-B4-G5, clearly emphasizing G through the octave G4-G5. In short, G is the most salient pitch class of phrase 2.

As I mentioned at the beginning of this chapter, the goal of this analytical method involves progressing from lower levels to higher levels, resulting in reducing out less salient pitch classes. Therefore, the next step in the analytical process is to view phrase 1, phrase 2, and the concluding cadential figure as a single passage (figure 2.4). This passage projects three salient pitch classes: C (phrase 1), G (phrase 2), and D (cadential figure). By choosing one salient pitch for this passage, two pitches will be reduced out. This process of reducing out salient pitches will conclude my analysis of section I when I have identified the one, most salient pitch class of this section. Determining the most salient pitch of the cadential figure is not nearly as difficult as was the process involved in determining the most salient pitches of phrases 1 and 2. The cadential figure clearly cadences on D. The presence of the C#5 as the leading tone reinforces this cadence. The descending sixteenth notes of m. 45 serve to create a sense of accelerating momentum

Because R4 is a less prominent passage, its salient pitch class will not be as significant as the most salient pitch classes of the preceding and following passages. Passage R4 is presented in figure 2.6. In this passage each rhythmic motive is stated twice,

47 4 Tpt. unit 1

segment 1 segment 2

p *sf*

53 unit 2

segment 1 segment 2 cadential figure

p *sf* *p*

Figure 2.6. R4

creating two distinct units: mm. 48-52 and mm. 52-57. In unit 1, D5 begins both segments and concludes unit 1. Furthermore, D5 is the highest pitch in each segment. By ending segment 1 with A4 and beginning segment 2 with D5, a dominant-tonic relationship is created. The cumulative effect of these salience conditions creates powerful D5 salience in unit 1. Applying salience criteria to unit 2 suggests focus upon F5. This is the highest pitch in each segment, and it receives the most prominent durational accent in each segment. In the first segment, F5 is the goal of the ascending seven sixteenth-note figure. Finally, F5 is approached by leap in the beginning of each segment. When this entire passage is analyzed for overall pitch salience, however, the F5 of unit 2 is not prominent enough to be labeled as the salient pitch of the passage. I

believe that the overall context of this passage supports D5 pitch salience. This decision is based on the manner in which this entire passage is concluded: the final cadential figure of m. 57. This cadential figure blatantly emphasizes the D pitch class. As the concluding pitch of this passage, and the salient pitch of unit 1, this makes the choice of overall passage salience unambiguously D.

The image shows a musical score for C Trumpet in 2/4 time, spanning measures 60 to 77. The score is divided into four staves. The first staff (measures 60-65) is marked with a boxed '5' and includes dynamics *fp*, *f*, and *mf*. The second staff (measures 66-71) is marked with a boxed '6' and includes the dynamic *cresc.*. The third staff (measures 72-76) is marked with a boxed '6' and includes the dynamic *marcato*. The fourth staff (measures 77-87) is marked with a boxed '7' and includes dynamics *sf* and *ff*. The score concludes with a double bar line, followed by a section labeled 'Section II' (measures 88-91) with the instruction 'Pno/Strings (Intro)'. The section between measures 80-87 is labeled 'Pno/Strings (Transition)'.

Figure 2.7. Passage R5-R6—section I concluding trumpet passage

The trumpet melody concludes this passage with a strong melodic cadence on C. Because this passage is a quasi-restatement of R3 (mm. 27-46) with elaboration, it is not surprising that the opening five measures (mm. 60-64a) constitute a nearly identical restatement of the prominent rhythmic motive that initially appeared in R3. This passage also uses the same type of concluding cadential figure as that used in R3. Just as the concluding cadential figure of R3 was the overall pitch goal, so it is in this sectional

concluding passage. Finally, it is worth noting that these two passages under comparison bookend Section I.

I will now briefly highlight a few potential salience choices in mm. 60-79 and then justify the selection of C as the most salient pitch class of this passage. From the opening rhythmic motive (mm. 60-64a), the low D and high G \flat are obvious salience choices. With measure 60 serving as a pick-up, the first pitch (F) occupies a secondary role to the low D (downbeat of m. 61)—a more logical beginning pitch for this prominent rhythmic phrase. The D is clearly the most salient pitch of this phrase and is emphasized metrically (downbeat), dynamically (*f*), durationally (dotted eighth-note), and as the beginning pitch. The next phrase (mm. 64b-68a) projects a single pitch class above the others with less certainty than the first, though G \sharp receives metrical, phenomenal, and agogic accents, giving it the most perceptual weight relative to others in this span. The next phrase (mm. 68b-76) projects G \sharp salience through repeated registral emphasis. D and G \sharp might thus each stand for consideration as the tonal focus of the passage.

As mentioned previously, the final goal of this passage is the concluding cadential figure (mm. 77-79). This type of cadential figure has occurred previously as the conclusion of R3 (mm. 45-46). Also, the fact that this cadential figure is being used to conclude section I further sets it apart as perhaps the most prominent event in this section. Therefore, the same salience conclusions regarding the cadential figure found at the conclusion of R3 will be reflected here. The only obvious salience choices found in this cadential figure are the initial G and the concluding C. The arrival of G5 has been prepared by the repetition of F \sharp 5 (the leading tone) in the previous three measures. G is

emphasized durationally (tied eighth + quarter + sixteenth), metrically (first pitch of the cadential figure), registrally (highest note), and by the expectation created through the repetition of its leading tone (F#). While G is the most salient pitch in the entire passage thus far, its final goal is to aurally prepare for the arrival of the concluding C. When C finally arrives, the G is immediately recognized as the dominant of C. This final C is emphasized by the fact that it is the last note, is longer than all notes leading to it, is metrically stronger than all notes leading to it, is louder, and is in a registral extreme. Furthermore, the dynamic crescendo, beginning with *f* on G and concluding with *ff* on C, creates dynamic motion towards this pitch. The octave repetition (C4-C5) adds further salience to this pitch class. The final C is embellished with its leading tone as a grace note. The conclusive nature of this previously-used cadential figure, which serves both to conclude this passage (R5-R6) and this section, clearly identifies the C pitch, not only as the salient pitch class of this passage, but as the most salient pitch class of this section. The remainder of section I (mm. 79b-87) is a passage (without trumpet) in which the piano and strings provide connecting material to section II.

In my discussion thus far, I have endeavored to demonstrate the detailed analytic work necessary to identify salient pitch classes within a section. In the process of identifying the most salient pitch class within a phrase, I have initially recognized a number of prominent pitch classes in the immediate context, and demonstrated, through process of elimination, the method by which a single salient pitch class is chosen in a given passage. Table 2.1 demonstrates two exceptions to this procedure.

Rehearsal Mark	Measure(s)	Salience Conditions ¹⁰ (Summary Description)	Pitch
	4, 6, 7 12	b, c, e, g (durational/intro): G b, c (goal of melodic descent/intro): F	G/F
R1 (12-17)	14, 16	b, c (motivic goal)	F
R2 (18-26)	18 25-26	b, c, e (durational + fermata/intro) b, c!, e!, g! (goal of melodic ascent/intro)	B _b C
R3 (27-46)	46	b, c, h (melodic cadence)	D
R4 (47-60)	48-57	b, c (motivic goal)	D
R5-R6 (61-87)	79	b, c!, h (melodic cadence concluding section II!)	C

Table 2.1. Section I—salient pitches

The first exception regards the first two pitches (G and F) listed in table 2.1 (in the same row). Both of these pitches occur in one passage (mm. 4-12). They are both clearly prominent, and the immediate context does not warrant choosing one in favor of the other. The second exception is the third and fourth pitches listed in the above table (B_b and C) in separate rows. In this instance, the concluding C5 is clearly the most salient pitch of the passage.

The prominent pitch events of section I are reflected in the table above using Lerdahl's *salience conditions*, and a *summary description*. The *summary description* is a general description of the nature of each prominent pitch event as it relates to the passage in question, and to the overall context of the entire section. Each salient pitch listed in the above table will be justified in my subsequent analyses.

¹⁰ See Lerdahl's Salience Conditions (table 1.1), p. 4.

As I stated previously in my analysis, I have chosen the concluding C pitch as the salient pitch of this section. The relationship between the sectional salient pitch classes will be discussed following this chapter.

Thus far I have demonstrated in great detail the methodology involved in applying Lerdahl's salience conditions to identify salient pitches within Section I. For the remainder of this chapter, I will discuss the following six sections from a broader perspective, touching on pertinent analytical issues, and identifying the salient pitch classes in each section. Also, I will introduce each section by presenting a table of salient pitches analogous to table 2.1.

Section II

In section II, my analyses will focus on the broader perspective of identifying salient pitch classes in larger spans of music. The salient pitches of section II are presented in table 2.3.

Rehearsal Mark	Measure(s)	Salience Conditions (Summary Description)	Pitch
R7 (88-103)	102	b, c (goal of melodic ascent)	D
R8 (104-119)	118-119	b, c!, g (durational + fermata)	G/E _b
R9-R10 (120-142)	140-142	b, c!, g (durational—concluding section II!)	G#

Table 2.3. Section II—salient pitches

In table 2.4, I have rearranged the layout of table 2.3 and elaborated on the salience criteria of the three salient events of section II. This layout proves helpful in ranking the three events based on their sectional prominence. This table makes it clear that event 3 possesses more salience criteria, and in a greater degree, than events 1 and 2. While events 1 and 2 possess the same number of criteria, event 2 exhibits these criteria to a greater degree. In addition to assisting in ranking these three sectional events, table 2.4 also demonstrates that each subsequent event of section II is more salient than the previous event.

Criteria	Event 1: D	Event 2: G/E_b	Event 3: G_#
<i>Duration</i>	1 quarter-note	3 quarter-notes	<u>5</u> quarter-notes
<i>Dynamics</i>	<i>f</i>	<i>ff</i> > <i>p</i> < <i>ff</i>	<i>ff</i> consistently
<i>Metric</i>	downbeat	downbeat	downbeat
<i>Texture</i>	w/accomp.	solo	w/ accomp.
<i>Description</i>	end of R7	interior cadence!	section conclusion!!
<i>Other</i>			-rhythmic stasis -contrasted with: 1) new section 2) new motive

Table 2.4. Comparison of pitch events

In figure 2.8, I have created a skeletal score overview presenting these three salient pitch events. It is important to note that event 3 (the concluding event of section II) is the most salient pitch class of this section, not simply because it is the final pitch

event, but because it clearly possesses more salience criteria (and to a greater degree) than the other salient events of this section.

7 (88-91) Tpt enters (92-95) *f* 96 (97-101) 102 **pitch event 1**
Pno/String Intro *f* phrase 1 ending phrase 2 ending

8 (104-111) (112-117) **pitch event 2** 120 9 phrase 1... (121-124) *f*
Tpt phrase 1 Tpt phrase 2 *ff* *p* *ff*

10 phrase 2... (126-130) phrase 3... (132-139) **pitch event 3**
125 *ff* *p* *ff* *f*
Section II concluding event!

Figure 2.8. Three salience events of section II

Section III

I will present section III in the same broad manner as section II, but with a bit more elaboration. The salient pitches of section III are presented in table 2.5.

Rehearsal Mark	Measure(s)	Salience Conditions (Summary Description)	Pitch
R11 (143-151)		Piano/strings Intro	---
R12 (152-167)		<i>(con sordino)</i> b, c (central and final)	A
R13 (168-183)	173	b, c (goal of melodic ascent)	G
	176-79	b, h (first/last pitch of melody)	G
R14 (184-196)	184-89	b, c, h (goal of melodic ascent)	A
	193-197	b, c, g (center of phrase)	C#
	197	b, c!, e!, h, I (melodic cadential conclusion)	A

Table 2.5. Section III—salient pitches

Section III begins at R11 with an orchestral introduction. The trumpet enters in the next passage (R12), *con sordino*, using a short rhythmic motive and exhibiting A pitch-class salience through registral, metric, and dynamic emphasis. R13 (figure 2.10), using the same rhythmic motive which appeared in R11 and R12, projects G pitch-class salience.

13

phrase 1

167

sf pp non cresc.

phrase 2

173

pp

(180-183) 14

Figure 2.10. Passage R13—G pitch salience

Passage R13 consists of two phrases. Both phrases use a static *pp* dynamic, and consistent eighth-note triplets (with the exception of the A_b pick up note that leads into R13). The first phrase (mm. 168-173) has one obvious choice as its focus: G. The concluding G is both the goal of the phrase and the highest pitch. In the second phrase, G is the first, last, and highest pitch. In both phrases, the final G is approached by its leading tone. In addition, the concluding G in each phrase is placed in a very strong metrical position (the downbeat). As the obvious salient pitch for both phrases, G is the salient pitch class of passage R13.

R14, the concluding passage of section III, exhibits focus upon A. Although not quite as obvious as R13, the salience of this passage is still fairly clear. A brief discussion of R14 (figure 2.11) is helpful in identifying pitch salience. R14 consists of two phrases.

14

180 (180-183) phrase 1 Stringendo

p cresc. *f*

190 (190-192) phrase 2

pp *ff* a Tempo Poco riten. 15 Meno vivo (♩ = 126)

Figure 2.11. R14—Focus upon A

The first phrase (mm. 184-189), using the same eighth-note triplet motive as R13, begins and ends with A. The dynamic movement of the phrase (*p cresc. f*) highlights the final A

as the goal of this phrase. Furthermore, pitch-class A serves as both the lowest and highest pitch of the phrase. Also, the concluding A5 is in a very strong metrical position (downbeat of beat one). There are no other pitch classes which possess this number of salience conditions in the first phrase, making A an easy choice. The second phrase of this passage (mm. 193-197) concludes both this passage (R14) and section III. In this phrase, the C# is the highest, loudest, and longest pitch. Furthermore, it is accented by the manner in which it is approached (via crescendo from *pp* to *ff*) and as the centerpiece of this arch-shaped phrase (approached by ascent and left by descent). C# is clearly the most prominent pitch class in phrase 2. The choice of a single pitch class to represent this passage (R14) is not as clear as in the previous passage (R13), though pitch-class A would seem to carry more weight. In R14, phrase 1 exhibits focus on A, both phrases conclude with A, and the final A in phrase 2 serves as the concluding pitch for both this passage and for section III. Therefore, I identified pitch-class A as the most salient of passage R14. However, only after I considered the contextual salience conditions of passage R14 (A as the concluding pitch of section II) did the choice between C# and A become clear. This discussion highlights the importance of applying salience criteria to multiple levels (immediate context and broader passage and sectional context) when choosing between two pitches that project nearly identical salience.

Section IV

My analysis in section IV will continue in the same broad manner as that of section III.

The salient pitches of section IV are presented in table 2.5.

Rehearsal Mark	Measure(s)	Salience Conditions (Summary Description)	Pitch
		<i>(senza sordino)</i>	
R15 (197-207)	206-08	b (goal of sequence: LT &P5↓)	G
R16-R17 (208-2226)	216 223, 225	b (goal of sequence: LT) b, e (goal of sequence: P4↑ & d5↑)	G G
R18 (227-243)	227-40 241 243	b, c!, e!, i (goal of sequence: P4↑) c!, i! (melodic cadence: P4↑) b, c!, f, i! (melodic cadence: with pno/strings)	B _b E _b E _b

Table 2.5. Salient pitches in section IV

The defining rhythmic motive of section IV is a sixteenth-note triplet figure. This figure is used in each of the three passages. I will briefly discuss the first two passages (R15 and R16-17), highlighting my salient pitch choices in each. Following this discussion, I will discuss the unique qualities of the concluding passage of this section.

The first passage (figure 2.12), using the sixteenth-note triplet motive, exhibits G salience. This passage consists of two similar phrases.

197 **15** (198-199) phrase 1
mf 3 3 3 3 3 3 3 3
 ...end of R14

204 phrase 2 **16**
mp 3 3 3 3 3 3 3 3
 ↑
 passage conclusion!

Figure 2.12. Passage R15

The passage concludes on G (m. 208)—placing G in a prominent role in the context of this passage. G is also emphasized in phrase two by its leading tone (F#), and by its dominant (D). The F# is used to approach G in the middle of phrase 2 (beat 4 of m. 205). At the end of phrase 2, G is approached by a downward leap of a perfect fifth from its dominant, D5. These salience conditions clearly reflect G salience in R15.

In the next passage (R16-R17) I have highlighted the salience of G by overlaying analysis upon the score (figure 2.13).

Figure 2.13 shows a musical score for Passage R16-17, consisting of four staves of music in 2/4 time. The score is annotated with various musical events and dynamics.

- Staff 1 (measures 208-213):** Labeled "16" and "phrase 1...". It begins with "...end of R15". The music features three triplet figures. Dynamics are marked as *p* < *f*, *p* < *f*, *mf* < *f*, and *p* < *f*.
- Staff 2 (measures 214-217):** Labeled "event 1" and "phrase 2...". It features a triplet figure followed by a "leading tone" (F#) and another triplet figure. Dynamics include *p* < *f*, *mf*, *f*, *pp*, and *mf*.
- Staff 3 (measures 218-221):** Labeled "17" and "cadential material...". It features a triplet figure followed by a triplet figure. Dynamics include *f*, *pp*, and *mf*. Two "leading tone" annotations point to specific notes.
- Staff 4 (measures 222-225):** Labeled "18" and "next passage...". It features a triplet figure followed by a "dominant" annotation. A bracket labeled "event 2" spans measures 222-224. A "Passage Conclusion (double melodic cadence)" bracket spans measures 222-225. The final note is marked *p*.

Figure 2.13. Passage R16-17

Event 1 emphasizes G as the goal of phrase 1, in a metrically strong position, with a dynamically prominent *f*, and approached by the leading tone. Phrase 2 (mm. 216-219) is followed seamlessly by cadential material (mm. 220-25). This cadential material emphasizes G through the continued stress of its leading tone and by two melodic cadences (D-G followed by C \sharp -G). The overall G salience of this entire passage is thus clear.

Passage R18 (figure 2.14) exhibits a unique concluding event. Event 1 (m. 240) is the concluding pitch event of phrases 1-3. Furthermore, it is also the highest and loudest pitch of passage R18. If Jolivet had not written the three measures which immediately follow this very climactic event, this B \flat would serve convincingly as a conclusion to this passage and section. However, the three following measures (mm. 241-243), described as event 2, demonstrate how quickly pitch salience can be established over another very prominent pitch using *tonal* cadential material. Event 2, which concludes both this passage and section IV, eclipses the salience of event 1 based on the context of this passage. In the concluding cadential material of event 2, the B \flat of event 1 is recontextualized as the dominant of E \flat . This dominant-tonic relationship is established in m. 241 by the upward leap of a perfect fourth from B \flat (V) to E \flat (I). The melodic cadence (mm. 241-242), with the repeated E \flat octave, strongly confirms E \flat as the most salient pitch class of this passage. Additionally, this E \flat melodic cadence in the trumpet is harmonically supported in the piano and strings by four E \flat pitches stacked in octaves. The strength of this allusion to the tonal, perfect authentic cadence clearly establishes E \flat as the salient pitch of this passage, and of section IV. The use of this concluding cadential

material to establish E_b is also supported by the same initial pitch salience of the next section (V).

18

226 *p* phrase 1 phrase 2 *p*

231 phrase 3

235 *cresc.*

238 *ff* event 1

event 2: passage & section conclusion!!

241 P4 PAC 8ve cadence **19**

Pno. & Strings *sf*

harmonic support: melodic cadence affirmed

Figure 2.14. R18—Concluding passage (section IV)

Section V

Section V, located in the center of this piece, is the one “slow” section (*alla breve*; ♩ = 72). The piano and strings use a slow, choral-style harmonic accompaniment, while the trumpet uses quarter and half note values almost exclusively. Section V thus provides a time for reflection before entering back into the rhythmically driving texture and tempo of this piece.

Table 2.6 displays the salient pitches of section V. R19 and R20 each exhibit E_b,

Rehearsal Mark	Measure(s)	Salience Conditions (Summary Description)	Pitch
		<i>(con sordino)</i>	
R19 (244-261)	261	d (passage conclusion)	E _b
R20 (262-273)	262, 273	d, g (beginning pitch/passage conclusion)	E _b
R21 (274-285)	279-281 283-285	b, g (first/last pitch-two melodic fragments)	C
R22 (286-294)	295	b, g (passage conclusion)	A
R23 (295-308)	308	b, c!, d, e!, f, I (section & passage conclusion)	C

Table 2.6. Section V—salient pitches

salience through repeated returns to the E_b pitch, and by concluding each passage with E_b. I have included these two passages in figure 2.15, and have inserted brief comments highlighting the overall E_b salience.

19 $\text{♩} = 72$
(244-249) con sordino

high point

pp

254

high point

event 1: passage conclusion

258

Poco allarg.

...outlining the E-flat octave...

low point

20 E-flat durational emphasis...

262 a Tempo

E-flat octave

265

event 2: passage conclusion

270

Figure 2.15. R19 and R20—E \flat salience

The R19 passage exhibits some secondary focus on C in addition to E \flat . C5 (mm. 255-257) functions as an intermediary pitch between the two “high-point” E \flat s and the concluding, “low-point” E \flat . The fact that both of these passages (R19 and R20) clearly outline the E \flat octave, exhibit a descending melodic contour to E \flat , and conclude with a durationally prominent E \flat , gives the first half of section V overwhelming E \flat salience.

The next passage, R21 (mm. 274-285), uses two melodic fragments which both begin and end with C—this fact establishes C salience. The following passage, R22 (mm. 286-294), exhibits A pitch salience based on the simple fact that this is the concluding pitch. These two passages are followed by a climactic passage, R23 (mm. 295-308), which concludes section V (figure 2.16). This concluding passage exhibits C salience.

23 a Tempo Accelerando

295 end of R22 *sfp* *f*

300 *sfp* *f* *Sempre accel.* *sfp cresc.*

304 *sfp* *f* *Saliente* *sfp cresc.*

♩ = 120

♩ = 132

salient pitch event

- passage conclusion
- section V conclusion!

Figure 2.16. R23—Concluding passage (section V)

In passage R23 (figure 2.16), the final C exhibits salience based on numerous criteria: highest pitch, metric goal of this overall ascending passage, loudest pitch (the dynamic goal of a five-measure crescendo), and concluding pitch event of section V. This final melodic pitch event is further emphasized by the following eleven measures of rest in the trumpet (one measure in section V and ten measures in section VI)—the ensuing *silence* in the timbrally prominent trumpet serves to punctuate the last pitch heard (C) in the melody. Section V can be characterized as exhibiting strong E \flat pitch salience in the beginning (mm. 244-273), weak A and C pitch salience near the middle of the section (mm. 274-294), and strong C pitch salience at its conclusion (mm. 295-307). The strong concluding nature of C, emphasized by eleven measures of ensuing silence in the melody, has the effect of aurally replacing the strong, beginning E \flat salience of this section with overall C pitch salience.

Section VI

In section VI, the music returns to the busy, rhythmically driving texture that was prominent in sections I-IV. Section VI presents a new type of salience event: a salient pitch supported by a major triad. This supporting, triadic harmony occurs with the first (m. 331) and last (mm. 374-377) pitch events in this section. In the context of Jolivet's consistently complex harmonic structures, the aural effect of supporting a pitch center with a major triad is astounding. Because these two events present such a strong allusion to tonality, the listener experiences a momentary paradigm shift between the realms of post-tonal, pitch-centric music and functionally tonal music.

The salient pitches of section VI are presented in table 2.7.

Rehearsal Mark	Measure(s)	Saliency Conditions (Summary Description)	Pitch
R24 (309-323)		Solo Piano Introduction	---
R25 (324-332)	324, 331	<i>(con sordino)</i> b, d (first and last pitch – melody) <i>- supported by E maj. triad (m. 331)!</i>	E
R26 (333-340)	339	b (concluding pitch – melody)	C#
R27 (341-353)	353	b, c!, f (b (melodic cadence: ↓P5)	C#
R28 (354-366)	366	b, c (goal of sequence: LT)	G
R29 (367-76)	369-372 374-77	b, c!, e, g!, i (phrase beginning – durational!) b, c!, e, g!, i (phrase ending – durational!) <i>- supported by C maj. triad (m. 374, 377)!</i>	G G

Table 2.7. Section VI—salient pitches

The first pitch event of section VI (figure 2.17) projects E salience in passage R25. This pitch is emphasized as both the beginning and ending pitch of this passage. More importantly, this event's support with an E major triad is unusual in the context of this work. This event is also made prominent by the manner in which the concluding E pitch-class is approached and by the implied tonal relationship between the melody and harmony. The concluding E pitch-class is approached by a crescendo from *p/pp* to *f*. The E pitch is approached in mm. 330-331 by the repeated D#. The strings give the E major triad durational emphasis with a quarter-note, while the piano supports this chord with the right-hand, eighth-note figure. Although the triad is voiced in first inversion, this is inconsequential to the salience of this event. The only way that this triadic support could

be strengthened would be to place the chord in root position. Incidentally, this is precisely what Jolivet does in the concluding event of this section.

324 **25** (con sordino)

f *p* *f*

329 *p* *f* **26**

leading tone

event 1

Piano (tacet)

Strings →

pp *f*

E Maj triad!!

Figure 2.17. Passage R25—salient pitch supported by triadic harmony

Before discussing the concluding pitch event of section VI, I will briefly discuss the interim pitch events. The next two passages (R26 and R27) each exhibit C# salience. Each of these passages use one of the rhythmic motives listed in figure 2.18.

The final pitch of each of these four rhythmic motives results in a stepwise ascent to the concluding G pitch: D-E#-F#-G. This stepwise approach begins on D, G's dominant. The F# pitch preceding the final G functions as a leading tone. These observations support the final G as the salient pitch class of this passage.

The concluding melodic passage of section VI (figure 2.20) can be described as a cadential figure, clearly emphasizing G pitch salience, supported by a root position C major triad. The aural effect of this C major triad, like the first event of this section, provides an overwhelming contrast to the otherwise harmonically complex nature of this piece. The impact of this event is more powerful than that of the initial event because this triad is in root position (verses the first inversion position of the E major triad of the initial salience event). Furthermore, this triad is initially struck in m. 374, then implied in mm. 375-376 (with the C-G pedal figure in the string bass), and sounded again in m. 377 (in the strings) for the entire measure. The aural perception is that the C major triad is sounding for four measures (mm. 374-377). G salience is firmly established well before the concluding event, in the first four measures of this passage (mm. 379-382), due to its durational and registral prominence. This initial durational prominence is repeated in the final three measures of this passage (mm. 374-376). G is further emphasized dynamically (approached by a *crescendo* and attacked *ff*). Another salience condition which lends weight to this event is the fact that the note appears at the boundary of a large formal division (concluding section VI). While G5 in the trumpet concludes on the downbeat of the new section (eighth-note), the strings continue this elided figure for the entire first

measure of section VII. This passage is presented in figure 2.20 with the complete ensemble of trumpet, piano, and strings.

367 **29** C Tpt.

pp

Pno./Strings

pp *ff*

371 *ff*

Section VI Concluding Event: G-Pitch Salience **30**

374 *ffpp* *ff*

gliss. *gliss.* *gliss.* *8^{va}!*

8^{vb} *ppp*

C Maj triad C Maj triad!

Figure 2.20. R29

The first and last salient pitch events in section VI are clearly more prominent due to Jolivet's use of a major triad, in the strings and piano, as harmonic support. Because this technique was not used until section VI, the resulting aural effect is much more powerful. The C major triad elision in the strings (m. 377 – first measure of section VII) provides a seamless transition from section VI, and a foreshadowing of C pitch centrality (the dominant salient pitch class of section VII).

Section VII

The salient pitch events of section VII are presented in table 2.8. The first and last pitch events in section VII, like section VI, are supported by a major triad.

Rehearsal Mark	Measure(s)	Salience Conditions (Summary Description)	Pitch
R30 (377-387)		Strings Introduction	---
		<i>(senza sordino)</i>	
R31 (388-397)	397	b, c!, e! (concluding pitch – melody) <i>- supported by C maj. triad!</i>	C
R32-R33 (398-417)	417	b, c, e (concluding pitch – passage)	A#
R34 (418-423)	418-420	b, c, g (durational/dynamic)	C#
R35 (424-429)		Strings only	---
R36 (430-441)	439	b (concluding pitch – passage)	F
R37 (442-461)	461-462	b!, c!, e!, g! (concluding pitch – passage)	C#
R36 (430-441)	439	b!, c!, e!, g!, i! (concluding pitch: ↑P4 – passage/section/piece) <i>- supported by C maj. triad!</i>	C

Table 2.8. Section VII—salient pitches

Consequently, the first and last pitch events will be the main focus of my analysis in section VII. In figure 2.21, I have identified the first salience event of section VII.

388 **31** senza sordino

ppp *crescendo poco a poco*

392

395

Pno./Strings

event 1

397 **32**

fff

decoration decoration

C major triad: supporting harmony

Figure 2.21. R31

The trumpet's C (m. 397) is clearly the goal of this ascending passage. This final C is emphasized registrally, dynamically, durationally, and harmonically (with a first inversion C major triad).

Before taking an in-depth look at the concluding event of this section, I will briefly discuss the interior salience events of this section. The second salience event (m. 417) concludes a passage that begins in R31 and finishes at the end of R32. The culmination of this passage appears in figure 2.22.

Figure 2.22. Conclusion of R33

The three rhythmic segments of R33 each finish with a higher pitch, finally concluding with A \sharp —placing A \sharp in a strong metrical position (on the downbeat of m. 417). The fact that A \sharp is the goal of this ascending passage serves to affirm its overall passage salience.

The next passage (R34) evinces clear C \sharp focus. The dynamic and durational prominence of this pitch class makes C \sharp (mm. 418-420) the obvious pitch center of this music. This passage is presented completely in figure 2.23.

Figure 2.23. R34

The next trumpet passage (R36) focuses upon F. The entire passage (figure 2.24) is dynamically consistent at *ff*. The initial F5 (m. 434) is approached by ascent from the beginning A# (m. 429). Once the melody arrives at F5, this pitch is prominently emphasized in the subsequent measures. The repetition of the two-measure figure (mm. 436-437 and 438-439) is used to conclude this passage and to unequivocally establish F centrality.

Figure 2.24. R36

R37 (figure 2.25), the lengthy penultimate passage of section VII, exhibits C# focus. The overall ascending contour of this passage prominently highlights the final, and highest, C#. In the measures preceding the final C# (mm. 458-460a), I have indicated an ascending, stepwise approach to C# (A-B-C#). The final C# is also emphasized dynamically with a crescendo beginning at *f* (m. 457) and concluding with the final C# well above the *forte* dynamic. The only other plausible salience choice in this passage is the A \flat emphasized in mm. 453-457. However, in this passage A \flat functions as the enharmonic dominant of C#.

37 Più mosso (♩ = 144)

441

446

452

458

A-flat

event 5

38

A B C-sharp

Stepwise Ascent (A - B - C-sharp!)

Figure 2.25. R37

The final passage of section VII (figure 2.26) contains the most prominent pitch event in the piece due to its emphatic invocation of a great many salient conditions.

38

461

Final melodic passage...

Pno./Strings → *ff*

gliss.

8^{va} 7

3

Strings only...

466

fp — *ff*

Pno./Strings...

470

ad lib.

fff

Figure 2.26. R38—Concluding passage of section VII and concertino

Furthermore, the fact that this event is placed at the conclusion of section VII, and thus, the conclusion of this concertino, imbues it with overall salience (the most salient pitch of the concertino). This fact will directly impact the manner in which the cumulative salient pitch events are interpreted.

Very little commentary is necessary to demonstrate the C centricity of this passage. A cursory examination of the melody in the above passage reveals the dominating salience of pitch-class C (mm. 468-472) based on the following criteria: *duration* (four measures + an eighth-note), *register* (C6 – near the top of the trumpet’s tessitura), *loudness* (due to the timbre of the trumpet, the *ff* dynamic eclipses the *fff* dynamic mark in the piano and strings), *metric accent* (begins on the downbeat of m. 468, and concludes on the downbeat of m. 472), *dominant-tonic relationship* (the durationally significant G5 in mm. 466-467 aurally supports this tonal relationship), *triadic/harmonic support* (the root position C major triad, in both piano and strings, on the downbeat of m. 472, is the strongest possible tonal support of the C pitch). Due to the ubiquitous, harmonically complex, vertical sonorities in this concertino, this final root position major triad, supporting its root pitch (C) functions as a stabilizing aural event at its conclusion. Such is the aural implication of this final event, that it must inform the ensuing discussion of the relationships among the sectional salient pitches.

In the analyses presented in this chapter, I have applied Lerdahl’s salience criteria in order to identify numerous pitch centers within each section of this piece. At the conclusion of each section, I identified the single most salient pitch class of that section—resulting in seven representative sectional pitch classes (C, A_b, A, E_b, C, G, C). I

concluded the analytical portion of this chapter by identifying the single, most salient pitch class of the seven sections of this piece: pitch-class C. In applying this analytical method, I always began my analysis at lower levels (individual measures and individual phrases) and progressed to larger spans of music (passages of multiple phrases, then large portions of sections, and finally entire sections)—resulting in reducing out less salient pitch classes in favor of those with greater salience.

In the next chapter I will explore the patterns among the most salient pitch events revealed in my analysis, lending coherence to the entire work.

Chapter 3

Conclusion

In the previous chapter I applied Lerdahl's salience criteria in order to identify numerous pitch centers within each section of this work. I then identified a single pitch center for each section through the process of reducing out less salient pitch classes. Of the seven sectional pitch centers, I identified one pitch class as the most salient pitch class of this piece.

In this chapter I will explore the patterns among the most salient pitch events revealed in my analysis, lending coherence to the entire work. The first pattern I intend to address is the emerging tertian focus which becomes more prominent with each subsequent section. This emerging tertian focus becomes evident when the most salient pitch centers of each section are arrayed triadically. The resulting triadic structures reveal a tertian architecture that is subdued in section I, becomes more prominent over the course of the piece, and culminates with a major triad in root position at the end of the work. I will present a singular tertian structure for each section. Each tertian structure will be discussed in light of the pitch center of that given section. The second pattern I intend to address is the clear tertian relationships that exist between the seven sectional salient

pitch classes (C, A \flat , A, E \flat , C, G, C). The tertian relationships will be discussed from the perspective of pitch-class C: the pitch center of this work.

I begin my discussion of the emerging tertian focus by highlighting the information presented in table 3.1. In table 3.1, I have presented the most salient pitch centers of each section in the column entitled *pitch centers*. In the column entitled *tertian content*, I have extracted (from the *pitch centers* column) only those pitch centers which manifest a tertian relationship. In the column entitled *triadic reference*, I have used standard harmonic nomenclature to identify the triadic progenitor of each tertian collection. In the final column, entitled *section salience*, I have identified the most salient pitch class in each section in bold type. A pattern elucidated by this table is that the final salient pitch of each section (last pitch in *pitch centers*) is always the most salient pitch of a given section (*section salience*). This pattern will be addressed below.

Section	Pitch Centers	Tertian Content	Triadic Reference	Section Salience
I	G-F-B \flat -C-D-C	G-B \flat -D-F	G minor 7	C
II	D-G-E \flat -A \flat	E \flat -G	Major 3rd	A\flat
III	G-A-C \sharp -A	A-C \sharp	Major 3rd	A
IV	G-B \flat -E \flat	E \flat -G-B \flat	E \flat maj. triad	E\flat
V	E \flat -C-A-C	A-C-E \flat	A dim. triad	C
VI	E-C \sharp -G	C \sharp -E-G	C \sharp dim. triad	G
VII	C-B \flat -D \flat -F-D \flat -C	B \flat -D \flat -F	B \flat min. triad	C

Table 3.1. Tertian pitch patterns

The triadic reference column is the clearest demonstration of a tertian focus in the background of each section. My rationale for positing the notion of an emerging tertian focus is based upon a comparison of the triadic reference with the sectional salient pitch. For example, the triadic reference of section I is a G minor seventh chord. But the most salient pitch of section I is C—not itself a member of this triadic construct. We might say that the summary sectional emphasis of C thus represses the tertian presence of this triadic structure. The situation is similar in section II. The tertian suggestion of the major third between E \flat and G (triadic reference) is repressed by the more prominent A \flat (section salient pitch class). However, the next three sections present a much clearer tertian presence due to the strong relationship between the triadic reference and the sectional salient pitch class. Section III's most prominent pitch class (A) participates in the triadic major third A-C \sharp . In section IV, the most salient pitch class of the section (E \flat) functions as the root of the E \flat -G-B \flat major triad. In section V, the most salient pitch class of the section (C) functions as the third of the A-C-E \flat diminished triad.

In the final two sections of this piece (VI and VII), Jolivet introduces a new harmonic device not reflected in table 3.1. This new device is Jolivet's use of a major triad, in the strings and piano, to harmonically bolster salient pitch events in the trumpet. In each of these sections, the supporting major triad is used to support the first and last salient pitch events. This simple device's power is reinforced by the harmonic complexity that typifies the rest of the concertino. Table 3.2 summarizes the use of this triadic device in the final two sections.

Section	First Event		Last Event	
	Triad Support	Pitch	Triad Support	Pitch
VI	E major (1st inv.)	E	C major (root)	G
VII	C major (1st inv.)	C	C major (root)	C

Table 3.2. Triadic support of salient pitches

The triads supporting the first events of these two sections are in first inversion, while the triads supporting the last events are in root position. This pattern reflects an increasing triadic emphasis from the beginning to the end of each of these sections.

Of great consequence to a global perspective of this work's tonal structure is that the pitches being triadically supported in these four events constitute a C major triad. This fact not only confirms the emerging tertian prominence of subsequent sections, but also supports the choice of C as the overall tonal focus of this piece. This perspective is supported by the fact that the C major triad is used in three out of four instances as the supporting triad in these final two sections. Furthermore, the C major triad is used in root position to conclude both sections VI and VII. The overwhelming C emphasis at the work's conclusion, emphasized by the final C in the trumpet, is a natural result of the entire composition's emerging focus upon triads, and upon C major in particular.

The overall focus upon C informs the relationships among the most salient pitch classes of the various sections. I have listed the most salient pitch classes of each section in table 3.3. A cursory review of these seven sections reveals another means of supporting overall C-pitch salience: 1) C presides in three of the seven sections as the

salient pitch; 2) the other pitches each represent only one section; 3) C has salience in the first and last sections; and 4) the tonic-dominant-tonic relationship (C-G-C) of the last three sections is also informative.

Sections:	I	II	III	IV	V	VI	VII
Salient Pitches:	C	A_b	A	E_b	C	G	C

Table 3.3. Sectional salient pitches

C serves as the pitch class fulcrum among the sectional salient pitches in table 3.3.

Figure 3.1 graphically illustrates the sectional pitch relationships with C as the central, most salient pitch of this piece.

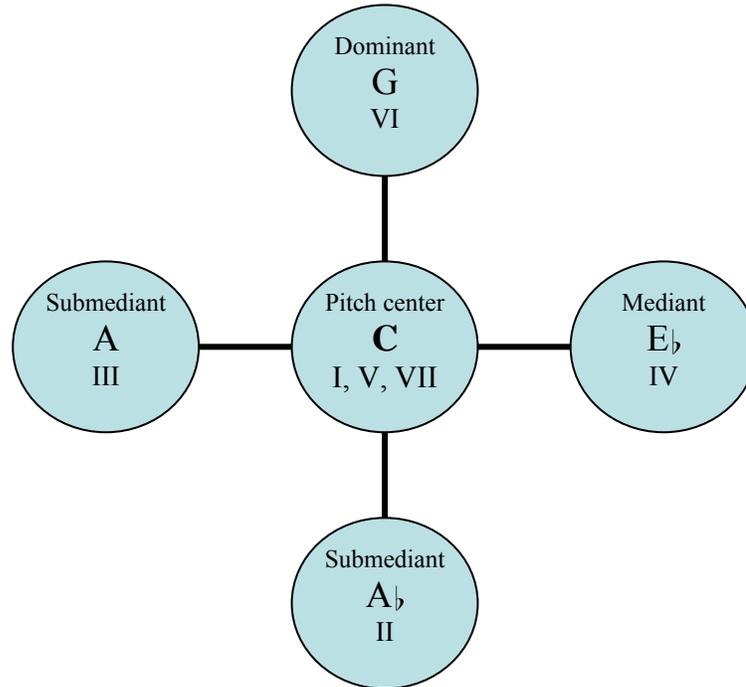


Figure 3.1. Sectional pitch relationships to C

Figure 3.1 demonstrates the prominent tertian relationships between the C pitch center and the two submediants (A and A \flat) as well as the mediant (E \flat). The G dominant also provides tonal cohesion in relation to the C pitch center. This strong tertian relationship between these sectional salient pitch classes provides tonal cohesion in this post-tonal pitch-centric work.

In short, tonal cohesion is achieved in this piece of music through the progressively emerging tertian focus within each subsequent section, and through the strong tertian relationship which exists between the sectional salient pitch classes.

These conclusions were made possible through a careful and systematic application of Lerdahl's salience criteria. As demonstrated in chapter 2, the analytical

process requires beginning at the lower levels (individual measures and individual phrases) and progressing to larger spans of music (passages of multiple phrases, then large portions of sections, and finally entire sections) in order to reduce out less salient pitch classes in favor of more prominent pitch classes. By adhering to this analytical process, I identified the most prominent pitch centers at the phrase level, the passage level, and the sectional level. Finally, I identified the single, most salient pitch class of the entire work. By observing both local and global salience conditions over the course of this piece, a hierarchy of aural events emerged. As demonstrated in chapter 2, this hierarchy of aural events clearly projects C centricity for this work. As set forth in this concluding chapter, there is an unfolding tertian focus over the course of the piece. This emerging tertian focus is strongly confirmed by the tertian relationships which exist between the sectional salient pitch centers.

Jolivet's *Concertino for Trumpet, String Orchestra and Piano* is but one of a multitude of twentieth-century post-tonal pitch-centric works. Lerdahl's analytical method, based upon salience criteria and adapted to a pitch-centric environment, proves an effective tool for analyzing this particular repertoire.

Appendix A

Salient Sectional Pitches

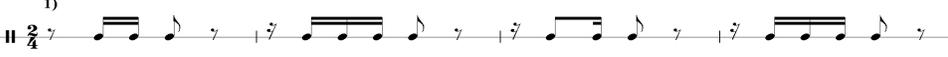
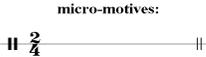
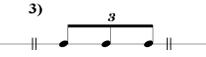
Section	Rehearsal Mark	Measure(s)	Salience Conditions (Summary Description)	Pitch
I		4, 6, 7 12	b, c, e, g (durational/intro): G b, c (goal of melodic descent/intro): F	G/F
	R1 (12-17)	14, 16	b, c (motivic goal)	F
	R2 (18-26)	18 25-26	b, c, e (durational + fermata/intro) b, c!, e!, g! (goal of melodic ascent/intro)	B, C
	R3 (27-46)	46	b, c, h (melodic cadence)	D
	R4 (47-60)	48-57	b, c (motivic goal)	D
	R5-R6 (61-87)	79	b, c!, h (melodic cadence concluding section II!)	C
II	R7 (88-103)	102	b, c (goal of melodic ascent)	D
	R8 (104-119)	118-119	b, c!, g (durational + fermata)	G/E,
	R9-R10 (120-142)	140-142	b, c!, g (durational–concluding section II!)	A ,
III	R11 (143-151)		Piano/strings Intro	---
			<i>(con sordino)</i>	
	R12 (152-167)		b, c (central and final)	A
	R13 (168-183)	173 176-79	b, c (goal of melodic ascent) b, h (first/last pitch of melody)	G G
	R14 (184-196)	184-89 193-197 197	b, c, h (goal of melodic ascent) b, c, g (center of phrase) b, c!, e!, h, I (melodic cadential conclusion)	A C# A

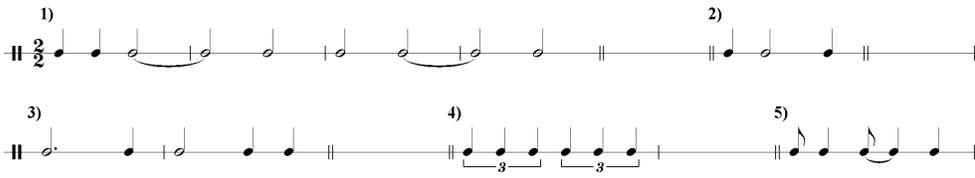
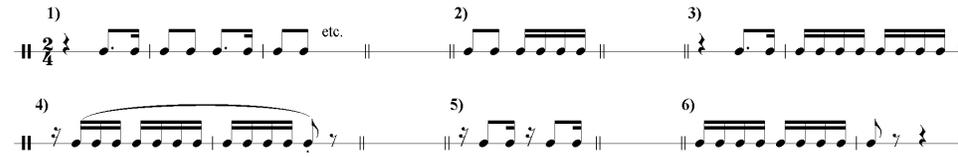
Section	Rehearsal Mark	Measure(s)	<i>Salience Conditions (Summary Description)</i>	Pitch
IV			<i>(senza sordino)</i>	
	R15 (197-207)	206-08	b (goal of sequence: LT & P5↓)	G
	R16-R17 (208-2226)	216 223, 225	b (goal of sequence: LT) b, e (goal of sequence: P4↑ & d5↑)	G G
	R18 (227-243)	227-40 241 243	b, c!, e!, i (goal of sequence: P4↑) c!, i! (melodic cadence: P4↑) b, c!, f, i! (melodic cadence: with pno/strings)	B, E, E _b
V			<i>(con sordino)</i>	
	R19 (244-261)	261	d (passage conclusion)	E _b
	R20 (262-273)	262, 273	d, g (beginning pitch/passage conclusion)	E _b
	R21 (274-285)	279-281 283-285	b, g (first/last pitch-two melodic fragments)	C
	R22 (286-294)	295	b, g (passage conclusion)	A
R23 (295-308)	308	b, c!, d, e!, f, I (section & passage conclusion)	C	
VI	R24 (309-323)		Solo Piano Introduction	---
			<i>(con sordino)</i>	
	R25 (324-332)	324, 331	b, d (first and last pitch – melody) - supported by E maj. triad (m. 331)!	E
	R26 (333-340)	339	b (concluding pitch – melody)	C#
	R27 (341-353)	353	b, c!, f (b (melodic cadence: ↓P5)	C#
	R28 (354-366)	366	b, c (goal of sequence: LT)	G
R29 (367-76)	369-372 374-77	b, c!, e, g!, i (phrase beginning – durational!) b, c!, e, g!, i (phrase ending – durational!) - supported by C maj. triad (m. 374, 377)!	G G	

Section	Rehearsal Mark	Measure(s)	Salience Conditions (Summary Description)	Pitch
VII	R30 (377-387)		Strings Introduction	---
	R31 (388-397)	397	<i>(senza sordino)</i> b, c!, e! (concluding pitch – melody) - supported by C maj. triad!	C
	R32-R33 (398-417)	417	b, c, e (concluding pitch – passage)	A#
	R34 (418-423)	418-420	b, c, g (durational/dynamic)	C#
	R35 (424-429)		Strings only	---
	R36 (430-441)	439	b (concluding pitch – passage)	F
	R37 (442-461)	461-462	b!, c!, e!, g! (concluding pitch – passage)	C#
	R36 (430-441)	439	b!, c!, e!, g!, i! (concluding pitch: ↑P4 – passage/section/piece) - supported by C maj. triad!	C

Appendix B

Rhythmic Motives

Section	Rhythmic Motives
<p>I (1-87)</p>	<p style="text-align: center;">Trumpet</p> <p>1) </p> <p>2) </p> <p style="text-align: center;">Pno./Strings</p> <p>1) </p> <p>2) </p> <p>3) </p> <p>4) </p>
<p>II (88-142)</p>	<p style="text-align: center;">Trumpet</p> <p>1) </p> <p>micro-motives:</p> <p>2) </p> <p>3) </p> <p>4) </p> <p style="text-align: center;">Pno./Strings</p> <p>1) </p>

Section	Rhythmic Motives
III (143-196)	<p style="text-align: center;">Trumpet</p>  <p style="text-align: center;">Pno./Strings</p> 
IV (197-243)	<p style="text-align: center;">Trumpet</p>  <p style="text-align: center;">Pno./Strings</p> 
V (244-308)	<p style="text-align: center;">Trumpet</p>  <p style="text-align: center;">Pno./Strings</p> 
VI (309-376)	<p style="text-align: center;">Trumpet</p>  <p style="text-align: center;">Pno./Strings</p> 

Section	Rhythmic Motives
VII (377-472)	<p style="text-align: center;">Trumpet</p> <p style="text-align: center;">Pno./Strings</p>

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