STRAVINSKY'S CUT-AND-PASTE COMPOSITIONAL TECHNIQUE WITH COMMENTARY ON WHITHER NO ONE KNOWS, AN ORIGINAL WORK

by

BEN WORCESTER

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Major Professor Craig Weston

Abstract

Igor Stravinsky used a compositional technique that researchers have termed cut-and-paste. During the compositional process, Stravinsky would write notes on carbon paper, then cut the lower parts out to paste them into other sheets of paper with music on them. This paper examines a few key ways this fits into the compositional process for *Symphonies of Wind Instruments* (1920, rev. 1947).

In an original work, *Whither No One Knows* (a chamber work for flute, clarinet, marimba, piano, violin, viola, and cello) several similar cut-and-paste compositional processes were used. These include melodic cut-and-paste, ostinato creation, layering, rhythmic diminution, and extension. These techniques are illustrated and examined. The full score of *Whither No One Knows* (2009) is included.

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Dedication

This work (and all of my work during this program of study) is dedicated to my wonderful wife, Sharyn, who insisted I complete the program even through her traumatic fight with and subsequent victory over Guillain-Barré Syndrome.

CHAPTER 1 - Stravinsky's Cut-and-Paste Compositional Process

In her 2001 article, Gretchen Horlacher identifies one of Igor Stravinsky's compositional techniques as "running in place." In many instances, Stravinsky seems to have made several drafts on carbon paper, and then cut them out to easily paste those particular parts into another place on the score. This process, as Horlacher states, is due to the larger goal of motivic manipulation and it manifests itself in different ways for different compositional goals. This chapter will discuss two of Stravinsky's compositional techniques within the context of *Symphonies of Wind Instruments* (1920, rev. 1947): side-by-side juxtaposition (two juxtaposed sections of radically different music) and transitional material.

Side-by-Side Juxtaposition

Edwin Corle captures a classic Stravinsky quote in his book on the composer's life and music. Many researchers have quoted Corle regarding Stravinsky's cut-and-paste compositional technique in which the composer says:

"Here, you see, I cut off the fugue in [Orpheus] with a pair of scissors....I introduced this short harp phrase, like two bars of an accompaniment. Then the horns go on with their fugue as if nothing had happened. I repeat it at regular intervals, here and here again. ...You can eliminate these harp-solo interruptions, paste the parts of the fugue together and it will be one whole piece."

¹ Gretchen Horlacher, "Running in Place: Sketches and Superimposition in Stravinsky's Music," *Music Theory Spectrum* (Autumn 2001) p. 196.

² Ibid., p. 196.

³ Ibid., p. 196.

⁴ Edwin Corle, *Stravinsky* (New York: Duell, Sloan and Pearce, 1949) p. 146. Quoted in several sources, including Edward T. Cone's essay "Stravinsky: The Progress of a Method," Carl Kristian Wiens's dissertation "Igor Stravinsky and Agon," and in Horlacher's "Running in Place." This is supported by documented evidence of Stravinsky's manuscript scores in which music from different sections have been combined from other manuscript fragments as Horlacher contends.

This quote illustrates Stravinsky's method of cutting paper, sometimes carbon paper, and pasting it on top of existing music to combine sections of music.⁵ This method is not solely developed from convenience, but rather, it displays the compositional aim of the music.

Section A

Symphonies begins with a juxtaposition of the two musical sections, ideas, or factions. The first 7 measures constitute the first section (A) utilizing sparsely scored *fortissimos*. Figure 1.1 illustrates the melody in Section A from the first 7 measures of the work.

Figure 1.1: Section A; Clarinet 1 in B-flat – m. 1-7.



Stravinsky uses this exact material again after introducing the next section of music. Stravinsky omits the first measure of music in this second statement. This is a direct cut-and-paste technique. Because this is such a direct quotation of the original seven measures of the work, one might expect to find some evidence of cut-and-paste in Stravinsky's manuscripts. In 1991, Paul Sacher Stiftung published (reprinted in 1998) two facsimile scores from Stravinsky manuscripts of *Symphonies* from 1920.⁷ The large score (dated later than the smaller one) features a full score and the smaller score condenses the work onto often three or four staves. In this first restatement of this section of music, neither facsimile score appear to have been cut or pasted. The music is identical in each case, however, it does not appear to have been manually cut by Stravinsky. This supports that the act of cutting and pasting reflects Stravinsky's

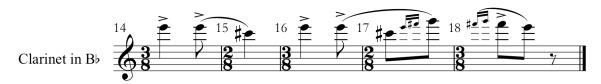
⁶ Edward T. Cone, "Stravinsky: The Progress of a Method," in *Perspectives on Schoenberg and Stravinsky*, ed. Benjamin Boretz and Edward T. Cone (Princeton: Princeton University Press, 1968), p. 157-160. Throughout this section, the section names refer to the nomenclature in Cone's essay.

⁵ Horlacher, "Running in Place," p. 196.

⁷ Igor Stravinsky, *Symphonies d' Instruments à Vent*, facsimile scores (Basel: Paul Sacher Stiftung, 1998).

compositional goal, rather than a means of convenience. Figure 1.2 illustrates this first restatement of this melody.

Figure 1.2: Section A; Clarinet in B-flat – m. 14-18.



This section of music appears recognizably four additional times throughout the work. In each instance, this section is juxtaposed with another quite different section of music. Also, this section never appears exactly as the original statement. Stravinsky changes the length and substance of the section with each additional restatement. The scoring remains consistent with each iteration, however, the key area and function of each section does not. Figure 1.3 illustrates the next restatement of Section A. In this version (pitched down one half step), Stravinsky begins with a similar, but not identical phrase, and adds another one to end this restatement.

Figure 1.3: Section A; Clarinet in B-flat – m. 47-52.



Subsequent iterations of this section appear similarly. Stravinsky alters each section at the motivic level. Each statement contains portions from the original seven measures. Carl Wiens notes Stravinsky's alterations within the first statement of Section A: "In the opening six measures of *Symphonies of Wind Instruments*, the ensemble plays a three measure idea. In measure 4, Stravinsky repeats the second and third measures, literally cutting it out and pasting it in as the fourth and fifth measures." Stravinsky expands this cut-and-paste technique to the

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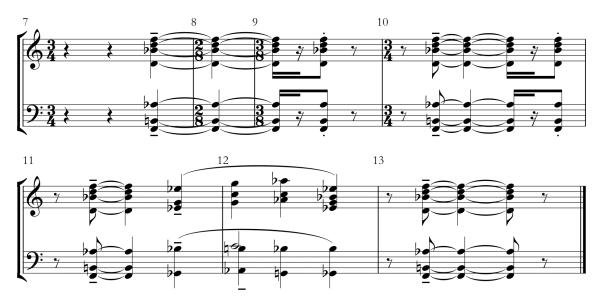
⁸ Carl Kristian Wiens, "Igor Stravinsky and Agon" (Ph.D. dissertation, The University of Michigan, 1997), p. 50.

other restatements of this section. Individual measures or notes from the original motive appear in different orders and sequences throughout the other statements of Section A.

Section B

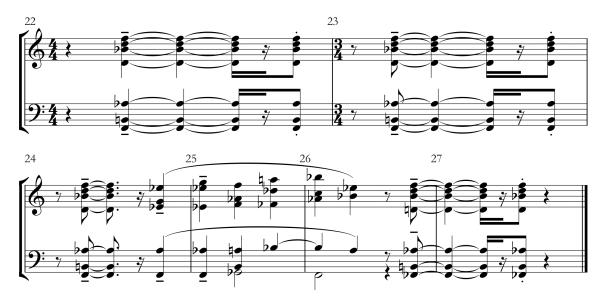
Section B begins in measure 7 and contains remarkable differences to Section A. Section B is a dense and full *tutti* section of harmonically rich music. When juxtaposed to Section A, Section B seems radically different, as though it might be from a different piece of music. However, Stravinsky uses a quite similar method to "develop" Section B. Figure 1.4 shows a reduction of the first statement of Section B.

Figure 1.4: Section B – m. 7-13.



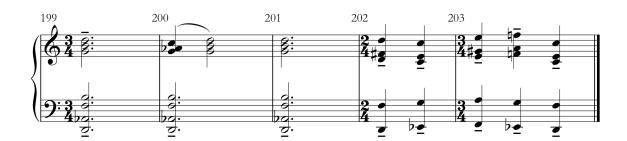
This motive from Section B, like Section A, appears again in the opening minutes of the work. It reappears in several restatements throughout the work. Section B exhibits very little change in the second statement, which begins in measure 22. Rebarring, one omitted eighth-note rest, a slightly expanded slurred section, and a final staccato are the only changes in this appearance of Section B. Figure 1.5 illustrates this section of music. A much less cosmetic change occurs in the final measures of this statement of Section B (m. 26-27). Stravinsky changes the lowest note of the harmony to F-flat from F, which leads harmonically to the next section of music beginning in measure 30.

Figure 1.5: Section B - m. 22-27.



This statement, like the material from Section B (much like the second statement from Section A) could have been cut and pasted from the original music. Section B appears in many altered forms throughout the work. One extreme example occurs much later, near the climax of the piece. Stravinsky transposes this harmonic material down a minor third and uses it as a transition. The listener understands this material as Section B because of the unique harmonic sound. Figure 1.6 illustrates this material.

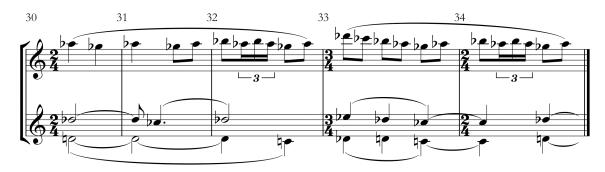
Figure 1.6: Section B – m. 199-203.



Transitional Material

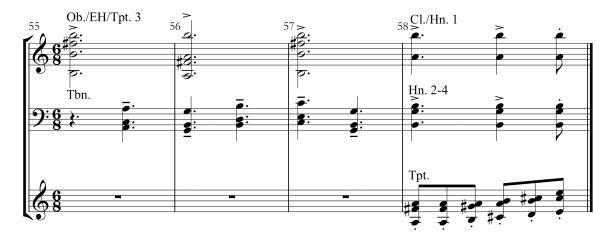
Stravinsky later adds other sections and combines or develops them throughout the piece. Section C begins in measure 30 and Stravinsky uses a faster tempo and flowing melodies with sixteenth note triplets. Harmonic suspensions support the flowing melody.

Figure 1.7: Section C – m. 30-34.



Stravinsky introduces Section D in measure 55, which uses staccato notes in the trumpets alongside several repeating phrases and melodies.

Figure 1.8: Section D Reduction – m. 55-58 (Concert pitch).



The E team flows out of the D team and uses highly imitative and repetitive figures beginning with one flute and two clarinets in measure 71.

Figure 1.9: Section E – m. 71-74.



Transitional material links these different sections in *Symphonies*. These transitions mark beginnings or endings of contrasting materials. These instances of transitional material may seem to be unrelated, however, they each function as transitions and contain common intervallic content. Each phrase ends with a "cadential" harmony that includes a major seventh and often a major tenth above the lowest note. The following figures show each of these "cadential" intervals as they occur between major sections of music. 10

Figure 1.10: Transitional Material.

Figure	Measure(s)	Sections Connected	Instruments Utilized
Figure 1.11	28-29	Section B – Section C	Oboes, English Horn
Figure 1.12	54	Section B – Section D	Clarinets
Figure 1.13	121-124	Section A – Section E	English Horn, Bassoons
Figure 1.14	132-133	Section B – Section E	English Horn, Bassoons
Figure 1.15	185-187	Section A – Section C	Oboes, English Horn

⁹ The exception is in measures 121-124 in which the major seventh is present in the bassoons before the last note of the phrase, but the English horn does not also create a major tenth above the second bassoon.

¹⁰ Intervals spelled as diminished eighths will be labeled as major sevenths.

Figure 1.11: Transitional Material – m. 28-29.

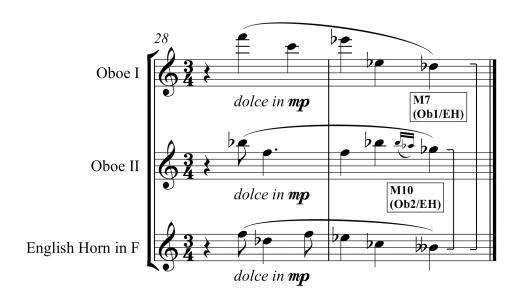


Figure 1.12: Transitional Material – m. 54.

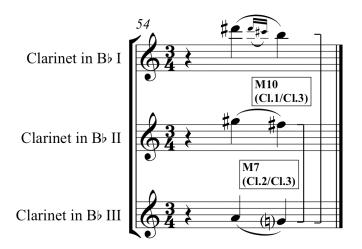


Figure 1.13: Transitional Material – m. 121-124.

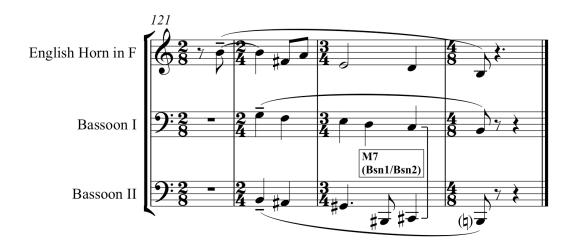


Figure 1.14: Transitional Material – 132-133.

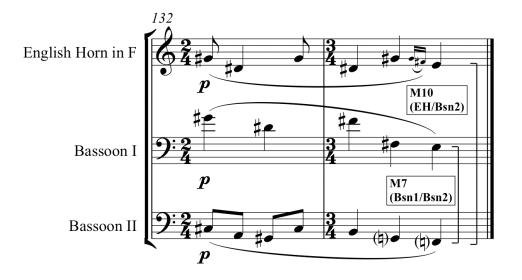
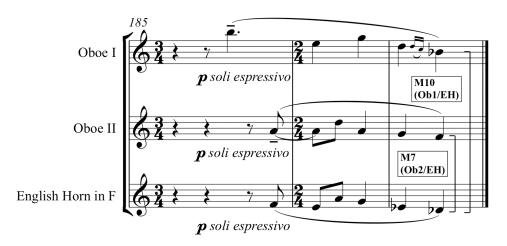
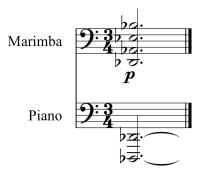


Figure 1.15: Transitional Material – m. 185-187.



Whither No One Knows also uses transitional material (in a manner similar to Stravinsky's) to link sections of music or to interrupt phrases. The opening chord of the work reoccurs in several strategic places to announce a new section or phrase.

Figure 1.16: Whither No One Knows – Transitional Material.



In Section A, this chord interrupts the phrases between the flute and cello. The use of this chord to interrupt phrases continues throughout Section A. 11 Figure 1.17 illustrates these interruptions.

¹¹ See the discussion under the "Layering" heading later in this paper.

Figure 1.17: Phrase Interruptions – m. 1-11.



One example of this chord as a transitional element occurs at the end of the layering section (Section C) of the work. At this moment in the work, this transitional chord announces the beginning of the recapitulation of Section B. In this instance, this material functions slightly differently than its original purpose. Figure 1.18 illustrates this use of transitional material.

Figure 1.18: Transitional Material – m. 129-141.



CHAPTER 2 - Commentary on the Compositional Processes in Whither No One Knows

Whither No One Knows, an original work for a mixed chamber ensemble (flute, clarinet, piano, marimba, violin, viola and cello) exemplifies several compositional techniques related to some of Stravinsky's cut-and-paste processes. This chapter examines and illustrates these processes used in Whither No One Knows.

Background Information

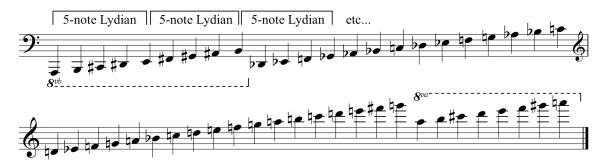
Pitch Organization

Whither No One Knows uses a constructed scale and remains faithful to it for much of the work. The first five notes of the Lydian mode form each basic segment of the scale. The pattern begins again with the first five notes of the Lydian mode beginning on the last note of the previous five-note collection. This is illustrated in Figure 2.1. This pattern is extrapolated across the entire pitch spectrum. Figure 2.2 illustrates the scale based on this pattern used in Whither No One Knows. Nearly all of the pitches in this work come from this scale. Range considerations or octave doubling account for the "outliers." This scale is not transposed during this work.

Figure 2.1: Stacked 5-note Lydian Scales.



Figure 2.2: The Scale used in Whither No One Knows.



A few compositional strategies develop from the use of this non-octave-repeating scale in *Whither No One Knows*. Because the scale is comprised of repeated cells, a melody in one segment sounds "transposed" if it begins on the same member of the other segment. This is a similar property to all non-octave-repeating scales comprised of smaller repeated segments. This scale contains a property that affects tone color as well. A segment adds one sharp (or eliminates a flat) from the adjacent segment below. Along the course of the scale, the upper segments with many sharps tend to sound brighter than the mellow or lush segments with many flats. This pitch organization affects orchestration as well. The cello with its relatively low tessitura plays notes on the flat side of the pitch spectrum. The flute with its relatively high tessitura opposes the cello with many notes on the sharp side of the spectrum.

Form

Whither No One Knows is through composed with four main sections of music. The first section functions as an introduction, which could be termed section A (Figure 2.3). The second main section, B, begins in measure 29. This section contains four layers (Figure 2.4). These layers will be examined later in the paper to illustrate a cut-and-paste technique. The second portion of the B section begins at measure 55 (Figure 2.5). In this section, the string pizzicato (sometimes doubled by the marimba) music interrupts the original music from this section with rhythmic transformations.

The third portion of this B section begins at measure 79 with sixteenth-note motives in the piano, and ends with climactic music moving from high to low ending in measure 107

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¹² See the discussion on Melodic Cut-and-Paste later in this paper.

(Figure 2.6). The C section begins in measure 112 with three statements of a chain of suspensions (Figure 2.7). The final section is the recapitulation of the B material.

Figure 2.3: Main Thematic Material from Section A – m. 2-5.

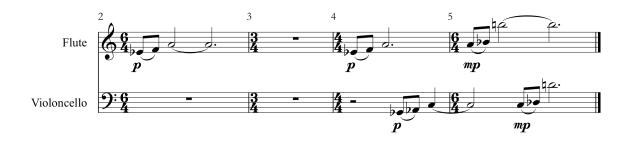


Figure 2.4: Four-layered Theme 1 from Section B – m. 50-54.



Figure 2.5: Theme 2 from Section B – m. 55-56.



Figure 2.6: Theme 3 from Section B – m. 79-82.



Figure 2.7: Complete Material from Section C – m. 129-136.



Melodic Cut-and-Paste

Imitative Melodic Cut-and-Paste

One example of the compositional process involves a cut-and-paste-like process as a result of the pitch content for this work. In the fourth measure, the cello answers the flute motive exactly, however, it has been transposed down three segments of the scale. Because the scale repeats a five-note segment, a melody can have the same melodic content though it is transposed along this same scale. The cello imitates the same melody on a different segment of the scale. Figure 2.8 illustrates the melodies within the context of the Lydian segments. The flute begins on E-flat 4, while the cello begins on G-flat 2. Both melodies use the same "scale degrees" within different segments. In this way, the flute melody utilizing the first, second, and fourth "scale degrees" in one segment has been cut and pasted into a different segment in the cello melody which also uses the same "scale degrees." Figure 2.9 shows both melodies in measure 4.

Figure 2.8: Flute and Cello Segments - m. 4.



Figure 2.9: Flute and Cello Melody – m. 4.



Another example of this imitative cut and paste process occurs in the next few measures. The flute and cello continue to imitate each other by playing melodies from the same "scale degrees" on different 5-note Lydian segments. Figure 2.10 illustrates the notes used in measures

6-8. The melodies begin on the same notes, but continue expand to other segments. The flute notes contain the first, second, fourth, fifth, and twelfth notes in order from its starting pitch, E-flat 4. The cello mimics this exactly, however it starts on G-flat 2 as before. Because these melodies begin on the same "scale degree" of a Lydian segment, the interval content is the same, and they sound "transposed." Figure 2.11 shows this passage in measures 6-8.

Figure 2.10: Flute and Cello Segments – m. 6-8.



Figure 2.11: Flute and Cello Melody – m. 6-8.



After the clarinet's initial entrance in measure 9, it joins the flute and cello in the same imitative process. Figure 2.12 illustrates the notes the clarinet uses in measures 12-13. The clarinet begins the same melody as the flute and cello and begins its melody on the 5-note Lydian segment that begins on A-flat 3 and then again (beat 4, measure 12) on B-flat 4. In this way, the initial flute and cello melody (illustrated in Figures 2.8 and 2.9 – measure 4) has been pasted into different segments and played by the clarinet. The clarinet uses the same first, second, and fourth "scale degrees" in this melody as the flute and cello did in measure 4. Figure 2.13 shows this clarinet melody.

Figure 2.12: Clarinet Segments – m. 12-13.

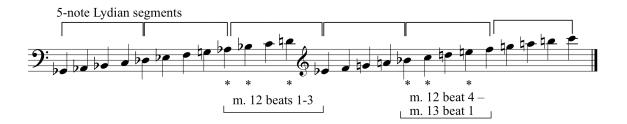


Figure 2.13: Clarinet Melody – m. 12-13.



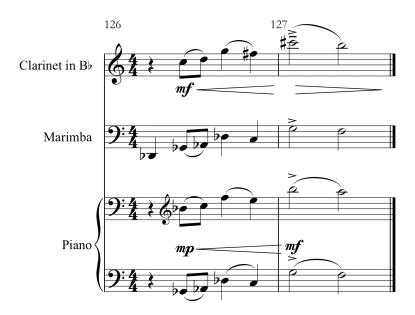
Simultaneous Melodic Cut-and-Paste

Another technique of melodic cut-and-paste occurs later in the work. In measures 126-127, the piano left hand and marimba play the same material as the piano right hand and clarinet. Both melodies use notes from the same "scale degrees" but utilize different 5-note Lydian segments. In this instance, the melodies are not imitative because they occur simultaneously. Both melodies utilize the first, second, fourth, fifth, seventh, and eighth "scale degrees" in their respective 5-note Lydian segments. Figure 2.14 illustrates these notes within the context of the 5-note Lydian segments.

Figure 2.14: Clarinet, Marimba, and Piano Segments – m. 126-127.



Figure 2.15: Simultaneous Melodic Cut-and-Paste from m. 126-127.



Ostinato Creation

Melodic Ostinato

The ostinato creation in *Whither No One Knows* begins in Section B with a repeated pattern in the marimba. This one-measure pattern begins as an arpeggiated form of the first chord of the work. Figure 2.16 illustrates this one-measure "cell." This measure is pasted into subsequent measures to create an ostinato. The third measure of this "cell" has been clipped into a 3/4 measure to propel the music forward as illustrated in Figure 2.17.

Figure 2.16: Marimba Pattern – m. 29.



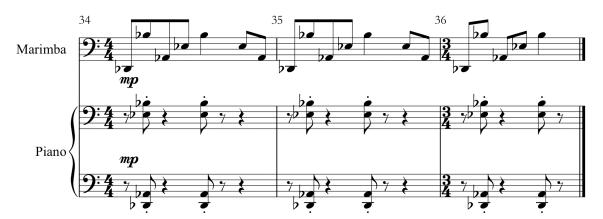
Figure 2.17: Melodic Ostinato – m. 29-31.



Rhythmic Ostinato

The other component to this ostinato is a rhythmic pattern first introduced by the piano in measure 34. This rhythmic gesture accompanies the melodic ostinato in the marimba and also undergoes several transformations.

Figure 2.18: Rhythmic Ostinato – m. 34-36.



Later in this section of music, these rhythmic patterns are transformed into patterns that could be retrospectively heard in a different meter. The following figure illustrates a rhythmic transformation of this pattern.

Figure 2.19: Transformation of Rhythmic Ostinato – m. 66-69.



A listener might hear these measures in a different way. Because this is a pattern that has been repeated in 4/4 several measures ago, a listener might hear this grouping of measures in that same meter (this is illustrated in the following figure). However, this meter breaks down in measure 69 and the listener retrospectively hears this music in the meter that is marked.

Figure 2.20: Rebarring of Rhythmic Transformation in m. 66-69.



Layering

Whither No One Knows uses a layering process to create musical interest. This occurs in two key places. The first place, Section B, uses four different layers. The first layer in this music is the ostinato pattern in the marimba. This layering process begins with a repeated five-measure phrase illustrated in Figure 2.21.

Figure 2.21: Marimba – m. 29-33.



The piano adds a second layer to these measures. This second layer adds rhythmic interest to the original ostinato. In the first three measures (34-36), the piano simply adds rhythmic drive, but in the last two measures (37-38), it reinforces the harmonic structure of the marimba melody. As the music continues, these two layers become a two-layered ostinato for the rest of this section. Figure 2.22 shows these measures of music.

Figure 2.22: Marimba and Piano – m. 34-38.



A third layer added by the strings provides additional harmonic and texture support for the melody in the final two measures of this five-measure cell. The strings continue to add harmonic support when the final layer is added as well. In this way, each layer adds cumulatively to the previous layer. Figure 2.23 illustrates the third layer.

Figure 2.23: Third Layer - m. 39-43.



The flute and clarinet add a fourth layer to this process. Their role is to add a melodic tune above the previous three layers. This begins in measure 44. In this section, the five-measure cell breaks as the ostinato continues for the flute and clarinet to introduce the melodic idea. Figure 2.24 shows this six-measure interruption. In measure 50, the five-measure cell returns with all four layers present. This statement of the five-measure cell completes this section as the music moves on to another idea. Figure 2.25 illustrates all of these layers in the final statement of this five-measure cell.

Figure 2.24: Flute and Clarinet Melody with Ostinato – m. 44-49.

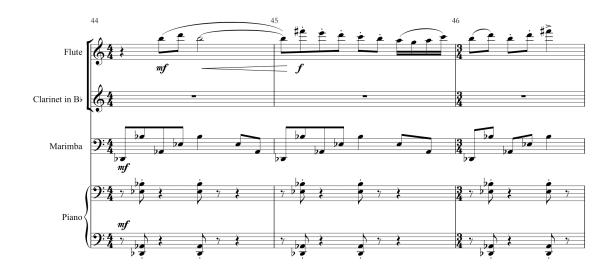


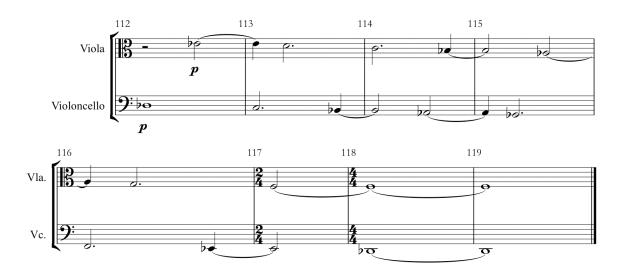


Figure 2.25: Four Layers in Section B – m. 50-54.



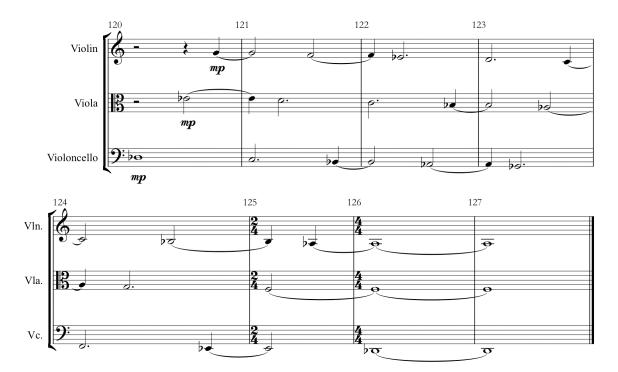
Another example of layering occurs in Section C. Section C begins in measure 112 with the marimba, viola, (doubled by the flute for three measures) and cello moving through a chain of suspensions, which ultimately resolve to D-flat. Figure 2.26 illustrates this eight-measure phrase.

Figure 2.26: Eight-measure Phrase – m. 112-119.



This eight-measure phrase repeats exactly with another layer delivered by the violin. The violin adds a third harmonic element which overlaps the previous two layer provided by the viola and cello. Once the pattern begins, a note changes every beat to create the suspensions that again resolve to D-flat. Figure 2.27 illustrates this added layer in the repeated eight-measure phrase.

Figure 2.27: Second Layer - m. 120-127.



The third statement of this eight-measure phrase adds a clarinet layer, which functions to add harmonic and melodic support. The clarinet changes harmonies with the violin and adds melodic motion to a previously static section of music. This final layer completes this section and leads toward the recapitulation of Section B. Figure 2.28 illustrates this final layer of Section C.

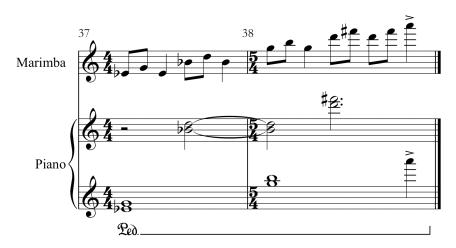
Figure 2.28: Final Layer in Section C – m. 129-136.



Rhythmic Diminution

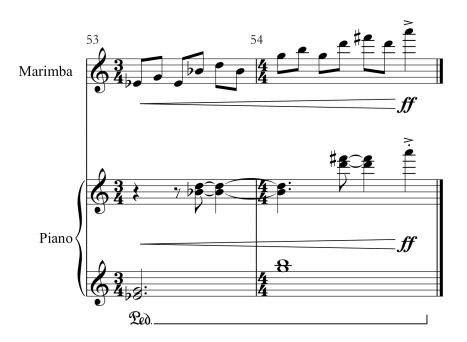
Another process similar to cut-and-paste used in this work is rhythmic diminution. In a few places, the rhythmic values of the melodic ostinato are diminished which moves the music forward while stating the same melodic and harmonic content. An example of this process occurs at the end of the layering process in Theme 1 of Section B. By measure 44, the rhythmic gesture in the following figure has ended each of the previous three phrases.

Figure 2.29: Marimba and Piano – m. 37-38.



The final time this phrase layering is used, this same rhythmic gesture occurs, but with values that have been decreased by one eighth note each. The result is a rhythmic transformation that pushes the music forward at a faster rate than the listener might have expected. The following figure illustrates the resultant transformation.

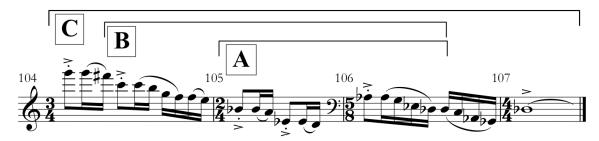
Figure 2.30: Rhythmic Transformation – m. 53-54.



Extension

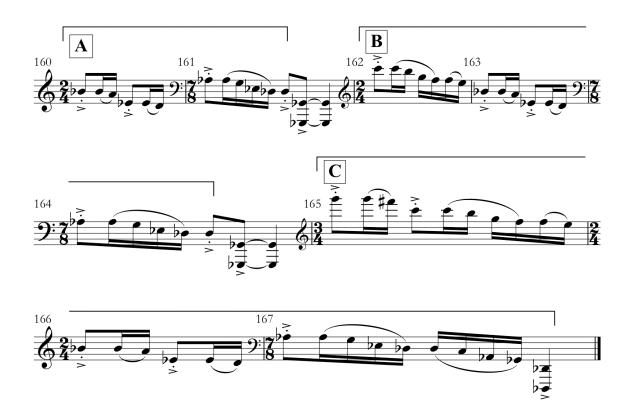
To this point, most of the music of *Whither No One Knows* has been examined. The closing theme is the most significant remaining material and it, too, transforms with a compositional process similar to cut-and-paste. The closing theme appears twice, once at the end of the B section (m. 103-107) and again in the recapitulation to end the work (m. 159-167). The final flourish of the piece ends with a near-exact quote of the end of the B section; however, other material precedes this quotation. In this passage, the cut-and-paste process functions to extend the phrase to further heighten the ending of the work. In the following figure, the letters and brackets illustrate the amount of music from the ending of the B section (m. 104-107) that comprise each successive section of the final ending (m. 159-167).

Figure 2.31: Closing Theme – m. 104-107.



At the end of the work, the portions labeled A, B, and C in Figure 2.31 reappear as pasted segments in the final closing theme. As illustrated in Figure 2.32, portion A appears first (m. 160-161), followed by B (m. 162-164) and then by C (m. 165-167). Each phrase in the final closing theme adds a cut segment from the earlier closing theme in measures 104-107. In this way, the cut-and-paste process extends the closing theme into a larger, more definitive ending.

Figure 2.32: Final Closing Theme – m. 160-167.



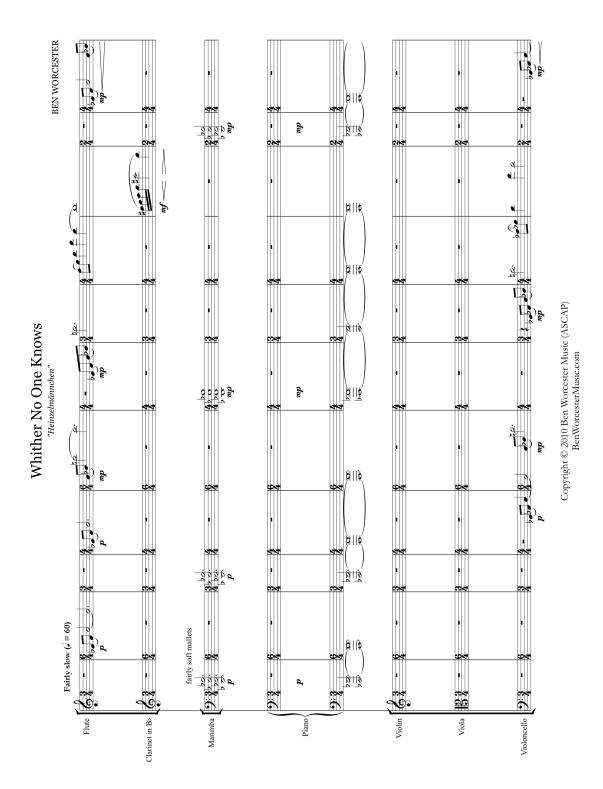
CHAPTER 3 - Full Score of Whither No One Knows

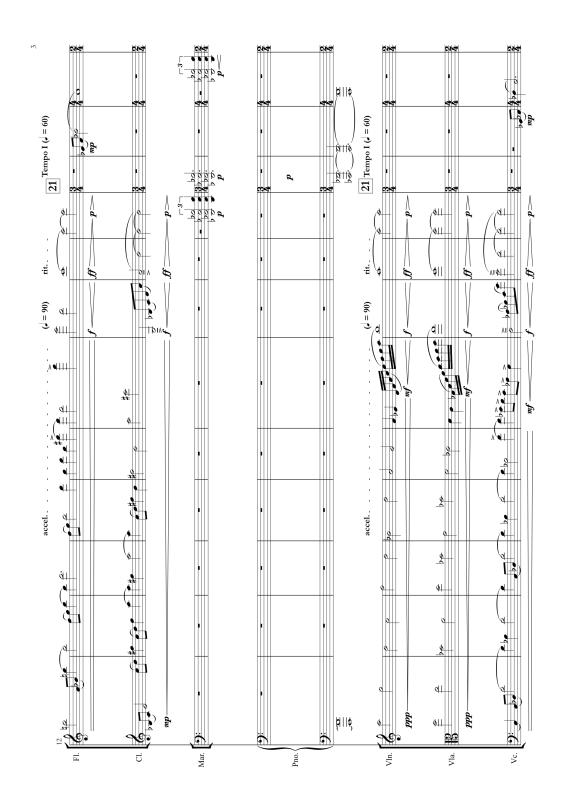
The following pages contain the complete score to *Whither No One Knows*. The score and parts are available from Ben Worcester Music at BenWorcesterMusic.com. This work was completed in December 2009, and was premiered at Kansas State University's All-Faith's Chapel on Friday, March 26, 2010 during the Society for Composers, Inc. Region VI Conference.

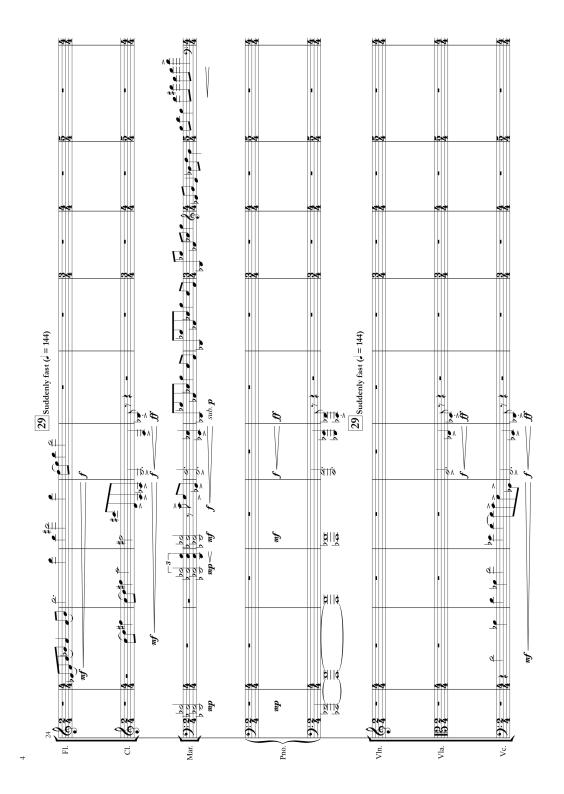
BEN WORCESTER

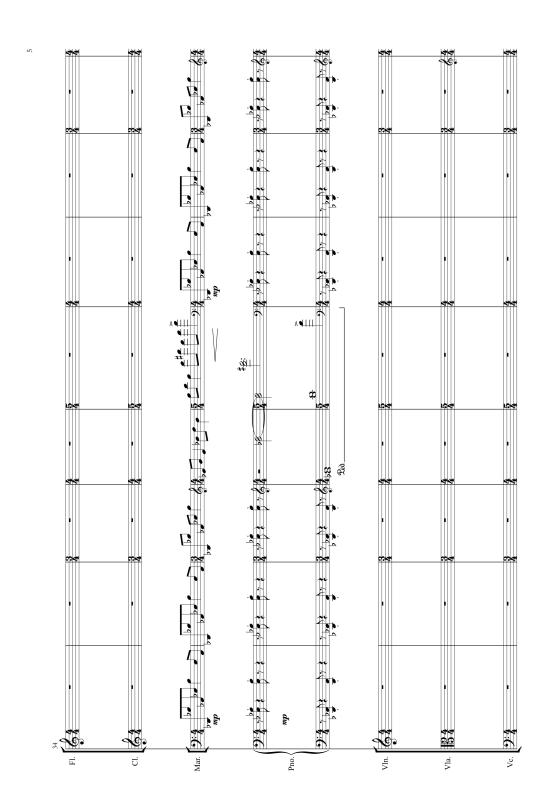
Whither No One Knows

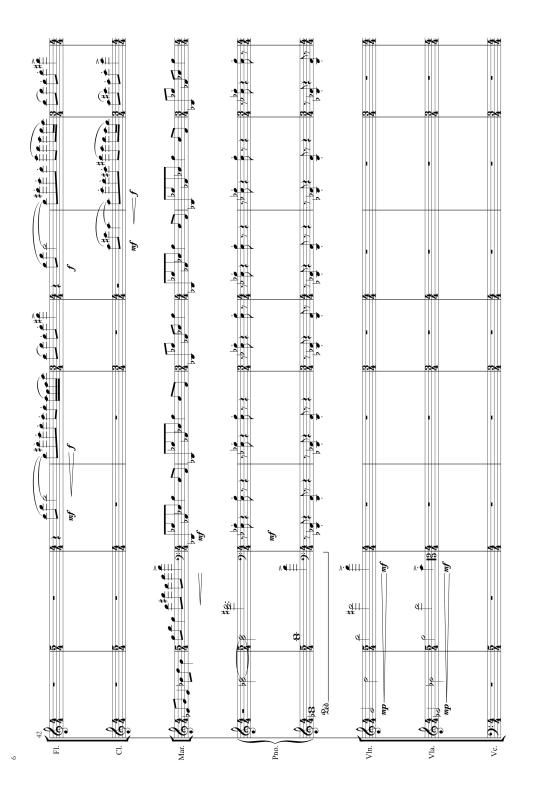
"Heinzelmännchen"

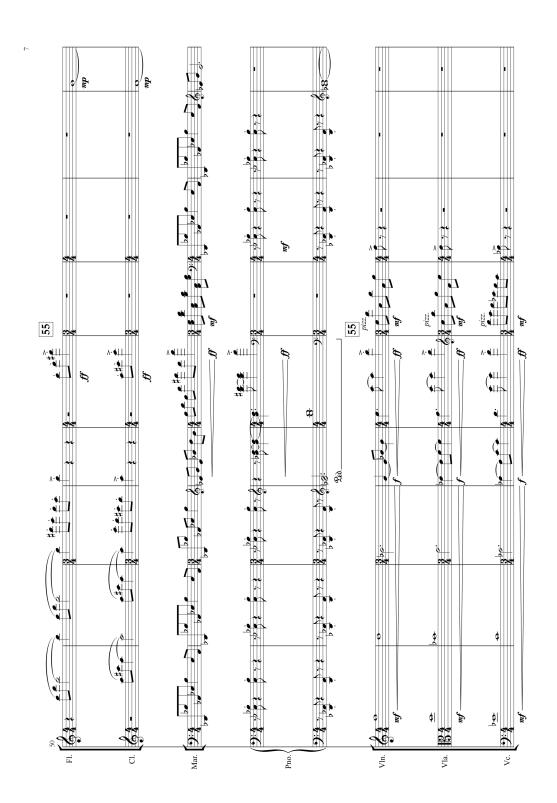


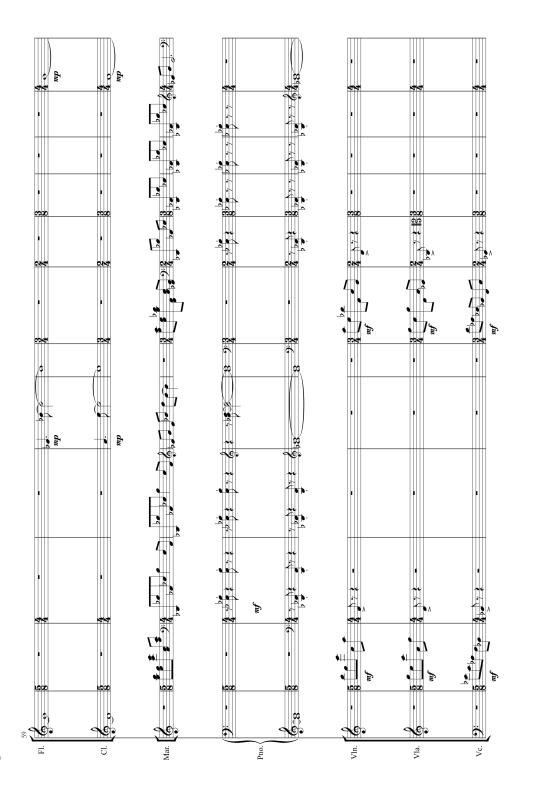


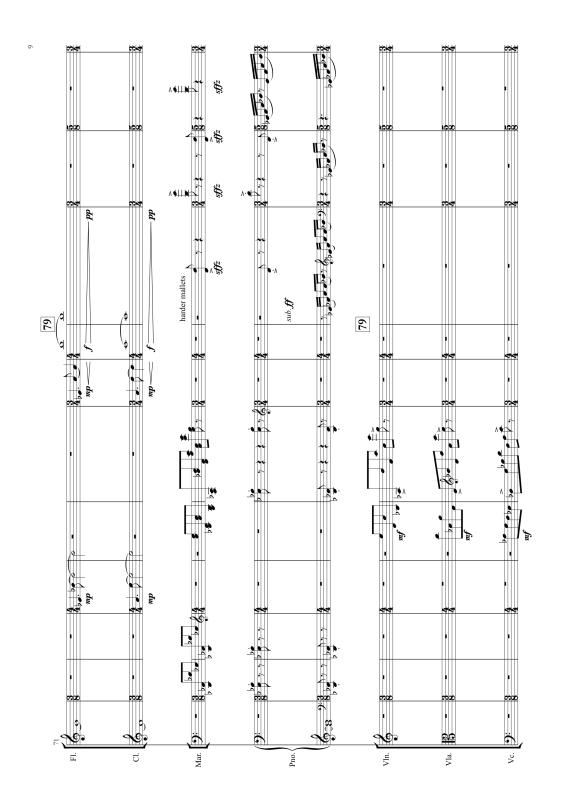


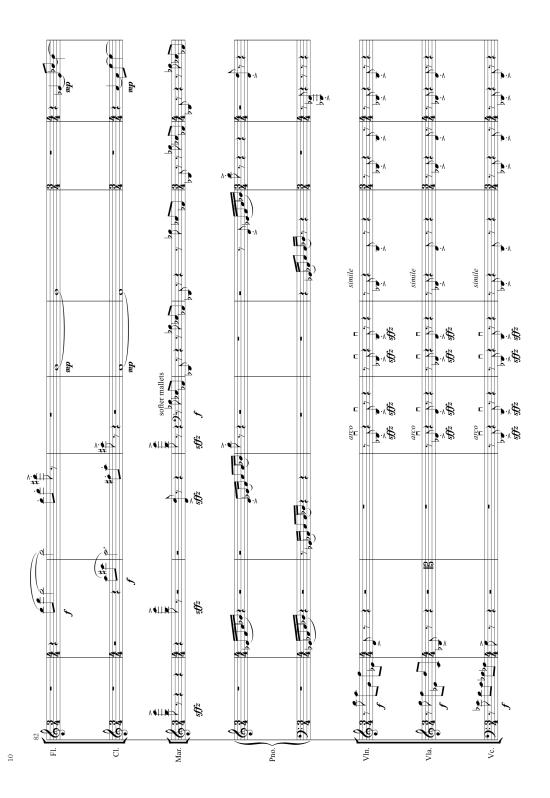


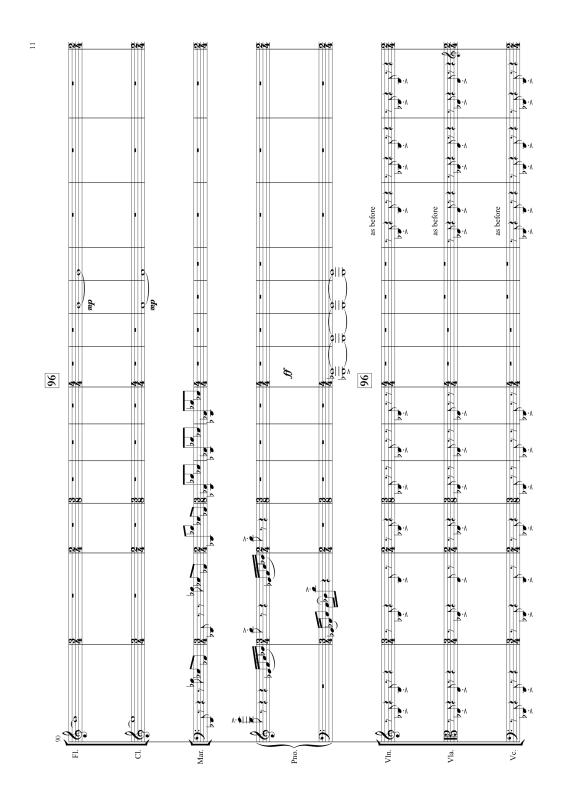


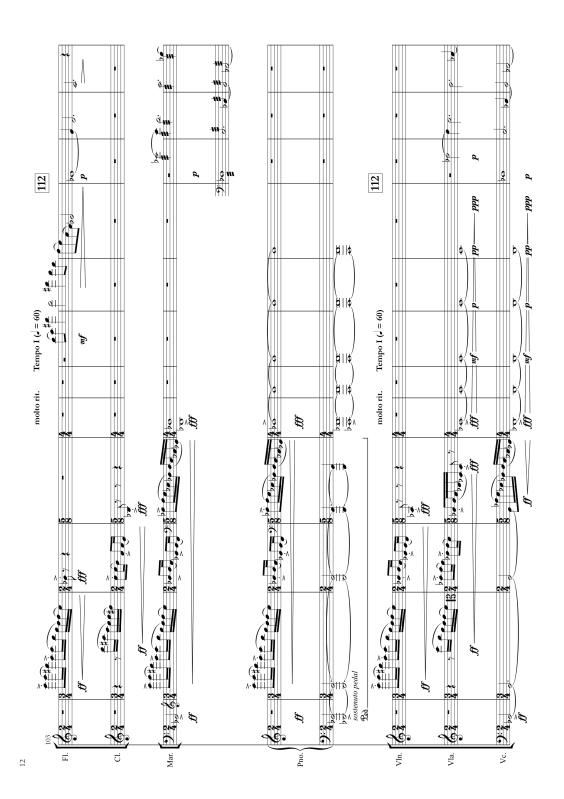


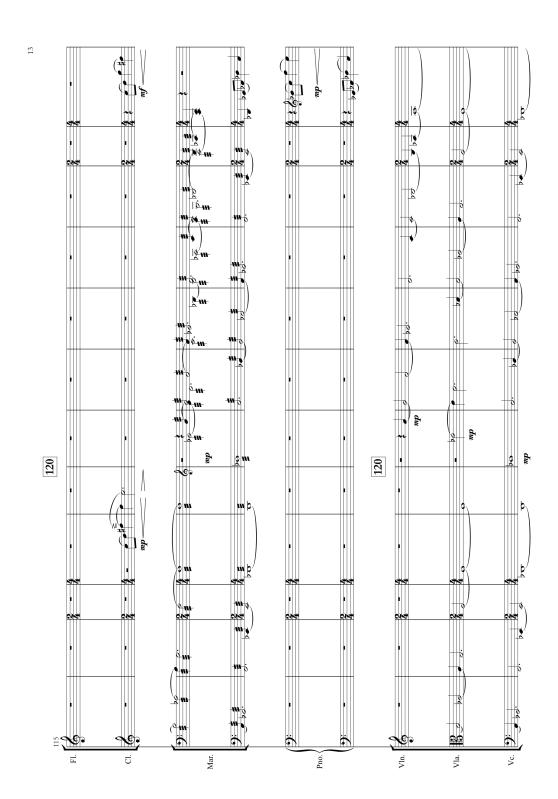


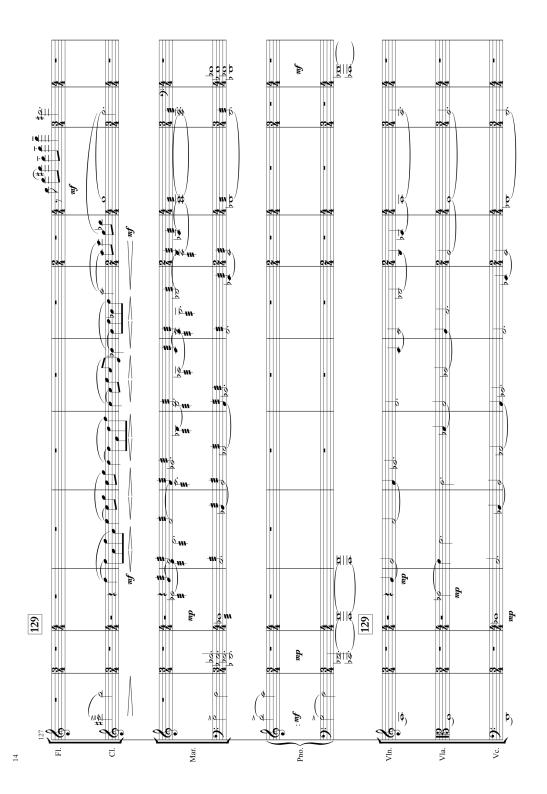


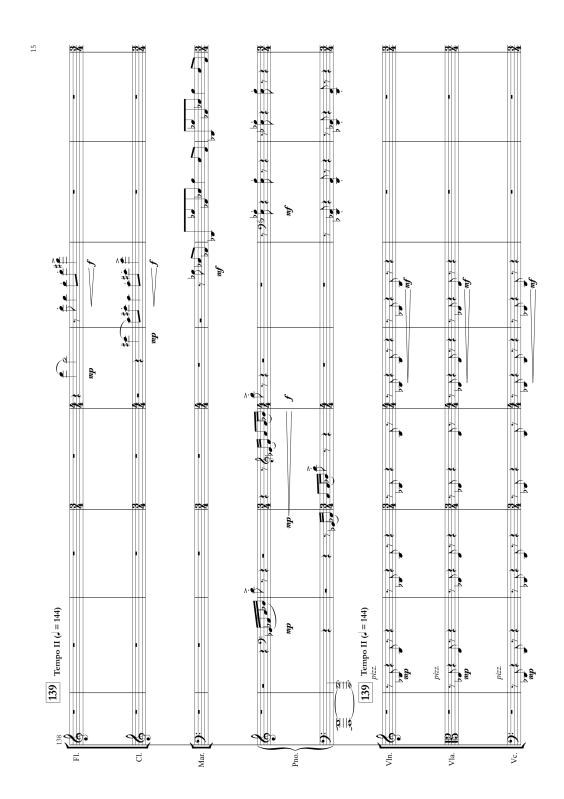


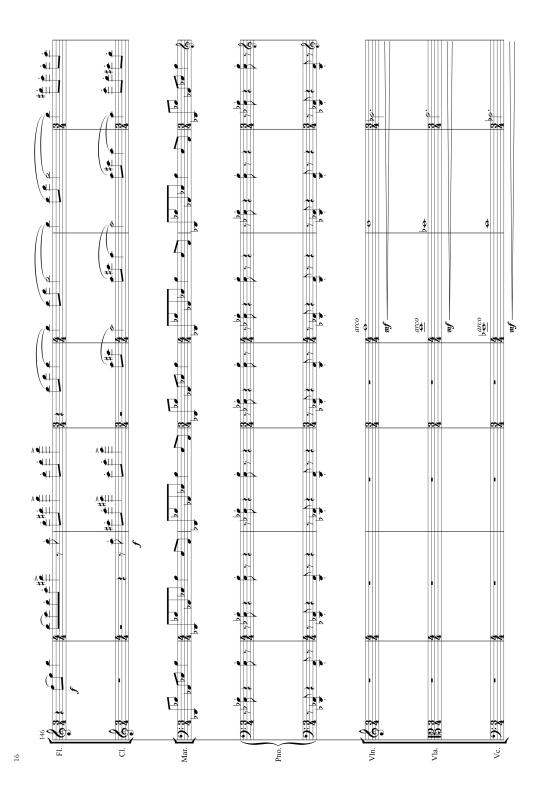


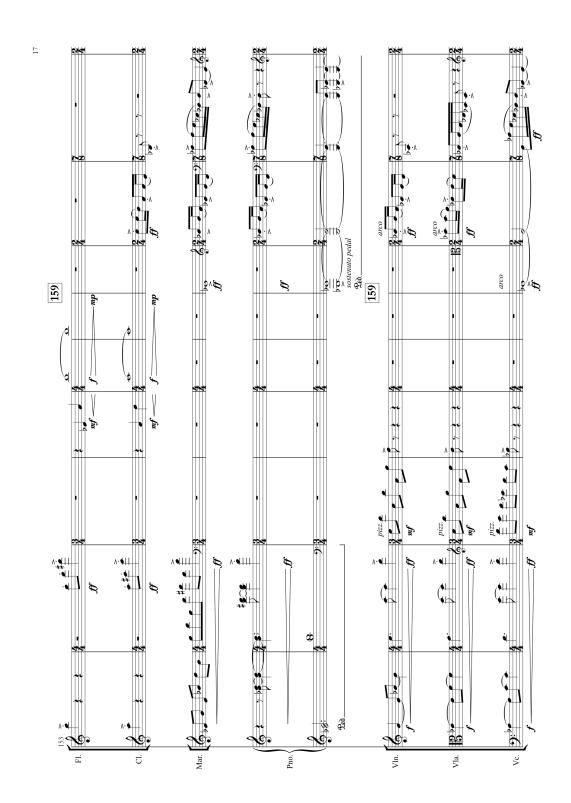


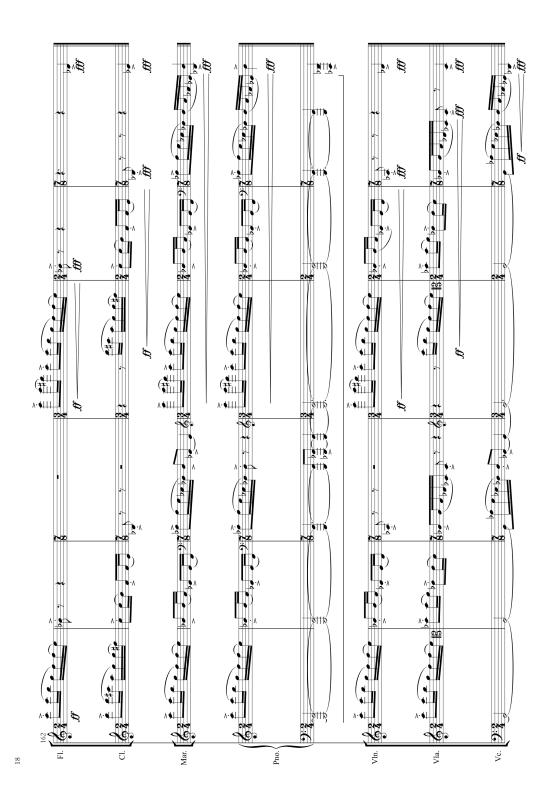












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