FEAR OF ENTROPY
FOR ORCHESTRA

by

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In this essay, I discuss the structure of my orchestral work *Fear of Entropy (2005)*. Through phrase analysis, I establish the form of the work and address the distinctions between disparate sections, as well as address the function of repetition within the piece. By analyzing the harmonic and contrapuntal structures of individual sections I reveal pitch-based commonalities and distinctions between these sections and account for these factors according to form and texture. This analysis also yields normative patterns internal to the work (such as anticipated harmonic goals). I discuss how and why these norms are progressively subverted. By analyzing texture, I define the most obvious structural divisions of the piece. Through textural analysis, I also identify progressive alterations to texture, timbre, and pitch that increasingly serve to obscure the foundational harmony. I discuss how these processes eventually subordinate pitch to other elements such as timbre.

By detailing my compositional process through these methods of analysis, I demonstrate my disposition and innate tendencies. In the course of this study, I also identify sonorities that intuitively appeal to me. In addition, I uncover a subconscious proclivity on my part towards pitch-based unification of texturally distinct materials within a large work.

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ACKNOWLEDGMENTS

Since undertaking graduate study at the University of Pittsburgh, my musical sensibilities have developed substantially and I know that I have many people to thank for this. I extend my gratitude to Dr. Amy Williams, Roger Zahab, Dr. Eric Moe, Dr. Matthew Rosenblum, Federico Garcia, Matthew Gillespie, and Kerrith Livengood. In addition, countless people have supported me outside my musical life. The first (Laurie Brinker) has already received a dedication on the title page of the work. I would also like to thank Mom, Dad, Pat, Matt, Ben, Adam, and Kelsey.

1.0 INTRODUCTION

In this essay, I investigate the structure of my orchestral work *Fear of Entropy (2005)*. I begin by identifying the piece's form through phrase analysis. In addition, I analyze the harmonic and contrapuntal structures of individual sections in order to identify pitch-based commonalities and distinctions between them. This analysis also yields conclusions about large-scale structures and subverted tonal paradigms within the work. By analyzing texture, I detail the most apparent distinctions between large sections of the work. In addition, I identify progressive alterations to texture, timbre, and pitch that increasingly serve to obscure the foundational harmony. I discuss how these processes gradually subordinate pitch to other elements such as timbre and texture.

2.0 FORMAL STRUCTURE AND PITCH CONTENT

2.1 FORM

Fear of Entropy consists of three large-scale formal sections, labeled A, B and C. A (mm. 1-40) and its variation A´ (mm. 81-120) appear on either side of B (mm. 41-80) to form an arch (ABA´). This arch comprises the body of the work. The relationship between the structural divisions within the arch is somewhat complicated by overlapping gestures based upon A. As each section begins, the opening harmonies of the work reappear, to create the sense of "starting over" (see figure 1).

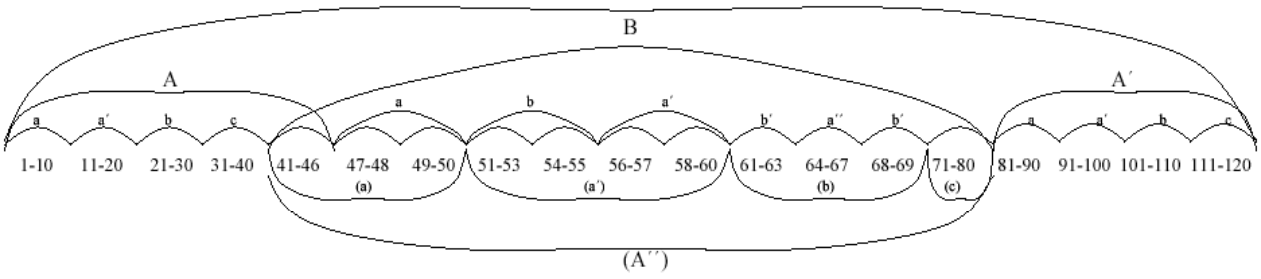


Figure 1: Phrase Structure of Arch (mm. 1-120)

The closing section C (mm.121-144), based upon entirely unique pitch material, also contains these overlapping materials from the opening of A (see figure 2).

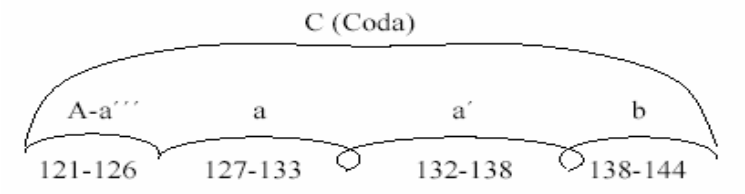


Figure 2: Phrase Structure of Coda (mm. 121-144)

I will return to these intricacies during my analysis of each section's pitch structure. For now, I assert that the work comprises a formal model of ABA´C. The opening arch (ABA´) should be viewed as the body of the work, with the ensuing material (C) functionally serving as a coda.

2.2 HARMONY AND VOICE-LEADING IN A

Within the arch, pitch-classes are at times presented transparently and, at others, not. That is, due to my employment of pitch-obscuring timbres and microtonal tuning, precise pitches become increasingly unclear. In addition, although the pitch-classes comprise a sequence of functional harmonies and usually appear in the same instruments (especially within the string parts), as the work continues I metrically displace the entrances of chord members as a progressive variation of the original sequence. As a result, the temporal location of each chord member within each two-chord gesture does not remain constant (although two chords do consistently appear every five bars). For example, although the bass note initially appears on the "downbeat" in the cellos (m. 1, 6, 11, etc.), over time this note's placement shifts back and forth within the phrase, eventually overlapping with previous and ensuing harmonies (the cello A3 in m. 83 anticipates the chord in m. 86, for example). I will discuss this process in more detail later in this essay. For now, it is worth emphasizing that, since pitches are not always common tones between successive harmonies, this metric displacement often results in denser harmonies not restricted to tonal function.

Whether obscured by these processes or not, throughout section A the underlying voice-leading between successive pitches (horizontal plane) as well as within simultaneous ones (vertical sonorities) roughly conforms to the conventional tonal idiom. Although I do not employ the tonal principles of voice-leading with a high degree of stringency (for example, dissonance is treated very freely), I consciously invoke dominant/tonic relationships. As a result, I find that reductive analysis yields convincing results about the underlying tensions within the pitch structures at hand (see figure 3).

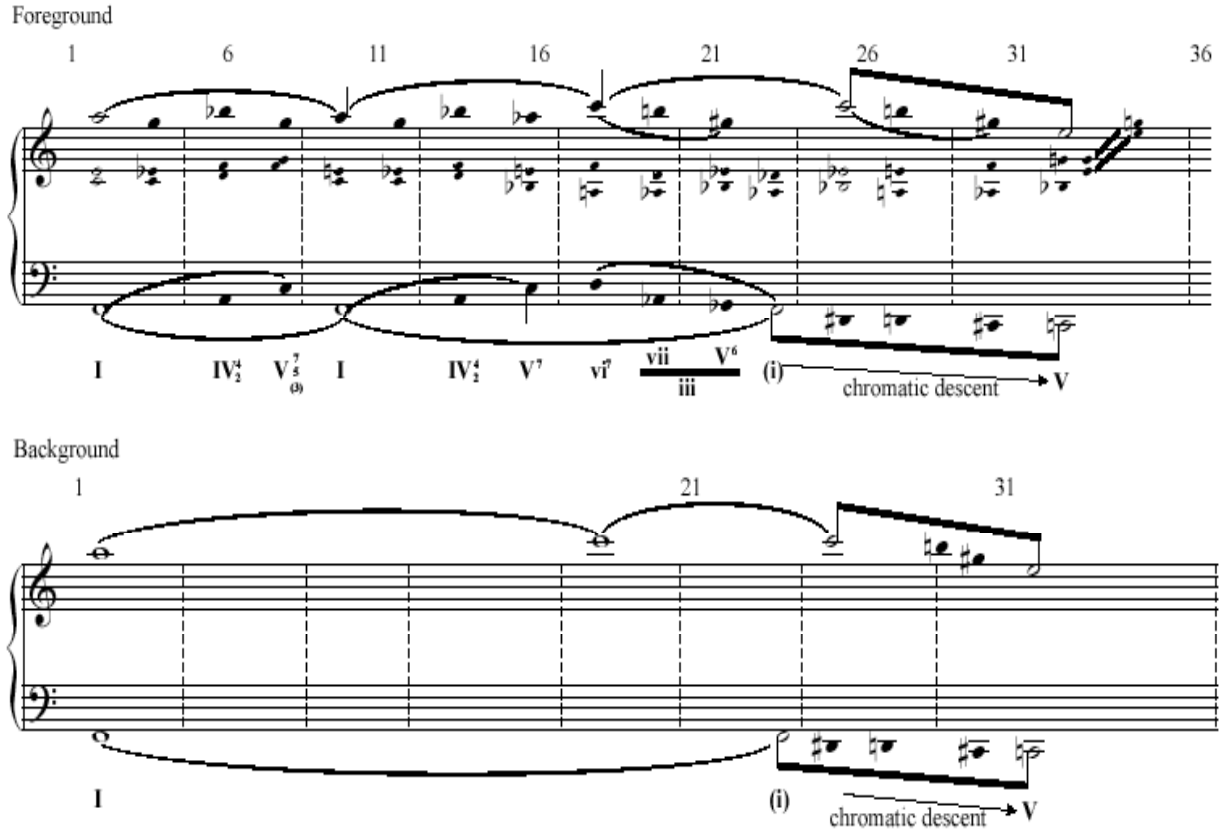


Figure 3: Reductive Analysis of A Section (mm. 1-40)

As this figure demonstrates, the harmonic progression of measures 1-40 (A) does not stray very far from the tonic (F Major). In fact, both the bass and soprano lines contain only minor embellishments of the tonic harmony until measure 28, roughly three quarters of the way

through the entire passage. The soprano line emphasizes the third of the tonic through the use of a repeated double neighbor figure (mm. 1-10, and 11-20). When this line ventures farther from the tonic, it arpeggiates a form of the dominant harmony (V+) foreshadowing the arrival of the dominant at measure 38. The bass-line is clearer still, outlining the tonic triad throughout (with insignificant embellishments) until the chromatic descent begins at measure 28. As I shall soon demonstrate, it is this chromatic descent, perhaps more than any other factor, which unifies the pitch materials within the arch.

A final word about this graph: according to the Schenkerian model, the roles of bass and soprano have been reversed here. Instead of a soprano descent and bass-line arrival to the dominant in the background, the arpeggio is in the high register and the bass-line undergoes the stepwise descent.This inversion of roles provides an interesting exception to the tonal paradigm.

2.3 FOREGROUND AND BACKGROUND ELEMENTS OF B

In the B Section, two layers of harmonic structure exist, operating as both foreground and background events. In the background, I intend the opening progression to remain in the listener's consciousness throughout the section, despite the fact that it is forcefully obscured by foreground elements. This tenuously perceived element is established by beginning the B section with the opening progression of the work, in an altered form. The distinctions between this re-statement (mm. 41-46), and the actual opening (1-6), are subtle enough to allow for a sense of "starting over." At this point in the piece, a set of detached materials appears in the foreground. The A material (with some alterations) then reverts to the background, almost entirely obscured by the contrasting event. To complete the section, the foreground layer gradually recedes and I return to the half cadence as it appears in the opening (mm. 71-80), with the most notable difference being an inverted dynamic contour (*diminuendo*).

Why then did I not label the B section as A´? After all, as I have demonstrated, I fully intend that the listener, on one level at least, perceive this section as a variation of A. The string pitches at measure 41-45 are identical to the first five measures of the piece, the distinctions here depending upon duration, dynamic, and timbre. However, this section is extremely different from the opening because the foreground layer here contrasts so vividly with anything that had

preceded it. Therefore, the resulting experience of this material is best understood as an entirely separate event. In fact, I mean for this set of materials to appear so distinct that they will be perceived as a completely detached musical work intruding upon the first. To accommodate the two layers in my phrase analysis, I included two labels for this section (figure 1). In this essay, however, I will be consistent in referring to this passage as B and measures 81-120 as A´.

At this point, I must acknowledge the influence of two works: Charles Ives' *Central Park in the Dark* and George Crumb's *Starchild*. Crumb probably composed his work with a conscious awareness of *Central Park in the Dark*[1]. Although the pitches and notation style are different, Crumb's treatment of the strings is virtually a quotation of the Ives work. In both pieces, the strings cycle through a sustaining homorhythmic progression, at a low dynamic level and moderately slow tempo (about 60 b.p.m.). The durational values within both *Starchild* and *Central Park in the Dark* are divided into no smaller increments than the quarter note and successive values are grouped as two, three, or four short notes followed by one long. Within each work, the strings are gradually obscured by a dense, frenetic interruption in the other orchestral families. After some time, this bombastic foreground element disappears abruptly in both works to reveal that the string layer had, although imperceptibly, continued to cycle through the progression it had initiated in the opening.

It is the idea of cyclical, homophonic strings and interruption by other instrumental families that has inspired my own treatment of the winds, percussion and strings in the B section; however, I alter the model in a few ways. Perhaps most significantly, I invert the relationship between interrupter and interrupted. That is, in *Fear of Entropy,* the interruption happens quite suddenly and gradually dissipates. Of course the durations in my string texture are quite distinct from these works as well. I also employ rhythmic displacement as a process in the string layer and shift between different extended techniques and ordinary playing (*sul pont*., *undulating tremolo*, *glissandi*, *pizz*., pressure bow, etc.). In addition, in my work, the string layer often functions in cooperation with the other members of the orchestra. The harmonic language, tempo, and textural setting of the strings in the other pieces are virtually unrelated to that of other families[2].

[1] Although to my knowledge, the issue has not been investigated and published.
[2] In the case of *Star-child*, in fact, the string section requires a separate conductor.

2.4 VOICE-LEADING IN B

Perhaps the most salient feature of the foreground material in B is its degree of frenetic activity. The listener perceives this aspect as a particular contrast to the static material preceding it. The opening section of the piece (A) lasts for two minutes and consists of only eighteen successive harmonies (excluding phrase repetitions, the number of distinct harmonies is only twelve). In addition, as the graph (figure 3) demonstrates, the opening progression itself barely strays from the tonic harmony at all.

One key aspect of the B section foreground event that distinguishes it from A is the lack of functional tonal relationships. By this I mean that, although linear voice-leading considerations certainly play a crucial role in B, its long-term goals are not determined by tonal paradigms. Taken in succession, at first glance the vertical sonorities do not appear to conform to functional harmonic progression either (see figure 4):

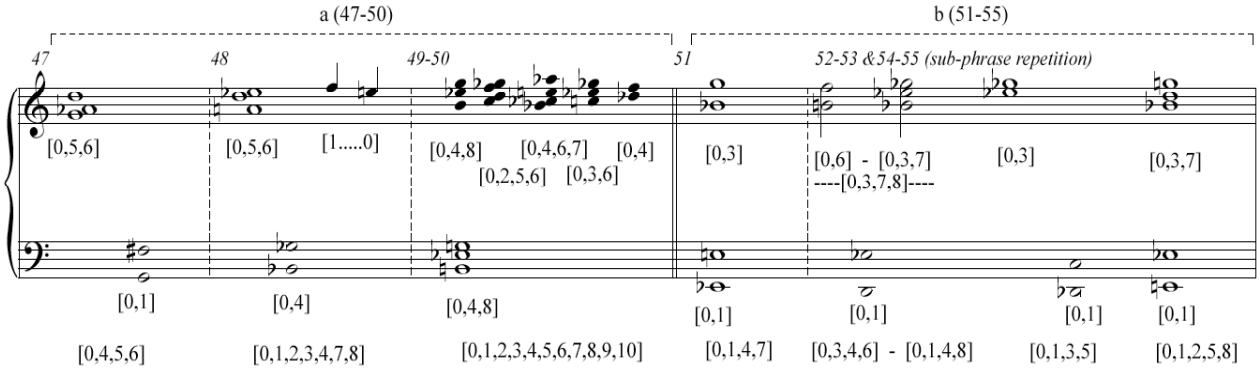


Figure 4: Pitch Material of B Section Foreground Layer (mm. 47-55)

This graph demonstrates the vertical sonorities at measures 47 – 55 and is designed to demonstrate the two layers of register within the texture. Although other harmonies appear later in the section, they are simply transpositions of the figure described above and, therefore, consist of identical sonorities in succession.

In the lower register, the spacing appears open, voiced in a manner which helps to clarify the individual pitches. In the b phrase (mm. 51-55), this register consists of the same intervallic relationship within each sonority, namely interval class 1. The only exception in the lower two voices within the entire episode (mm. 48 and 49-50) is composed of interval class 4. This interval class – which sounds extremely consonant by comparison to interval class 1 – is accompanied in the upper register by a very dense cluster of sonorities in close succession. In this manner, the consonance is obscured.

As the graph demonstrates, the vertical sonorities in the upper register are hardly triadic, yet can often be described as extended tertian with unsounded pitches (especially at the downbeats of each measure). However, this description does not account for the function of the sounding sonorities in relation to one another. Not surprisingly, since I did not organize them deliberately, but rather composed them intuitively, the relationship between successive sonorities does not conform to a high degree of order. However, there are a few general observations to be made about similar sonorities appearing in succession. The first is simply that the opening two sonorities consist of the set [0,5,6]. Although I did not consciously intend it, they are transpositionally related. Next, the second sub-phrase (mm. 49-50) forms an incomplete chromatic scale (minus one pitch). Finally, throughout the b phrase sonorities hover around [0,3,7]. In fact, triads almost seem to emerge in conjunction with the lower register, but are complicated by (in most cases) one added pitch.

Although initially the material in this section seems entirely non-tonal, through closer analysis it appears to progressively approach a clearer harmonic structure. In the first sub-phrase, the upper sonorities consist of an open fourth voicing [0,5,6]. In the next, they condense almost to triads but, taken in close conjunction and sounded with the dissonant ostinato in the lower voices, they combine to form, essentially, the chromatic scale. In the second phrase, however, triadic harmonies almost emerge.

Although analyzing vertical sonorities has proven fruitful, the predominant texture of this section is essentially contrapuntal. Therefore, a voice-leading reduction proves valuable for addressing local phrase structures (see figure 5).

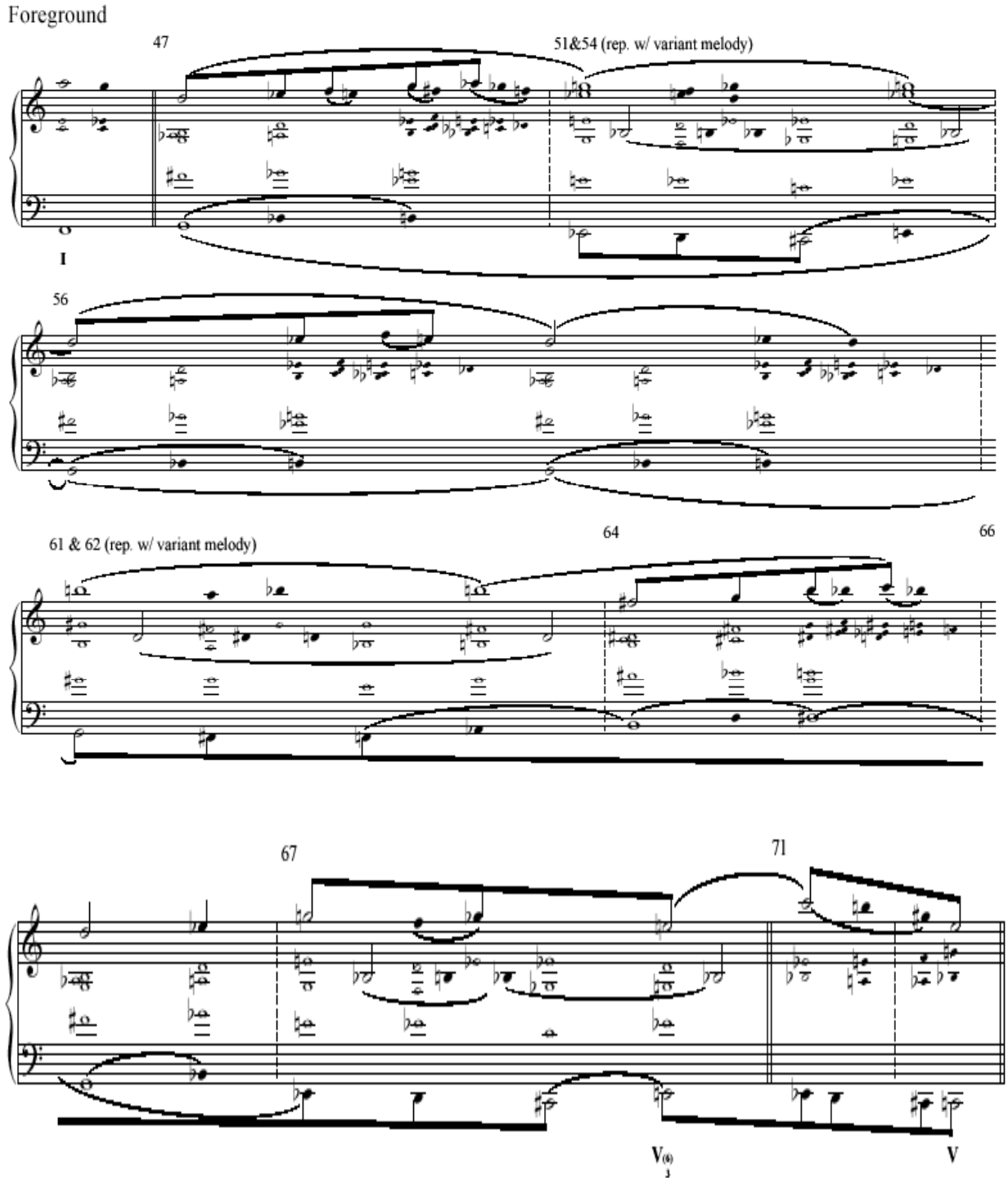
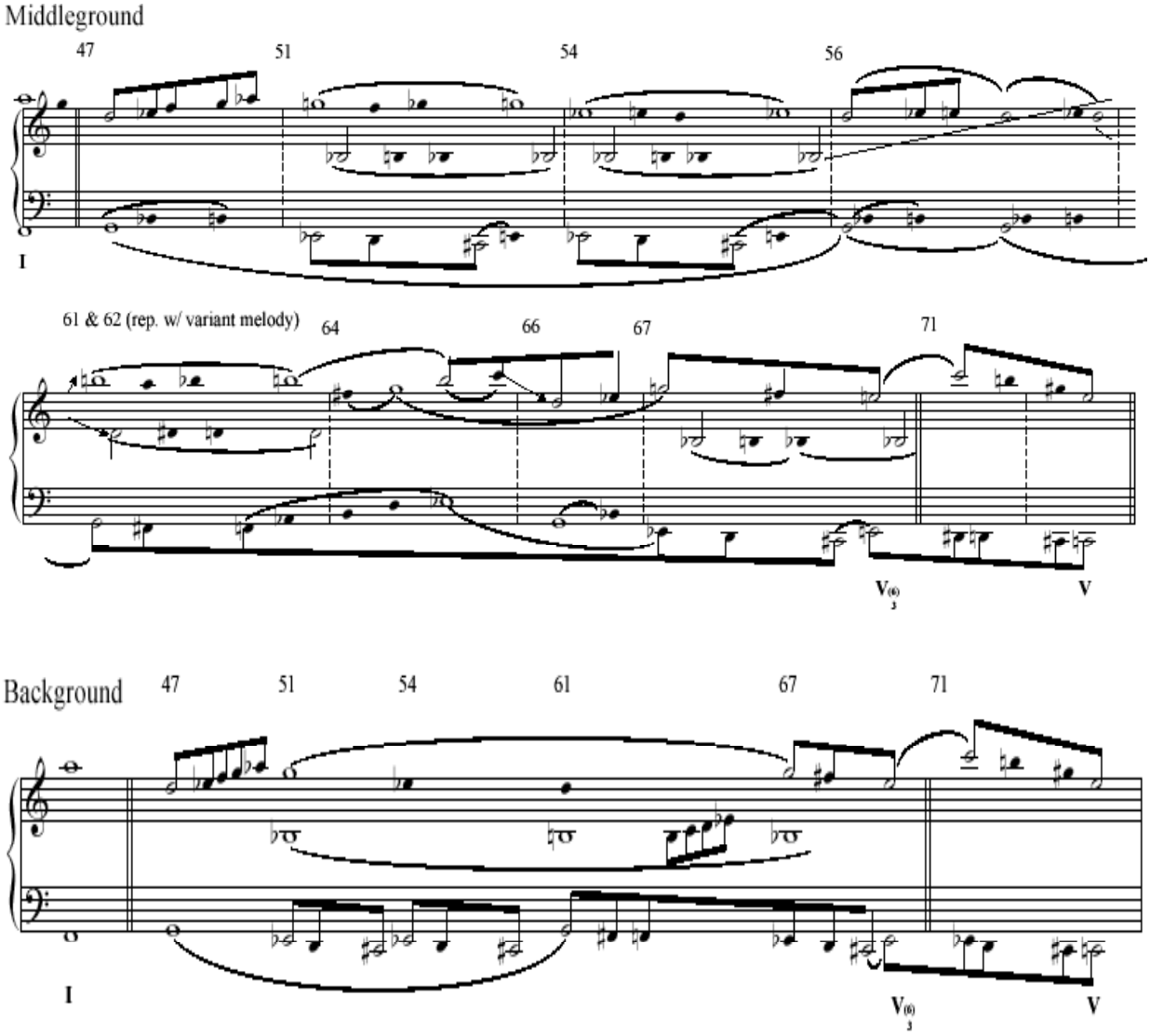


Figure 5: Reductive Analysis of B Section (mm. 41-80)

Figure 5 (continued):



In the B section, linear direction is obscured by a lack of tonal coherence. In spite of the absence of tonality – which would certainly clarify the polyphonic lines by providing a common objective – the bass-line still attains prominence. This result is subtle, largely achieved through extremes of register, metric placement and occasional doublings. As Figure 5 demonstrates, the bass-line hovers around pitch-class G eventually descending chromatically to C# and finally leaping to a cadence on E. As the descent resolves, pitch-class E substitutes for the anticipated goal of C. Analogous to tonal cadences, this can be viewed as a half cadence ending in a first inversion V or, possibly, a root position vii° chord.

The listener anticipates C as the arrival point for a variety of reasons. For one, the initial and final appearances of chromatic descent in this section (mm. 51-55 and 67-69) pass through precisely the same enharmonic pitches as in the chromatic descent of the A section (mm. 31-37). Since in the opening these pitches (E-E♭-D-D♭) resolve to C, the astute listener will expect the same resolution of pitches here. The implied arrival at C is further reinforced by a repeated upward leap of a minor third in the bass-line (G-Bb in mm. 47, 56, 58, 66). In this figure, B♭ always accompanies G in the tenor voice, the top line always resolves to either E♭ or E, and the orchestration reinforces B♭ by doubling. These pitches taken together, B♭-G-E♭/E spell an incomplete V7 chord in F (or v7, the variation E♭/E determining whether the dominant chord is major or minor). The only pitch not included to form a dominant seventh chord is C, which is precisely the harmony at the cadence of A and A´. This also makes harmonic sense according to the predominant pitch-class of this section, G. The dominant seventh chord coupled with the predominant pitch-class of the bass-line, G, lends the section a secondary dominant pedal (V/V) sensibility in relation to the opening passage.

Of course, all of the above factors are overshadowed by the deliberate ambiguity concerning tonal implications. Taken together, however, they lend significance to the relatively non-present pitch-class C.

One alternative view is that the most emphasized pitch of the bass line, G, functions as the third of an E diminished chord and the whole section essentially outlines this harmony. This view is reinforced by the fact that pitch-class C is hardly present throughout the section. The actual note of resolution of the chromatic descent (by leap) is E. Additionally, the clearest harmony sounded in the section can be found on beat four of measure 61: an E diminished chord.

Whether the chord functions as V or vii°, the resolution of the chromatic descent serves essentially the same function: that of a dominant in F. Noteworthy is the fact that, from either view, it is voiced as a weaker cadence than in the A section, since pitch-class C is not present. As the B section comes to a close, the A material returns. The violins and violas reenter at measures 71 and 72, just as the basses and cellos arrive at the chromatic descent. The descent, which has repeated three times within the section, finally resolves to the C dominant harmony and the next section opens with a variation of the A material. Although the harmonies in A´ soon become significantly obscured by all of the deliberate processes I have mentioned, at this point the harmonies are unmistakably perceived as "starting over."

2.5 VOICE-LEADING IN CODA (C)

The coda, beginning at measure 121, differs from the other sections in essentially two ways. The first is its extremely dense polyphonic structure. The second distinction is the fact of a consistent, perceived pulse. Up to this point in the piece, with the exception of the frenetic activity in Section B, pulse has been entirely imperceptible. Regular pulse finally emerges in the *pizzicato* basses at measure 113, as a transition into the coda. The perceptible beat has, no doubt, an extremely jarring effect upon the listener.

In addition to pulse, the polyphonic texture here appears as quite a contrast to that which precedes it. For most of this section, pitches derive from transpositions of two descending melodic lines. These two lines operate canonically, with irregular and unequal levels of transposition (see figure 6).

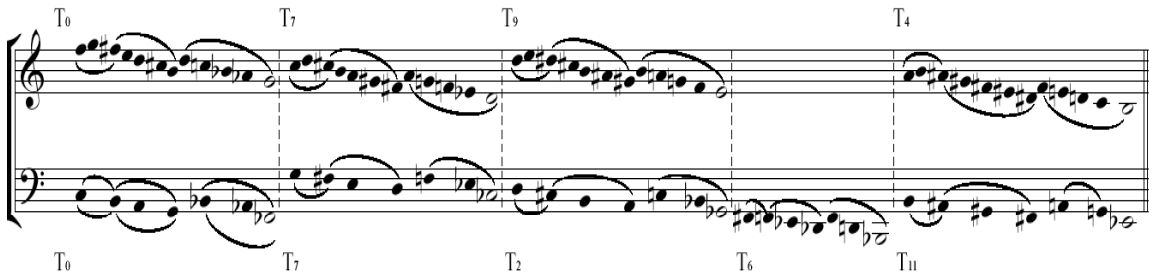


Figure 6: Canonic entrances in Section C (mm. 127-131)

As this graph demonstrates, the canonic entrances are not strictly organized. In addition, the traditional rules of counterpoint and voice-leading are largely disregarded.

I have found harmonic analysis to yield little about this passage. In addition, a voice-leading graph proves much more problematic. Without the hierarchy innate to tonal orientation, it always proves more difficult to classify pitches according to foreground and background. Therefore, I elect to construct a modified foreground graph, within which I emphasize pitches that are reinforced through doubling, extremes of register, and at the beginnings and endings of phrases (see figure 7).

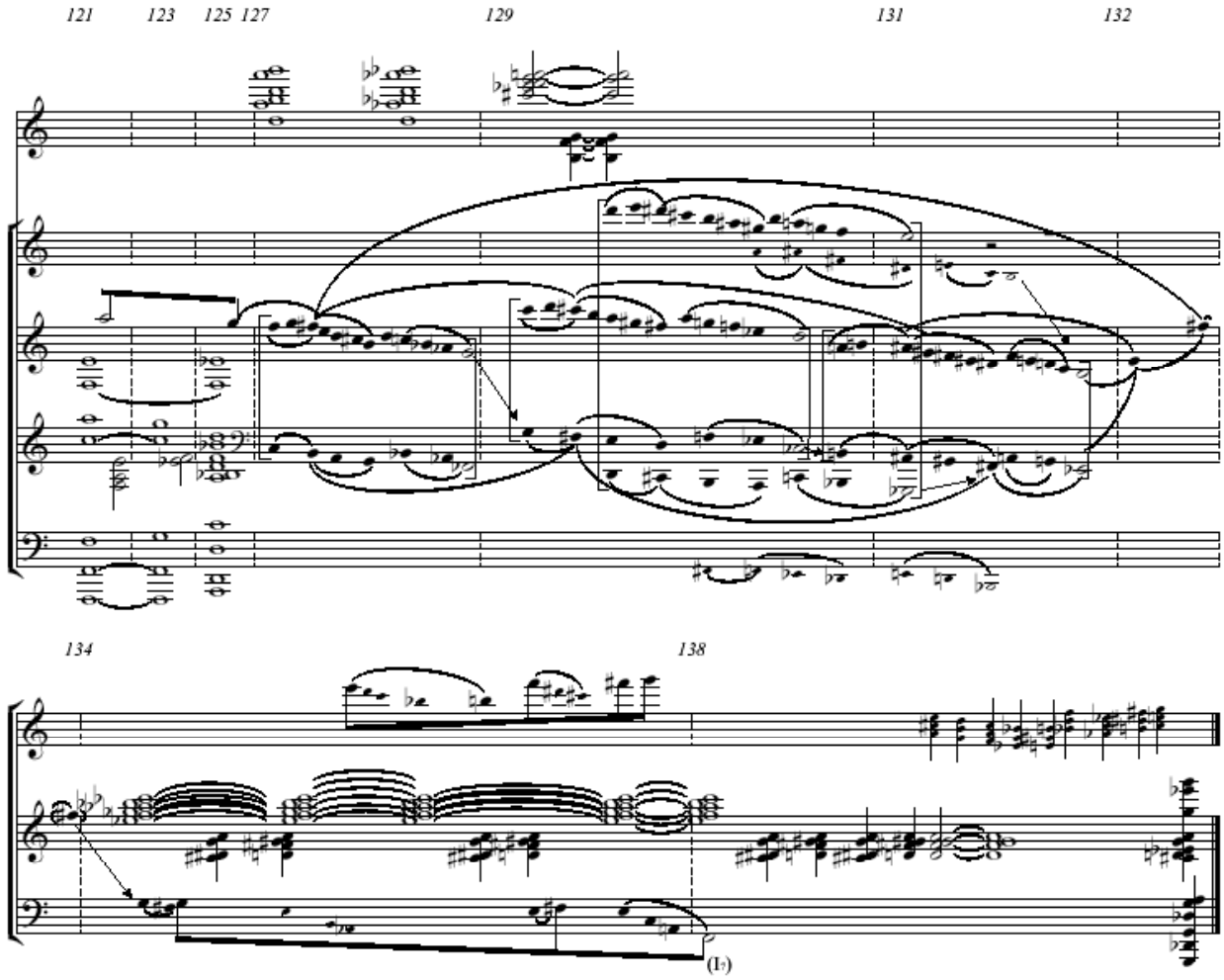


Figure 7: Reductive analysis of C Section (mm. 121-144)

This reduction illustrates the high degree of fragmentation within the coda. Although repetition is certainly fundamental to section C, it is forcefully subverted by variation and an overwhelmingly thick texture. At certain points within the section (mm. 127-128, for example), four lines operate independent of each another. Of course, I attempt to balance these discreet voices in my orchestration. For example at measures 127-130, the ostinato pattern appears in single voice instruments (piccolo, xylophone, and piano), which reinforce each other at a higher dynamic than that of the rest of the orchestra. In addition, the other foreground figure (descending triplets in the oboe, bassoon, flutes, etc.) is emphasized by triplets against a duple pattern in the other parts. Where its pitches coincide with other events, the single line texture is reinforced in the strings. Finally, the other two figures (straight quarter note patterns in brass and low strings) are balanced against each other and are meant to operate in the background. Of course all of these layers are not presented statically. I used dynamics to push each of the lines in and out of the foreground (i.e. fortepiano crescendo in the horn and strings, at the end of measure 128).

This analysis demonstrates that the harmonic implications of the opening arch do not ultimately resolve according to any of Schenker's paradigms. I am certain that reducing the piece in this way would not do it justice, regardless. Although there is a soprano-line descent across the coda and the basses outline the I_7 chord at measure 138 these gestures are not exposed in the setting. I do not conceive of them with the intention of fulfilling a tonal goal and they do not sound that way to me. That said, throughout the whole work, I do select pitch material according to the tonal implications of the opening. I simply do not have tonal resolution as an objective.

3.0 TEXTURE

3.1 TEXTURE AND FORM

As detailed above, in *Fear of Entropy* form is structured primarily around a relatively simple harmonic progression. Pitch dictates the skeletal structure of the work because, in many ways everything within the work can be viewed in comparison to this progression. As the work continues, however, pitch relationships are increasingly obscured by alterations of timbre, microtonal complications of harmony, and subtly varying (as well as starkly contrasting) textures. The underlying harmonic implications gradually lose clarity. Therefore, in order to instill in the listener a clear sense of the work's large-scale form I emphasize arrival points through texture.

First, I stress structurally significant moments – the downbeats of sections A and A´ (mm. 1 and 81) – by orchestrating accented, homorhythmic chords across large sections of the ensemble. In both cases, this chord announces the arrival of a new formal section. I also direct the texture of each section towards the arrival of that which follows. For example, within A and A´, the density of texture gradually expands to include the whole orchestra by the end of each section. Conversely, when the A material returns at the end of the B section (m. 71) the texture gradually diminishes until nothing but the strings remain at A´ (m. 81). Finally, I utilize radically different, contrapuntal textures in section B (mm. 47-69) and the coda (mm. 121-144) to further emphasize the contrast between sections (see figure 8).

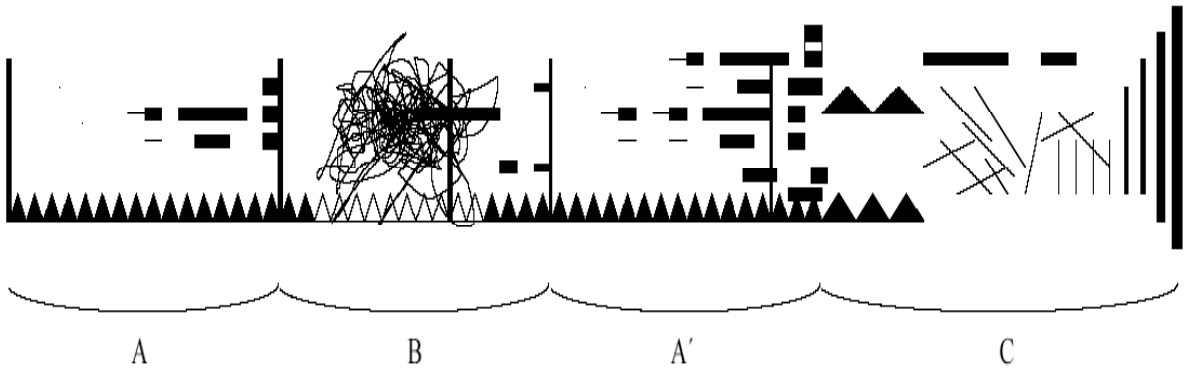


Figure 8: Texture Graph of *Fear of Entropy*

3.2 EVOLUTION OF TEXTURE IN ABA´

In the A section I link texture to the regularity of harmonic presentation. This section is entirely homophonic, two chords sounding every five measures. The first chord of each five-measure gesture comprises six, the second eight quarter notes. The strings establish this paradigm from the outset, sounding harmonies in precisely the same order through the first thirty-seven measures. Except for the basses (which do not enter first) the lower voices precede and (in most cases) sustain until after each adjacent, higher pitch is released. This succession of entrances creates a pyramid texture, with the highest registers sounding last and for the shortest duration. In the first chord of each pair, the cellos enter first followed by the violas, violins II, basses, and violins I. For the second chord of each five measure gesture the order is consistent as well, although the harmonies are blurred slightly by overlap (the violas presage the ensuing harmony): violas, cellos, basses, violins II, and violins I. At no point in the A section do these voices cross, so this succession of pitches indicates the registral voicing of each chord, as well (see figure 9).

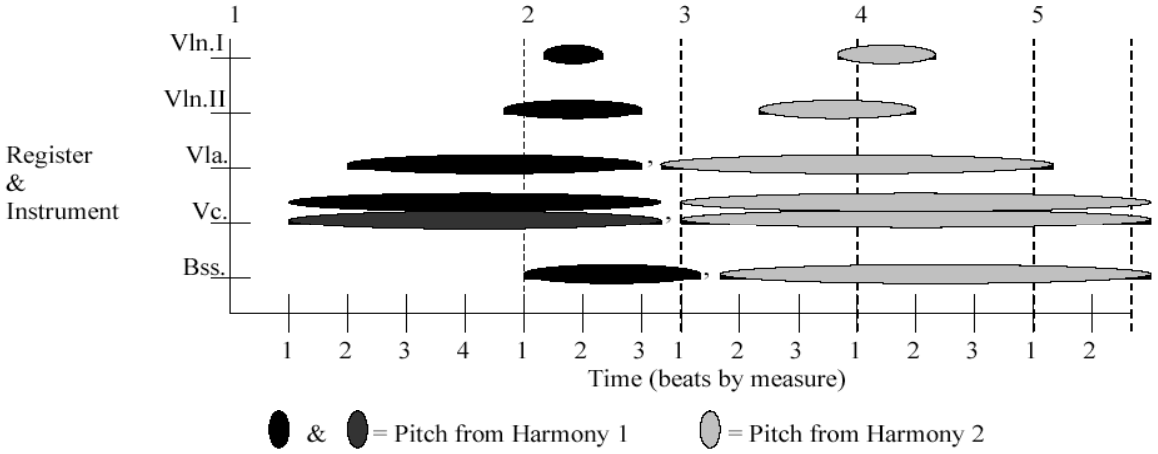


Figure 9: Entrances by Instrument (Strings) and Register in Section A (mm. 1-5)

This pattern of entrances remains entirely consistent until measure 38. As far as register is concerned, the pattern also holds for the other families of the orchestra. Throughout this section no pitches are sounded in the remainder of the orchestra aside from doublings of the strings[3]. Doublings in the winds are precisely mapped to the rhythmic entrance and, in most cases, duration of the string part they emphasize. Some examples include the fluttertongue flute doubling the *tremolando* violins I (m. 6), as well as the *glissando* bass trombone doubling the basses (m. 25). The percussion family also doubles the strings throughout section A, both with pitches and by mimicking timbre. For example, I employed bowed tam-tam (m. 1, 11, 17, etc.) to emulate *sul pont.*, as well as rolled timpani *glissandi* (m. 27) to coincide with *tremolando glissandi* in the basses and cellos.

As I have shown, the paradigm of regular, predictable entrances and voicing remains firmly established throughout the A section. At measure 38, this begins to systematically degenerate due to a process of metric displacement in all members of the orchestra (aside from violas), wherein pitches from successive harmonies begin to overlap with their predecessors and vice versa. Since no member of the orchestra clearly demarks the pulse until the final 8 bars of the section and, given that the tempo increases by tier (i.e. by section) throughout the arch, even

[3] I include micro-tuned pitches in the upper winds as doublings of the strings. These tunings are intended to clash directly with a sounding pitch in other parts, yet within a close enough distance to achieve beating and not to be perceived as an entirely separate pitch.

entrances by the few members of the orchestra that retain the paradigm (violas and violins I) are not perceived as regular events.

The process of metric displacement first appears in the cellos at measure 39, where the glissando begins to shift one beat in either direction, making it a longer gesture. Soon after the violins and violas return at measure 77, the violins II begin a variation on the displaced entrance of harmonically derived pitches. For a comparison with the regular pattern in section A, refer to the graph of these overlapping entrances at a point where the harmony is substantially obscured (figure 10):

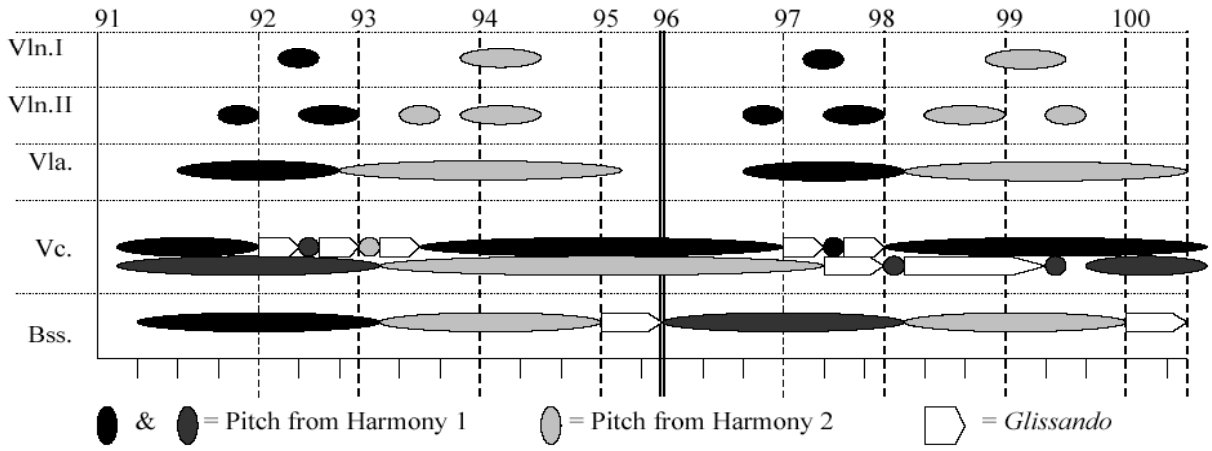


Figure 10: Example of Overlapping Texture in Section A´ (mm. 91-100)

This graph clearly demonstrates how the process of metric displacement complicates the perceived harmonic progression. The result of all of the above described processes is that the (already tenuously) perceived harmonies lose contextual/ tonal orientation as A´ progresses. As the arch comes to a close, although the aforementioned methods of emphasizing large-scale structural events remain, the internal phrase structures become increasingly uncertain to the listener.

4.0 MICROTONAL TREATMENT

Throughout the latter half of the arch, I further complicate the harmonic language by de-tuning unison notes and exaggerating detuned partials of the overtone series. The first appearance of de-tuning begins at measure 18, where the Flutes are asked to play A𝄲4 – a quarter tone below the sounding A•4 in the violins I and the piccolos A•5. For the remainder of section A, this type of tuning appears sporadically with at least one pitch "out of tune" within the surrounding harmonic context.

After the B section, this process thickens at times, that is, several detuned notes sound simultaneously. This is perceived as exceptionally dissonant when the surrounding pitches are quite close. At measures 98 and 99, for example, three pitches surround A•5 to create a microtonal cluster chord, while one of the other sounding pitches (clarinets, trumpets, and violins II) at this point is B•5. The result is a very tight block chord with a great deal of beating.

In addition to this process of detuning, towards the end of A´ I regularly emphasize flat partials of the harmonic series. I place sounding pitches in upper parts which are naturally out of tune against a sounding fundamental's partials (especially the 7^{th}, 11^{th}, and 13^{th} partials). In addition, where this occurs I reinforce both the fundamental and the wind part with octave doubling. The role of the de-tuned partial is usually given to one of the high winds, sounding against a fundamental in the basses and cellos (for example, the flutes at measure 112 sound the thirteenth partial of the low strings and piano). This effect is marginally perceptible and mostly serves as a compositional tool to unify the work's orchestration.

5.0 TIMBRAL MODULATION

One of the essential processes of the work, which has, until now, not been discussed consists of timbral modulation in the string family. I utilize extended techniques to explore a large range of colors in this family of the orchestra. Of course, the exploration of color and use of extended techniques is not entirely restricted to the string family. However, as I illustrated above, where extended techniques are employed in the winds and percussion, they serve to mimic certain gestures in the strings. For this reason, I will focus my discussion of timbre on the string family.

At the beginning of the work, each member of the strings is asked to play *sul ponticello,* and to undulate in and out of a *tremolo* texture. In addition, the low strings *glissando* to and from pitches of successive chords. All of these techniques obscure pitch to some degree and my intention is that, in the absence of clear pitches, timbre will assume the foreground.

As the work progresses, the *glissando* gesture occupies increasing amounts of the low string phrase, with the effect that the bass note of each successive harmony becomes progressively difficult to detect. However, by the arrival of A´, *sul pont.* has disappeared completely. The effect of this is that the harmonic language is probably clearer at this moment than at any other place in the work, save the initial phrase of section C. However, I continue to exploit timbres from this point in order to obscure pitch. Probably the most pitch obscuring effect is pressure bow, which first appears at measure 88. From this point until the coda (m. 121), pitch becomes extremely difficult to discern as all of the processes I have outlined above – increasing harmonic density, detuning, and extended techniques – culminate in an extremely dense array of activity.

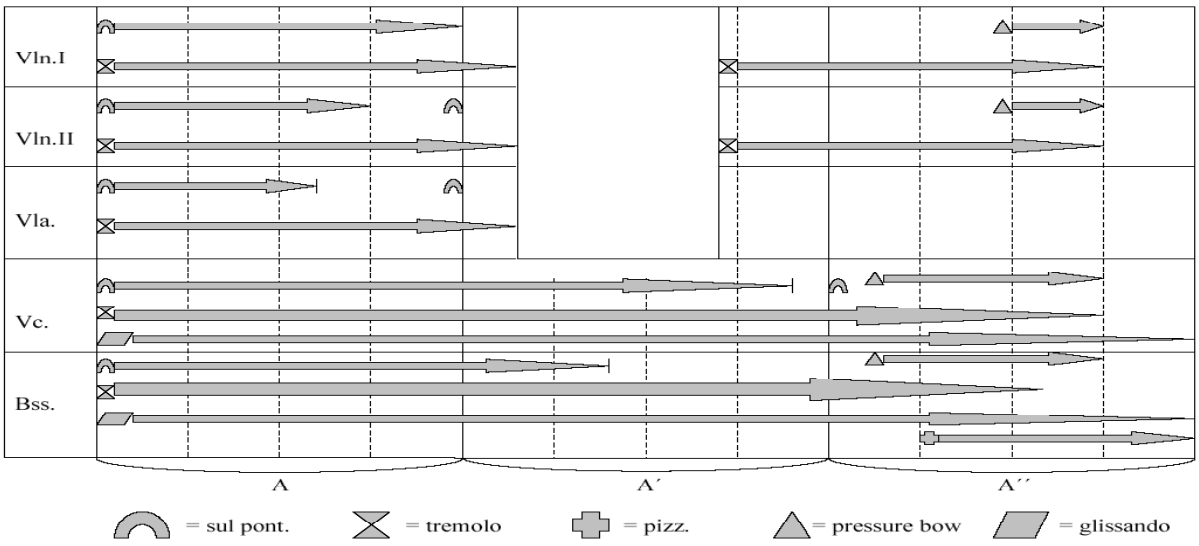


Figure 11 Changes of Timbre within the Strings in ABA´ (mm. 1-120)

6.0 CONCLUSIONS

In the previous essay, I applied several modes of analysis to my work for orchestra, *Fear of Entropy*. Through phrase analysis, I established that the work consists of an arch with coda and that the boundaries between these sections are blurred by recurring material from A. This material consists of alterations to the opening few measures of the piece and lends the impression of "starting over" each time it appears.

By analyzing the harmonic and contrapuntal structure, I evinced some important details of the piece, as well. Much of the pitch material in the work either derives from or may be viewed in comparison to a harmonic progression in F Major. The entire progression repeats three times in the body of the work and is characterized by a chromatic descent to the dominant at the cadence. The arch is unified by this chromatic descent, in that the same pitches recur three times in the bass-line of the B foreground material, ultimately resolving to the same C dominant triad at the end of B. Pitch material in the coda derives from descending canonic figures and does not resolve the pitch implications of the opening arch.

Throughout the work, texture defines the formal divisions between sections. In this manner, I composed thickly orchestrated, homorhythmic chords at the arrival of each section, differentiated density of material between sections, and either homophonic or contrapuntal textures to pervade within sections. The B section consists of two textural layers with the foreground, contrapuntal material appearing as a stark contrast to the other sections of the work, as well as to the homophonic background phrase in the strings.

As the work progresses, the underlying homophonic layer undergoes a process of obfuscation. One of the means for achieving this is through metric displacement of chord tones. As a result of this displacement, although first presented transparently, the harmonic progression gradually loses clarity because the sounding harmonies become increasingly denser and less

triadic. Another means of obscuring the repeated harmonic progression is achieved through my treatment of microtonal clusters.

By detailing my treatment of microtones and extended techniques, I discovered an organic process of development. Transitions within *Fear of Entropy* are clearer and more endemic to the overriding structure than in many of my former compositions. Through this study, I also gained insight into characteristic vertical and horizontal sonorities that intuitively appeal to me. In addition, I uncovered a subconscious proclivity towards pitch-based unification of texturally distinct materials within a large work.

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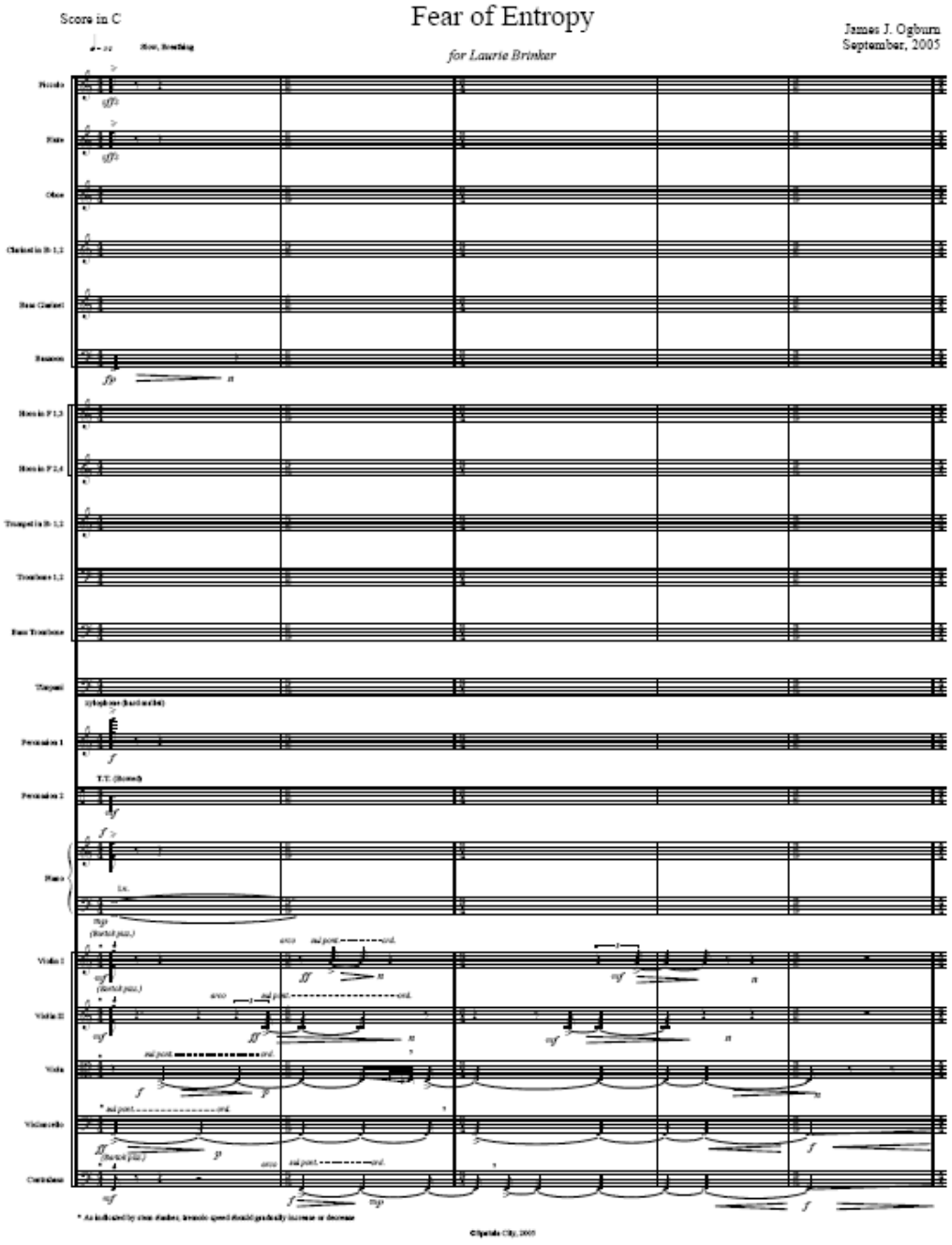
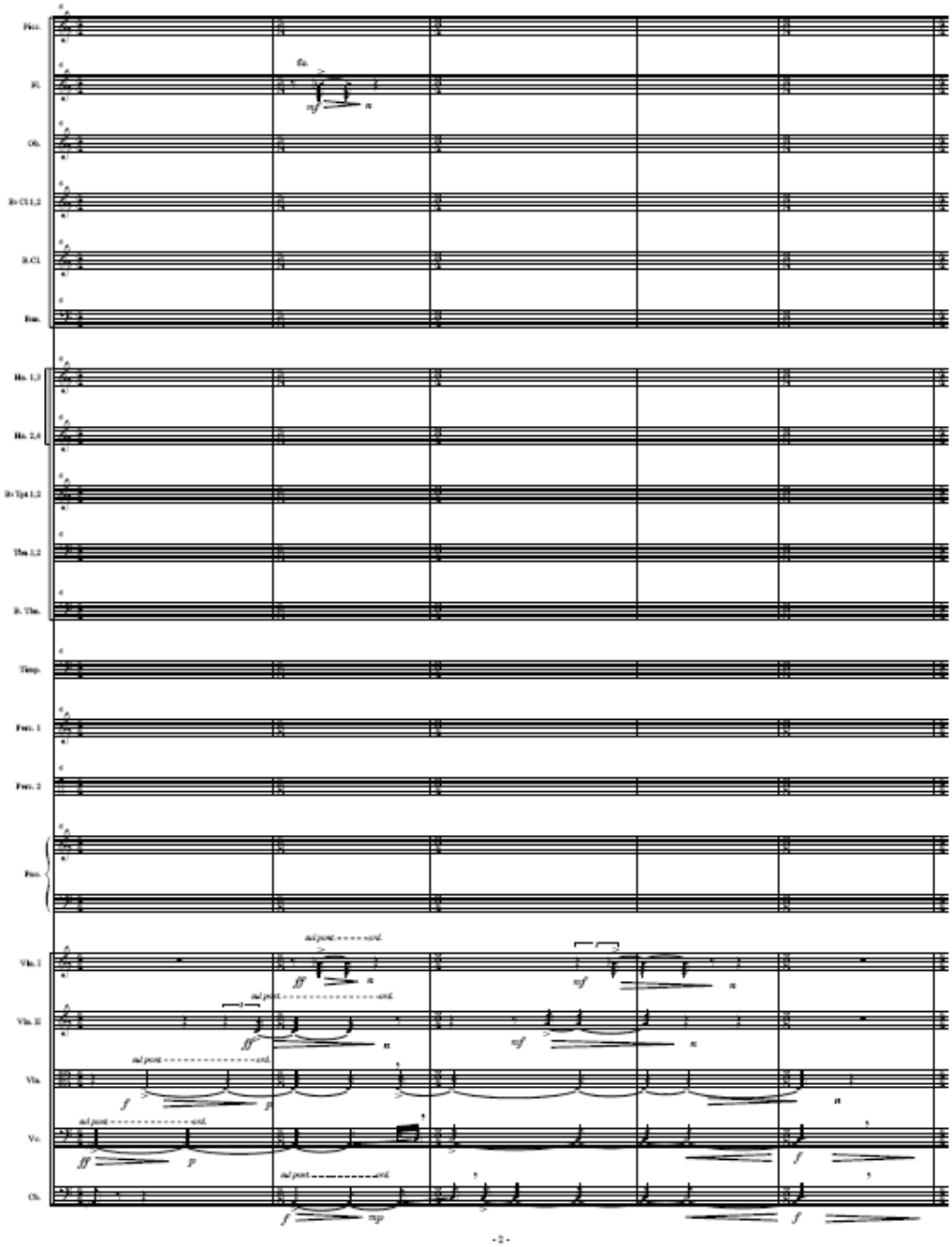
Crumb, George. *Star-Child: Parable for Soprano, Antiphonal Children's Choir, Male Speaking Choir and Bell Ringers, and Large Orchestra*. Susan Narucki, et al. New York: C.F. Peters, 1977.

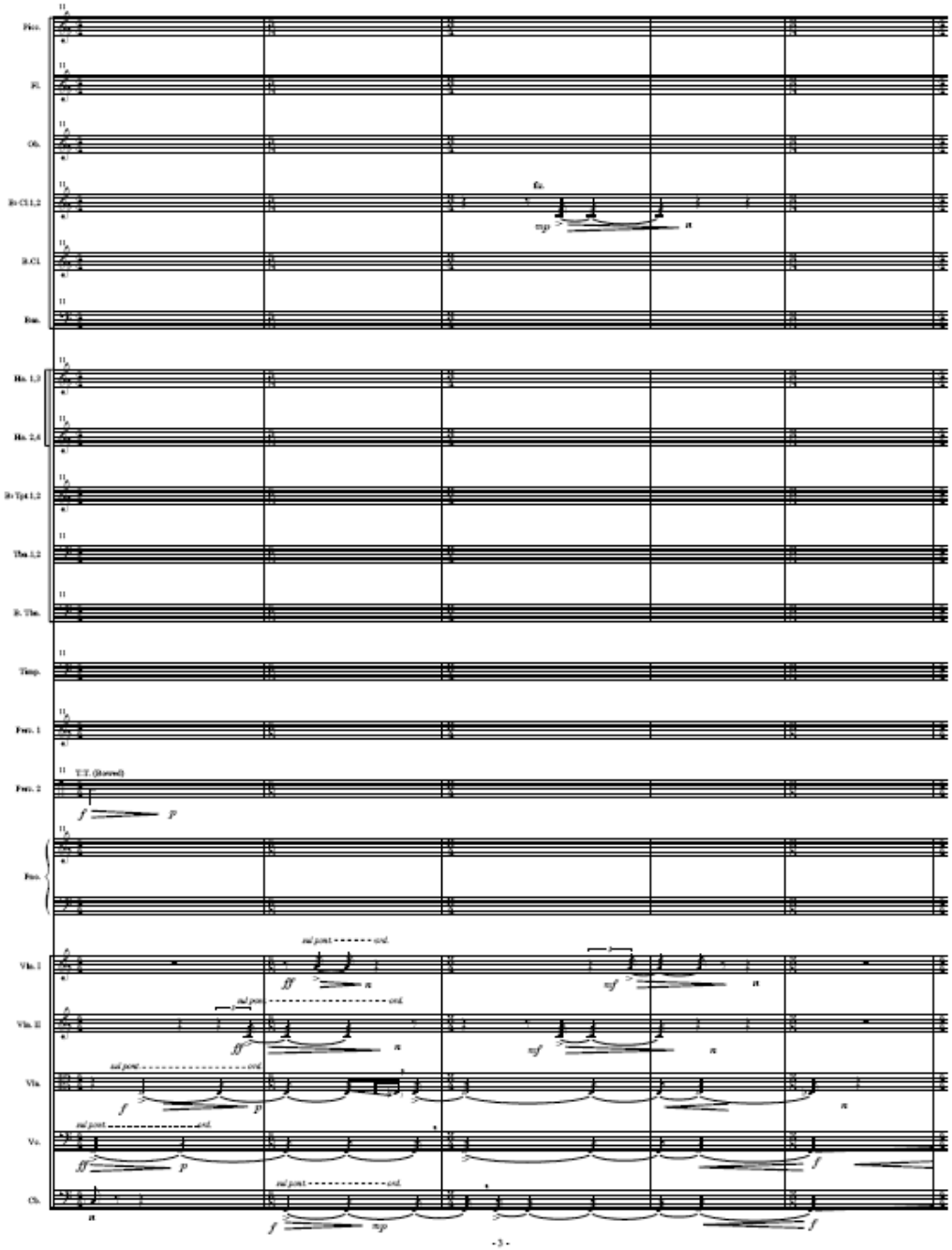
Ives, Charles. *Central Park in the Dark*. Jacques-Lois Monod, ed. Hillsdale, N.Y. : Boelke-Bomart, c1973.

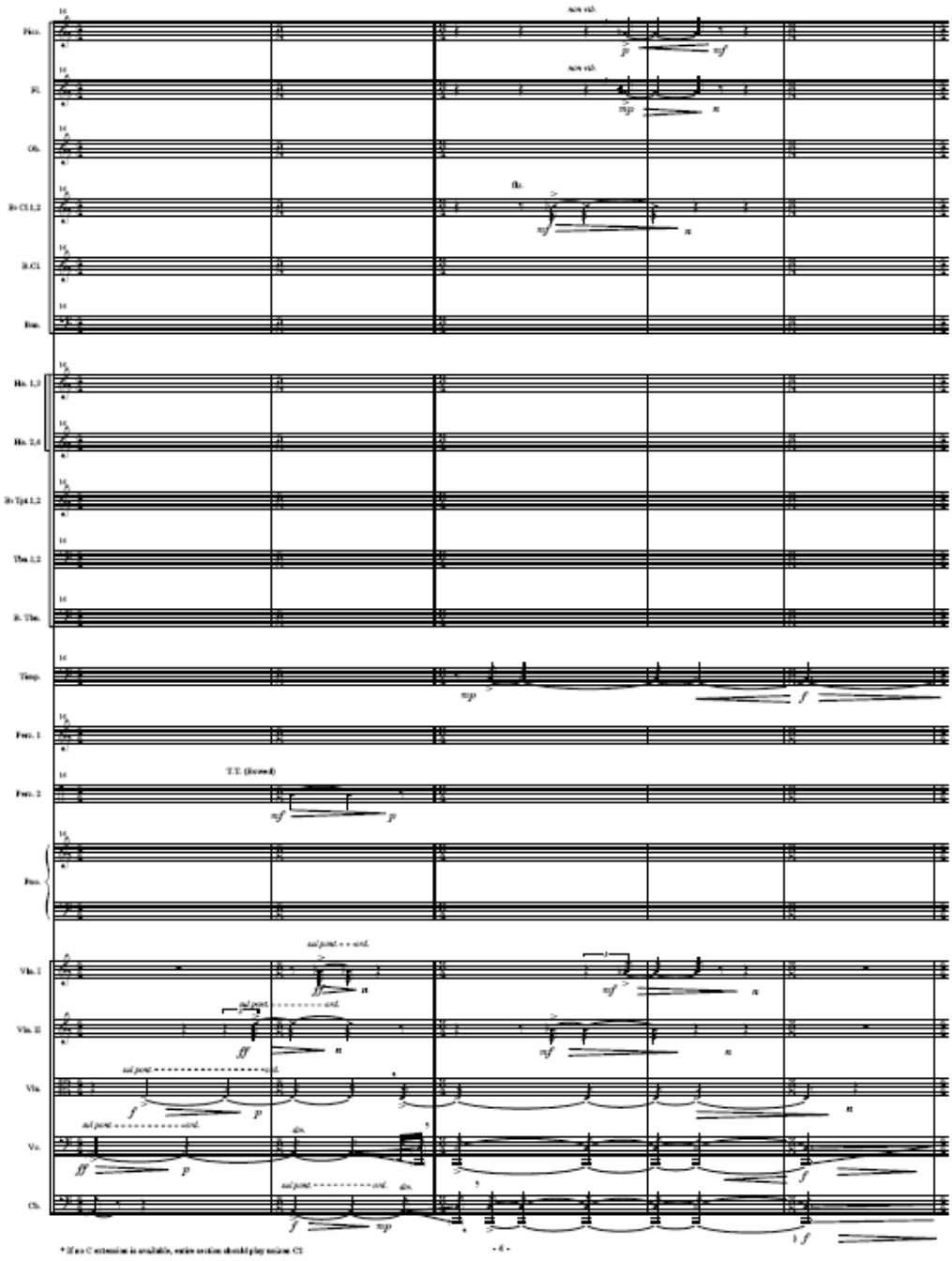
Ives, Charles. *Instrumental Music: Selections*. New York Philharmonic, Leonard Bernstein, cond. Hamburg : Deutsche Grammophon, 1990.

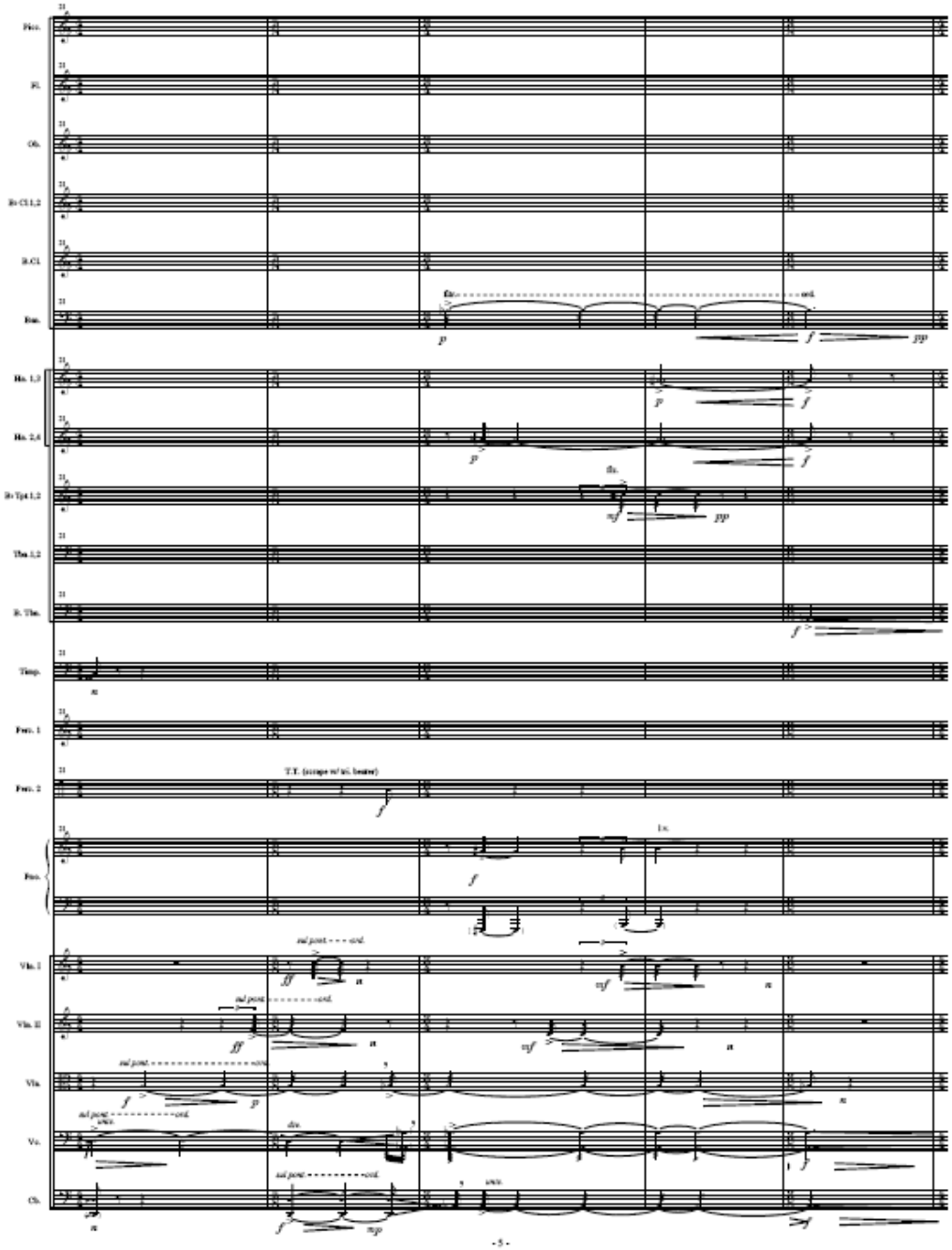
APPENDIX A: FULL SCORE

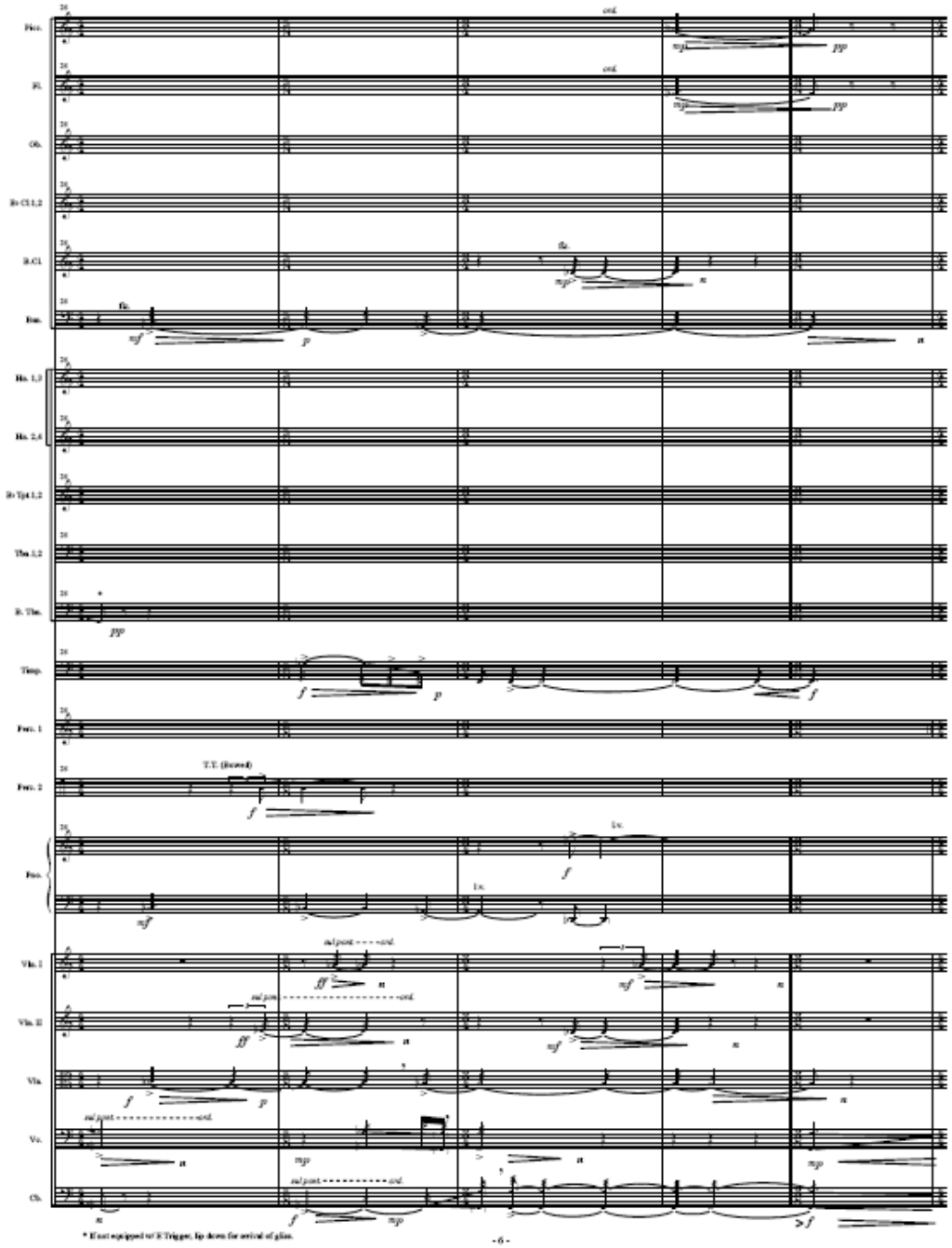

Score in C
Fear of Entropy
for Laurie Brinkar
James J. Ogburn
September, 2005
Flute, Breathing
Piccolo
Flute
Oboe
Clarinet in B♭ 1,2
Bass Clarinet
Bassoon
Horn in F 1,3
Horn in F 2,4
Trumpet in B♭ 1,2
Trombone 1,2
Bass Trombone
Timpani
Glockenspiel (hard mallets)
Percussion 1
T.T. (Bowed)
Percussion 2
Piano
l.v.
(Barbell pizz.)
arco
sul pont.
ord.
Violin I
Violin II
Viola
Violoncello
Contrabass
* As indicated by slow flutter, breath speed should gradually increase or decrease
©Spirale City, 2005

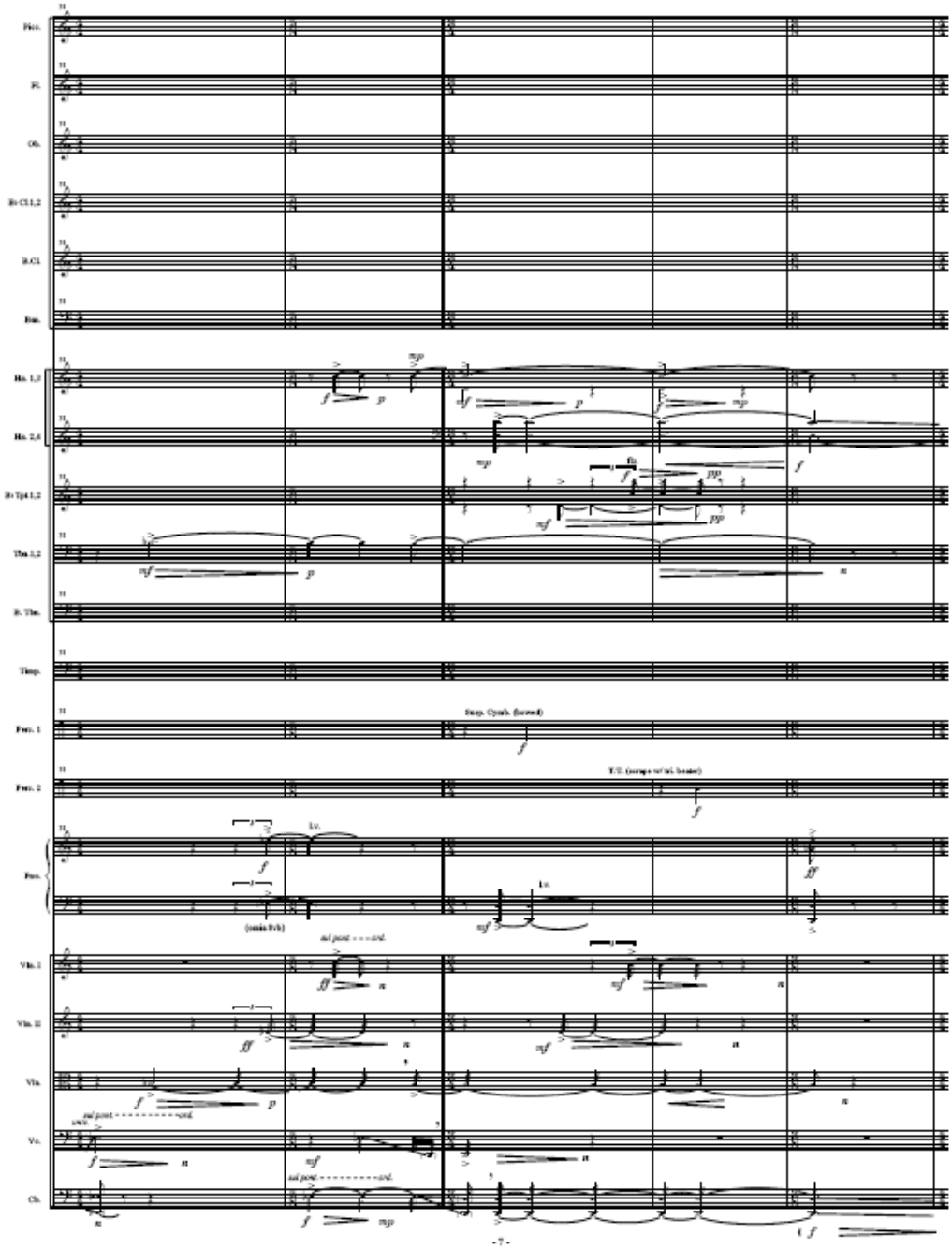

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
fz.
sul pont.
ord.

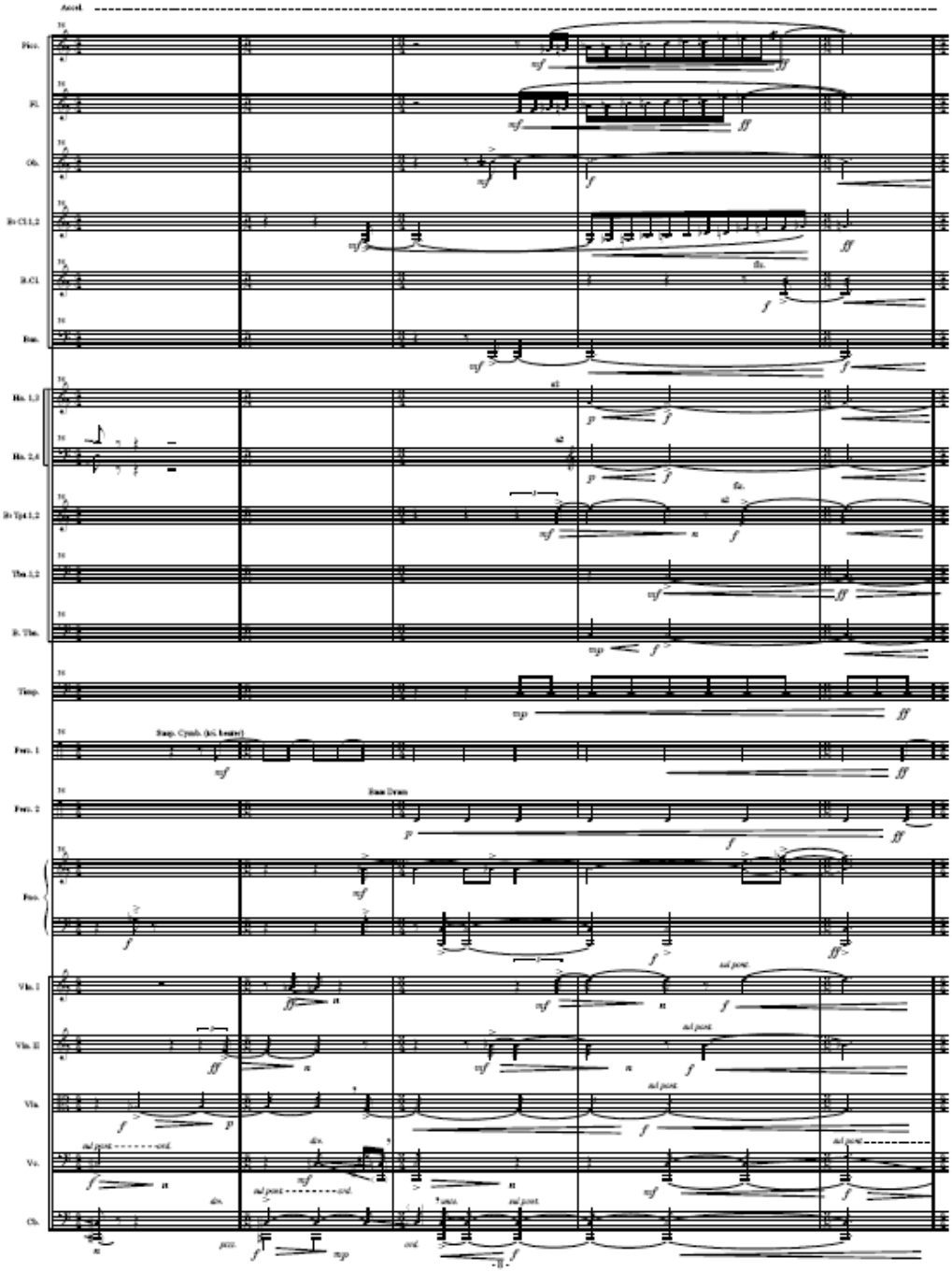

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
T.T. (Bowed)
sul pont.
ord.
fp
mp
mf
ff
p
f

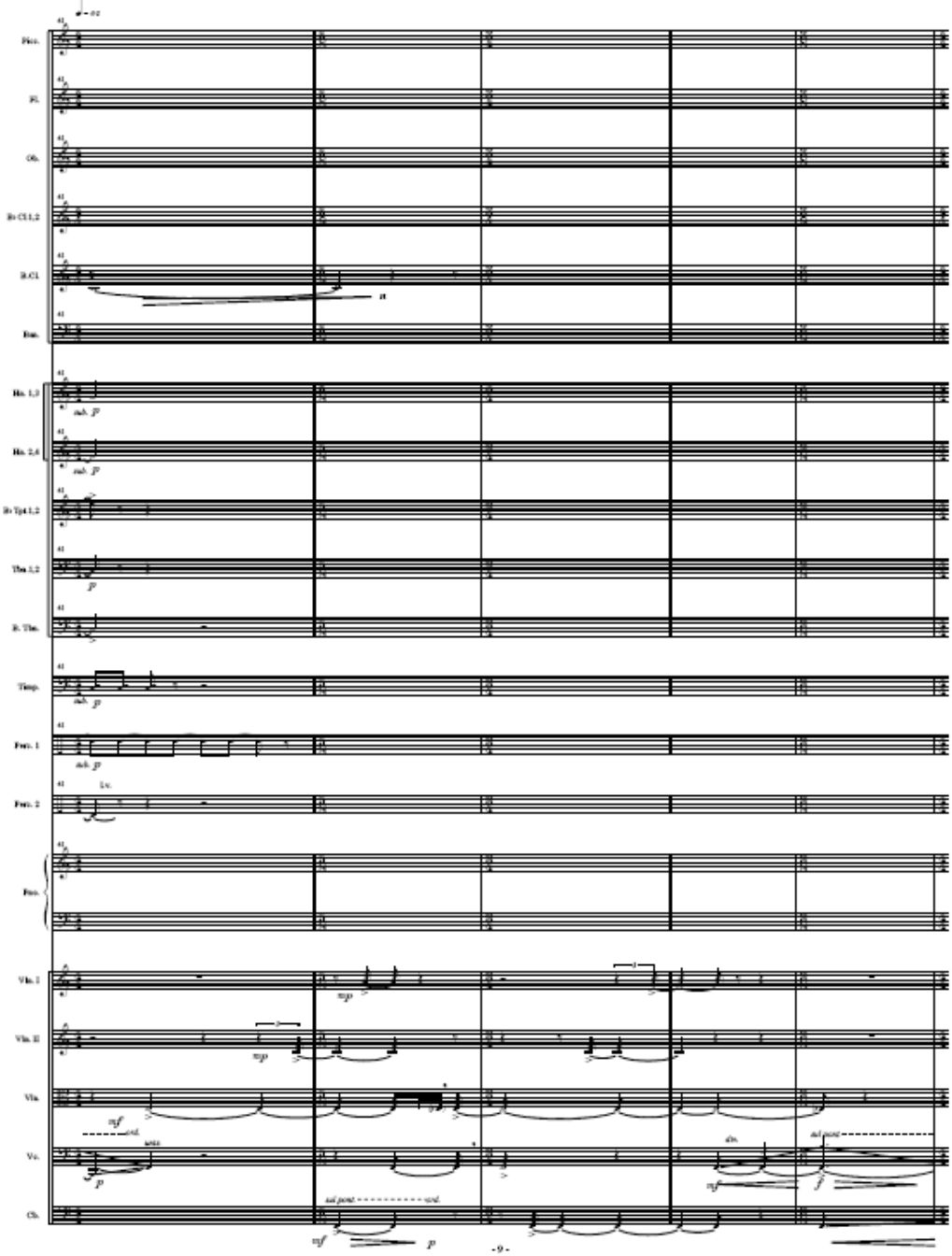

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
non vib.
fl.
T.T. (Bowed)
sul pont. - - ord.
sul pont. ord.
div.
* If no C extension is available, entire section should play octave C1
- 6 -

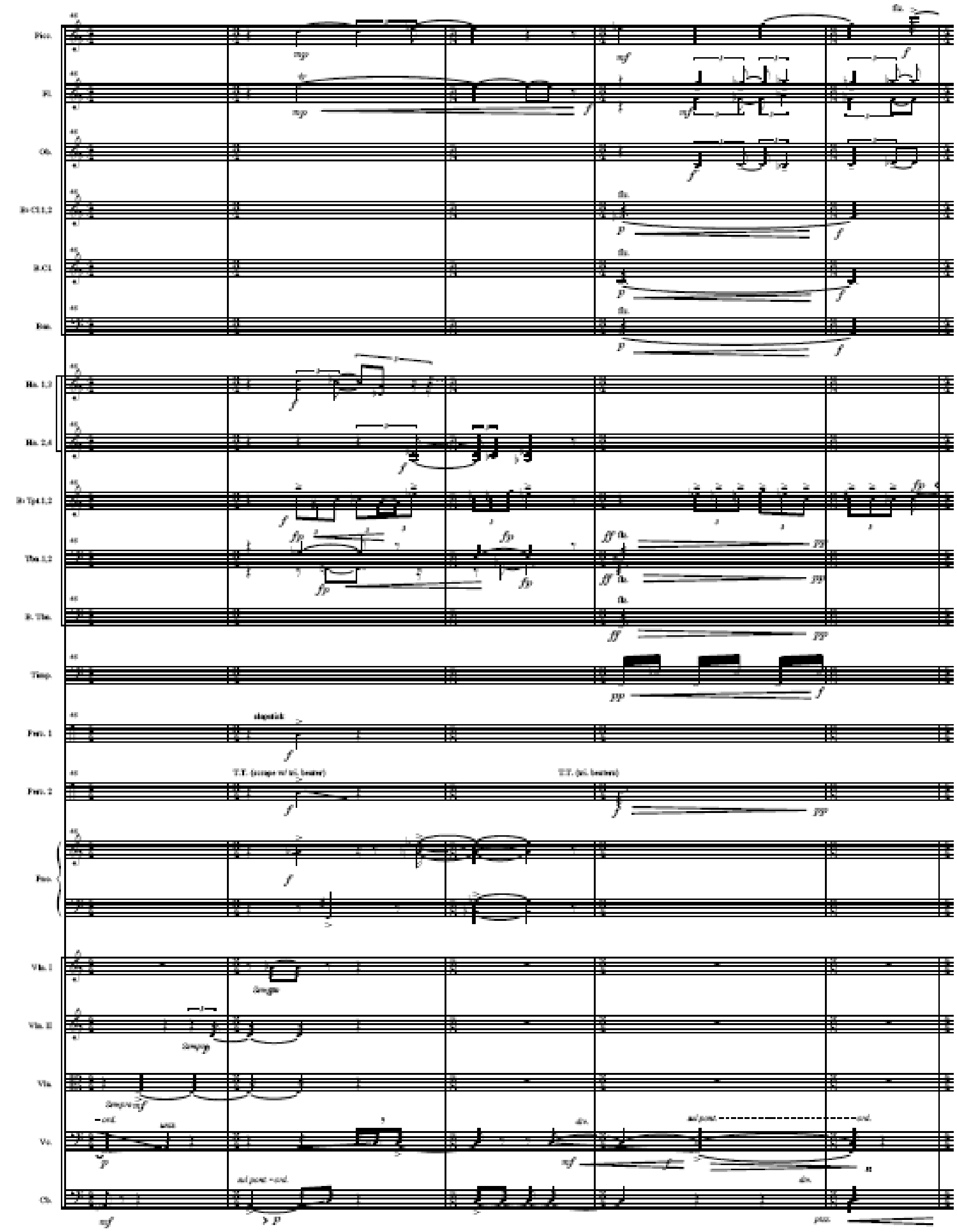

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
T.T. (scrape w/ lrg. beater)
sul pont. - - - ord.
div.
unis.

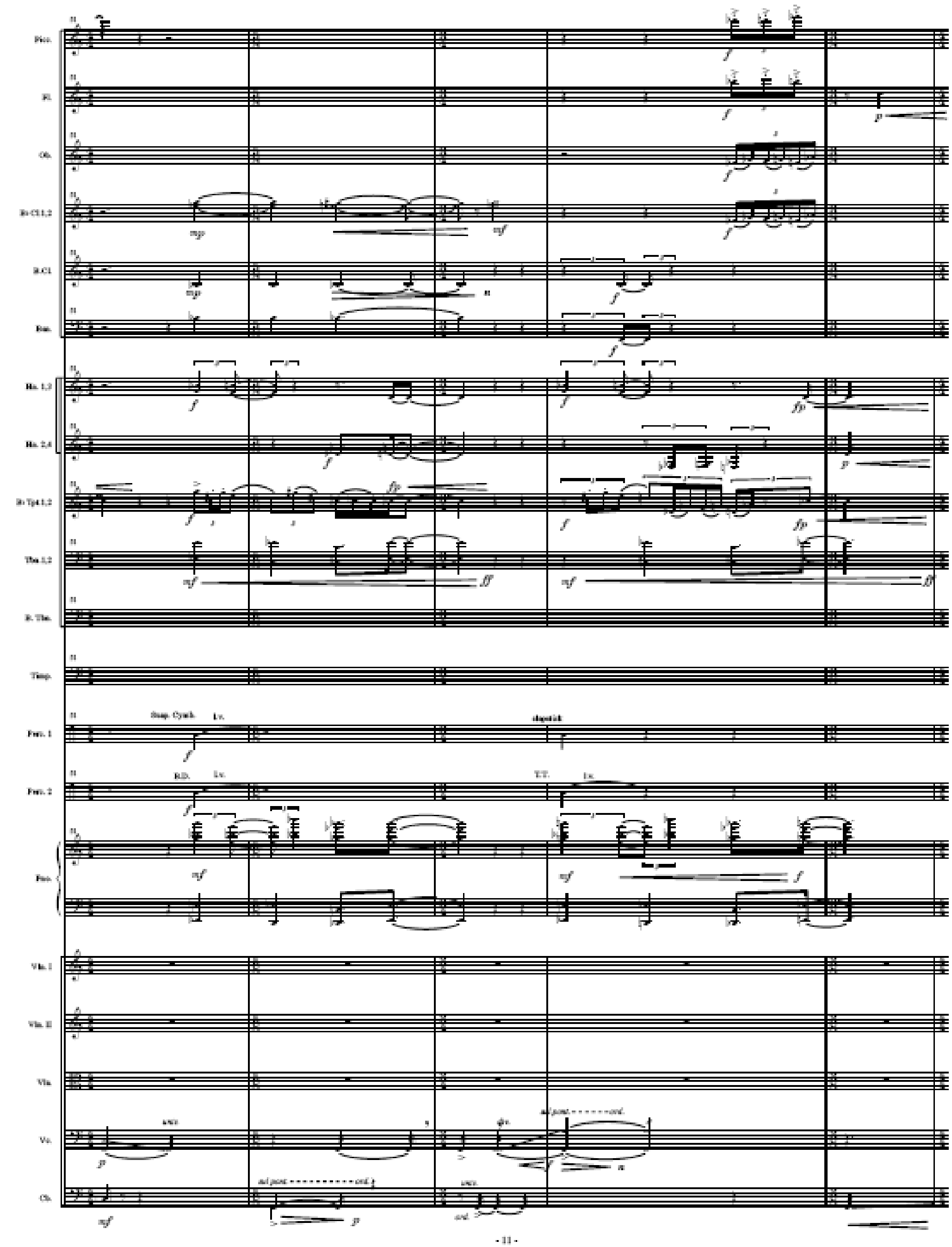

Picc.
Fl.
Ob.
B♭ Cl.1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt.1,2
Tbn.1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Perc.
Vln. I
Vln. II
Vla.
Vc.
Cb.
ord.
fp.
T.T. (Brawd)
l.v.
sul pont.
* If not equipped w/ E-Trigger, tip down for arrival of gliss.

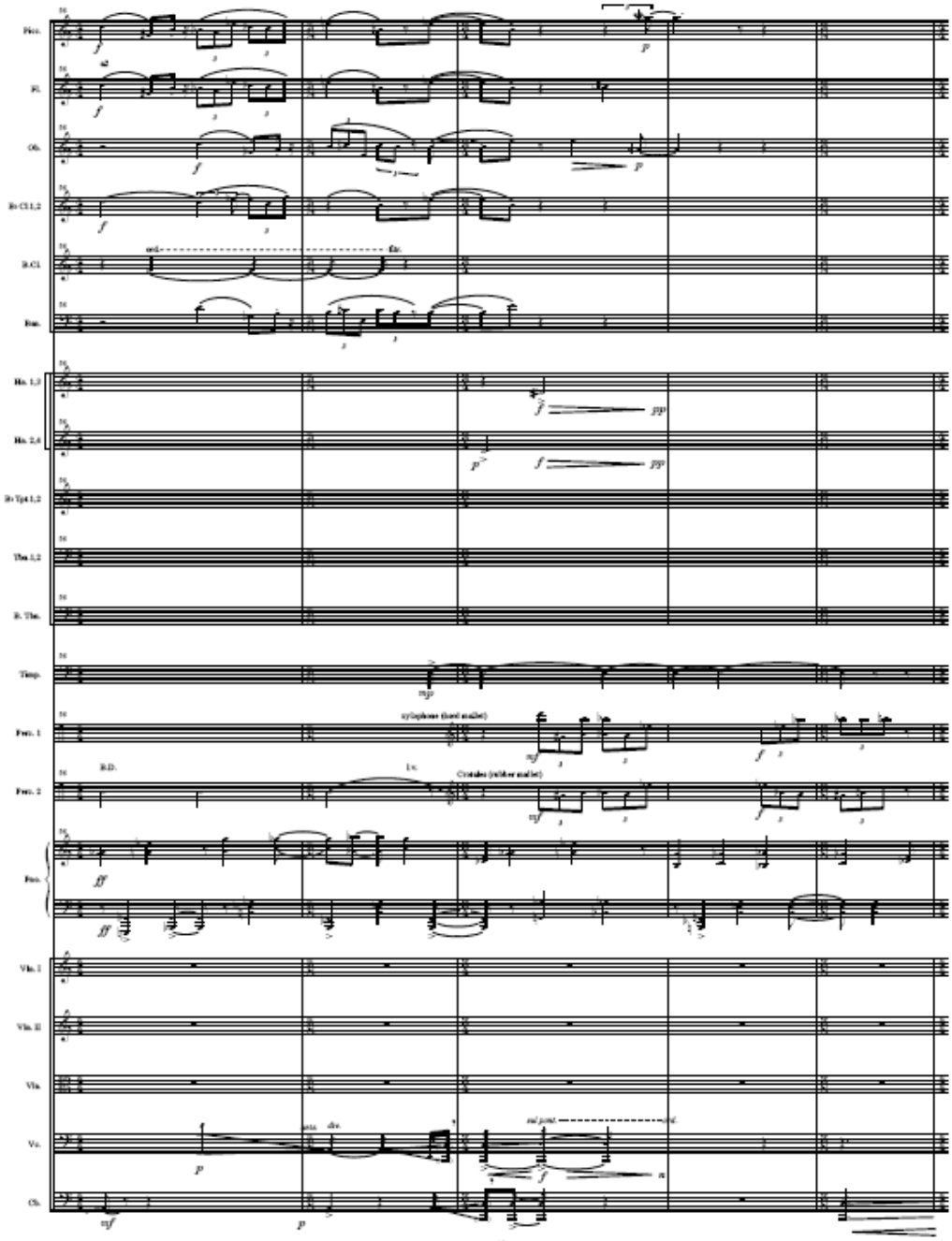

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Susp. Cymb. (bowed)
Perc. 2
T.T. (orange w/ tri. beater)
Pno.
(omit 8vb)
Vln. I
Vln. II
Vla.
Vc.
Cb.
sul pont. - - - ord.
unis.
-7-

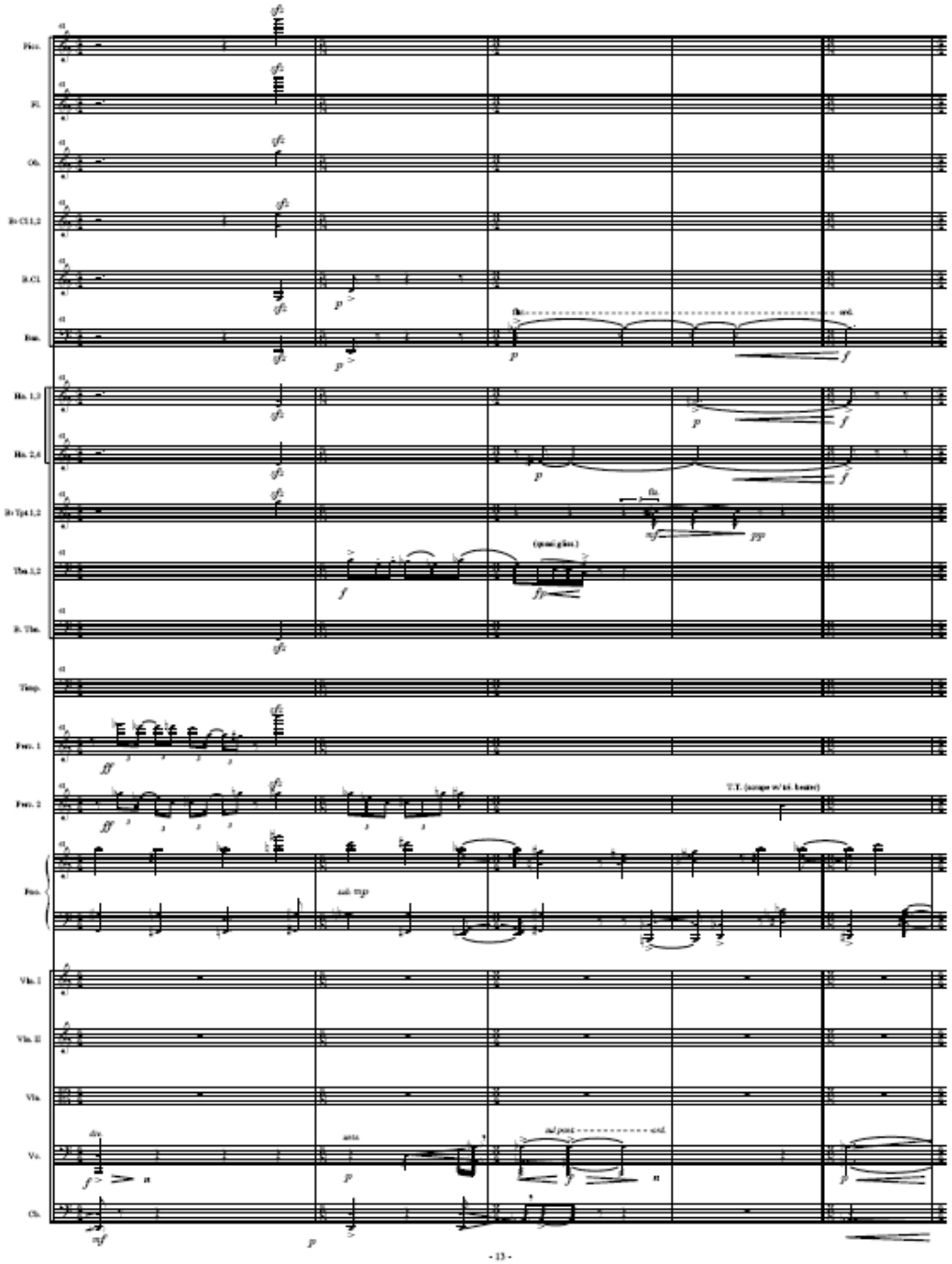

Accel.
Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Susp. Cymb. (let. louder)
Bass Drum
sul pont.
ord.
div.
unis.

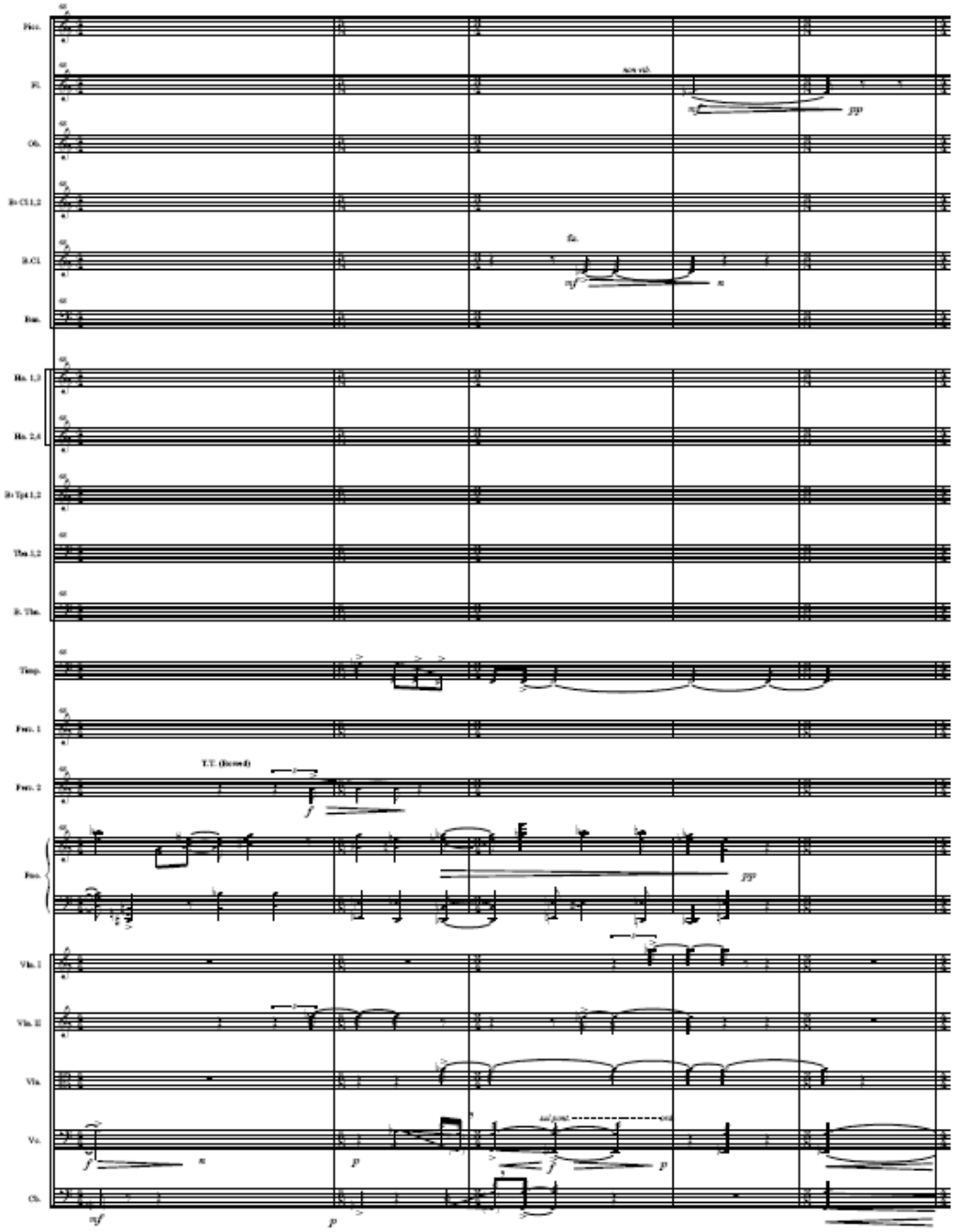

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
sub. p
l.v.
mp
mf
p
f
sul ponc.
ord.
sfz
-9-

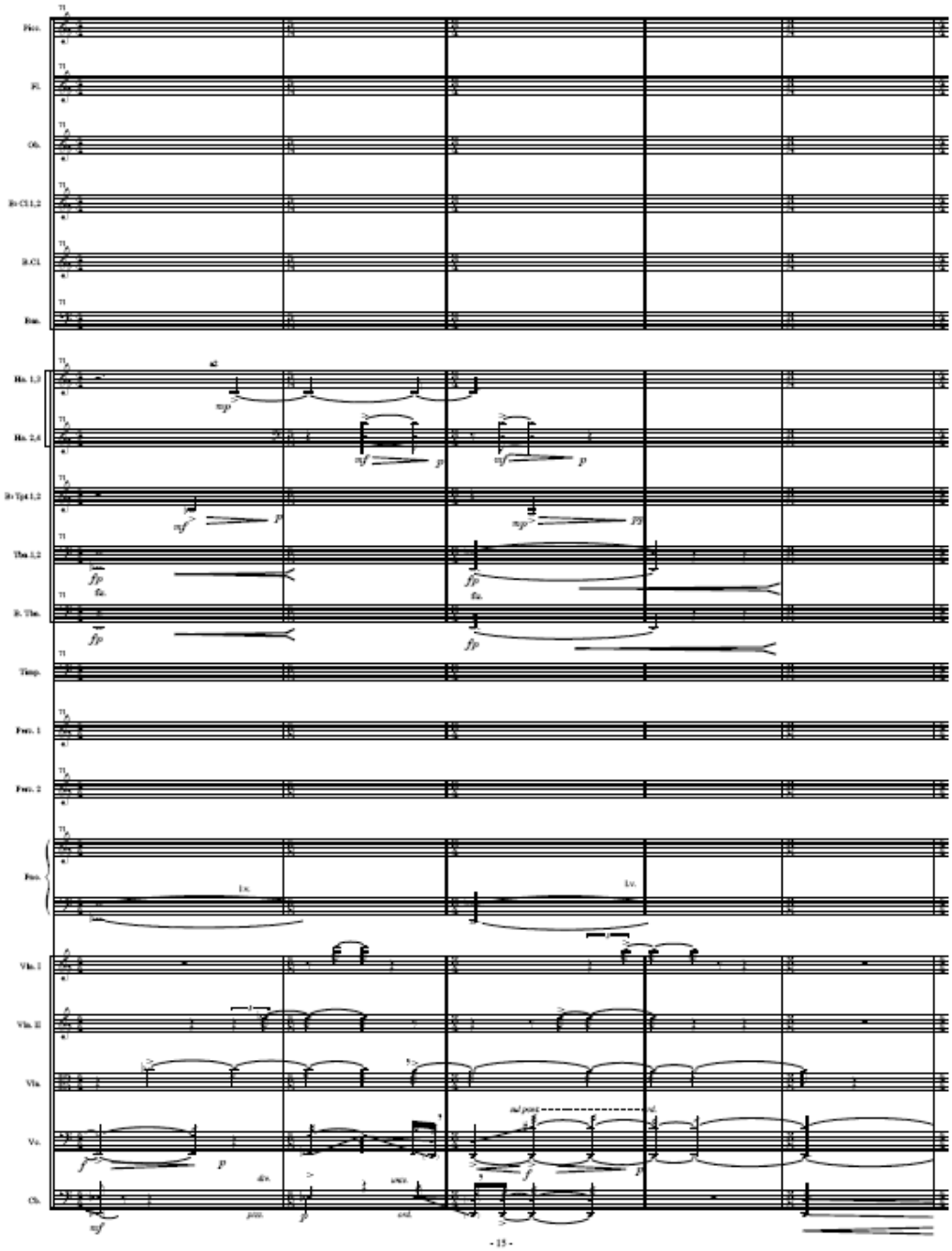

Picc.
Fl.
Ob.
B.Cl.
Bsn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.

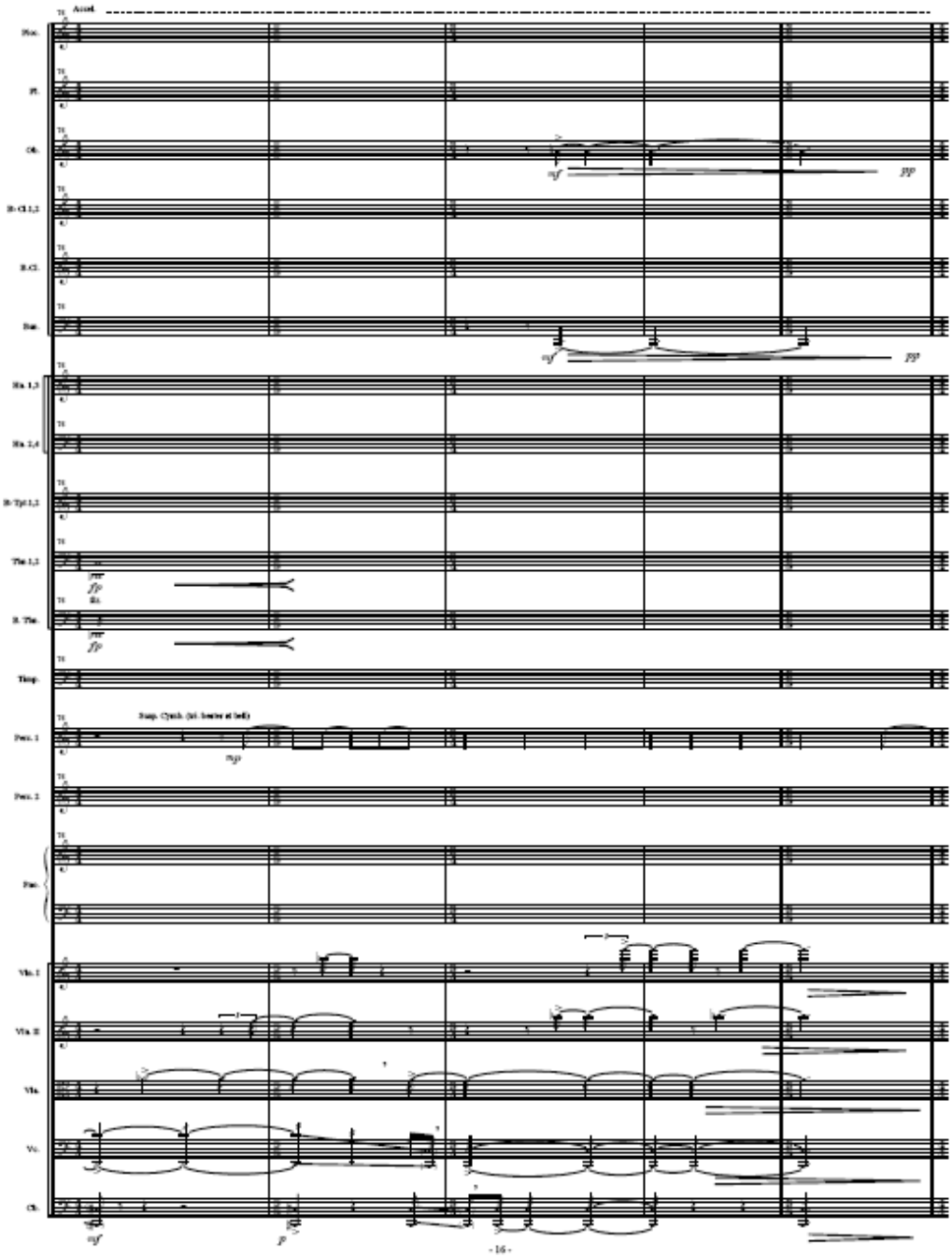

Picc.
Fl.
Ob.
Hn. 1,3
Hn. 2,4
Tba. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Susp. Cymb.
l.v.
R.D.
slapstick
T.T.
arco
ad pont.
ord.
- 11 -

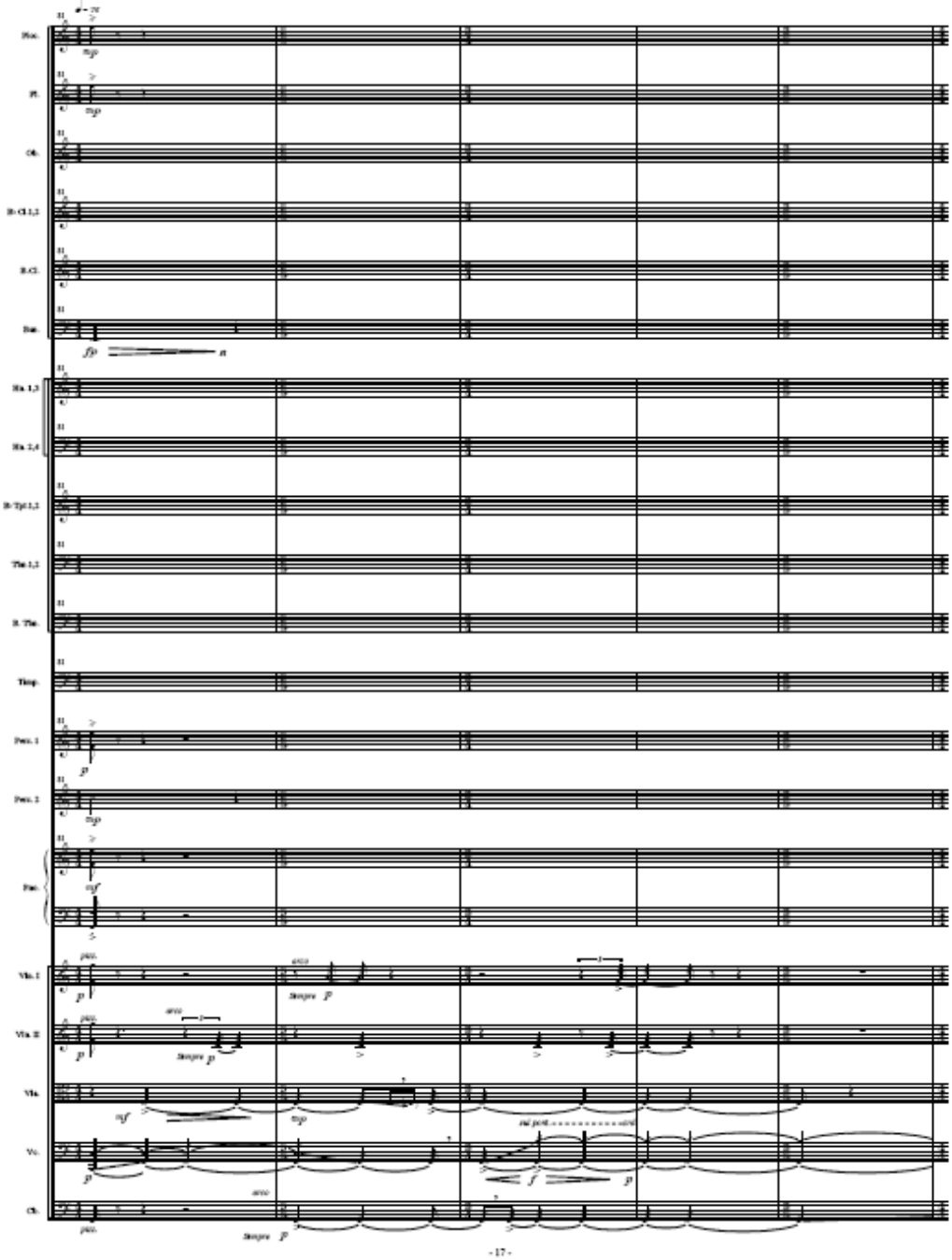

Picc.
Fl.
Ob.
B♭ Cl.1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt.1,2
Tbn.1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
cymbal (hard mallet)
S.D.
l.v.
Crotales (rubber mallet)
ord.
div.
unis.
sul pont.

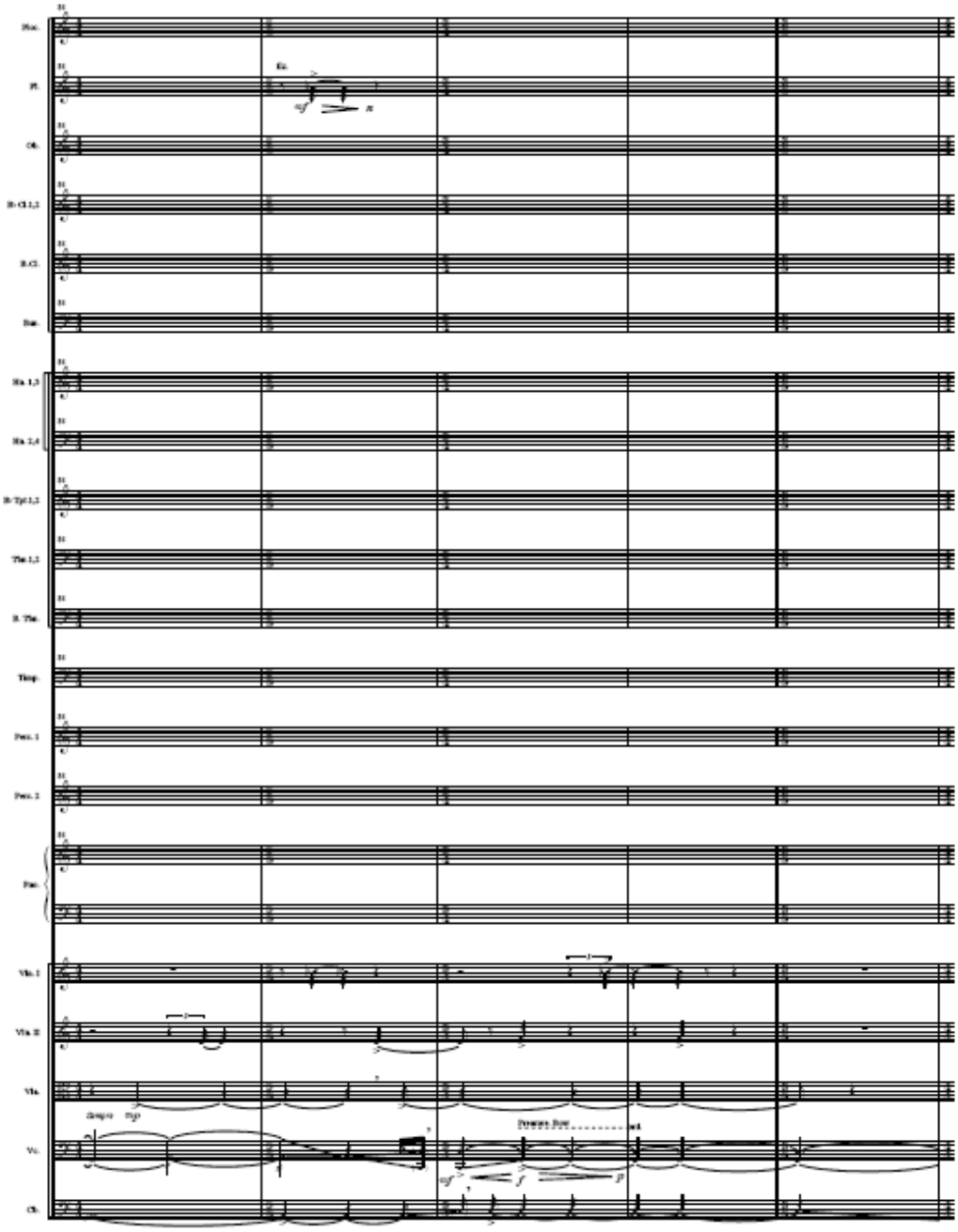

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
(quasi gliss.)
T.T. (scrape w/ sti. beater)
sul. trip
div.
arco
sul pont.
ord.

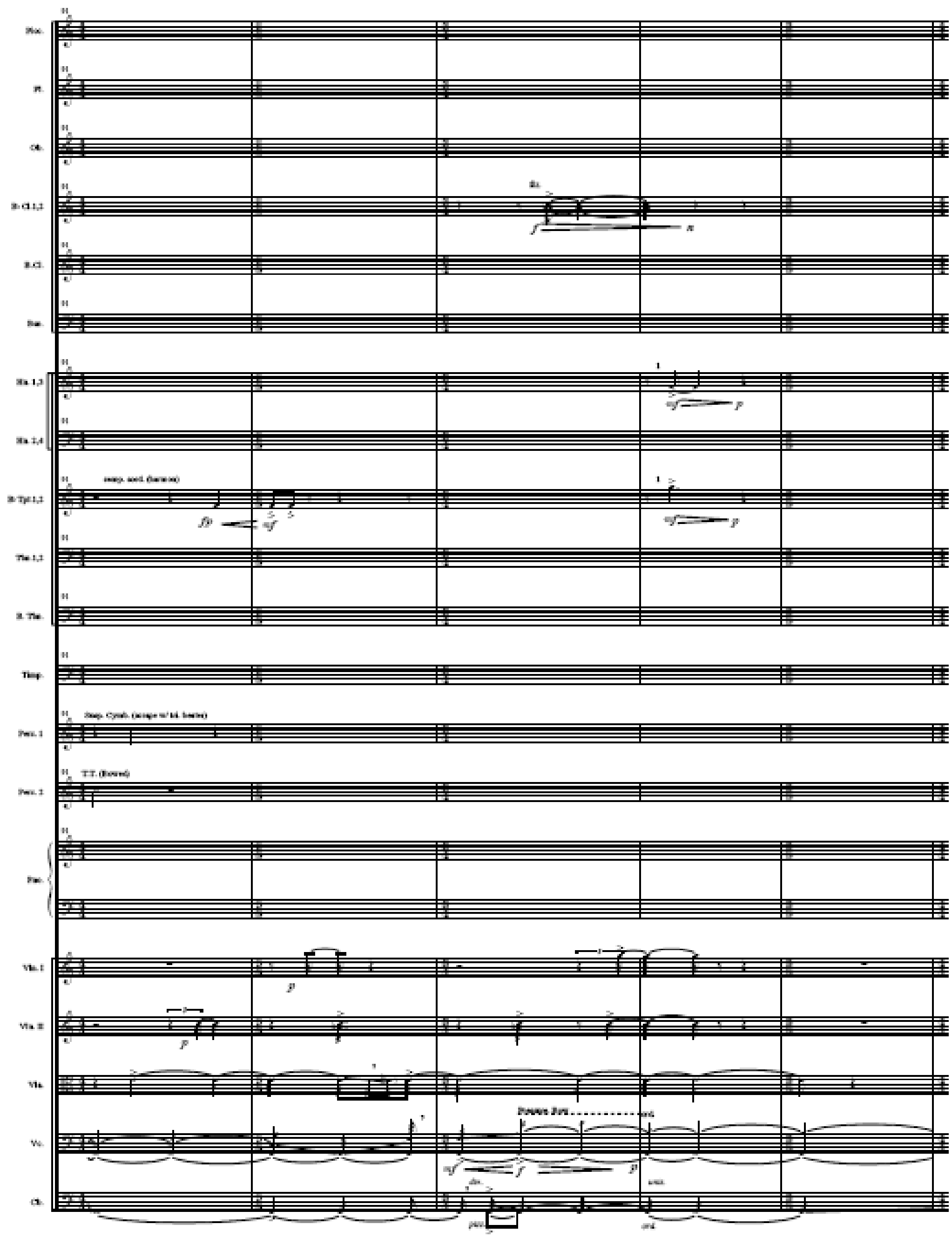

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
sch vib.
fp.
T.T. (Scrwd)
sul pont.
ord.

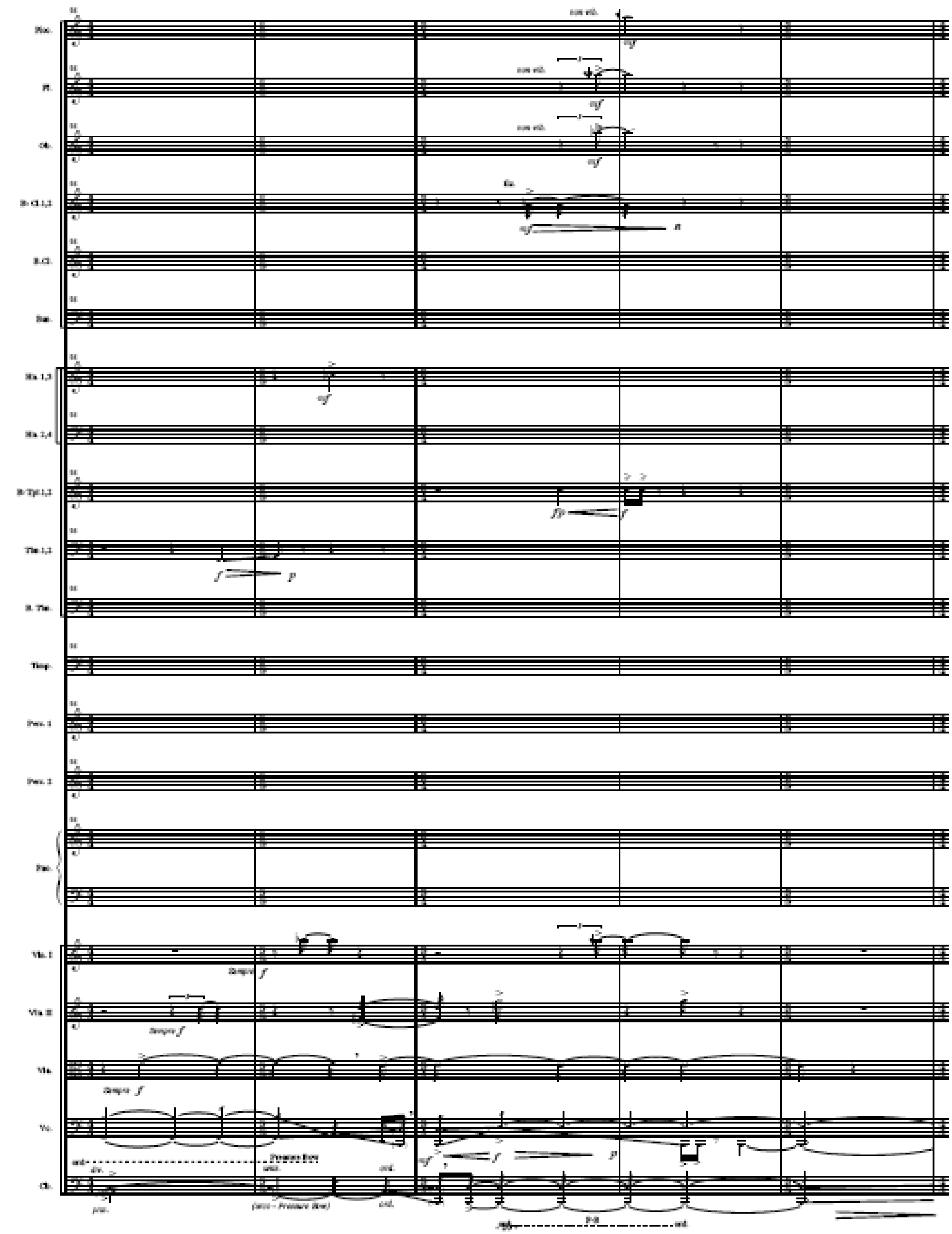

Picc.
Fl.
Ob.
B♭ Cl 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B♭ Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
a2
mp
mf
p
fp
fz.
pp
l.v.
sul ponc.
ord.
div.
unis.
pizz.
arco

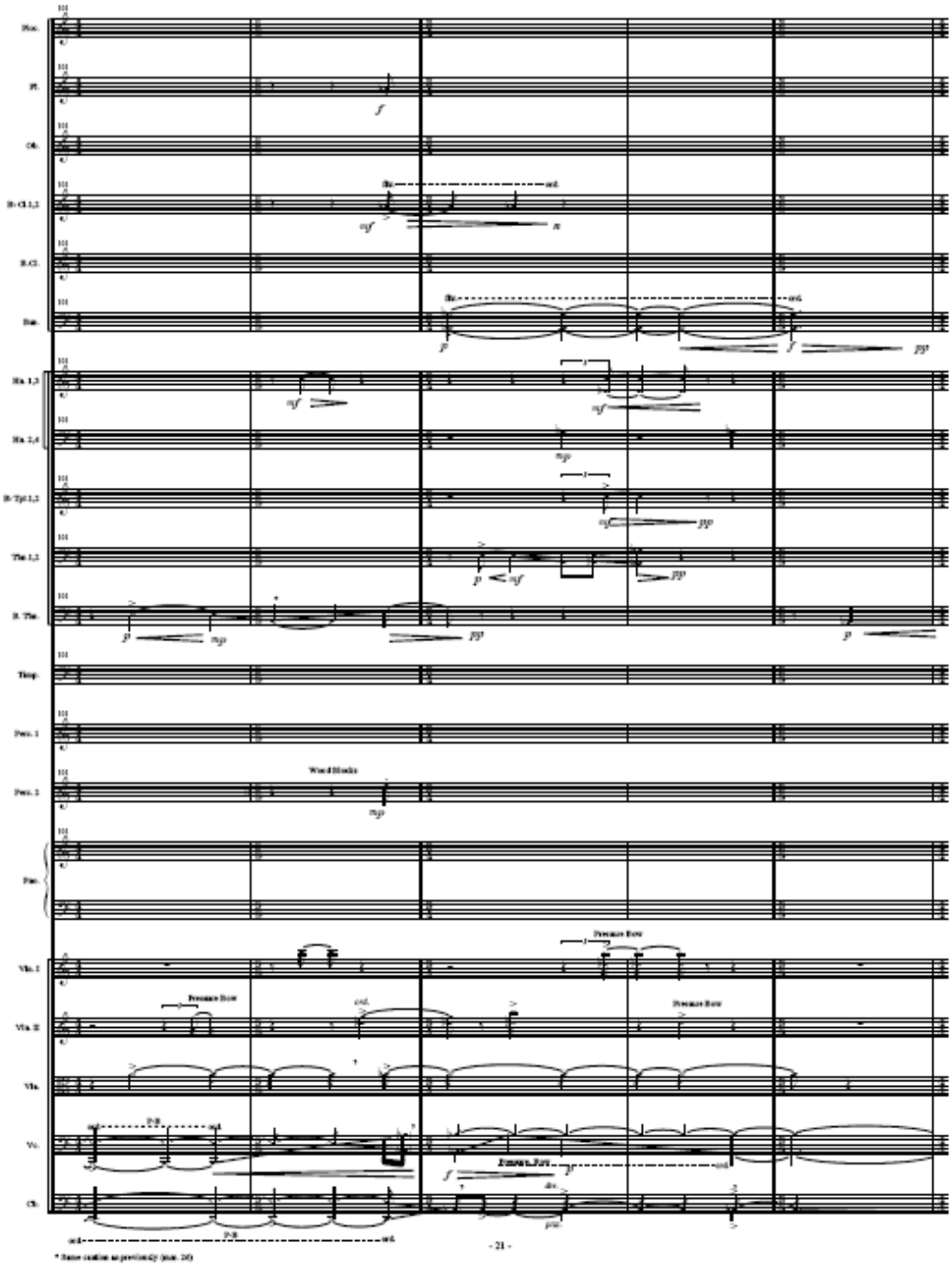

Accel.
Fl.
Ob.
B. Cl. 1,2
B. Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B. Tpt 1,2
Tbn. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
- 16 -

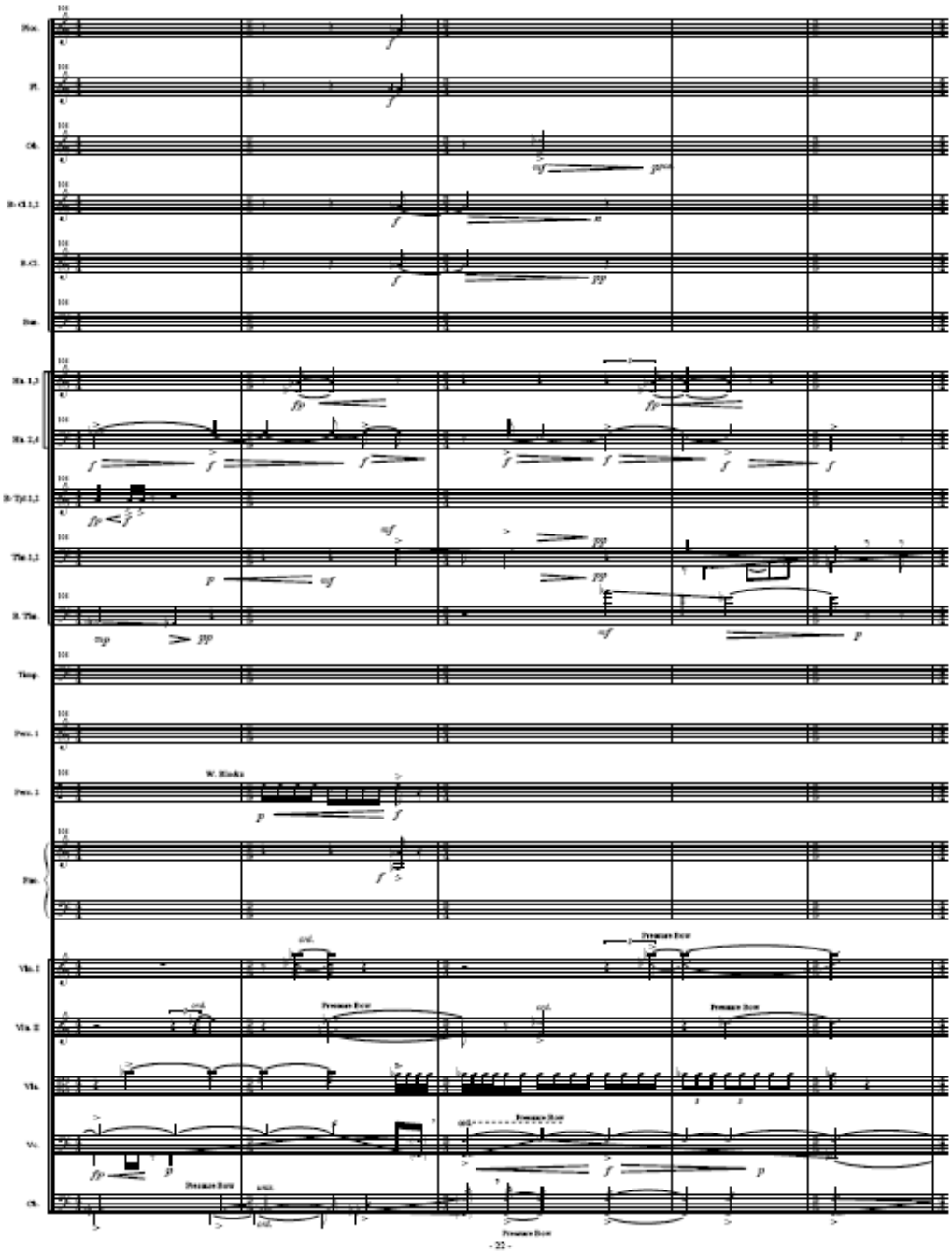

Fl.
Ob.
B. Cl.
Bsn.
Hn. 1,3
Hn. 2,4
Tbn. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
- 17 -

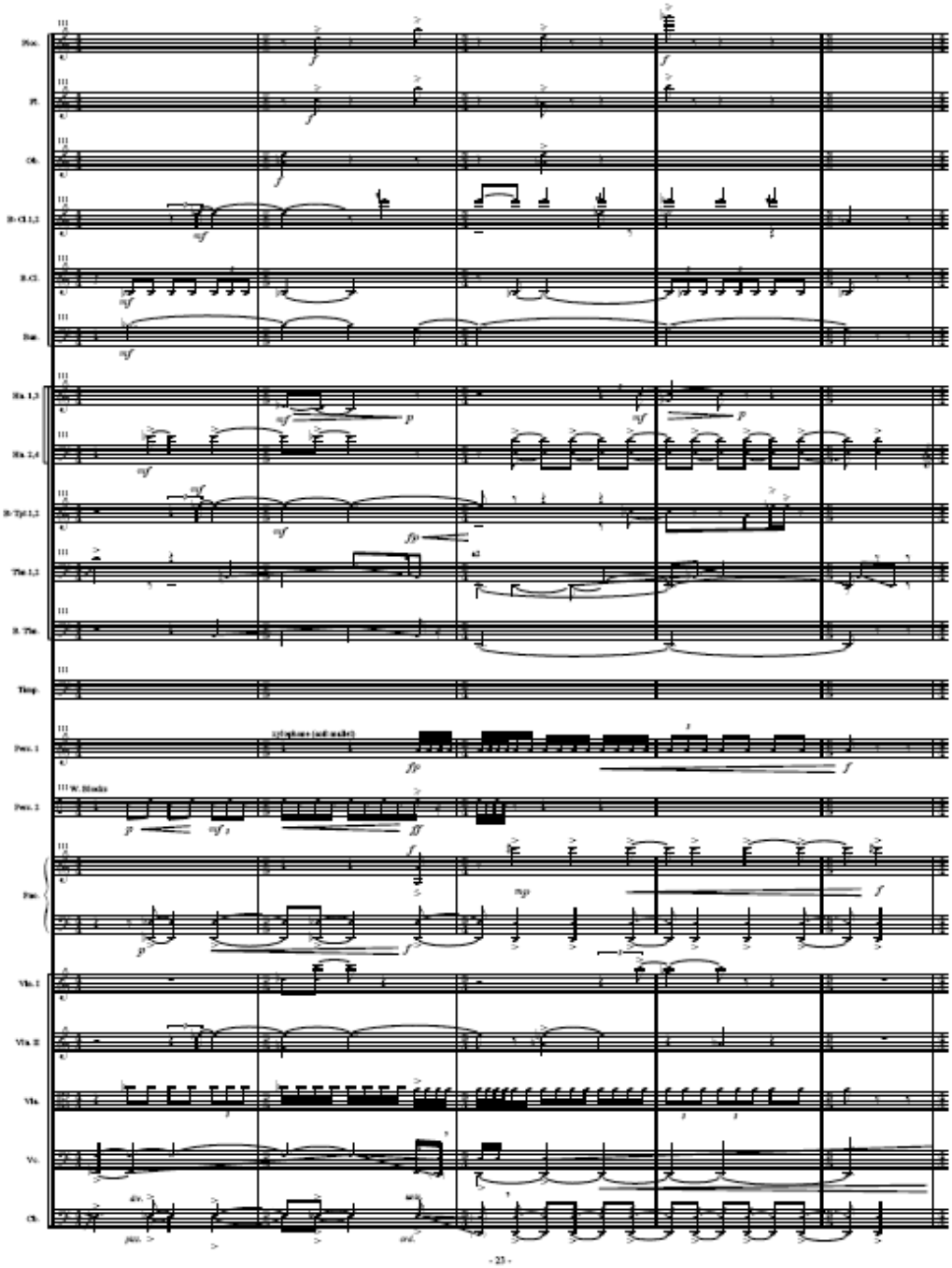

Fl.
Ob.
B. Cl.
Bsn.
Hn. 3,4
Tbn. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Ped.
Tremolo Bow

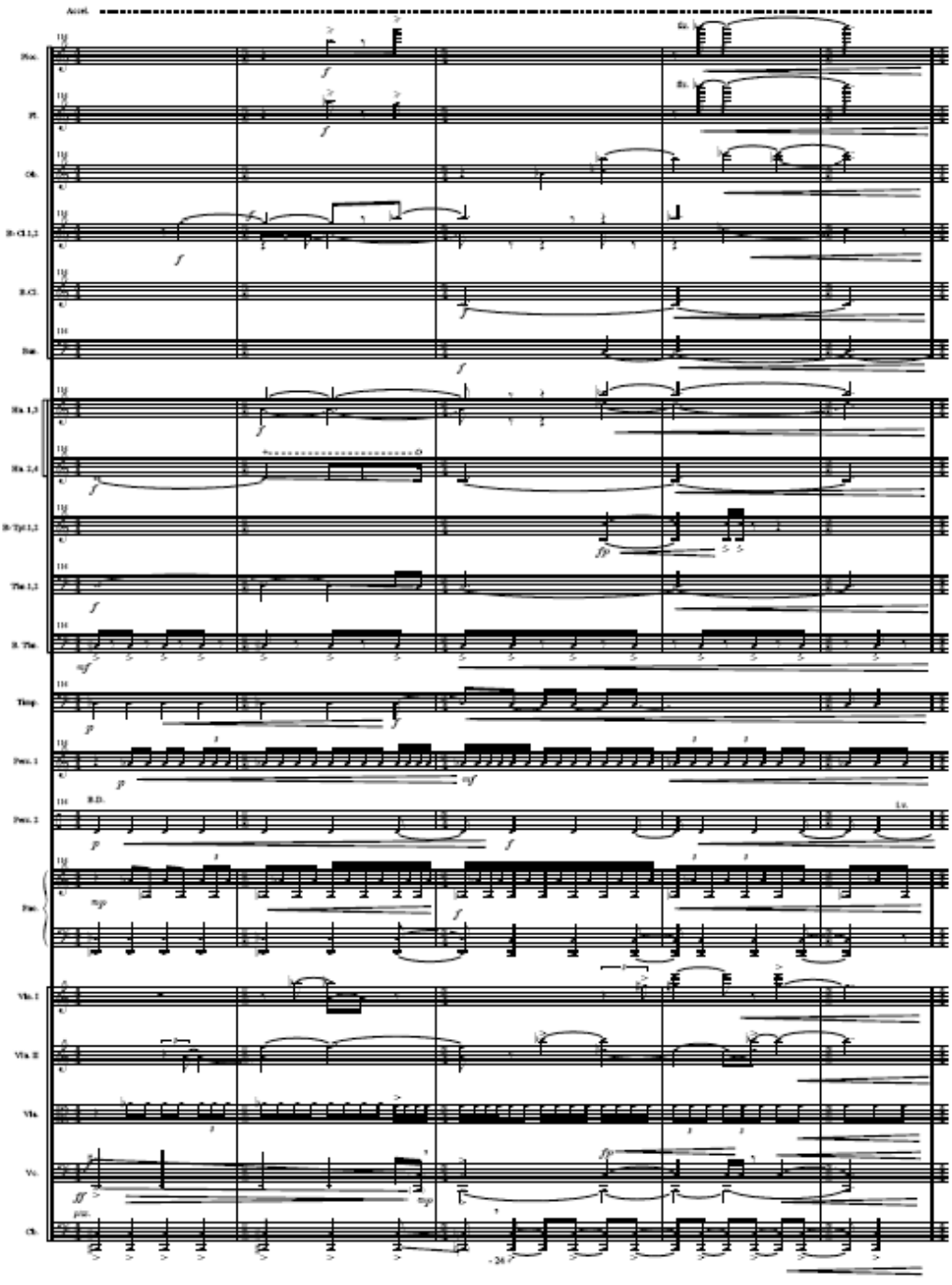


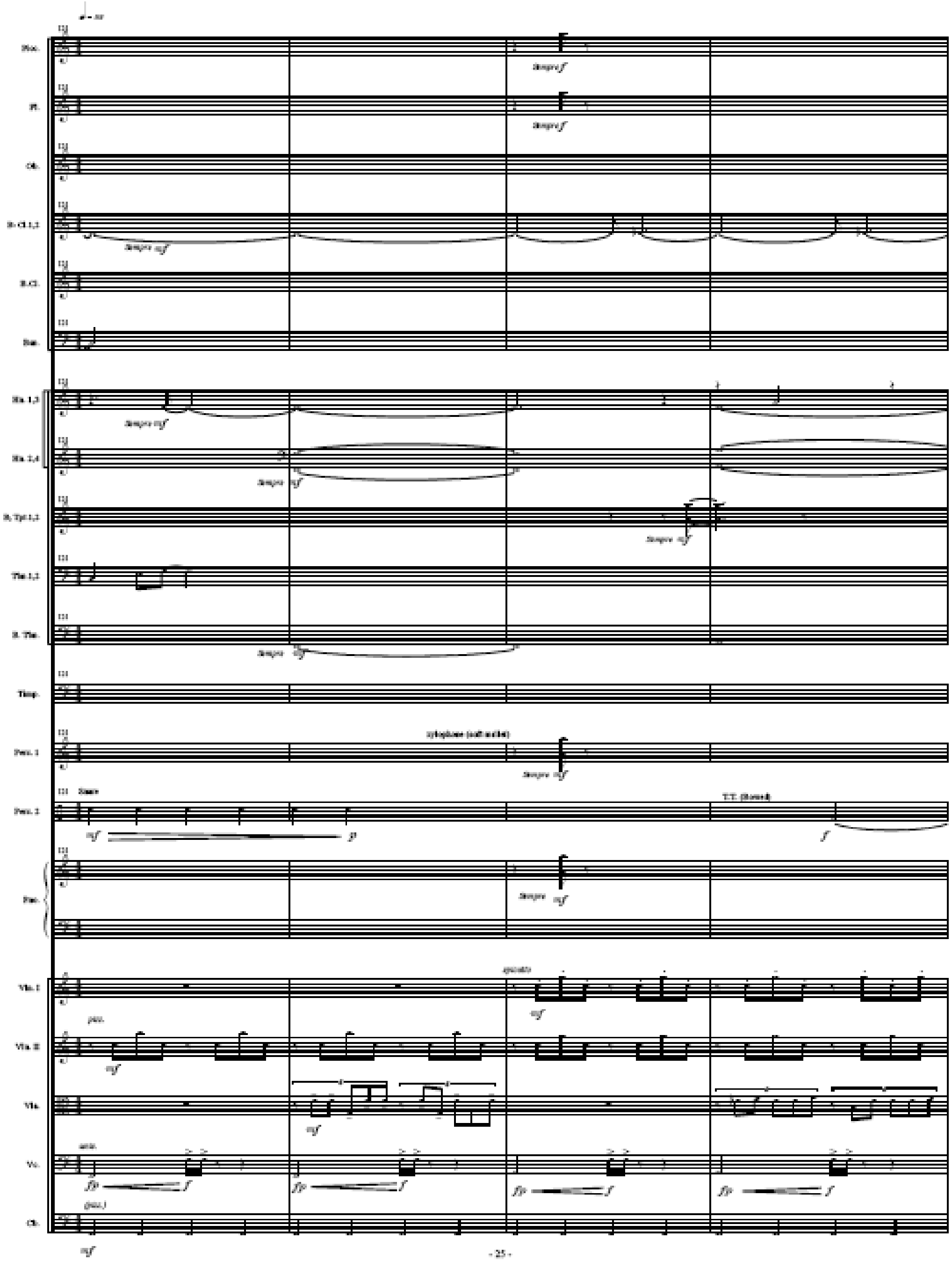

Picc.
Fl.
Ob.
B.Cl.
Bsn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Pressure Bow

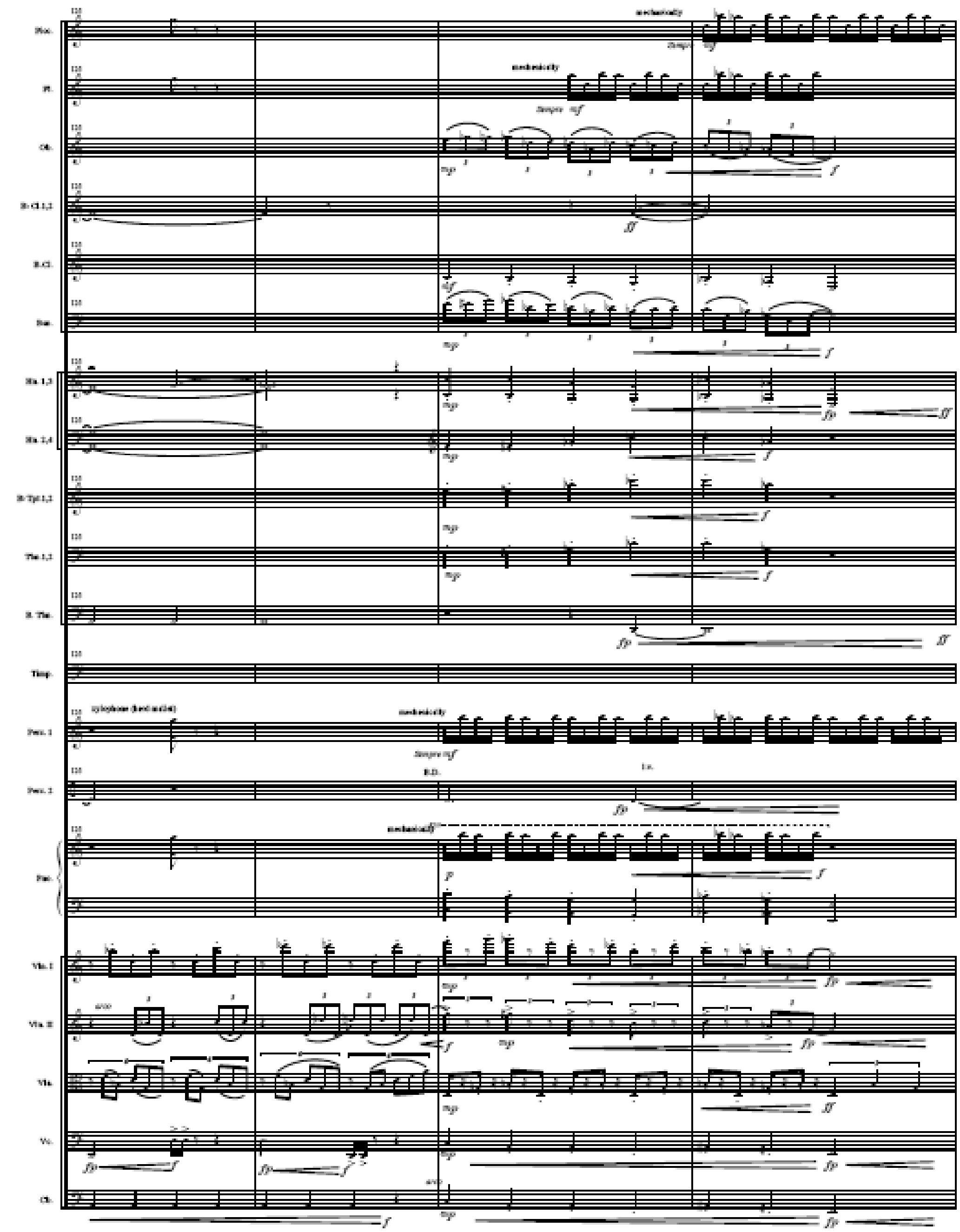

Fl.
Ob.
B. Cl. 1,2
B. Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B. Tpt 1,2
Tbn. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Wood Blocks
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Pressure Bow
Pizz.
arco
- 21 -
* Same rotation as previously (mm. 16)

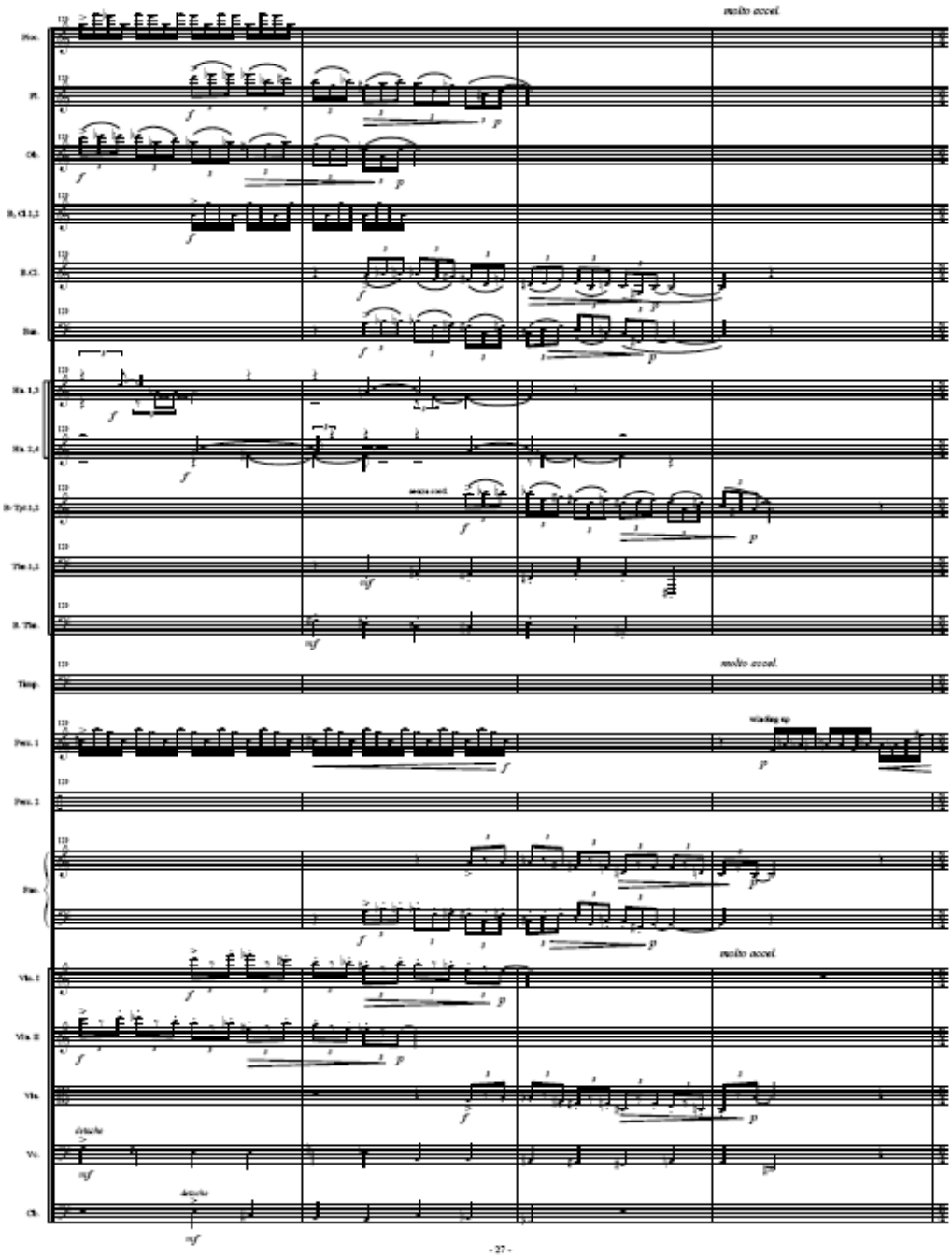

Fl.
Ob.
B. Cl.
Bsn.
Hn. 1,3
Hn. 2,4
Tbn. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
W. Blocks
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Pressure Roll
- 22 -

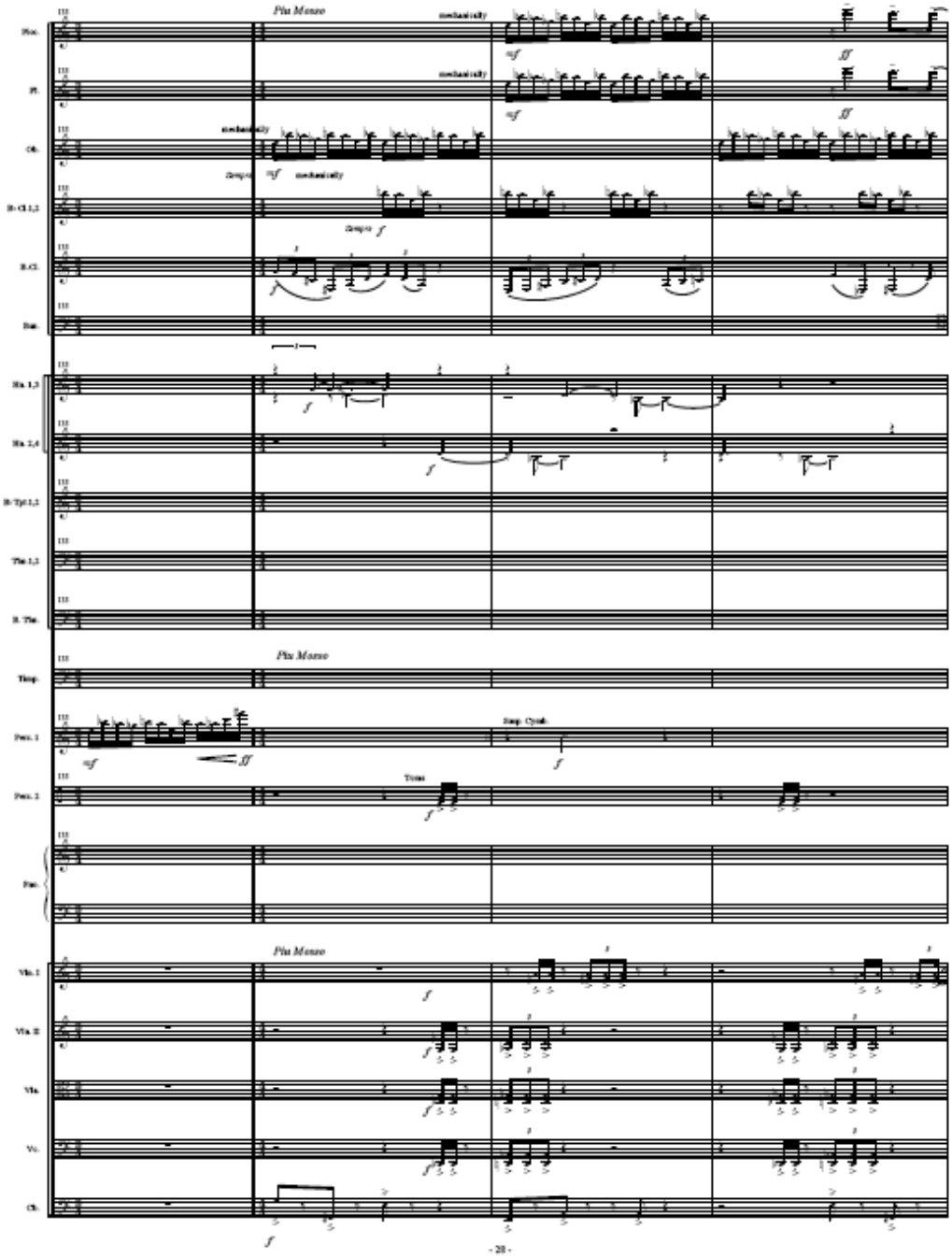

Fl.
Ob.
B. Cl. 1,2
B. Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B. Tpt 1,2
Tbn. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
xylophone (soft mallet)
W. Blocks


Accel.
Fl.
Ob.
B. Cl.
Bsn.
Hn. 1,3
Hn. 2,4
Tbn. 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.


Sempre f
Sempre mf
Xylophone (soft mallet)
Snare
T.T. (Bowed)
spiccato
pizz.
arco


mechanically
xylophone (hard mallet)
B.D.


molto accel.
Picc.
Fl.
Ob.
B. Cl. 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B-Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
molto accel.
molto accel.
winding up
molto accel.
detache
detache


Più Mosso
mechanically
Più Mosso
Più Mosso
Timp. Cymb.
Timp.
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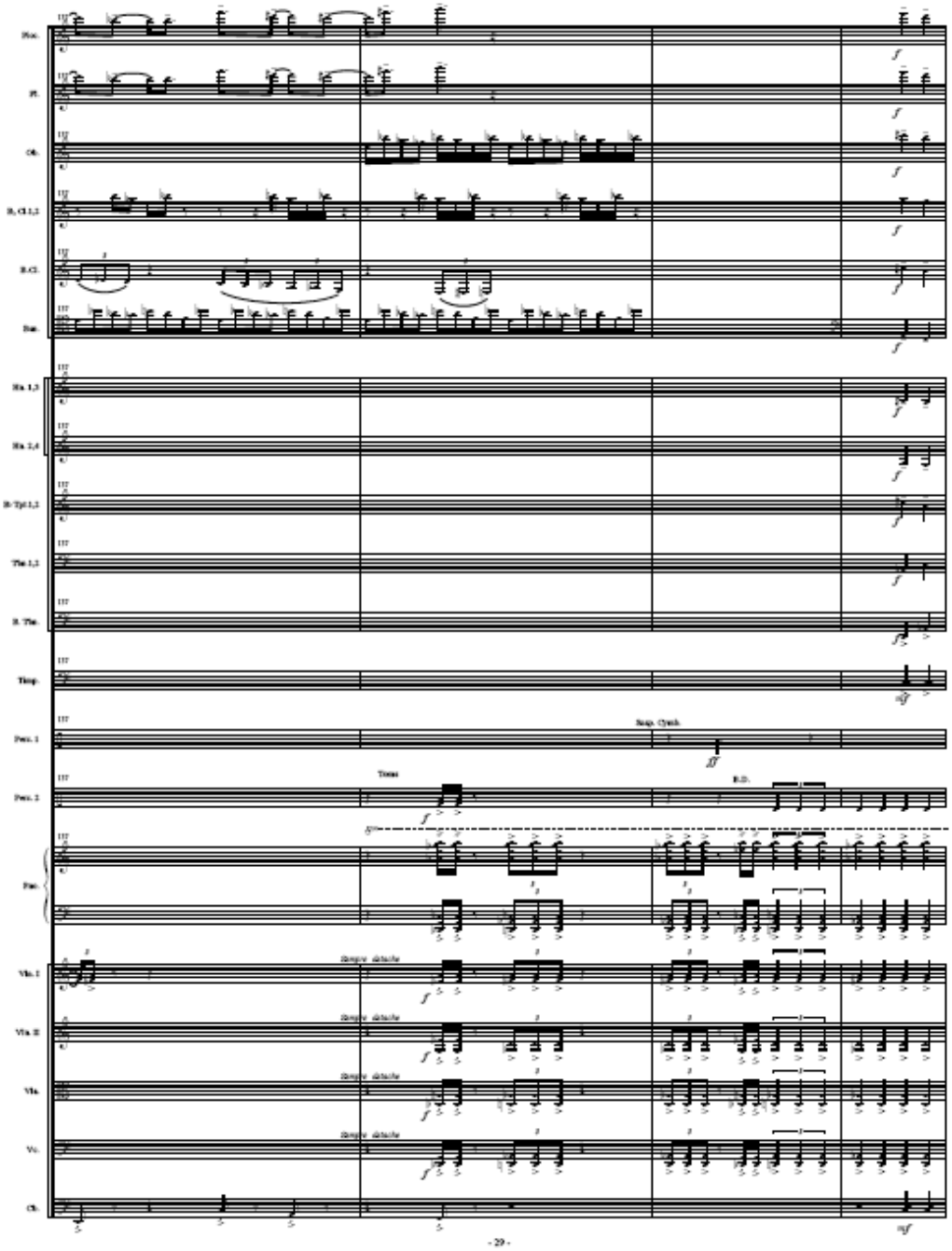
Fl.
Ob.
B. Cl. 1,2
B.Cl.
Bsn.
Hn. 1,3
Hn. 2,4
B. Tpt 1,2
Tbn 1,2
B. Tbn.
Timp.
Perc. 1
Perc. 2
Timp.
Susp. Cymb.
B.D.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
Simile détaché
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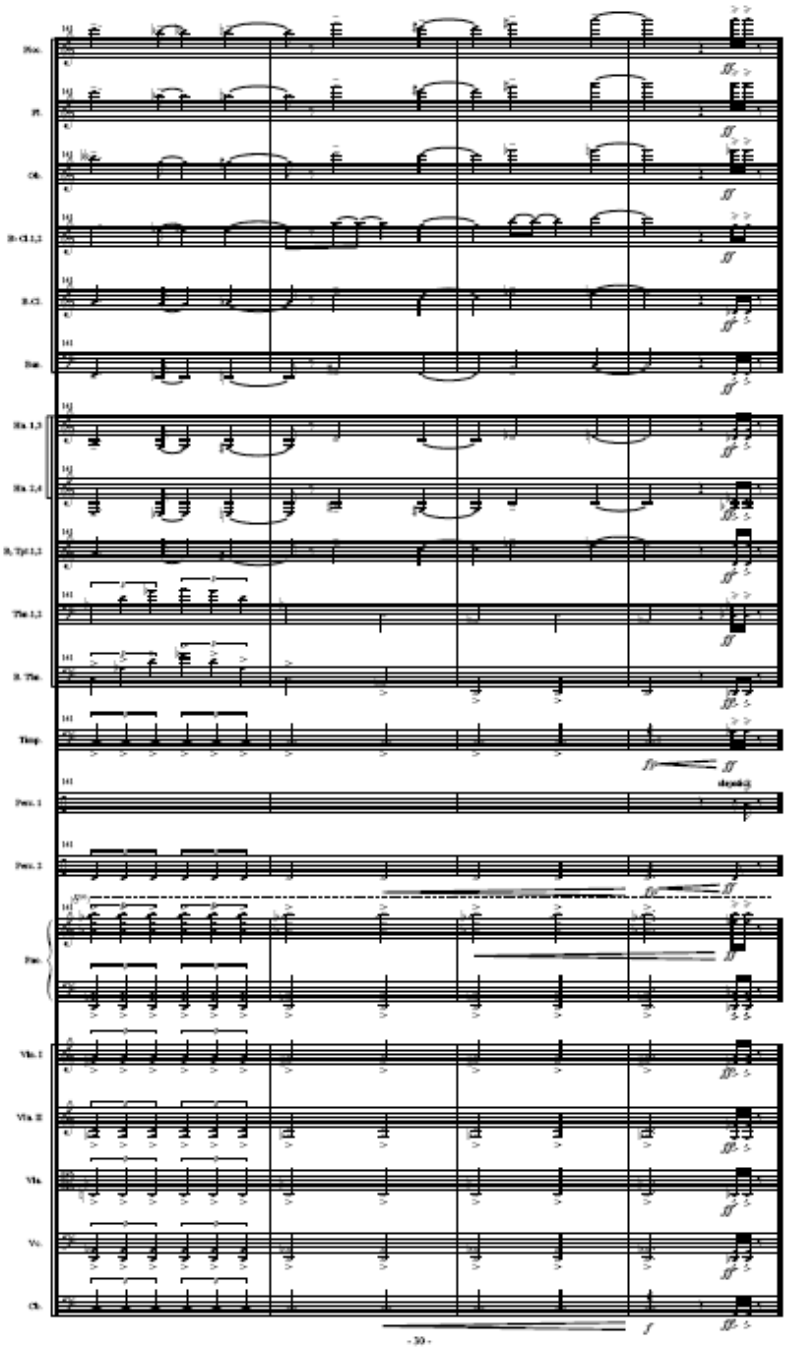

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Completed October 31, 2005
Pittsburgh, Pennsylvania