TWO WAYS OF LOOKING AT MESSIAEN'S *VINGT REGARDS SUR L'ENFANT-JÉSUS*

WITH

BAPTISM (AN ORIGINAL COMPOSITION FOR CHAMBER ORCHESTRA)

by

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The analytic component of my dissertation, "Two Ways of Looking at Messiaen's *Vingt Regards sur l'Enfant-Jésus*," takes two points of entry into the masterwork for piano: the first examines the role of repetition in two of the movements, "Regard de la Vierge" and "Regard du Fils sur le Fils"; the second investigates Messiaen's synesthesia, analyzing the pitch collections that contributed to his visual perceptions. "Regard de la Vierge" utilizes the juxtaposition of disparate musics in order to create a conflict; pitch-centricity and the sharing of motives unify the movement and contribute to the resolution of the conflict. In "Regard du Fils sur le Fils", Messiaen re-contextualizes the first movement, labeled the *Thème de Dieu*, which provides the structural foundations for the superimposition of two additional musics.

In *Baptism*, the compositional component of my dissertation, I continue to explore a technique that is for me a significant change in style: the overlapping of musical events. Some sections of the ensemble continue with one music, while other sections begin new or divergent material. In most instances, the simultaneous musics are realized through metric modulations. The piece was originally commissioned by the Duquesne Contemporary Ensemble and David

Stock, and after the initial performance, I revised the work in order to highlight this feature. The University of Pittsburgh Orchestra, under the direction of Roger Zahab, performed the revised version in February of 2007.

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PREFACE

I would like to thank the members of my committee for their helpful comments and insights. In particular, I thank Eric Moe and Mathew Rosenblum for their guidance throughout my years at the University of Pittsburgh. I would also like to acknowledge the tutelage of Roger Zahab, whose support of my music has overwhelmed me. Further, I would like to thank Rob Fagley and Federico Garcia for their help with the translation of Messiaen's program notes. Personally, I want to acknowledge the love and support from my mother, who always found a way to pay for music lessons in my youth despite our family's tight budget, and to my mentor and friend, Dawn Baker Carson, to whom I will always be indebted for her guidance. Finally, I thank my wife, Lauren, whose love and support is such an important part of my life, I cannot imagine achieving this goal without her.

1.0 INTRODUCTION

Olivier Messiaen's *Vingt regards sur l'Enfant-Jésus*, written in 1944, was originally commissioned for a radio broadcast as twelve short piano pieces to complement the reading of poems by Maurice Toesca. Instead, it became a monumental work of over two hours duration, Messiaen's longest up to that time.[1] Messiaen's previous works for piano include the *Préludes* (1929), *Fantasie Burlesque* (1932), *Rondeau* (1943), and a piece for two pianos, *Visions de l'Amen* (1943). Several internal themes unify the overall structure in *Vingt regards*, including the *Thème de Dieu*, the *Thème de l'Étoile et de la Croix*, and the *Thème d'accords*. The first plays a significant role in "Regard du Fils sur le Fils", one of the movements examined in this dissertation.

A great deal has been written about Messiaen's music, and much of this by the composer himself. In addition to *Le Technique de mon langage musical* and the seven volumes of *Traité de rythme, de couleur, et d'ornithologie*, Messiaen has left numerous interviews, program notes, and prefatory notes to his works, all of which provide a wealth of information concerning the ideas that went into the composition of his music. However, this body of work is sometimes used as the only entry into Messiaen's music. Paul Griffiths writes:

> [*Le Technique*] cannot tell us how Messiaen's music works, but only how in the early 1940s he thought it had been composed. Yet sometimes this has not been

[1] Peter Hill and Nigel Simone, *Messiaen* (New Haven: Yale University Press, 2005), 134-7.

> understood. Messiaen's music has been investigated as if his *Technique de mon langage musical* provided the only avenues of approach …[2]

Both *Le Technique* and *Traité* clarify the creative process of the composer; these texts do not provide analyses, but rather the rudiments of Messiaen's musical thought. However, the information in both can be of value to the theorist, as long as Messiaen's descriptions are not mistaken for analysis.

Messiaen has also left significant information on the extra-musical subtexts of his music, and many authors utilize the composer's musical descriptions in support of other extra-musical claims. Such is the case with Siglind Bruhn's interpretations of *Vingt regards*. For "Regard du Fils sur le Fils",[3] Bruhn argues that the use of two different "modes of limited transposition",[4] modes 6 and 4, for two separate layers of music symbolizes two aspects of Jesus: the suffering on the cross and the incarnation of the Word. In support, the author notes that the same modes are employed in the seventh piece, "Regard de la Croix".[5] Bruhn continues:

> The fact that strand 1 consists exclusively of three-note chords, while strand 2 contains four-note chords throughout, confirms this interpretation. The Trinitarian 3 is an established symbol for the divine, while 4 stands for the material, perishable world of Aristotle's four elements (fire, water, air and earth). The three-note chords thus represent the divine nature of the Son, "shining down upon" the four-note chords that stand for the mortal aspect of the son.[6]

The problems with this argument are abundant. First, combining different modes of limited transposition is a common technique in Messiaen's music. True, Messiaen does use modes 6 and 4 in both pieces, but he does not use the same transpositions; modes 6^3 and 4^4 are employed in "Regard du Fils sur le Fils", and modes 6^4 and 4^6 are in "Regard de la Croix". If Messiaen

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[2] Paul Griffiths, *Olivier Messiaen and the Music of Time* (London: Faber and Faber, 1985), 94.
[3] "View [or Contemplation] of the Son on Himself"
[4] Messiaen's symmetrical modes are explained in Appendix A.
[5] "View [or Contemplation] of the Cross"
[6] Siglind Bruhn, *Images and Ideas in Modern French Piano Music: The Extra-Musical Subtext in Piano Works by Ravel, Debussy, and Messiaen* (Stuyvesant: Pendragon, 1997), 246.

intended this connection, it is likely he would have used the same transpositions. Also, Messiaen does use three-note and four-note chords in "Regard du Fils sur le Fils", but in "Regard de la Croix" both layers employ four-note chords! If Bruhn's claim about the number of chord members is valid, then what extra-musical conclusions can be drawn from "Regard de la Croix" about the nature of Jesus' death on the cross? Apparently, Bruhn makes symbolic associations when the rudiments of the music support his claims and ignores the same factors when they do not. Exploring Messiaen's extra-musical subtext can provide valuable insight into his music, but the conclusions will be more meaningful when they are based on more convincing musical analysis.

Hence, in this dissertation I intend to contribute to the body of knowledge about Messiaen's music using two points of entry. The first is to address the music on its own merits, i.e. what the music itself tells us. I will begin my analysis based on the score, drawing from Messiaen's descriptions of the music only insofar as they are useful for the analysis. A second approach is to investigate Messiaen's synesthesia,[7] analyzing the pitch collections that contributed to his visual perceptions in *Vingt regards*, and here the composer's own writings are essential. Since synesthesia affects perceptions, it is very likely that this condition influenced Messiaen's decisions as a composer. Consequently, I will postulate on the ways that Messiaen's synesthesia may have influenced his musical choices.

One source in particular provides information about the musical materials involved in the composition of *Vingt regards*: the second volume of *Traité*. This writing was originally prepared for a course taught in 1954 at the Musikhochschule in Saarbrücken, and builds on the information provided in the prefatory notes of the score. Some of the original information is

[7] Messiaen's synesthesia is the visual perception of color evoked by pitch collections.

retained, at times verbatim, but the chapter from *Traité* greatly expands on the technical matters, with many more descriptive examples of the music. Messiaen's program notes from a 1978 festival take their technical information from the chapter in *Traité*, but in a condensed version without incipits. The exact date for the program notes is unknown, but they were compiled after 1954 and before publication in 1978. These program notes expand on the religious subtext, and introduce Messiaen's synesthetic perceptions of the work.

Messiaen's *Traité*, interviews, prefatory notes, and notations within his scores provide substantial information about his synesthesia. In these sources, Messiaen describes his perception of visual color for specific passages of music, for his "modes of limited transposition", and, in rare instances, for smaller pitch collections. Until recently, little had been accomplished to provide a theory for Messiaen's color perceptions beyond the descriptions given by the composer himself. Joseph Harris' dissertation from 2004, "*Musique Colorée*: Synesthetic Correspondence in the Works of Olivier Messiaen", examines the composer's cross-modal associations in *Sept Haïkaï*, to arrive at a working theory that maps specific color correspondences for pitch-classes, which is then applied to "Apparition du Christ glorieux", the first movement from *Éclairs sur l'Au-Delà*. In this work, Harris posits that Messiaen's earliest writings about cross-modal associations have less to do with his own perceptions and reflect a *Zeitgeist* for sound-color relationships in the arts, contending that the more reliable sources for Messiaen's true synesthetic perceptions are written after 1950. While his argument is convincing and may be true for the composer's descriptions of sound-color associations, Harris seems to dismiss the possible role of synesthesia in the creation of Messiaen's music prior to 1950, despite Messiaen's own statement that he always had sound-color perceptions that only grew stronger

across time.[8] I intend to demonstrate that Messiaen's synesthesia is more than likely to have played a role in the composition of *Vingt regards*.

For my own part, I rely on three main sources regarding Messiaen's synesthesia (all written after 1950): *Hommage a Olivier Messiaen* (the composer's program notes), *Music and Color: Conversations with Claude Samuel*, and the seventh volume of *Traité*. The latter work contains Messiaen's most elaborate descriptions of his color associations for the modes of limited transposition and was prepared as his definitive writing on the topic, so these descriptions carry more weight than those mentioned in passing in interviews.

In addition to considering Messiaen's synesthetic perceptions, my analysis addresses the role of repetition in Messiaen's music. To this end, two movements from *Vingt regards* are examined: Regard de la Vierge" and "Regard du Fils sur le Fils". In both movements, Messiaen either juxtaposes or superimposes repeated sections of music. While both feature considerable repetition of music at its original pitch, it is the variation of these musics and their juxtaposition or superimposition with other material that make Messiaen's forms effective. The following chapter (JUXTAPOSITION AND REPETITION IN "REGARD DE LA VIERGE") analyzes the musical conflict created by the juxtaposition of disparate musics in the fourth movement, while Chapter 3 (REPETITION AND LAYERING IN "REGARD DU FILS SUR LE FILS") analyzes the superimposition of musics against the complete *Thème de Dieu*, originally stated in the first movement, "Regard du Père". The fourth chapter (SYNESTHESIA AND ITS RELEVANCE IN *VINGT REGARDS*) explains synesthesia and provides a historical background of its cultural role in music, before considering Messiaen's recorded perceptions for *Vingt regards*. In his program

[8] Joseph Edward Harris, "*Musique Colorée*: Synesthetic Correspondence in the Works of Olivier Messiaen." (Ph.D. diss., University of Iowa, 2004), 28. Original French in Robert Laliberté, "Messiaen : musician de l'arc-en-ciel," *La Vie musicale* (March 1971), 9.

notes, Messiaen's descriptions of his synesthetic perceptions in "Regard du Fils sur le Fils" are the most extensive for any of the movements in *Vingt regards*. For "Regard de la Vierge", his comments are not specific, merely implying that a variety of colors are perceived. The fifth chapter (CONCLUSIONS) considers the ways that Messiaen's synesthesia may have influenced his approach to composition. Two appendixes provide supporting information: the first catalogues Messiaen's modes of limited transposition (Appendix A), and the second provides a translation of his program notes for *Vingt regards* (Appendix B), included here for all of the movements due to the limited availability of the original French.

2.0 JUXTAPOSITION AND REPETITION IN "REGARD DE LA VIERGE"

In an infamous statement, a young Pierre Boulez made the assertion that Messiaen "does not compose; he juxtaposes."[9] This assessment of Messiaen's compositional approach has some validity; the composer's works exhibit a strong tendency to repeat sections of music, and changes from one section to another are often abrupt, without transition. However, Messiaen does not tend to repeat large sections of music without variation of some type, and these variations usually help create a more cohesive structure. In the case of the fourth piece from *Vingt regards*, "Regard de la Vierge", the juxtaposition of disparate musics creates a conflict that needs to be resolved; two distinct types of music are alternately placed next to one another, and are eventually reconciled. The first music is less active and more economical in its musical materials, and uses a great amount of repetition within each recurring section; for convenience and consistency, this music will be referred to as "passive". The contrasting music is much more varied, and extends the dynamic range and tessitura of the piece; sections of this music will be labeled "active".

The opening section establishes a "passive" texture by the use of confining harmonic, melodic, and rhythmic materials to a limited dynamic range and tessitura. With respect to harmony, the very first measure uses a sequence of sonorities that delineate the primary pitch collection, pitch-class set [1,3,5,6,7,8,10], for the entire section (mm. 1-15). Every phrase or

[9] Pierre Boulez, *Notes on an Apprenticeship*, trans. by Herbert Weinstock (New York: Knopf, 1968); originally published as *Relevés d'apprenti* (Paris: Editions du Seuil, 1966); 64.

subphrase not only begins with the same four chords, but uses them in the same order without any changes in register or voicing. The second measure responds with a rhythmic variation of the exact same four chords (Figure 1), and these two measures are then repeated. The first digression from this sequence of chords does not occur until the fifth bar. The measure begins with the sequence of four chords, which are then repeated and extended by the reiteration of the third and fourth chords, followed by a new fifth and a sixth harmony (Figure 2). The fifth sonority does not move outside of the initial pitch collection; it is not until the cadence on the sixth chord that new pitches D-natural and A-natural are introduced (2 and 9 respectively). So, it is with this sixth harmony at the end of measure five that one hears the first movement away from the beginning pitch-class set.

Figure 1. Harmonic sequence for mm. 1-2 in "Regard de la Vierge"

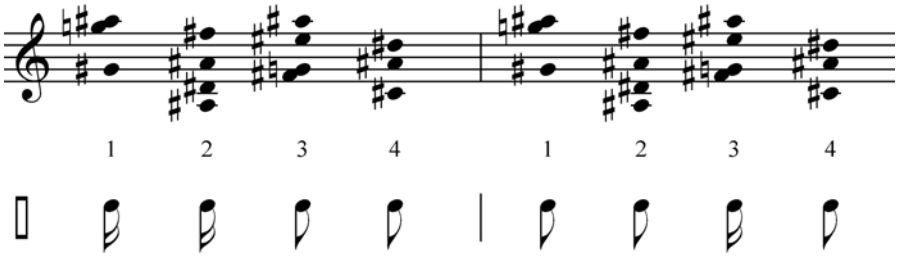
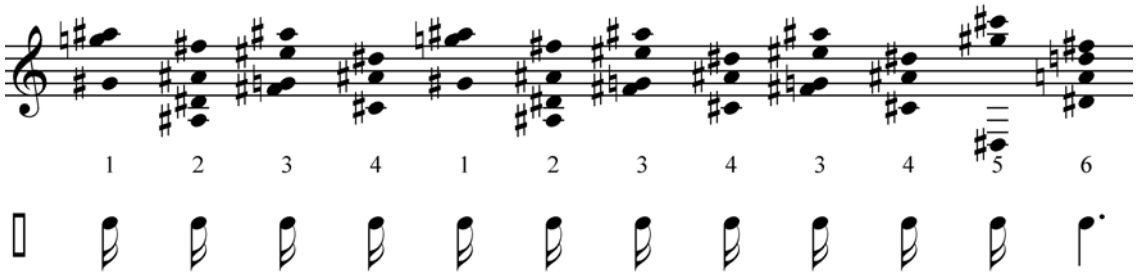
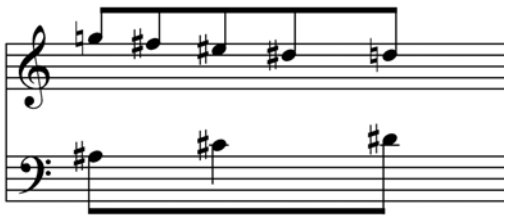


Figure 2. Harmonic sequence for m. 5 in "Regard de la Vierge"



Correspondingly, the melody is as frugal as the harmonies. With the proper execution of Messiaen's performance note[10], a stepwise melodic line consisting of G, F-sharp, E-sharp, and D-sharp comes out of the four-chord texture and is present with each repetition of the sequence of harmonies. The repetition of this descending figure might lead one to expect the line to continue downward at some point. Instead, the highest voice leaps up a seventh to the C-sharp before coming to rest on F-sharp. However, an inner voice does move down by step – not to the expected pitch, the C-sharp that is within the harmonic home collection, but to the pitch a semitone away, D-natural.[11] In this way, the D-natural has superseded the C-sharp as the goal of the melody, and it is emphasized here not only by the stepwise melodic descent, but also by its absence from the opening pitch collection. At this point, the phrase comes to a cadence, albeit an inconclusive one. This harmonic change is supported by one in the fundamental bass, which highlights a movement from A-sharp to D-sharp, with a subordinate role played by the C-sharp (Figure 3).

Figure 3. Reduction for mm. 1-5 in "Regard de la Vierge"



The five-measure phrase structure is reinforced by the rhythm. In the opening, the rhythmic variation between the first two measures and the subsequent repetition in mm. 3-4 establish a perception of two-measure subphrases. However, the asymmetrical rhythm in the

[10] Messiaen's performance note, "Faites sortir le chant à la moin droite: *sol, fa, mi, re*," translates, "bring out the song in the right hand: *sol, fa, mi, re*", referring to pitches the G, F-sharp, E-sharp, and D-sharp, in this context.
[11] True, the uppermost voice could be heard as the melody. However, if the performer brings out the line G, F-sharp, E-sharp, and D-sharp, then the D-natural should also be emphasized as the continuation of the line.

second and fourth measures discourages any feeling of closure there. With the sixteenth-note rhythm in the beginning of the fifth measure, it would seem that the music might continue in a like manner. Instead, the quickening harmonic rhythm propels the sequence to break out of the harmonic repetition – which it does, leading to the inconclusive cadence at the end of the measure. The sense of cadence is then reinforced by arriving on a dotted quarter note, a rhythmic value six times longer than any heard until this point in the music.

Structurally, this five-measure phrase is then repeated twice, with a slight variation on the third statement which delays and curtails the anticipated cadence, advancing us abruptly to the following "active" section. All of the repetition within the opening music, along with its limited tessitura (falling mostly within two octaves) and dynamic range (only moving above pianissimo at the end of the third phrase) gives this initial section of music a rather indolent feeling. Furthermore, the rhythmic values are economical, entirely eighth notes and sixteenth notes, except for the much longer note values at the cadence points. However, the music is not entirely without movement; the phrases do progress from the opening pitch collection, increasing in rhythmic activity as they approach cadential points, but since the motion is away from the home collection, the cadences do not provide a strong resolution. At this point, the question has been posed: how will this "passive" music resolve? C-sharp appears to be the eventual melodic goal, but this has yet to be confirmed. The answer will be provided by the "active" sections of music.

The following "active" section in mm. 16-24 contrasts not only with the music that precedes it but also with itself. The first gesture in mm. 16-17 immediately expands the tessitura more than an octave above that of the prior section, and moves at both a faster tempo and pace, with a triple subdivision of the beat, instead of the duple subdivision which regulated the music of the passive section. Additionally, this new music contains the entire complement,

[9,11,0,2,4], of the opening pitch-class set [1,3,5,6,7,8,10], within three successive ascending sonorities that are repeated seven times in consistent rhythm over a pedal C-sharp. The gesture that follows in m. 18 provides contrast, moving these chords down an octave, dividing them between the hands and reversing their order in the left. C-sharp is still stressed by its position as the bass voice and by its duration in measure 18, and the importance of this emphasis on C-sharp will become clear in the next active section. This accentuation of the C-sharp, though, is quickly abandoned in the gestures that follow.

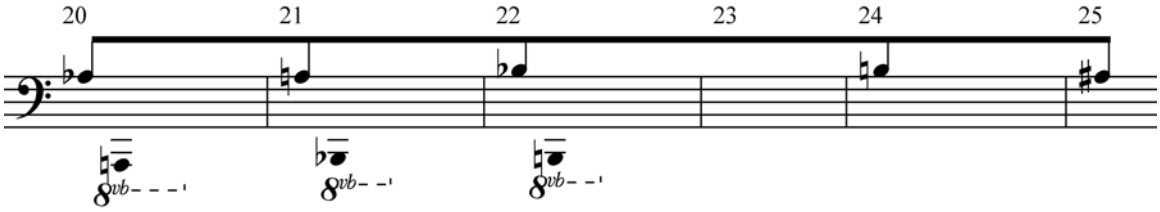
The next gesture in m. 19 greatly expands the tessitura, reaching nearly two octaves lower than the lowest pitch heard so far in this movement. Although another descending figure, this gesture contrasts with the previous one in pitch organization and articulation, providing contrast. None of the dyads or triads of the former gesture are retained. While the former figure emphasized sustained notes, this one features dry articulation of single pitches with an abrupt ending to the figure. The subsequent music is yet another contrast.

The four measures that follow (mm. 20-23) return to a duple subdivision of the eighth-note beat, but provide the greatest contrast up to this point because of the rate of harmonic progression. The new gesture in m. 20 is transposed by a half step, or interval-class 1, in mm. 21 and 22, however the staves are transposed in contrary motion: the music in the right hand is transposed downward by half step, while the left hand is a semitone higher. In m. 23, the size of the interval of transposition increases; the distance between the first two chords in the right hand is interval-class 2, between the second and third, interval-class 4, and between the final two, interval-class 6. Additionally, the rate of progression increases with the change in transposition interval, from one chord per measure for mm. 20-22, to one per beat at the beginning of m. 23, and finally moving with subdivisions of the beat for the final chords of this measure. This quick

and increasing rate of harmonic progression contrasts greatly with all of the preceding music, particularly with the opening passive section, which takes five measures to move beyond its initial pitch collection. The increased harmonic motion propels the music toward a cadence in m. 24, where the sonority on the downbeat is restated in several registers.

The fundamental bass line of this progression, along with the suspension of harmonic motion in m. 24, prepares for the return of the opening material. The bass line ascends chromatically from A-flat to B, which is then sustained before settling back down on the A-sharp at the beginning of m. 25 (Figure 4).

Figure 4. Fundamental bass for mm. 20-25 in "Regard de la Viege"



Furthermore, the suspension of harmonic motion in m. 24 that creates a cadence also serves as a transition back to the much slower rate of harmonic movement of the opening material. In this way, the return to the "passive" music is prepared, as opposed to the abrupt change from "passive" to "active" sections. The effect of this transition supports the role played by the "passive" music.

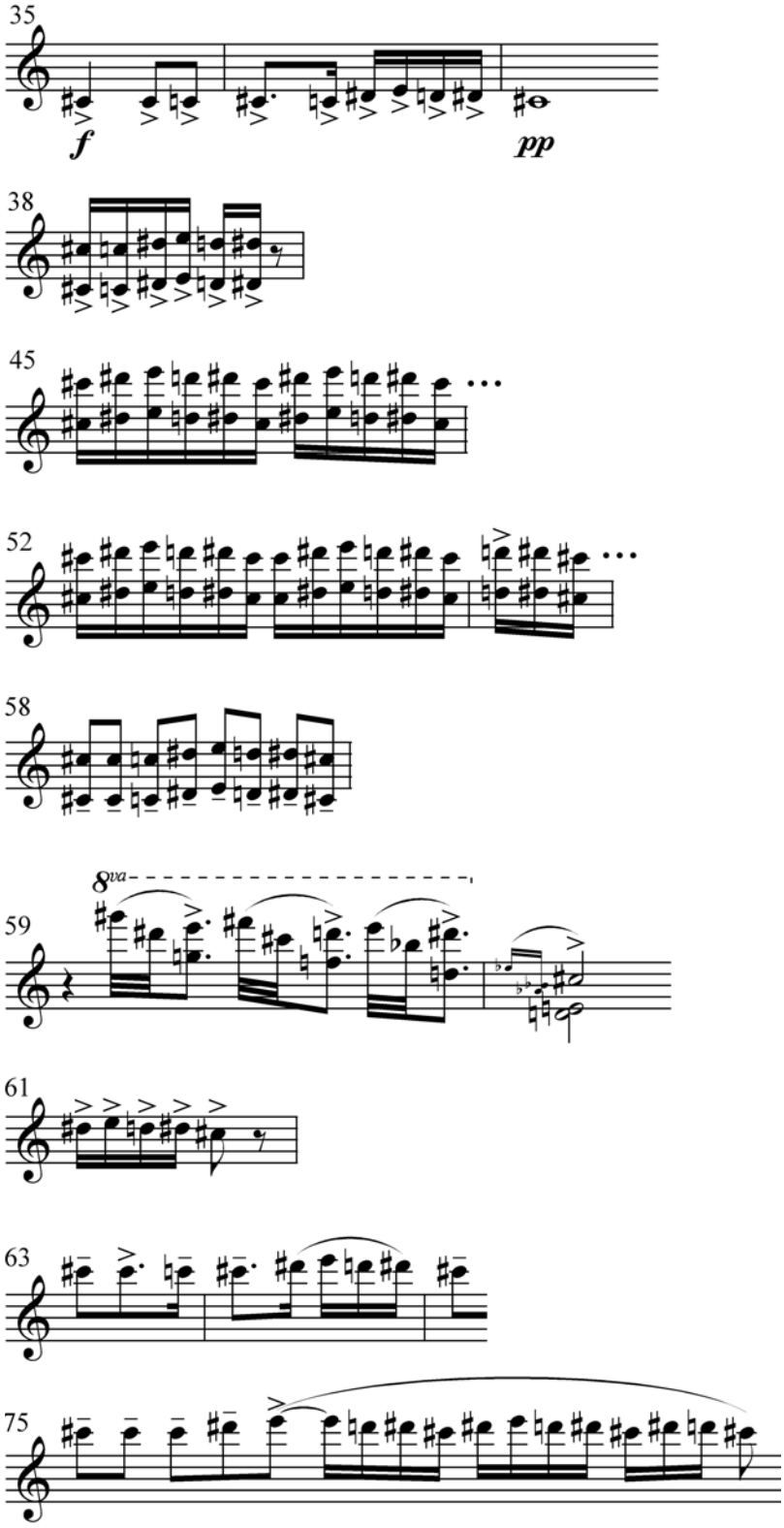
The "passive" music returns in m. 25 with a slight alteration: there are only two statements of the phrase instead of three, and the cadence is modified at the end of the second, now final phrase. With respect to structure, the relative brevity of the "active" music makes the section subordinate in hindsight.[12] Consequently, these three sections together form a larger structural unit. However, the truncation of the second passive section affects the listener's

[12] Based on the metronome markings, the initial section and its shortened reprise last 57 and 39 seconds respectively, while the contrasting section lasts merely 19 seconds.

perception of the structure of the piece: since a third statement is expected, the omission of it makes the cadence even less conclusive. Therefore, the continuation of the piece is signaled by this alteration, and the movement does in fact continue with another "active" section in mm. 35-62, which enters as abruptly as the previous one.

The new "active" section of music serves several functions: it provides even greater contrast to the opening material, confirms centricity on C-sharp for the movement, and introduces the melodic line that will later be added to the "passive" material. As for the contrast, most of the music within this section is notated at a much louder dynamic level than the opening material – ranging from mezzo-forte to fortissimo instead of from pianississimo to piano. The three instances that the music is softer than mezzo-forte are brief (no more than three measures) and primarily serve to provide internal contrast. All of the gestures within this section are succinct (unlike the "passive" music), and there is an increasing emphasis on melodic activity – most evident in the unaccompanied melodic figures doubled in octaves in mm. 45-46 and 52-55. Centricity on C-sharp is established primarily through melodic motives, beginning with the left hand in m. 35 with a figure that both begins and ends on the pitch (Figure 5). The motive is then varied in numerous ways between mm. 38 and 62, including rhythmic variation, truncation (mm. 38 and 61), ornamentation (m. 59), and repetition of fragments (mm. 52-55). The motive is stated alone at times, stressed by octave doublings (mm. 45-46 and 52-55), while at others appears almost as an accompaniment (mm. 38 and 61). It pervades the section while establishing centricity on C-sharp. However, the numerous permutations keep the motive fresh, and the section remains "active".

Figure 5. The principal melodic motive introduced in mm. 35-62 in "Regard de la Vierge"



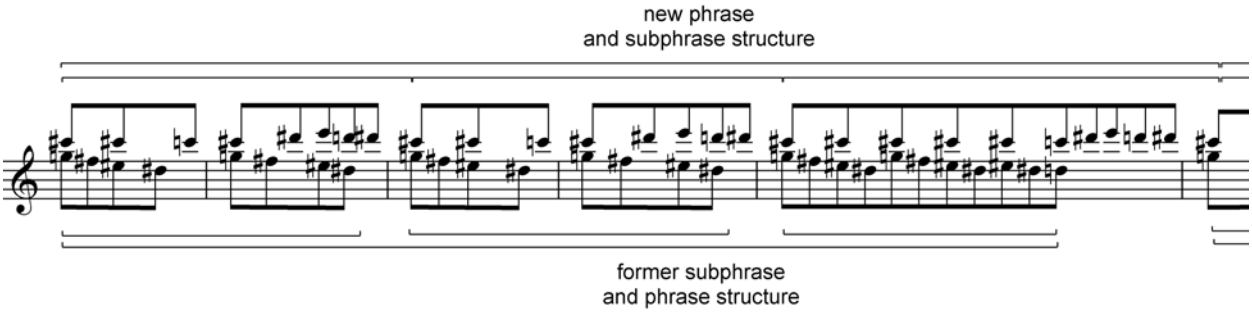
C-sharp is emphasized in other ways as well. In mm. 40-41 and again in mm. 47-48, the pitch sounds alone, with accents in octaves at the beginning of each measure, and then sustains through the bar. In mm. 42-44 and in its restatement in mm. 49-51, it is present in all but one of the harmonies. However, while there is a great deal of emphasis on C-sharp, Messiaen avoids a strong cadence on the pitch. Whenever there is a melodic cadence on C-sharp, Messiaen either places the note at a weak point metrically, or, when it does fall on a strong beat, the pitch is countered by one that forms interval-class 1 or 2 with it, obscuring the resolution. For example, when C-sharp falls on the downbeat of m. 37, it is countered harmonically with D-sharp and is also de-emphasized dynamically. Similarly, in the harmonic figures of mm. 40-43 and again from 47-51, the pitch is almost always countered with pc2 (pitch-class 2); when it is not, pc0 or pc3 is present, forming interval-classes 1 and 2 respectively. Similarly, the D-natural is used against the C-sharp for the ornamented statement in m. 60 and for the truncated statement in m. 61. Furthermore, the left-hand accompaniment for the gesture in m. 58 only employs the notes a semitone away, D and C. Finally, while the four-octave statements all end with C-sharp, none of them ends on the beat, and none of these resolutions last for more than a sixteenth note. In fact, the resolutions on C-sharp in mm. 53 and 55 are countered, both rhythmically and dynamically, with an emphasis on D.

Measure 63 does mark the return of the "passive" music, and the only modification to this music is the addition of the melodic line in the uppermost voice (Figure 5, above). There is only one pitch difference between the melody here and its first occurrence in the previous "active" section (Figure 5, m. 35). Additionally, although the music is in different meters in the two sections, the rhythm is somewhat similar, with the longer note values occurring on C-sharp. Even when the motive is extended, as in m. 75 (Figure 5), this type of variation has already been

heard before in the "active" section; the reiteration of pitches 3,4,2,3,1 occurs in mm. 52-55. Likewise, the truncation that occurs at the beginning of m. 75 was heard in mm. 45-46 as well as mm. 52 and 54. The result of this anticipatory use of the melody is that when it is finally combined with the passive material, it is not nearly as striking as it would be if the melody were fresh, which preserves the "passive" nature of the section.

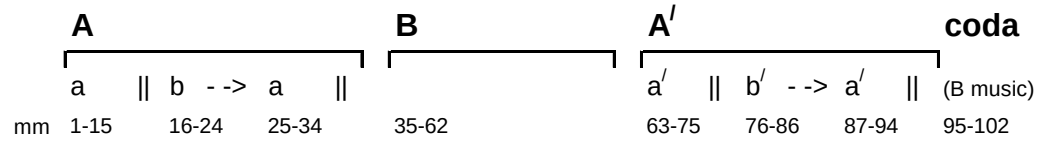
Combining this melody with the "passive" music strengthens centricity on C-sharp for the movement, and a strong cadence on this pitch is avoided as in the previous "active" section, either by countering the note with D (e.g., measure 75 at the conclusion of the harmonically inconclusive cadence) or by eliding the melodic cadence on C-sharp with the beginning of the next phrase or sub-phrase (Figure 6). The arrival on C-sharp in measure 65 coincides with the beginning of the two-measure subphrase. The same is true of all the other melodic cadences; the downbeats of measures 67, 68, 70, 72, 73, and 75 are all elided with the next phrase or sub-phrase. In this way, the importance of C-sharp is reinforced while avoiding a final resolution. A conclusive cadence on C-sharp is clearly the goal of the movement now, but that objective is delayed and the section remains unresolved.

Figure 6. Phrase and subphrase structure for mm. 63-67 in "Regard de la Vierge"



At this point it is worthwhile to outline the large-scale structure of the movement. As previously discussed, the first three sections form a structural unit: a simple ternary form, or 'a b a'. The "passive" sections are the 'a' sections, and the first "active" section constitutes the 'b' section. Together, these sections form the 'A' section of the overall structure, a compound ternary form (Figure 7). The "active" music from measure 35-62 stands apart as its own section, the large-scale 'B'. Unlike the 'b' section, 'B' stands apart in length[13] and consistency of motives. Additionally, the 'b' section transitioned back to the "passive" music; 'B' does not. Next, the "passive" section with the added melody, measures 63-75, is the first '$a^{/}$' of the large-scale '$A^{/}$' section. Consequently, this altered "passive" music later returns in measures 87-94, and these sections are separated by a modified version of the contrasting music, the '$b^{/}$' section from measure 76-86. The remaining music forms a coda, consisting of measure 95 to the end.

Figure 7. Formal structure for "Regard de la Vierge"



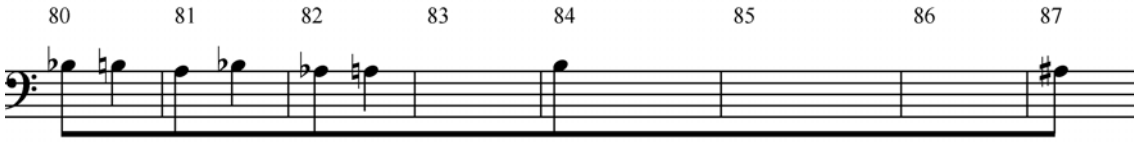
|| denotes a juxtaposition; - -> indicates a transition

The '$b^{/}$' section alters the material presented in the previous 'b' section. For the first three measures of the section, mm. 76-78, the motives are presented in retrograde; the pitches are unaltered, but ascending figures now descend and vice versa. Consequently, C-sharp is again stressed as a pedal, but D-natural gains prominence because of a notated accent as well as its position at the end of the gesture. The only modification of the figure in m. 79 is the alteration of some of the pitches, most notably the change to the lowest and final pitch, now D. The music

[13] Based on metronome markings, the 'B' section last approximately 72 seconds, compared to 19 seconds for 'b'.

that follows in mm. 80-82 is also the retrograde of the initial version, as is m. 83, but the more significant change is the addition of the primary melodic motive in mm. 80-86. At first (mm. 80-83), it is embedded within the texture, yet emphasized on the downbeats of each measure with notated accents. The melody then continues (mm. 84-86) in the foreground, but with the C-sharp de-emphasized: D replaces it as the initial pitch of the figure, and B-sharp is added at the end of the motive. Together, these chromatic neighbors delay and set up the return of the C-sharp in the soprano voice in m. 87. The role of the D in the 'b/' section is consistent with its function when it was introduced in the movement (in m. 5) and its use in the 'B' section: D is a foil for the resolution of C-sharp. The increased emphasis on D in the 'b/' section (compared to the 'b' section) is important for the large-scale structure. In the 'b' section, emphasis on C-sharp contributed to its centricity; the same is true in the 'b/' section, however a similar emphasis on C-sharp could lead to the feeling of its resolution. Consequently, Messiaen's alterations to the 'b/' material, with the more prominent D, support the continuation of the movement. As previously mentioned, the fundamental bass is modified at the end of the 'b/' section, but it still prepares for the return to A-sharp by preceding it with both of its chromatic neighbors (Figure 8, some bass notes octave-transposed for clarity). Additionally, this makes the line motivically similar to the main melody, alternating half-steps and whole steps. All of these modifications to the material keep this section "active", while also unifying the 'A/' section by the added melodic material. Furthermore, the importance of C-sharp is heightened, while at the same time a resolution on the pitch is avoided.

Figure 8. Fundamental bass for mm. 80-87 in "Regard de la Vierge"



Measure 87 marks the return of the altered "passive" music, the second 'a$^{/}$' of the 'A$^{/}$' section. The two phrases correspond to the ones in mm. 25-34. Here, though, the second phrase is only three measures in length instead of five, omitting the repetition of the first two measures of the phrase. As he had done in the corresponding part of the 'A' section, Messiaen truncates the material here even further to defy expectation and to hasten the continuation of the movement by means of a more abrupt juxtaposition with the following "active" music. Messiaen does not change the character of the "passive" music by modifying the harmonic progression to incorporate a cadence on C-sharp, instead highlighting the opposition between the "passive" and "active" musics as well as retaining the ambiguity of the ending of the "passive" section. A final cadence is delayed until the coda.

The coda takes its material entirely from the large-scale 'B' section, but in a greatly abbreviated version: the first five measures of that section are stated in mm. 95-99, followed by two of the 'B' section's final measures in mm. 100-101. Here, the end of the melodic motive is stated in octaves, and the movement has its final cadence, on C-sharp. Despite the rhythmic notation of the final measure, the arrival on C-sharp is also rhythmically conclusive, sounding like a downbeat primarily because of the suspension of activity in the penultimate measure. However, the coda serves an additional function: it reconciles the conflict between the "passive" and the "active" sections. The cadence of the last "passive" section reached its melodic goal, the C-sharp, but its resolution was blurred harmonically by the opposition of the D-natural. With the ambiguous ending of the "passive" music still in the listener's mind, the coda's cadence provides a resolution on C-sharp, unencumbered by other added pitches. Moreover, the brevity of the coda allows for the perception of this delayed resolution of the "passive" music.

Thus, in "Regard de la Vierge", Messiaen juxtaposes two distinctive types of music, and each retains its character throughout the movement. The conflict created by the abrupt changes from "passive" to "active" sections is resolved through the development of material in the "active" music. The "passive" music does change at times; the truncation of the "passive" music after the 'b' and 'b/' sections makes the subsequent "active" sections begin even more abruptly. In these instances, the alteration of the "passive" material serves to highlight the conflict between the musics. In contrast, the first three "active" sections prepare the return of the "passive" ones, allowing the music to settle back into the calmer material. With the most significant modification to the "passive" music, the addition of the principal melody in the 'a/' sections, de-emphasized by its anticipatory development, the musical plot appropriately unfolds in the "active" sections of music. While the ambiguous ending of the initial "passive" section and its abrupt advancement to the "active" music pose the conflict for the piece, the answer begins to appear in the first "active" section ('b') by its emphasis on C-sharp. The next "active" section ('B') confirms the C-sharp centricity as well as both introducing and developing the primary melody. The third "active" section ('b/'), while emphasizing the importance of C-sharp, also avoids its resolution through melodic use of its chromatic neighbors, D-natural and B-sharp. The last of the "active" sections, the coda, aptly provides the resolution of the musical conflict. Despite Boulez's criticism, the juxtaposition of material in "Regard de la Vierge" is not a shortcoming of the composition; instead, it provides the focus for the musical plot. It is the ways that Messiaen juxtaposes, repeats, and develops his material that provide a cohesive structure to the music. In other words, Messiaen is a composer who juxtaposes.

3.0 REPETITION AND LAYERING IN "REGARD DU FILS SUR LE FILS"

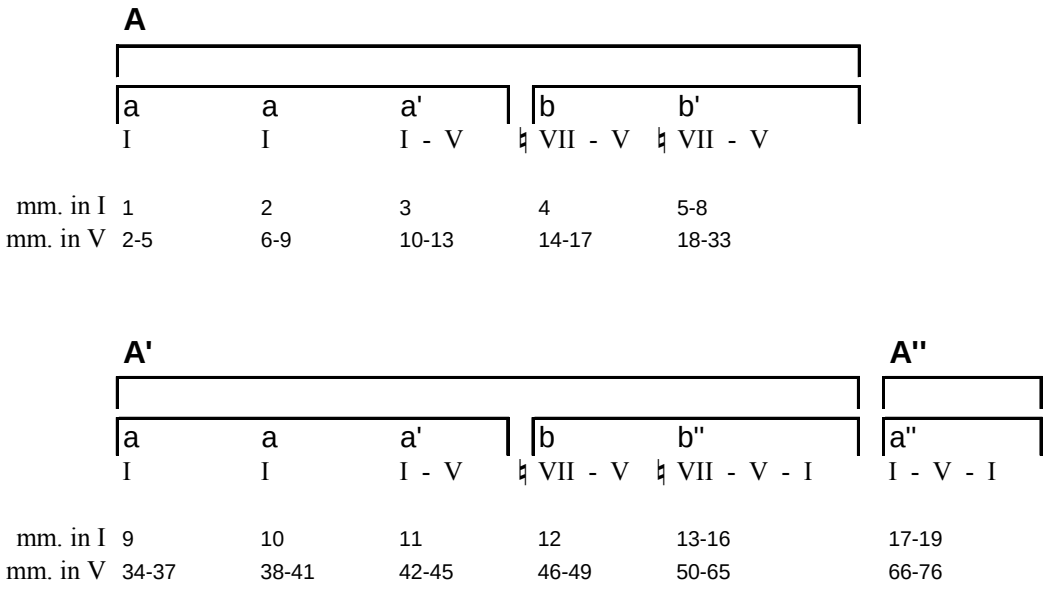
In "Regard de la Vierge", Messiaen uses the repetition and juxtaposition of musics to create an opposition between them. In "Regard du Fils sur le Fils", the fifth piece from *Vingt regards*, Messiaen makes use of repetition in a significantly different way. Here, the composer has drawn from the music of the first movement of the work, but not just motives or harmonies: the entire first piece, "Regard du Père", is contained within "Regard du Fils sur le Fils" as one layer of the composition. The lowest staff in the fifth piece retains the phrase structure, harmonic progression, and rhythm of the first (displaced in register and eliminating octave doublings along with the repeated notes in the highest voice). The only significant addition is the use of more grace notes for the harmonies, probably to facilitate performance. The music of the first movement, which Messiaen has labeled the *Thème de Dieu*, provides the structural foundation for the fifth, upon which Messiaen adds other layers of music. In this chapter, I will first analyze the *Thème de Dieu*, and then proceed to the superimposed layers and their relationship to this framework.

3.1 THE STRUCTURE OF THE *THÈME DE DIEU*

The *Thème de Dieu* is essentially tonal, in F-sharp major; however, the structural bass line never arrives at the first scale degree (instead the first inversion triad is used), there is considerable use

of ♮VII, and a great many chords defy classification. Nevertheless, the tonic and dominant harmonies are the ones emphasized at cadences, making the tonal implications evident and delineating the form. Structurally, there are two large sections and one smaller one: the first section (A) includes the first five phrases, moving from tonic to dominant; the second section ($A^{/}$) begins as a repetition of the first, with its fifth phrase altered to return to the tonic; the third section ($A^{//}$) is just one phrase in length, beginning like the first two sections but providing an explicit resolution to the tonic (Figure 9).

Figure 9. Formal structure for the *Thème de Dieu*



The first phrase prolongs the tonic with passing chords over a pedal A-sharp, hinting at the dominant with the fifth scale degree in the structural bass line. The phrase is then repeated. The third phrase moves to the dominant, first as the seventh chord in second inversion, then the root-position triad with an added lowered ninth. These three phrases form a group since the tonic is prolonged until the end of the third phrase. While similar to the first three phrases in rhythm and gesture, the fourth and fifth initially prolong ♮VII^6, by way of preparing and

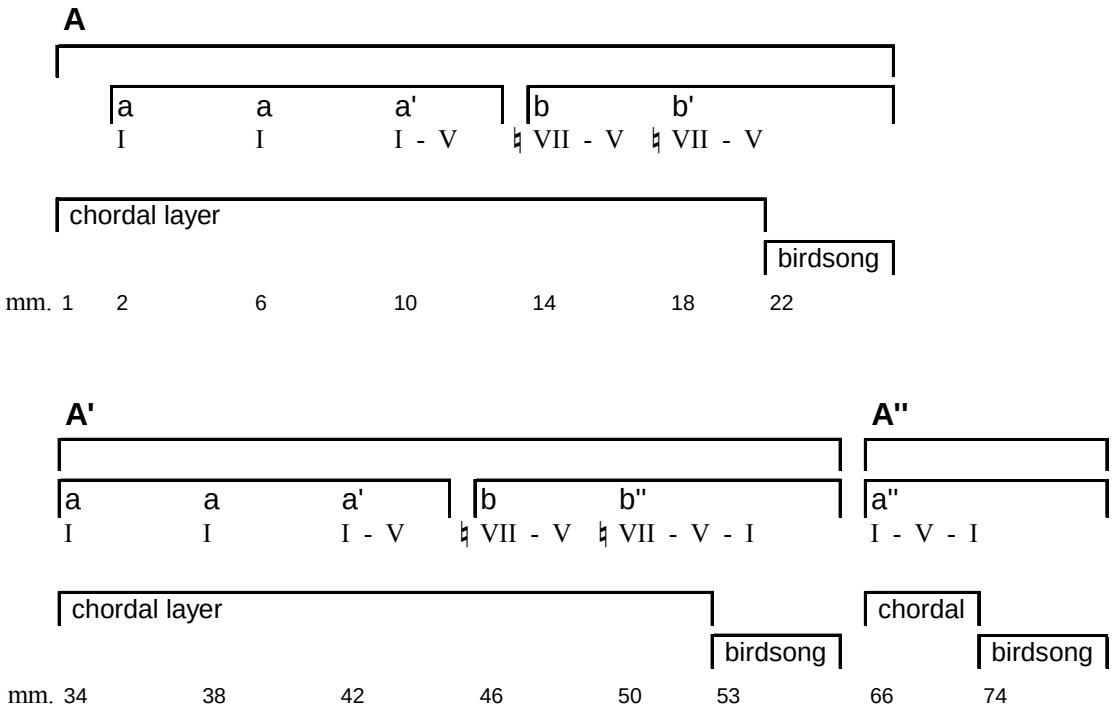
strengthening the arrival on the dominant. The fifth phrase is extended to a greater length than any of the other phrases, cycling through chords that defy useful classification, but its harmonic goal is still the dominant. The length of this phrase and its extensive preparation of the dominant make its cadence stronger than the others.

The 'A/' section nearly repeats the entire 'A' section, with the first modification coming in the fifth phrase with the arrival on the tonic triad (plus an added sixth), and the phrase comes to rest on an inconclusive tonic in second inversion. The 'A//' section, just a phrase in length, begins like the very first phrase (considering the *Thème de Dieu* apart from its setting in the fifth piece) and is extended like the final phrase of each of the previous sections. The first two sections began with long prolongations of the tonic before moving away; here harmonic motion is more immediate. At the end of the phrase is an overt movement from dominant to tonic (though separated by a passing harmony), and the *Thème de Dieu* concludes where it began, on a first inversion tonic chord.

3.2 ANALYSIS OF THE LAYERING IN "REGARD DU FILS SUR LE FILS"

With the *Thème de Dieu* providing the foundation for the structure of the fifth piece, Messiaen uses two distinctive types of music against it. The first type is chordal, like the *Thème de Dieu* itself, but distinguished from it by differences in register, pitch collections, and rhythm. The second type is birdsong, very active and distinct from the *Thème de Dieu*. The piece begins with the added chordal layer, and the *Thème de Dieu* enters against it. These two musics begin every large-scale section, with the birdsong replacing the chordal layer near the end of each (Figure 10).

Figure 10. Layers of music against the *Thème de Dieu* in "Regard du Fils sur le Fils"

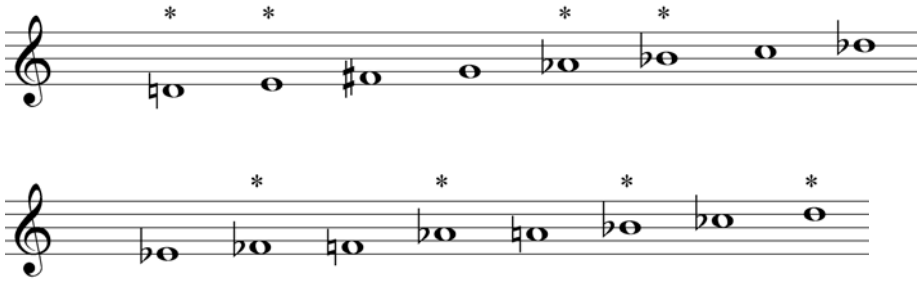


The chordal layer actually adds two parts to the texture, which differ from one another in their pitch collections, rhythm, and dynamics, although blurred by overlapping registers. Their differentiation is important to Messiaen – important enough to notate the two parts on separate staves and to provide a note to the performer to distinguish them from one another. Further distinguishing the parts, the upper staff is notated pianissimo throughout the movement, while the middle staff remains pianississimo. For their pitch collections, Messiaen employs two of his "modes of limited transposition"[14]: the upper staff uses mode six in its third transposition, or 6^3, the middle staff mode 4^4. There are just four common tones between the two modes; each

[14] The construction of the modes of limited transposition is explained in Appendix A.

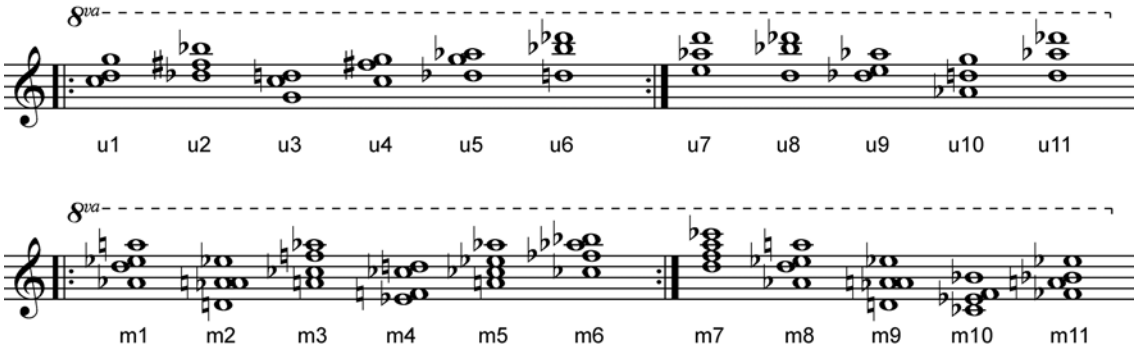
contains the complement of the other (Figure 11 – common tones indicated by *), so the total chromatic is encompassed between them.

Figure 11. Mode 6^3 (upper staff) and mode 4^4 (middle staff)



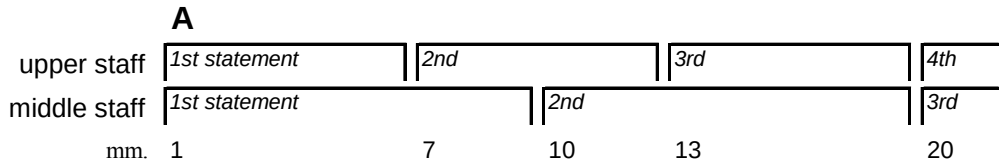
Despite the common tones, the use of these modes creates two distinct parts; the harmonies within each mode emphasize pitches not found in the other (Figure 12 – labels provided to indicate chords for the upper ("u") and middle ("m") staves). All of the chords in the middle staff contain at least two pitches not common to mode 6^3, and only one of the chords in the upper staff (u7) contains only common tones. (Chords m1, m2, m6, m8, m9, and m11 contain two notes common to mode 6^3; chords u6, u8, u9, u10, and u11 contain two pitches within mode 4^4.)

Figure 12. Harmonies in the chordal layer of "Regard du Fils sur le Fils"



The chordal layer unfolds in an augmentation canon, or a "rhythmic canon by the addition of the dot."[15] In other words, the rhythmic values for the middle staff are 1½ times the values of the upper staff, causing the ending of the first statement in the middle staff to overlap with the first repetition of the upper (Figure 13). Each is repeated without significant alteration, maintaining their rhythmic proportions. While this relationship makes the parts interdependent, it also insures their distinctiveness.

Figure 13. Repetitions within the rhythmic canon of the chordal layer



The pitch collections for the *Thème de Dieu* are also different from the two parts of the chordal layer. True, some of the important harmonies of the *Thème de Dieu* are contained within the modes of the chordal layer: the tonic triad is in mode 6^3, the subtonic in mode 4^4. The tonic triad even appears within the upper staff (chord u2 above, enharmonically respelled), and the subtonic is contained within a chord in the middle (m6). Therefore, the first three phrases of the *Thème de Dieu* are more congruent with the upper staff (mode 6^3), and the fourth and fifth with the middle (mode 4^4), due to their emphasis of the tonic and subtonic respectively (Figure 10). Additionally, these pitch relationships strengthen the opposition with the other part of the chordal layer, with the F-sharp and C-sharp of the tonic working against the middle staff, and the B of the subtonic against the upper (Figure 11). However, neither the tonic nor the subtonic triad is emphasized in the chordal layer, which contains mostly non-tertian sonorities. While the tonic

[15] "canon rythmique par ajout du point." Olivier Messiaen, *Hommage a Olivier Messiaen* (Paris: La Recherche artistique, 1978); 23.

and subtonic fit modes 6^3 and 4^4, most of the sonorities used within these modes do not conform to either F-sharp or E major. Also, the passing chords that prolong the tonic and subtonic include pitches outside of the modes for their respective parts of the chordal layer: the use of A-natural and D-sharp in the first three phrases does not conform to mode 6^3, nor does the use of G-natural fit mode 4^4 (Figure 14).

Figure 14. *Thème de Dieu* harmonies, beginning of phrases 1-3 and 4-5

In this way, the passing chords help to separate the *Thème de Dieu* from the respective parts of the chordal layer. Furthermore, the dominant triad is not found complete in either of the modes; its arrival distinguishes the *Thème de Dieu* from both parts of the chordal layer. In sum, the first three phrases of the *Thème de Dieu* tend to be more congruent with the upper staff of the chordal layer, and the fourth and fifth with the middle, but the *Thème de Dieu* does significantly distinguish itself from both parts of the chordal layer in pitch collection as well as register.

Whenever the chordal layer is present, the *Thème de Dieu* is the prominent voice in the texture; the theme is the figure, and the chordal layer the ground. This relationship is made clear by the theme's louder dynamic level. Also, at times the *Thème de Dieu* increases in dynamic, while the chordal layer remains static. Additionally, the rhythmic canon of the chordal layer contributes to its nebulous texture. Boulez is also critical of Messiaen's rhythmic canons:

> When Messiaen produces a rhythmic canon, for instance, it is at once made noticeable by a debris of absolutely unnecessary chords; it intervenes in the construction without motivation; it disappears unceremoniously. In short,

> Messiaen's searchings are not integrated into his discourse, because he does not compose; he juxtaposes.[16]

Stripped of value judgments, Boulez's statements apply here. The chords of the rhythmic canon do not imply direction, and do disappear unceremoniously. But the function of the chordal layer is to provide a static background for the *Thème de Dieu*; if the chords were directional, and the chordal layer ended with a strong resolution, it would compete for attention with the *Thème de Dieu*. Even when the beginnings of the rhythmic cycles of the chordal layer do coincide (m. 20 in the 'A' section), the chordal layer nearly fades away because of rhythmic elision with the *Thème de Dieu*. (For both the second and third sections, '$A^{/}$' and '$A^{//}$', the canon breaks off before the beginnings of the repetitions can line up.) Additionally, the chordal layer is displaced by one measure upon its return in the '$A^{/}$' section (Figure 10, above), emphasizing the independence of this music from the *Thème de Dieu*[17] and contributing to an ever changing sonic landscape. The rhythmic oppositions created between the parts of the chordal layer, and against the *Thème de Dieu*, are an important effect of the layering. In a similar case, in "Liturgie de crystal" from the *Quatuor pour la fin du temps*, Messiaen employs a rhythmic pedal as an irregular framework for a harmonic sequence, leading Paul Griffiths to state, "If the intention is to produce an image of eternity …, the movement is highly successful, for the repeating cycles appear to the ear unmotivated by human agency."[18] Given the similarities, Messiaen may have had the same intention in "Regard du Fils sur le Fils"[19], with the chordal layer signifying the immortality of Christ. Regardless, the *Thème de Dieu* is distinctive in pitch, rhythm, dynamics,

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[16] Boulez, 64.
[17] In one instance, a phrase in the *Thème de Dieu* nearly coincides with the beginning of a repetition in the middle staff (m. 10), but it is not a significant event in the piece.
[18] Griffiths, *Music of Time*, 94.
[19] "Contemplation (or View) of the Son Upon Himself"

and range, and remains in the foreground against the chordal layer, whose layered repetitions provides a torpid background.

In contrast, the birdsong is more compelling than the chordal layer; with its unique character and rapid rhythms, it competes for the foreground with the *Thème de Dieu*. Although the first two entries of the birdsong come during the height of harmonic motion in the *Thème de Dieu*, the harmonic rhythm slows dramatically afterward. In contrast, the birdsong only increases in pace, gaining in relief – particularly after the cadences in the *Thème de Dieu*. The birdsong also distinguishes itself in pitch, and each of the three sections share motives. Although the first two birdsong sections do use the total chromatic, they also emphasize smaller pitch collections that tend to highlight its differences with the *Thème de Dieu*, particularly at their beginnings and endings (Table 1).

Table 1. Pitch collections for the birdsong and the *Thème de Dieu*

mm.	birdsong	*Thème de Dieu*	common tones
22	[8,9,10,0,1,2,3] rest	[1,5,7,8] [7,8,10,2]	2
23	[8,9,10,11] [10,1,2,3]	[11,2,5,7] [5,8,11,1]	1 1
24	[5,6,7,8,9,10,11,0,2,3]	[9,10,0,4]	3
25	[8,9,10,11,2]	[3,4,7,10]	1
26	[total chromatic]	[10,11,2,5]	4
27	[7,8,9,10,11,1,2,3]	[3,4,7,10]	3
28	[11,0,1,2,3,5,6,7,8]	[10,11,2,5]	3
29	[2,3,5,6,8,9,11,0]	[1,2,5,8]	3
30	[2,3,7,8,9]	[1,2,5,8]	2
31	[6,7,8,9,11,1,2,3]	[1,2,5,8]	2
32	rest	[1,2,5,8]	
33	[2,3,7,8,9]	[1,2,5,8]	2

mm.	birdsong	*Thème de Dieu*	common tones
53	[8,9,10,0,1,2,3]	[10,2,4,5]	1
54	rest	[1,5,7,8]	
	[8,9,10,11,1,2,3,4,5]	[7,8,10,2]	3
55	[8,9,10,11]	[11,2,5,7]	1
	[10,1,2,3]	[5,8,11,1]	1
56	[5,6,7,8,9,10,11,0,2,3]	[5,6,10,1]	3
57	[8,9,10,11,0,1,2,3,4,5,6]	[1,4,7,9]	3
58	[total chromatic]	[10,11,2,5]	4
59	[7,8,9,10,11,1,2,3]	[6,8,9,0,2]	3
60	[7,8,9,10,0,1,2,3,4]	[10,1,3,6]	2
61	[7,8,9,11,0,2,3,5]	[10,1,3,6]	1
62	[total chromatic]	[10,1,3,6]	4
63	rest	[10,1,3,6]	
64	[2,3,7,8,9]	[10,1,3,6]	1
65	[2,3,7,8,9]	[10,1,3,6]	1

mm.	birdsong	*Thème de Dieu*	common tones
74-76	[2,3,7,8,9]	[10,1,3,6]	1

The initial entrance of the birdsong is very distinctive in pitch, mainly emphasizing those pitch-classes not present in the *Thème de Dieu* harmonies, but becomes more consonant with the *Thème de Dieu* near the end of the section. For the first four measures (mm. 22-25), there are few common tones, and the pitch collection for each music contains at least one distinctive pitch. As the birdsong's collection expands to encompass the total chromatic with more notes shared, its motives are similar in pitch at times and contrasting at others. Approaching the cadence in the *Thème de Dieu*, when the birdsong's pitch collection is shrinking, the two musics are more concordant than at the entrance. The birdsong's cadential motive, appearing three times (between mm. 27 and 33), even shares its final two pitches, D and A-flat (or 2 and 8), with the altered dominant of the *Thème de Dieu*, [1,2,5,8], so the two musics cadence on common tones.

The second birdsong section, which enters a measure earlier with respect to the *Thème de Dieu*, contains all of the material of the first up to the first cadential motive (m. 59). In contrast to the initial birdsong section, the second becomes even more active after the cadence in the

Thème de Dieu (m. 61), when the musics share just one common tone. At the end of the section, the birdsong's cadential motive is stated six times (mm. 64-65), but here fewer pitches are shared with the tonic in the *Thème de Dieu*; only the added sixth, the D-sharp, is common to both musics, so the final pitches in the birdsong are harmonic dissonances. This change in harmony and the increase in the birdsong's activity make it end more at odds with the *Thème de Dieu*.

Unlike the previous entries, the birdsong's third section begins after the *Thème de Dieu* cadences, taking up the cadential motive alone, stating it thirteen times in rapid succession with a dramatic crescendo and diminuendo. Across the first two sections, the birdsong entrances competed with the *Thème de Dieu* for the listener's attention. In contrast, the third entry has the most relief, with the *Thème de Dieu* coming to rest before the birdsong enters. Here, the birdsong does not compete with the *Thème de Dieu*; instead, the two musics allow space for one another. The birdsong and the *Thème de Dieu* are not reconciled, since the pitch oppositions remain, but each music does resolve. This change in the relationship between the birdsong and the *Thème de Dieu* marks the end of the conflict created by the layering of music; the cadences are clear because of their juxtaposition.

Thus, in "Regard du Fils sur le Fils", the *Thème de Dieu* provides the structural foundation for the movement, with other musics layered against it. The *Thème de Dieu* and the chordal layer form a figure-ground relationship. The two parts of the chordal layer remain distinct from each other and from the *Thème de Dieu*, and these three voices begin each of the three large-scale sections. In the first two sections, the texture changes from three voices to two with the absence of the two parts of the chordal layer and the entrance of the birdsong, which competes with the *Thème de Dieu*. The birdsong then takes the foreground as it continues after the cadences in the *Thème de Dieu*. In the final section, the texture is reduced again, but with a

significant difference: the *Thème de Dieu* cadences without opposition from other layers of music, followed in turn by the birdsong. The absence of layering signals the end of the movement, with each music resolving apart from the other, but the movement ends with a sense of duality. In "Regard de la Vierge" the juxtapositions amplify the musical conflict; in "Regard du Fils sur le Fils" the juxtaposition of music allows the movement to come to a close.

4.0 SYNESTHESIA AND ITS RELEVANCE IN *VINGT REGARDS*

> I do indeed try to translate colors into music; for me certain sound complexes and sonorities are linked to complexes of color, and I use them with the full knowledge of this.[20]

For Olivier Messiaen, his visual perception of color became an integral aspect of his compositional process. Messiaen saw colors as a result of aural stimuli – on hearing different sonorities, the composer would have involuntary visual sensations that varied according to the pitches in use. Messiaen's visual sensations from aural stimuli were due to a condition known as synesthesia. Unlike many with this condition, Messiaen's cross-modal perceptions only strengthened as he got older, even though his experiences go back to childhood. Recent research by Joseph Harris argues that many of the composer's earliest writings about sound-color relationships (before 1950) are not as reliable as those made later in life (after 1950).[21] These early remarks about color correspondences may have been in support of popular cultural metaphors, reflecting a *Zeitgeist* for the unity of the senses in the first half of the twentieth century. However, Harris contends that Messiaen's later and more elaborate statements reflect his synesthetic perceptions.

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[20] Olivier Messiaen, *Musique et couleur* (Paris: Editions Belfond, 1986). Translated by E. Thomas Glasow as *Music and Color: Conversations with Claude Samuel* (Portland: Amadeus Press, 1994), 41.
[21] Joseph Edward Harris, "*Musique Colorée*: Synesthetic Correspondence in the Works of Olivier Messiaen." (Ph.D. diss., University of Iowa, 2004), 27.

4.1 SYNESTHESIA DEFINED

According to Richard Cytowic, synesthesia "is the involuntary physical experience of a cross-modal association. That is, the stimulation of one sensory modality reliably causes a perception in one or more different senses."[22] Synesthesia usually involves two of the five senses, and the sensations are consistent across time for the stimuli involved. However, the associations typically only operate in one direction. In other words, a synesthete may experience tastes from visual sensations, but it would be extremely rare for the same person to see colors or shapes while eating. Furthermore, the experience is additive, meaning the synesthetic sensation does not replace the initial one.[23] Frequently synesthetic sensations have an affective basis; sound and color are often linked by feelings.[24] Based on experiments with different cultural groups, Charles Osgood has found,

> The phenomena which seem to display generality across human groups regardless of language or culture are essentially connotative – the affective "feeling tones" of meaning which contribute to synesthesia, metaphor and the like.[25]

Messiaen's form of synesthesia – visual sensations from aural stimuli – has a long history, with metaphoric associations dating back to Pythagoras, Aristotle, Locke, Newton, Darwin, Scriabin, Kandinsky, et al.[26] However, experiments studying synesthesia did not begin to appear until the early twentieth century. Sound to visual synesthesia, one of the more common forms, can involve a number of possible perceptual relationships, including vowel

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[22] Richard Cytowic, "Synesthesia: Phenomenology and Neuropsychology." *PSYCHE* 2/10 (1995): http://psyche.cs.monash.edu.au/v2/psyche-2-10-cytowic.html

[23] Sean A. Day, "What synesthesia is (and is not)," from Paul McKevitt, Sean O. Nuallain, and Conn Mulvihill, ed. *Language, vision, and music: Selected papers from the 8th International Workshop on the Cognitive Science of Natural Language Processing, Galway: Ireland, 1999* (Amsterdam: John Benjamins Publishing, 2002); 171.

[24] Lawrence E. Marks, "On Colored-Hearing Synesthesia: Cross-Modal Translations of Sensory Dimensions." *Psychological Bulletin* 82/3 (1975): 323.

[25] Charles E. Osgood, "The Cross-Cultural Generality of Visual-Verbal Synesthetic Tendencies." *Behavioral-Science* 5 (1960): 168.

[26] Marks, 305-6.

sounds and colors, letters and colors, instrumental timbres and colors, frequency and brightness, volume and color saturation[27], and also, as in the case of Messiaen, pitch collection and color.

Reports from the early twentieth century suggest that synesthesia is more common in children than adults. Riggs and Karwoski, among others, produced case studies documenting responses to stimuli for individual children, and suggest that some subjects develop synesthesia through "accidental association" – that the cross-modal sensations are learned through cultural experience – which are lost later in life.[28] An example is a child's use of blocks with colored letters; from repeated experience, the child can learn which colors are linked to the different letters. Conversely, for others color associations are not so mutable; as a child Vladimir Nabokov insisted that the colors on his blocks were wrong.[29] Therefore, in some subjects synesthetic associations are the result of cultural learning, and are cognitively based[30], while for others the cross-modal perceptions arise from a more physiological condition, and are quite possibly genetic.[31] This division between learned cultural metaphors and involuntary responses has led to inconsistent terminology when discussing synesthesia. Although different in origin, both types have historically been labeled as synesthesia, which led Sean Day to apply the terms 'cognitive synesthesia' for the former, and 'synesthesia proper' for the latter.[32] Cytowic contends, though, that only the involuntary sensations can correctly be labeled as synesthesia.[33] Additionally, although the belief that synesthesia is more common among children is still widely held, Cytowic recently asserted that he could find "no clinical evidence to support the hypothesis

[27] Ibid., 303-31.
[28] Lorrin A. Riggs and Theodore Karwoski, "Synaesthesia." *British Journal of Psychology* 25 (1934): 29.
[29] John G. Gammack, "Synaesthesia and knowing," from Paul McKevitt, Sean O. Nuallain, and Conn Mulvihill, ed. *Language, vision, and music: Selected papers from the 8th International Workshop on the Cognitive Science of Natural Language Processing, Galway: Ireland, 1999* (Amsterdam: John Benjamins Publishing Company, 2002); 159.
[30] Marks, 325.
[31] Day, 171.
[32] Ibid., 171-2.
[33] Cytowic, "Synesthesia: Phenomenology and Neuropsychology," 3.2.

that synesthesia might be more common in children as authors from earlier eras claim."[34] 'Synesthesia proper' is much less common – affecting one in 3000 – than 'cognitive synesthesia', which is found in one of every 500 subjects. However, more than 50% of subjects have a basic type of synesthesia, e.g. seeing higher sounds as brighter and lower sounds as darker.[35] Marks surmises that for most people "synesthesia is probably not really lost in the cognitive transition from childhood to adulthood but is merely diminished in its magnitude, importance, and/or salience ..."[36] In agreement, Day asserts that most adults with some form of synesthesia have retained their perceptions from childhood, and the part of the brain used has remained young.[37]

4.2 SOUND, COLOR, AND THE COMPOSER

In the mid-nineteenth century, there was a general interest in cross-modal associations in the arts, and the unity of the senses appeared in the writings of visual artists and musicians. Inventors produced color-organs – keyboard instruments that also produced colored light – allowing artists to experiment with synesthetic associations, and consequently concerts involving color-music performances became popular. In the early twentieth century, Scriabin made use of a type of color-organ in an orchestral composition, *Prometheus*. The visual element was intended to be consistent with his synesthetic perceptions at times, and opposed to them or dissonant at others.[38]

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[34] Ibid., 10.13.
[35] Day, 172.
[36] Marks, 327.
[37] Ibid., 173.
[38] Crétien van Campen, "Synesthesia and artistic experimentation." *Psyche* 3/6 (1997): http://psyche.cs.monash.edu.au/v3/psyche-3-06-vancampen.html.

Scriabin's intersensory associations were involuntary, and he believed that his cross-modal perceptions were universal.[39] Therefore, Scriabin thought that others would also perceive the consonance and dissonance of his use of color in *Prometheus*. However, while his cross-modal associations were real and meet Cytowic's criteria for true synesthesia,[40] Scriabin's synesthesia was only partial. Three colors were clear to him: red, yellow, and blue, corresponding to the major tonalities of C, D, and F-sharp respectively.[41] Scriabin's other cross-modal associations were derived theoretically, placing colors in the gaps that his perceptions did not fill.[42]

In 1929, Leonid Sabaneev reported the results of experiments testing the color perceptions of subjects with absolute pitch. The results of his study would seem to indicate that cross-modal perceptions vary depending on the individual[43] – that synesthetic associations are not universal, as Scriabin believed, and incidentally this view is the most widely accepted among scholars today. Donald Francis Tovey agreed with this view, stating the character and color of keys are "a psychological vagary about which no two persons need trouble to agree."[44] Many writers cite the discrepancies between the color perceptions of Scriabin and Rimsky-Korsakov regarding major tonalities, of which there are many, as evidence that no universal exists. However, recent researchers have questioned the cross-modal associations of Rimsky-Korsakov. John Gammack writes:

> Scriabin's [synesthesia] is considered genuine, and based noetically in his emotional experience, whilst Rimsky Korsakov's may rather arise associationistically through empirical experience if not actual artifice.[45]

The author later elaborates:

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[39] Bulat Galeyev and I. L. Vanechkina, "Was Scriabin a Synesthete?" *Leonardo* 34/4 (2001): 358.
[40] van Campen.
[41] Leonid Sabaneev, "The Relationship Between Sound and Colour." *Music and Letters* 10 (1929): 273.
[42] Galeyev and Vanechkina, 358-9.
[43] Sabaneev, 266-77.
[44] Donald Francis Tovey, *Beethoven* (New York: Oxford University Press, 1945), 9.
[45] Gammack, 158.

> Rimsky Korsakov, like several other composers, was aware of fashionable norms, and these apparently were distinct from any synaesthetic correspondences he may have had.[46]

How well known were the 'fashionable norms', and how much has this affected the results of researchers? Sabaneev's study demonstrates that no distinction between cognitive synesthesia and synesthesia proper was made when considering his results. In fact, some of his parameters emphasize culturally learned factors. Sabaneev writes, "In most cases C is recognized as white, and one wonders if this is due to its association with the white keys of the pianoforte."[47] If so, then the association is the result of a culturally-learned visual perception, not from an involuntary aural one. Additionally, Sabaneev found that "complex keys and harmonies (the more sharps or flats there are in the signature) the more complex and fantastic is the colour associated with it."[48] It would seem the more 'complex keys' to which Sabaneev alludes are perceived as such primarily because of Western notation.[49] In both of these cases preconceived visual associations may have influenced the cross-modal perceptions of the subjects, indicating that such connections are culturally learned.

Is there any consistency for the cross-modal associations among subjects with synesthesia proper? This question has only recently been asked, due to reliance on studies that do not differentiate the origin of the cross-modal associations. Cytowic has been critical of the methods used by early researchers:

> Scriabin and Rimsky-Korsakov, for example, disagreed on the color of given notes and musical keys. "Researchers" from earlier centuries did little more than make lists of stimuli and synesthetic responses, followed by dismay that a pattern of correspondence was not obvious. I suspect that similarity was not apparent

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[46] Ibid., 160.
[47] Sabaneev, 274.
[48] Ibid., 273.
[49] While there are several reasons for keys to sound different – open strings (on string instruments), worn out hammers or resonators (on pianos and other instruments), different tuning systems – Sabaneev provides no aural reason. His assertion appears to be motivated by culturally-learned visual associations.

> because they were looking at the terminal stage of a conscious perception itself, instead of some earlier neural process that led to that perception.[50]

More research needs to be conducted – research which considers the origin of the synesthetic perceptions in question – and then we may be able to determine if there is universality among subjects with synesthesia proper. While most scholars still accept the idea that there are no universals, Gammack has asserted that the differences in how Scriabin's and Rimsky-Korsakov's color associations were derived "may suggest that there *are* objective constraints on the forms of universal thought that can be mapped, aligned in realised individuals, and taking precedence over empirically derived correspondences."[51] The task may not be easily determined, though, since verbal descriptions may simply be inadequate. Gammack writes,

> The higher the abstraction level at which these forms occur, the less linguistically encultured is the knowledge, and the more it is related to deeper physical and physiological structures which mediate the evolution of human consciousness.[52]

In other words, the greater the abstraction, the less likely languages can suitably express the experience. Furthermore, although convenient for theorists, keys may only be useful for delineating color associations in the most general sense. With such a great variety of harmonic possibilities available, it is quite conceivable that one piece could evoke different color associations than another even though they are in the same key. Messiaen found such descriptions inadequate, stating,

> Truthfully, one cannot talk of an exact correspondence between a key and a color; that would be a rather naive way of expressing one-self because ... colors are complex and are linked to equally complex chords and sonorities.[53]

Finally, cross-modal associations are not likely to be static during a musical performance, but rather change vividly with the musical lines and harmonies.

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[50] Cytowic, "Synesthesia: Phenomenology and Neuropsychology," 5.2.
[51] Gammack, 165.
[52] Ibid., 167.
[53] Messiaen, *Music and Color*, 42.

> when I hear a score or read it, hearing it in my mind, I visualize corresponding colors which turn, shift, and combine, just as the sounds turn, shift, and combine, simultaneously ...[54]

With the universality of cross-modal associations among those with synesthesia proper having only been suggested, the value of studying the perceptions of composers could certainly be called into question. However, we do know that Messiaen composed utilizing the color association that he had, and if nothing else, such study could provide further insight into his compositional process. Furthermore, by analyzing the pitch collections in conjunction with Messiaen's color indications, theorists may be able to arrive at color associations for other works by the composer. Fortunately, many of Messiaen's elaborate comments regarding color refer to specific musical examples or to his modes of limited transposition.

4.3 MESSIAEN'S SYNESTHESIA

Richard Cytowic developed five criteria[55] in order to distinguish subjects who have "true" synesthesia (Day's 'synesthesia proper') from those who have cross-modal associations as a result of cultural metaphor ('cognitive synesthesia'). Messiaen's synesthesia clearly satisfies four of Cytowic's five criteria for "true" synesthesia: 1) it is involuntary, elicited by another sensory impulse; 2) it is durable, not changing over time; 3) it is memorable, being easily recalled; 4) it is emotional, accompanied by strong convictions about the perceptions;[56] 5) it is

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[54] Ibid., 37.
[55] Cytowic, "Synesthesia: Phenomenology and Neuropsychology," 4.1-4.15.
[56] "Synesthesia is emotional. The experience is accompanied by a sense of certitude (the "this is it" feeling) and a conviction that what synesthetes perceive is real and valid. This accompaniment brings to mind that transitory change in self-awareness that is known as ecstasy. Ecstasy is any passion by which the thoughts are absorbed and in which the mind is for a time lost. In *The Varieties of Religious Experience*, William James spoke of ecstasy's four qualities of ineffability, passivity, noesis, and transience. These same qualities are shared by synesthesia." Cytowic, "Synesthesia: Phenomenology and Neuropsychology," 4.14.

projected, being observed externally in the space immediately surrounding the subject. The final criterion is the only one not entirely consistent with Messiaen's perceptions, which are described as being seen inwardly.[57] However, within Cytowic's explanation of this criterion, he cites a subject who describes the movement of shapes within the space surrounding the body. With regard to the shapes, Messiaen's perceptions are consistent, describing mode 2^2 as "gold and silver spirals against a background of brown and ruby-red vertical stripes."[58] Also, on several other occasions Messiaen describes the movement of images. The composer's experience is certainly similar to that of others for this criterion; he perceives movement within a space, but he describes this area as internal instead of surrounding the body. Messiaen's synesthesia seems to satisfy this criterion, even though his description of his experience may vary slightly; the difference could simply be the result of the difficulty involved in describing the experience. Despite this variance, Cytowic considers Messiaen's synesthesia to be genuine.[59]

There is little reason to doubt that Messiaen had "true" synesthesia. However, not all of Messiaen's comments regarding music and color are necessarily based on his own cross-modal perceptions. As mentioned previously, fascination with the sound-color relationship was widespread among artist and musicians in the early twentieth century, and so was their interest in arriving at a universal color scheme for perceptions. Such associations are the result of cultural metaphor, and Joseph Harris contends that Messiaen's earliest comments about sound-color relationships are likely to be as well.[60] In fact, in 1936 Messiaen's *Nativité du Seigneur* was used in an exhibition aimed at translating music into painting. A contributing artist for this exhibition, Blanc-Gatti had synesthesia but ignored his own perceptions in favor of a

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[57] Messiaen, *Music and Color*, 40.
[58] Ibid., 64.
[59] Richard E. Cytowic, *Synesthesia: A Union of the Senses* (Cambridge: MIT Press, 2002), 308-11.
[60] Harris, 29.

mathematically contrived theory.[61] Contrary to Marks' conclusion that synesthesia is more common among children and weakens across time, Messiaen's comments suggest that the opposite was true in his case:

> I think that I have always possessed this "sixth sense," but I only became aware of it very gradually. At first, I had it without consciously realizing it. Then little by little, perhaps because of my encounter with the painter Blanc-Gatti, I became aware of what was happening in me. And then I ended by studying it, by studying myself, by codifying certain sound-color relationships that appeared more obvious to me, and even including them in my treatise. But this was not done in one day because it is, all the same, very specific and very delicate.[62]

Therefore, Messiaen's earliest sound-color references, written when his own perceptions were not as strong, are less likely to have been the result of his own synesthesia, and are probably a part of the *Zeitgeist* for the unity of the senses, in the same way that Blanc-Gatti's theories on sound-color ignore his perceptions.

Messiaen's synesthesia is genuine, but at what point are Messiaen's comments regarding his perceptions considered to be reliable? Messiaen's most elaborate descriptions of his perceptions did not appear until the 1950s, leading Harris to argue that the composer's decisions were not influenced by synesthesia until that time or after.[63] Since *Vingt regards* was written primarily in 1944,[64] Harris would presumably question the reason for investigating Messiaen's cross-modal perceptions for the piece. However, as Messiaen stated, his synesthesia did not develop overnight. Messiaen did experience synesthesia at least to a limited degree during the composition of the work, since his initial experiences go back to his childhood.[65] Furthermore, it is reasonable to assume that Messiaen's sound-color correspondences were well developed

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[61] Ibid., 14-6.
[62] Ibid., 28. Original French in Robert Laliberté, "Messiaen : musician de l'arc-en-ciel," *La Vie musicale* (March 1971), 9.
[63] Harris, 27.
[64] Hill and Simone, 137-41.
[65] Messiaen, *Music and Color*, 41.

before he began writing and talking about them extensively. Consequently, it is quite possible, even likely, that Messiaen's synesthesia did play a role in the composition of *Vingt regards*. In any event, Messiaen's program notes used in this study were produced well after the composition of the piece.[66]

When speaking about cross-modal associations, Messiaen's references frequently invoke the modes of limited transposition:

> I use them as colors. They aren't harmonies in the classic sense of the term... They are colors, and their power springs from the impossibility of transpositions and also from the color linked to this impossibility.[67]

For Messiaen, four of his seven modes stimulated strong visual sensations: modes 2, 3, 4, and 6. Messiaen's synesthetic perceptions are stimulated by pitch collections, either from distinctive harmonies or modes, but Harris has determined that individual pitch-classes can be mapped to specific colors for Messiaen. At first, this statement seems contrary to Messiaen's experience, since individual pitches do not evoke strong visual sensations for Messiaen – harmonies do. However, the pitch classes within a specified harmony may correspond to particular colors, as Harris has found. Therefore, Messiaen's synesthetic perceptions can be analyzed in his music by mapping the pitches used.

Harris has collected and compared all of the substantial information available from Messiaen about his sound-color perceptions, analyzing the composer's self-styled special

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[66] Messiaen's program notes published in *Hommage a Olivier Messiaen* (Paris: La Recherche artistique, 1978) are based in part on the analytic descriptions for *Vingt regards* from 1954 that are contained in Messiaen's *Traité de rythme, de couleur, et d'ornithologie: Tome II* (Paris: Alphonse Leduc, 1995). Messiaen's comments about sound-color relationships are additions to the text, so they were most likely written sometime between 1954 and 1978. It is not certain when Messiaen developed the cross-modal associations described in the program notes, but one should not assume that it happened after 1954; the exclusion of this information from the chapter in *Traité* only indicates that it was not pertinent to the class Messiaen taught at that time.

[67] Messiaen, *Music and Color*, 49.

chords[68] to arrive at base colors for pitch classes and a method for considering the ability of the music to elicit these associations. Individual pitch-classes correspond to particular colors, so multiple colors may be present for any particular harmony. Most pitch-classes evoke a single color, but some have more than one possibility (Table 2). For the latter, the coloration is aligned with neighboring pitches. For example, C-sharp (blue or green) will evoke blue when paired with A, and green with D.[69]

Table 2. Pitch-class color associations derived from Messiaen's special chords

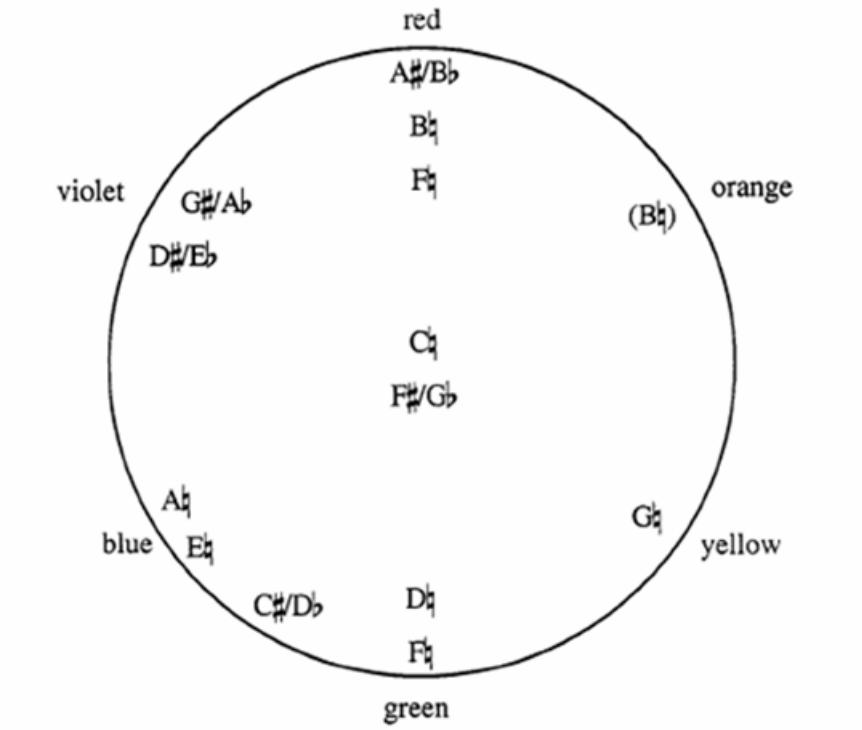
Pitch	color(s)
C	clear
C♯/D♭	blue green
D	gray green
D♯/E♭	violet
E	gray blue
F	copper (red/green)
F♯/G♭	crystal
G	yellow
G♯/A♭	violet
A	blue
A♯/B♭	red (or violet)
B	deep red

Adjacent colors in the visible spectrum (red, orange, yellow, green, blue, violet) tend to fuse for Messiaen, so A and E-flat together would evoke a blue-violet. Also, red may fuse with violet, even though they are on opposite ends of the spectrum. For this reason, a color-wheel is helpful for understanding Messiaen's sound-color associations (Figure 15). There are some anomalies for the fusing of colors for Messiaen. G is somewhat inert, and does not tend to fuse with other colors, but will occasionally fuse with the red of B, producing orange. C-sharp/D-flat, located

[68] These special chords include the chord on the dominant, chords with transposed inversions, the chord of resonance, the chord with contracted resonance, the chord in fourths, the turning chord, and the chord of total chromaticism. Each of these chords has particular color associations, catalogued in *Traité*,
[69] Harris, 37-8.

between blue and green, fuses with either color, but may also fuse with violet or yellow (rarely). F appears twice, since it evokes either red or green. C and F-sharp are colorless, and their inclusion in a harmony affects its clarity and intensity, respectively; F-sharp will often give a color a gem-like quality. Harris consistently analyzes B-flat as red, and includes the pitch with the color red on a color wheel. But on his table indicating pitch-class color, B-flat is labeled as violet, and Harris also notes that Messiaen refers to the pitch as either red or violet on different occasions.[70]

Figure 15. Color-wheel for Messiaen's pitch-class associations



These pitch-class color associations hold true for Messiaen's isolated modal harmonies as well. However, whenever three or more consecutive chords conform to one of the modes of limited

[70] "the doubled B-flat adds a little violet." Ibid., 37-42. "le si bémol redoublé ajoute un peu de violet." Olivier Messiaen, *Traité de rythme, de couleur, et d'ornithologie: Tome V/I* (Paris: Alphonse Leduc, 1995), 456.

transposition, the coloration for that mode takes precedence over any color associations that can be derived from the mapping of pitch-classes.[71] At times, the colorations based on pitch-classes are similar to the general colorations of the modes, but not always; pitch-class mapping often yields very different results.

Messiaen's color references for *Vingt regards* are overwhelmingly associated with modes of limited transposition, so those color associations are the ones that will primarily be used in the analysis of "Regard du Fils sur le Fils" since its passages tend to employ more than three consecutive chords in one mode. But what did Messiaen perceive when the music changed modes? Yes, by the third chord, the coloration for that mode took precedence, but what was perceived before that third harmony was heard? According to Harris, individual modal harmonies conformed to the pitch-class colorations.[72] Therefore, it is likely that the first two chords of a modal passage evoked these colorations as well, even if these colorations differed from Messiaen's general coloration for the mode. Considering this idea, my analysis for Messiaen's modal passages will include pitch-class color associations for the initial two chords.

This investigation of Messiaen's color associations for "Regard du Fils sur le Fils" begins with his program notes, which provide the modes in use and his description of colors for the music. These perceptions will be compared to Messiaen's general colors for the modes, provided in *Traité*, and tested against the criteria developed by Harris for Messiaen's *musique colorée*. Messiaen's pitch-class color associations, derived from Harris' criteria, will be utilized for the initial chords in a mode. Using this process, I intend to discover if the music from *Vingt regards* is stylistically consistent with Messiaen's *musique colorée*, and if Messiaen's cross-modal perceptions for the music (provided by the program notes) are consistent with his own

[71] Ibid., 49.
[72] Ibid., 24-5.

color associations for the modes and with Harris' theory for pitch-class color associations. Harris' method will then be applied to "Regard de la Vierge" to arrive at possible colorations for the "passive" music.

4.4 SYNESTHETIC PERCEPTIONS IN *VINGT REGARDS*

In the program notes for a 1978 festival honoring his music, Messiaen makes reference to sound-color relationships in *Vingt regards*. If Harris is correct about the impeti for Messiaen's comments about cross-modal associations, the date of this writing suggests they are based on the composer's synesthesia and not the result of cultural metaphor. Additionally, these color associations may have played a role in his compositional process, since his synesthetic perceptions were likely to be gaining in salience in the mid 1940s. Some of Messiaen's comments about his cross-modal associations are explicit, while other allusions are terse and merely referenced in passing. For the two movements examined in this dissertation, his comments embody both extremes. For "Regard du Fils sur le Fils," Messiaen's statements about his color perceptions are the most elaborate for any movement in *Vingt regards*. In contrast, the composer merely lists the modes in use for "Regard de la Vierge," and implies that they elicit color. In this section, I will examine the color content for the chordal layer and the *Thème de Dieu* in "Regard du Fils sur le Fils" based on Messiaen's color associations for the modes of limited transposition, also testing it against criteria for Messiaen's *musique colorée* derived by Harris.

4.4.1 Analysis of "Regard du Fils sur le Fils" Using Harris' Theory

Harris establishes nine criteria for *musique colorée*, based on his own analyses of Messiaen's music and on the composer's writings on the topic:[73] 1) the texture is in block-chords, 2) the chords are classifiable (in Messiaen's harmonic language), 3) the tempo is slow, and durations are not short, 4) the music does not imitate extra-musical ideals, like birdsongs, 5) the music is in the middle register, 6) the voice leading is conjunct, 7) the meter is irregular, 8) the durations are combinations of a base rhythmic value, and 9) the music was composed after the early 1950s. The latter item has already been addressed; while this criterion is not satisfied, *musique colorée* may still apply here. The first criterion (chordal texture) applies for both the chordal layer and the *Thème de Dieu* for this movement; each part within the chordal layer is in block-chords throughout, and the only deviation in the *Thème de Dieu* is the use of the occasional grace note. However, the use of layering (a technique used throughout this movement) may conflict with this criterion.[74] For both of these layers, Messiaen's modes of limited transposition apply, so the chords are classified as modal. The tempo is slow throughout, and the durations are long; the only music with short durations is the birdsong, which itself does not qualify based on the fourth criterion. The other four criteria each require more explanation.

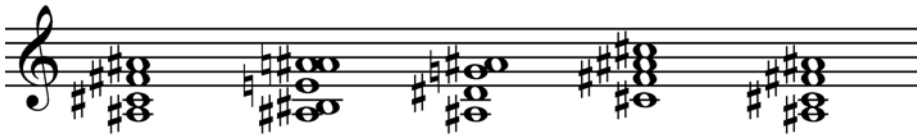
With regard to register, the harmonies in the chordal layer are in a high enough range that their coloration is rather pale. Apparently, pitches above E6 were so pale for Messiaen that they were nearly white.[75] Both parts of the chordal layer have pitches above and below E6. Given the range, the colors for the middle staff are likely to have been a little more distinct while the

[73] Harris, 24-7.
[74] The music that Harris analyzes is strictly homophonic and only has a single layer.
[75] Harris, 26.

upper staff would be paler (Figure 12, above). In contrast, the *Thème de Dieu* stays within the middle register and should elicit well-defined color perceptions.

Describing voice-leading in *musique colorée*, Harris notes that voices tend to move in similar motion, and the outer voices do not usually leap. The chordal layer satisfies the former of these requirements, but the outer voices for each part do tend to leap significantly. However, the outer voices do remain within a limited range; so, while the criterion is not entirely satisfied, the limited register of the chordal layer in part reflects the idea behind the restriction. The *Thème de Dieu*, on the other hand, tends to have conjunct voice-leading when used against the chordal layer, generally in similar motion. Although Messiaen uses both four- and five-note chords, the voice-leading between these different voicings is clear. For example, in the first phrase (Figure 16), there are three descending lines: A♯-A♮-G, F♯-E-D♯, and C♯-B♯-A♯. In the four-voice chords, there is an implied doubling of the A-sharps in the stationary outer voices. Additionally, there are only occasional leaps of a third or a fourth (in subsequent phrases) in the outer voices. The more regular, larger leaps in the *Thème de Dieu* occur when it is used against the birdsong, and the voices tend to continue leaping in the same direction, covering a broad range. In those instances, the *Thème de Dieu* is presumably less likely to elicit color.

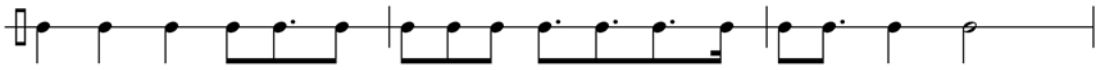
Figure 16. *Thème de Dieu* harmonies for the first phrase



Although notated in regularly recurring measures of $\frac{2}{4}$ time, the rhythms in the chordal layer do not conform to this meter. The meter for these parts is actually irregular, since the durations are based on three Hindu rhythms: râgavardhana, Candrakalâ, and lakskmîça.

Messiaen uses these rhythms as the foundations for three rhythm patterns (Figure 17), but also varies them, using diminution, augmentation, and an added value[76] (a common feature of Messiaen's music, adding half of the main rhythmic value). The resulting meters of these rhythm patterns are irregular, despite their notation in $\frac{2}{4}$. Satisfying the eighth criterion, the rhythms in the chordal layer reduce to a simple base value. For the upper staff, that value is the sixteenth note, and every value here is one, two, three, four, or eight times the base. The middle staff appears to be more complex in rhythmic values, but the rhythmic proportions for this part are actually the same as the upper staff; the values here are 1½ times that of the upper staff, because of the rhythmic canon, so the base value is the dotted sixteenth. Turning to the *Thème de Dieu*, its meter is regular and thus does not meet the seventh requirement for *musique colorée*, but the rhythms here all reduce easily to the quarter note, so the eighth criterion is satisfied.

Figure 17. Rhythm of the upper part in the chordal layer of "Regard du Fils sur le Fils"



While neither the chordal layer nor the *Thème de Dieu* satisfy all of the requirements for *musique colorée*, many more criteria are met than not. In no uncertain terms, Messiaen asserts that the *Thème de Dieu* elicits color, with circulating violets and blues, while merely suggesting that the chordal layer does so.[77] Since the *Thème de Dieu* satisfies more of Harris' criteria, it is likely to have elicited stronger responses than the chordal layer; as we shall see, the nature of Messiaen's comments in the program notes tend to support this idea as well. The chordal layer uses two modes of limited transposition, which Messiaen describes:

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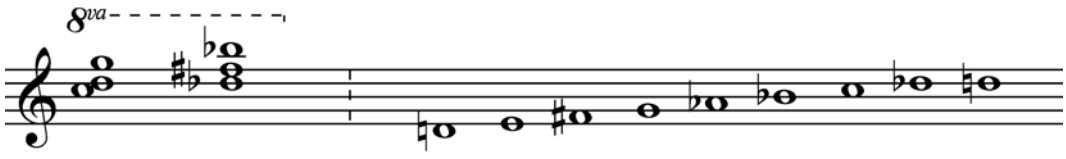
[76] Olivier Messiaen, *Traité de rythme, de couleur, et d'ornithologie: Tome II* (Paris: Alphonse Leduc, 1995), 443.
[77] Olivier Messiaen, "Analyse ses oeuvres," from *Hommage a Olivier Messiaen* (Paris: La Recherche artistique, 1978), 43.

> The upper music aligns chords in mode 6^3, whose color is a transparent sulphur [greenish] yellow, to mauve reflections, with Prussian blue and purplish-brown corners. The middle music is in mode 4^4, whose color recalls the flower petunia; somber violet, white to sketchy violet, violet purple.[78]

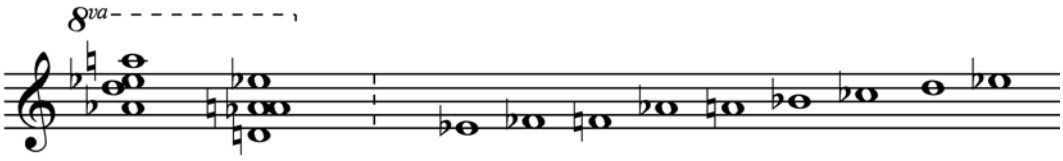
The descriptions from the program notes are identical to those provided for the general coloration of modes 6^3 and 4^4 listed in *Traité de rythme, de couleur, et d'ornithologie*, which raises the question of whether Messiaen was stating his color associations for the music in this movement, or simply expressing the coloration of the modes. The phrasing of his statements in the program notes is ambiguous, but the inclusion of the colors at least implies that he perceived them in this music. Using Messiaen's pitch-class color associations (derived by Harris), the coloration of the first chord of the upper part is translucent yellow-green, and the second crystalline violet (or red) and green or blue. The G in the first chord evokes yellow, the D green or gray, and the C adds translucence (Figure 18). If Messiaen's descriptions in the program notes are specific to this music, and not just the modes, then the yellow of the G probably fuses with the green of D, evoking sulphur yellow. For the second chord, if the B-flat evokes violet instead of red, with the green or blue of D-flat, and the F-sharp adding a gem-like quality, then the pitch-class colors are consistent with Messiaen's cross-modal associations for the chordal layer. Here, the pitch-class violet could correspond to the mauve from Messiaen's description.

Figure 18. The first two harmonies in mode 6^3



[78] "La musique supérieure aligne des accords en mode 6^3, dont la couleur est un jeune soufre transparent, à reflets mauves, avec des coins bleu de Prusse et brun violacé. La musique median est en mode 4^4, dont la couleur rappelle les fleurs de pétunia: violet sombre, blanc à dessin violet, violet pourpre." Messiaen, "Analyse," 43.

Figure 19. The first two harmonies in mode 4^4



The first chord in the middle staff evokes blue-violet; A produces blue, E-flat violet, D gray or green, and A-flat violet (Figure 19, above). The blue would fuse with any of the other colors, so the four pitches evoke a single color: a hazy (from the gray) blue-violet. The second chord employs the same four pitch-classes, so the coloration would be essentially the same.[79] Here, the pitch-class coloration is consistent with that of the modes.

For the *Thème de Dieu*, Messiaen utilizes all three transpositions of mode 2. The first transposition, containing the tonic, is used the most (Figure 20), followed by the second transposition, which contains the dominant (Figure 21). The third transposition is only used when accompanying the birdsong (a single chord in m. 59) or when the *Thème de Dieu* covers a broad range (mm. 69-71), so it is not being considered for its color associations. The first two phrases remain within mode 2^1 for all of the harmonies (Figure 22). The third phrase begins in the same mode, but changes to mode 2^2 with the move to the dominant on the fourth chord (Figure 23). The fourth phrase stays in mode 2^2 (Figure 24), as does the beginning of the fifth (Figure 25). After the fourth chord of the fifth phrase the register changes abruptly, continuing to change until the cadence, thereby disqualifying it for consideration as *musique colorée*, according to the criteria.

[79] Messiaen perceived colors from the higher register downward (Harris, 33), and for Messiaen's more complex self-styled special chords, a change in the voicing could change the way colors fused. In this instance, the chord would essentially evoke the same colors, although slightly darker because of the change in register.

Figure 20. Mode 2[1]

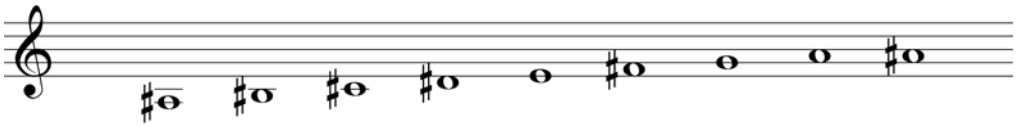


Figure 21. Mode 2[2]

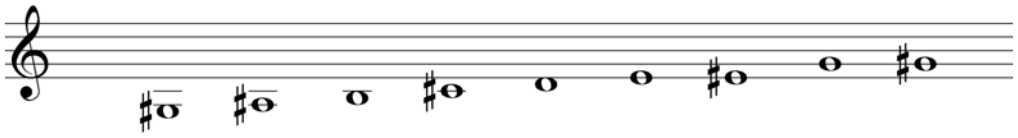


Figure 22. *Thème de Dieu* harmonies for phrase 1 and 2

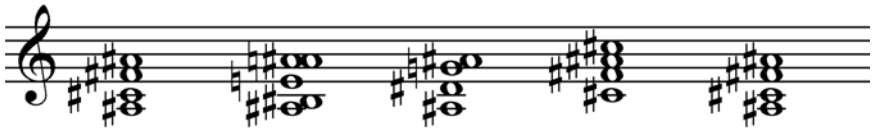


Figure 23. *Thème de Dieu* harmonies for phrase 3

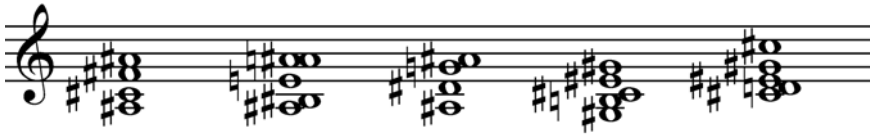


Figure 24. *Thème de Dieu* harmonies for phrase 4

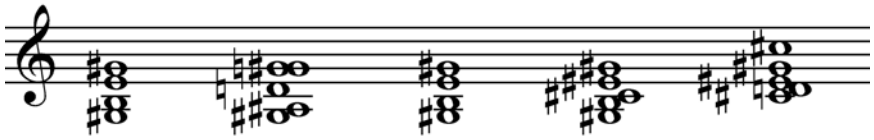
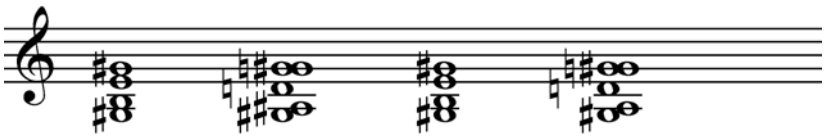


Figure 25. *Thème de Dieu* harmonies for the beginning of phrase 5



These harmonies repeat without alteration when the chordal layer returns in the second section. In the third section, only the beginning of the phrase would qualify as *musique colorée*, and its colors would be identical to the beginning of the very first phrase of the *Thème de Dieu*.

Therefore, the first five phrases provide all of the music being considered for the color associations in the *Thème de Dieu*, which Messiaen describes:

> The luminous tone of F-sharp major partly absorbing mode 2, all these violets and these blues circulate in a general atmosphere of gold and silver with a little red copper.[80]

This description provides a balance of colors between modes 2^1 and 2^2, with the violets and blues coming from the first transposition, and the gold, silver, and red (copper) from the second. Messiaen describes the general coloration of mode 2^1 as:

> Blue-violet rocks speckled with little gray cubes, cobalt blue, deep Prussian blue, highlighted by a bit of violet-purple, gold, red, ruby, and stars of mauve, black, and white. Blue-violet is dominant.[81]

The general coloration of mode 2^2 is described as "gold and silver spirals, on a background of brown and ruby-red vertical bands. Gold and brown are dominant."[82]

The way Messiaen describes his cross-modal associations for the *Thème de Dieu* is significantly different from that of the chordal layer, and his reference to the motion of the colors supports that the description of the former is the result of his synesthesia. For the *Thème de Dieu*, Messiaen not only states the color associations, but also the pitch collections in particular – F-sharp major and mode 2 – that are responsible for stimulating their perception. Here, he is most likely referring to the F-sharp major triad, not the key, since Messiaen does not associate colors with keys, nor does he emphasize the diatonic collection in this movement. Additionally, in *Traité* Messiaen notes chords in mode 2^1 that emphasize the blue-violet color, and the F-sharp

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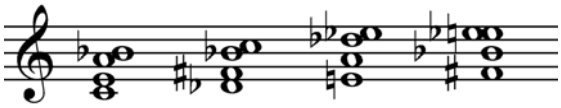
[80] "le ton lumineux de fa dièse majeur absorbant en partie le mode 2, tous ces violets et ces bleus circulent dans une atmosphère générale d'or et d'argent avec un peu de rouge cuivré." Messiaen, "Analyse," 43.
[81] "Rochers bleu violet, parsemés de petits cubes gris, bleu de cobalt, bleu de Prusse foncé, avec quelques reflets pourpre violacé, or, rouge rubis, et des étoiles mauves, noires, blanches. Dominante : Bleu violet." Messiaen, *Traité: Tome VII*, 118.
[82] "Spirales d'or et d'argent, sur fond de bandes verticales brunes et rouge rubis. Dominante : or et brun." Ibid.

major triad is contained within one of these four-note chords; the second chord of the *Thème de Dieu* is also among them (Figure 26, the second and first chords respectively).

Figure 26. Harmonies in mode 2^1 that emphasize the blue-violet color



The pitch-class derived colors for the *Thème de Dieu* harmonies differ only slightly from Messiaen's description of the music in his program notes. The first chord (Figure 22, above) is crystalline red (or violet) with blue or green, from the F-sharp, A-sharp, and C-sharp respectively; violet and blue would fuse, but none of the other combinations would. The second chord is a translucent red (or violet) and blue, from C, A-sharp, and A-natural and E; violet and blue would fuse. If B-flat evokes violet, then the colors are likely to fuse to blue-violet, emphasizing the dominant color for both the general description of the mode and that of the *Thème de Dieu*. If B-flat is red, the results are still not inconsistent; the pitch-class colors would emphasize blue and red, which are both included in Messiaen's description of the music. When the music changes from the first transposition to the second, the pitch-class colors for the initial chords differ significantly from the general coloration of mode 2^2 (gold and brown), but not with the description of the *Thème de Dieu* coloration. The first chord in mode 2^2 (the fourth one in the third phrase) includes G-sharp (violet), E-sharp (red or green), C-sharp (blue or green), and B (deep red). If E-sharp evokes red, then the colors could fuse into violet. The second chord, omitting B and adding D (gray or green), could yield a hazy violet.[83]

[83] If E-sharp, C-sharp, and D evoke green, then the results would be inconsistent with Messiaen's synesthetic description of the *Thème de Dieu*.

For both the chordal layer and the *Thème de Dieu*, the application of Harris' pitch-class color theory to the initial chords of the modes yields results that support Messiaen's cross-modal associations for the music. Neither the chordal layer nor the *Thème de Dieu* satisfy all of the requirements for *musique colorée*, but many more criteria are met than not. The *Thème de Dieu* satisfies more of the criteria, and Messiaen's comments in the program notes imply that it evokes stronger synesthetic perceptions. While this investigation cannot prove that Messiaen composed with the intent of evoking his own synesthetic perceptions, it does at least demonstrate that the techniques which Messiaen later used with that intention were being developed during the composition of *Vingt regards*. In particular, the *Thème de Dieu* closely resembles Messiaen's later approach for *musique colorée*. At the very least, as Messiaen was studying his synesthesia, his use of the *Thème de Dieu* would have provided a model upon which to expand his coloristic approach.

4.4.2 Application of Harris' Theory to "Regard de la Vierge"

In the program notes for "Regard de la Vierge", Messiaen's comments about color are restricted to the 'B' section, even though the "passive" music actually meets more of the criteria for *musique colorée*. The description is terse, and does not mention any colors:

> In the middle: superimposition of "modes of limited transposition": mode 4^4 over mode 3^1, mode 6^3 over mode 2^2, mode 3^2 over mode 4^2, with all the mixtures of colors that it comprises.[84]

[84] "Au Milieu : superposition de « modes à transpositions limitées » : mode 4^4 sur mode 3^1, mode 6^3 sur mode 2^2, mode 3^2 sur mode 4^2, avec tous les mélanges de couleurs que cela comporte." Messiaen, "Analyse," 43.

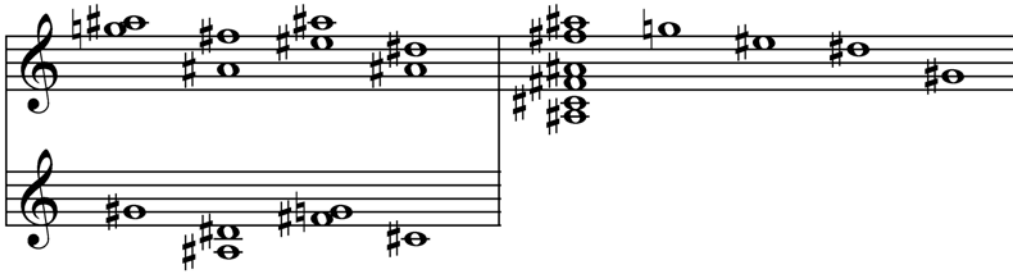
Applying Harris' criteria to the 'B' section, most of the music does stay in the middle register; however, much of it is very rapid, focusing on melodic motives (and birdsong at times), and the meter is only irregular when the music is very melodic. Block chords are only utilized in two short sections, mm. 40-44 and 47-51, and the voice-leading is only occasionally conjunct. For each of these passages, the eighth note is the base rhythmic value, but with so many other criteria failing to be met, it seems very unlikely that this music evoked any strong perception of color for Messiaen. More likely, the synesthetic associations Messiaen had with the modes of limited transposition educed color; Messiaen did experience synesthesia while reading music,[85] so it is possible, even plausible that he experienced it while thinking about his modes. All of these modes together would elicit a variety of colors, while the "passive" music that precedes the 'B' section, with its limited pitches, is likely to have evoked a more consistent coloration. Therefore, Messiaen's comments could simply imply a change in the coloration of the music; the "passive" music may have evoked a consistent coloration, while this "active" music with its abrupt juxtaposition marked a departure from it, "with all the mixtures of colors that it comprises."[86]

Taking the criteria for *musique colorée* into account, the initial "passive" music satisfies most of them. The texture is block chords, but the harmonies do not conform to Messiaen's classifiable chords. The tempo is slow, and the durations are not short, but they are not particularly long either. However, Messiaen utilizes a rather limited collection of pitches which are repeated in the harmonies throughout the passage; the use of the limited pitch collection is similar to Messiaen's modal music, and the repetition of pitches in a way helps sustain the notes instead of allowing them to decay. The music is in the middle register, but the voice-leading for the outer voices is disjunct. However, the four-note melodic pattern, G – F-sharp – E-sharp – D-

[85] Messiaen, *Music and Color*, 40.
[86] Messiaen, "Analyse," 43.

sharp, which runs throughout the passage, is stepwise. The meter is irregular, alternating between 3/8 and 7/16 time at first, and the durations are a combination of a base rhythmic value, the sixteenth note. The initial "passive" music is therefore more similar to *musique colorée* than not, and worth investigating for its possible color associations.[87]

Figure 27. Harmonies and pitch collection for the opening of "Regard de la Vierge"



The first chord is red (or violet), yellow, and violet, from the A-sharp, G, and G-sharp, respectively. The second is crystalline, red (or violet), and violet, from F-sharp, A-sharp, and D-sharp, which would likely fuse to a gemlike reddish-violet. The third chord should evoke two colors: red from the A-sharp and E-sharp, and a gemlike yellow from the G and F-sharp. The fourth chord could elicit a single color, with the violets of the D-sharp and A-sharp fusing with the blue-green of C-sharp, or two colors, forming a reddish-violet from the upper dyad against the blue-green lower note. With this approach, red-violet tends to dominate against yellow of the G.

While the collection does not fit into one of the modes of limited transposition, the music is not unlike one of Messiaen's modal passages. First, a fixed set of pitches governs the harmonies, allowing emphasis of particular notes. Also, the three- and four-note chords are more consistent in size with Messiaen's modal harmonies than with his more complex special chords.

[87] The ninth criterion is not met, since the music was written before 1950.

Since the setting is similar to Messiaen's modal music, the coloration of the pitch collection as a whole is worth examining. The members of the F-sharp major triad are stressed in the passage, which evoked violet and blue for Messiaen. Taking into account the four additional pitches, violet is reinforced by the harmonic use of G-sharp; the other three pitches, G, E-sharp, and D-sharp, are part of the four-note melody, and the G and D-sharp also appear in supporting harmonies. The yellow of the G provides the most contrast; E-sharp likely adds some redness to the violet, and the D-sharp reinforces the hue. So, violet dominates, though it sometimes leans toward red and at others toward blue, with yellow standing in contrast. The coloration would change at the cadences, when the pitch collection adds D and A. At these points, the coloration would likely be either a gemlike (from the F-sharp) blue – with the green of D and the violet of D-sharp both fusing with the blue of the A that falls between them – or a gemlike blue-green (D-A) with some violet (D-sharp). For this music, the pitch-class color mapping for the individual harmonies produces similar results to examining the passage as a whole.

The coloration of the 'a/' sections would likely have differed somewhat from the 'a'. First, the 'a/' sections have more emphasis on melody, which would likely detract from the perception of color. The added melody emphasizes C-sharp, which should make the violet shift a little more toward blue,[88] but it also adds pitches: C, D, and E. The C would add translucence, the D green, and the E blue, but the short duration and fleeting use of these pitches would probably not contribute much to the perception of color.

Like the 'B' section, the 'b' and 'b/' sections are much more varied in texture than the block-chords of the 'a' sections, and would not likely evoke strong colorations. Structurally, the juxtaposition of the 'b', 'B', and 'b/' after the 'a' or 'a/' sections mark a digression in the music,

[88] C-sharp is blue-green but would probably fuse with the violet.

creating a conflict. With respect to Messiaen's synesthesia, these juxtapositions likely interrupted the perception of color. The "passive" music probably elicited colorful perceptions, which would end suddenly with the ever changing and more melodic "active" sections.

5.0 CONCLUSIONS

Joseph Harris' theory for *musique colorée* provides the most compelling explanation of Messiaen's synesthesia, displays thorough procedures in the development of the theory, and can be applied effectively to other examples of Messiaen's music. The theory-based pitch-mapping color correspondences yield results consistent with Messiaen's perceptions of "Regard du Fils sur le Fils" and provide convincing possibilities when applied to "Regard de la Vierge". However, while the mapping of pitch-classes to specific colors is very convenient for analysis, at the same time it strips away much of the valuable descriptive terms. For example, the description "blue-violet" is much less satisfying than Messiaen's "blue-violet rocks speckled with little gray cubes, cobalt blue, deep Prussian blue." Furthermore, the application of the theory does not provide the means to arrive at these more elaborate descriptions; for those, we must rely on conjecture.

At this point, it remains unknown why the modes of limited transposition produced different colorations than combined individual pitch-class mapping for Messiaen. Harris' dissertation does not address the question, but there are some clues in Messiaen's music itself. The composer's self-styled special chords tend to contain more notes, even encompassing the total chromatic, while the harmonies of his modal passages, at least in *Vingt regards*, are more

frugal.[89] Correspondingly, the special chords tend to have registral zones with different colorations, while the harmonies of modal passages work together to evoke colors. It would seem that the differing ways in which Messiaen utilizes pitch may provide the reason for the difference in coloration. As Harris' criteria illustrate, pitch alone did not evoke colors for Messiaen – many other factors, such as rhythm and texture, played a significant role in the composer's synesthetic perceptions. Therefore, other factors may have contributed to the differences in the perception of color for Messiaen's modal music.

A shortcoming of Harris' theory is that it places very strict limitations on which passages of music would qualify as *musique colorée*. While his approach suits his analytic purposes very well and helps insure that the music being considered evoked color, his criteria also exclude other passages of music that may have elicited strong colorations for Messiaen. Actually, with the amount of information left for us, it is possible that Messiaen may have written about his color associations for all of his music that satisfies Harris' criteria. However, the music of many other composers, including Mozart and Debussy, evoked color for Messiaen, and certainly their music did not meet all of Harris' criteria. Given Messiaen's reactions to the music of other composers, Harris' criteria work better as guidelines for Messiaen's synesthesia – the more criteria that are met, the more likely the music evoked color for Messiaen. Such methodology would allow theorists to explore the ways that Messiaen's music may have changed across time and to examine the role that his synesthesia may have had on his compositional approach.

Toward this end, it is significant to note that motives in Messiaen's music tend to be fixed at the original pitch. Of course, there are notable exceptions to this trend, even within *Vingt regards*. For example, the sixth piece, "Par Lui tout a été fait", even emphasizes

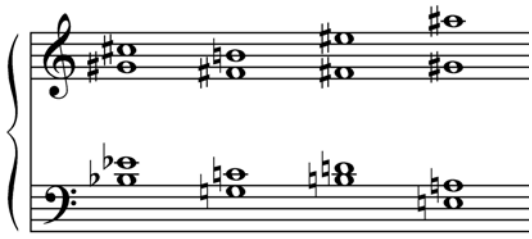
[89] Choices in instrumentation of course could also affect the number of chord members; composing for a single pianist does not afford the same options for chord voicings as composing for an orchestra.

transposition with its fugal counterpoint. However, some of Messiaen's important musical materials in this work, such as the *Thème de Dieu*, the *Thème d'accords*, and the *Thème de l'Étoile et la Croix*, tend to remain fixed at the original pitch. The *Thème de Dieu* is the most mutable, possibly because it is tonal, but of all its many occurrences in *Vingt regards* only three of the pieces include transpositions of the *Thème de Dieu*: "Regard de l'Esprit de joie" transposes fragments of it, "Première communion de la Vierge" states the complete theme in B-flat, and "Regard de l'Eglise d'amour" states it in a number of keys before returning to the original key of F-sharp. The *Thème d'accords* is varied in a number of ways: sonorities are condensed and concentrated in "Par Lui tout a été fait", fragmented in "Regard des Anges", and stated in retrograde in "Regard du silence", but each occurrence of the *Thème d'accords* remains fixed at the original pitch throughout *Vingt regards*.[90] Likewise, the *Thème de l'Étoile et la Croix* is immutable with respect to pitch. Therefore, the *Thème d'accords* and the *Thème de l'Étoile et la Croix* are tied to their pitch-classes, and this compositional choice could be related to Messiaen's synesthesia.

As many authors have suggested, subjects with pitch-color synesthesia tend to have absolute pitch, which by itself could have influenced the composer's decisions, but Messiaen's predilection for pitch-specific motives may have been motivated by his cross-modal perceptions. The case for the influence of synesthesia is stronger for the *Thème d'accords*, which is really a series of chords (Figure 28).

[90] Messiaen notes each occurrence of these themes in his program notes and also marks most of them in the score. While it may be possible to find some passage among the 177 pages of score that resembles a transposition of the *Thème d'accords*, Messiaen never identifies it as such, and Messiaen's perceptions are the real consideration here.

Figure 28. ***Thème d'accords***



Why did Messiaen only use this theme at its original pitch? It is certainly plausible that for Messiaen the chords evoked specific colorations, which were likely to have changed if the harmonies were transposed. In other words, transposing the music and changing its colorations might have changed a fundamental characteristic of the *Thème d'accords* for Messiaen.

As previously discussed, Messiaen believed he always had his color hearing, and his perceptions grew stronger across time as he studied them. While his later works which meet all of the criteria of *musique colorée* may represent the music which evoked the strongest colorations for Messiaen, other music did so as well. Surely earlier works by the composer stimulated some sense of color, and, as Messiaen studied his perceptions, it is only logical that his music would reflect those characteristics which heightened his sound-color perceptions.

Whether it was the influence of synesthesia or absolute pitch, Messiaen's apparent reluctance to transpose musical ideas led to repetition of them at the original pitch. Without transposition as a means of developing ideas, Messiaen may have needed to seek other ways in order to structure his music; juxtaposition and superimposition both provide possible avenues. In "Regard de la Vierge", Messiaen juxtaposes two distinct types of music to create conflict, which is a result of the abrupt changes from "passive" to "active" sections. The "passive" music is not static, but the changes that occur in the "passive" music do not alter its character and

actually highlight the conflict created by the juxtaposition of the musics. The most significant change to the "passive" music is the superimposition of a melody from the "active" music, an alteration de-emphasized by anticipatory development. With each music retaining its character throughout, the conflict appropriately resolves in the "active" music; with the "Regard de la Vierge" unified by C-sharp centricity, a conclusive resolution on the pitch is delayed until the Coda, the final "active" section. While the juxtaposition of musics provides a focus for the musical structure, its use may also be influenced by Messiaen's synesthesia. The decision not to alter the "passive" music in a significant way may have just been a compositional choice, or the music may have been tied to its original pitch for Messiaen, due to its possible colorations. The "passive" music may thus have had an identity which the composer would not alter, in which case juxtaposition with another music would provide a means for structural elaboration.

Messiaen's treatment of the *Thème de Dieu* in "Regard du Fils sur le Fils" also lends support to the increasing role of synesthesia in his compositional process. The *Thème de Dieu* (stated in the first movement, "Regard du Père") provides the structural foundation with two distinctive musics layered against it in alternating fashion. The *Thème de Dieu* and the chordal layer form a figure-ground relationship, and it is likely that the *Thème de Dieu* and each part of the chordal layer had distinct colorations; the *Thème de Dieu* meets most of Harris' criteria, and the parts of the chordal layer satisfy many. The changing rhythmic alignments of the three parts do provide musical interest, but that interest would only be heightened by the perception of visual color. The three parts share a common color, purple, but each also evokes its own unique colors, which would shift and change when layered against each other. Furthermore, the zones of color that are created by each part are not unlike the zones of color in Messiaen's self-styled special chords, which Harris used to derive pitch-class color mapping. Finally, the *Thème de*

Dieu and the two parts of the chordal layer remain fixed; the chordal layer does not change in dynamic, rhythmic proportion, or pitch, and the only alterations to the *Thème de Dieu* (from its original statement in "Regard du Père") are to facilitate performance. Therefore, these three sound-color identities may have been aligned in various rhythmic ways in order to create an ever-changing sound-color landscape.[91]

Messiaen's synesthesia appears to have played a role in the composition of both "Regard de la Vierge" and "Regard du Fils sur le Fils". His perception of color seems to have contributed to the repetition of musical ideas at a fixed pitch, which in turn may have affected the ways Messiaen structured his music. Juxtaposition and superimposition not only provide a means of structuring the music in *Vingt regards*, but also of reconciling musical identities that remain tied to their original pitches because of their sound-color associations. Messiaen stated, "When I hear music, I see in my mind complexes of colors corresponding to complexes of sounds, so it's understandable that color interests me as well as sound."[92] It is also understandable that those complexes of color influenced Messiaen's choice of the complexes of sound.

[91] In a similar manner, the birdsong is fixed in its pitch. The birdsong is altered, usually with added figures or rhythmic variations, but the motives are not transposed.
[92] Messiaen, *Music and Color*, 62.

APPENDIX A: MESSIAEN'S MODES OF LIMITED TRANSPOSITION

In contrast to diatonic pitch collections, where the sequence of intervals will yield a different collection for each of the twelve possible starting pitches, Messiaen's modes can be transposed only six, four, three, or two times. Mode 1 is the whole-tone scale. Given equal-tempered tunings, this design produces only two unique pitch collections. Mode 1 in its first transposition (Figure 29), built on C, produces a different collection of pitches than the second transposition of the scale, starting on D-flat. However, each of the subsequent versions of the scale will result in a duplication of one of these pitch collections, so the third transposition of mode 1 contains the same pitches as the first transposition, the fourth transposition is the same as the second transposition, and so on.[93] Therefore, only two transpositions of mode 1 exist. For Messiaen, these constructions serve as pitch collections, so the order of the pitches does not imply a particular function or hierarchy within the collection (e.g., the note E could serve as a focal point of a melody in mode 1, but this would still be considered the first transposition). When labeling, Messiaen conveys the transposition in superscript following the numeral for the mode itself, e.g., mode 3^4 would indicate the third mode in its fourth transposition.

Mode 2 is the octatonic collection, and it has three possible versions or transpositions of the mode. The intervallic sequence of mode 3 is tone - semitone - semitone, and it has four

[93]Olivier Messiaen, *The Technique of My Musical Language*, trans. by John Satterfield (Paris: Alphonse Leduc, 1956); originally published as *Le Technique de mon langage musical* (Paris: Alphonse Leduc, 1944); 59. Messiaen labels the initial version of a mode as the first transposition; this terminology will be used here for consistency and clarity.

transpositions. Modes 4-7 have six transpositions each, since their patterns divide the octave in half. Mode 4 is generated from the pattern: semitone - semitone - minor third - semitone. The pattern of mode 5 is semitone- major third - semitone. Mode 6 projects the sequence: tone - tone - semitone - semitone. The intervallic sequence of mode 7 is semitone - semitone - semitone - tone - semitone.

Figure 29. Mode 1 in its two transpositions.

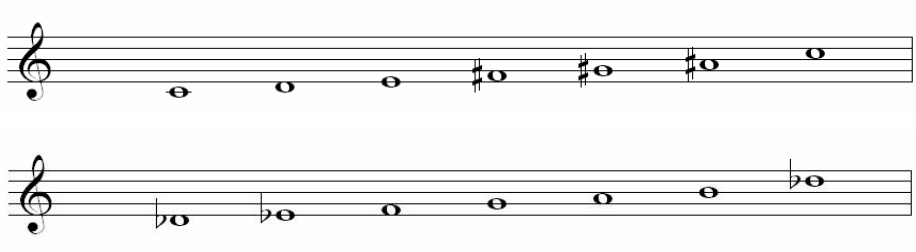


Figure 30. Mode 2[1]

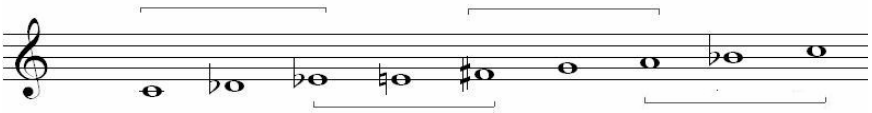


Figure 31. Mode 3[1]

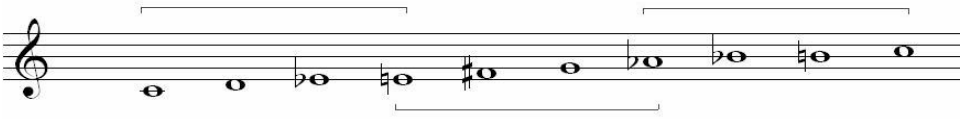


Figure 32. Mode 4[1]

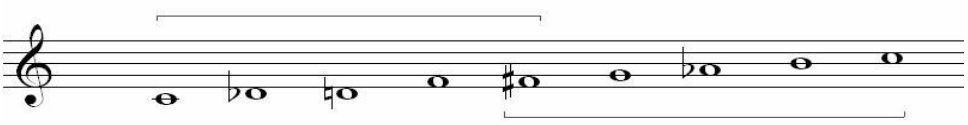


Figure 33. Mode 5[1]

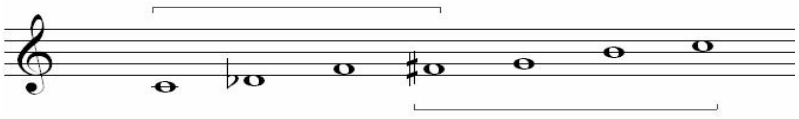


Figure 34. Mode 6[1]

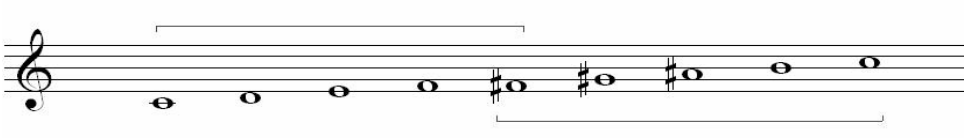
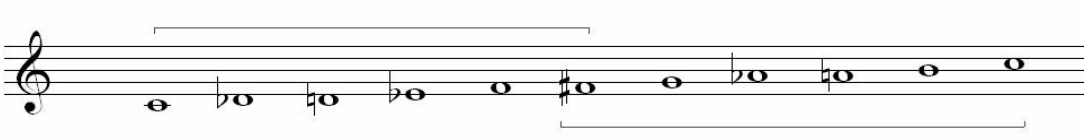


Figure 35. Mode 7[1]



APPENDIX B: PROGRAM NOTES FOR *VINGT REGARDS*

Twenty Regards *of the Child Jesus*[94]

For piano

Contemplation of the Child-God in the manger and *Regards* which fall on Him: from the inexpressible *Regard* of God the Father up to the multiple *Regards* of the Church of love, in passing from the extraordinary *Regard* of the Spirit of joy, through the *Regard* so tender of the Virgin, then of the Angels, the Mages, and of the incorporeal or symbolic creatures (Time, Heights, Silence, the Star, the Cross).

Apart from the particular themes for each of the twenty pieces, four cyclical themes circulate through the work: a) the Theme of God – b) the Theme of Mystical Love – c) the Theme of the Star and the Cross – d) the Theme of Chords. The Theme of God is found in the three pieces dedicated to the three persons of the Holy Trinity: "*Regard* of the Father", "*Regard* of the Son upon Himself", "*Regard* of the Spirit of Joy" – it is located in "By Him All Has Been Made" (since creation is attributed to the Word, without which nothing is made) – it is present in "The Kiss of the Child Jesus" and in "First Communion of the Virgin" (She bore Jesus in her) it

[94] The French word *regard* does not translate well into English. It can range in meaning from a look or a gaze to a contemplation or an aspect of the subject. Messiaen repeats the term a great many times, and since no single English word will work for all of these instances, nor convey the range of meanings that may be intended or the relationship between them, the French *regard* is retained in this translation.

is magnified in "*Regard* of the Church of Love" (The church and all believers are the body of Christ). The *Theme of Mystical Love* comes back in "By Him All Has Been Made", "I Sleep, But My Heart Remains Awake", "*Regard* of the Church of Love". *The Star* and *The Cross* have the same theme because the one opens and the other closes the earthly period of Jesus (see "*Regard* of the Star" and "*Regard* of the Cross".) The *Theme of Chords* is found everywhere, fractioned, concentrated, crowned with a halo of resonance, combined with itself, changed in rhythm and register, transformed, transmuted in all sorts of fashions: it is a complex of sounds destined to perpetual variations, preexisting in the abstract like a series, but very concrete and very easily recognizable by its colors: a gray-blue steel crossed with red and bright orange, a violet-mauve speckled with leather-brown and circled with purple-violet. The order of the pieces is determined by the contrast of tempo, intensity, color – and also by symbolic reasons. Five which treat the Divined are distributed evenly: I) *Regard* of the Father – V) *Regard* of the Son upon Himself – X) *Regard* of the Spirit of Joy – XV) The Kiss of the Child Jesus (the visible manifestation of the invisible God) – XX) *Regard* of the Church of Love (which prolongs the Christ). The "*Regard* of the Cross" bears the number VII (7, perfect number) because the sufferings of the Christ on the Cross have restored the order blurred by sin. The Angels have confirmed in grace, the "*Regard* of the Angels" bears the number XIV (2 times 7). The "*Regard* of Time" bears the number IX: Time has seen born in itself the One who is Eternal, by locking him away for the 9 months of maternity that all other children experience. The "*Regard* of the Terrific Anointing" bears the number XVIII (2 times 9): the Divinity is widespread on the Humanity of the Christ in the only person who is the Son of God: what an astounding anointing, this choice of one certain flesh by the appalling Majesty, assuming the Incarnation and the Nativity. The two pieces which speak of the Creation, and of the Divine Government or Support

of all things and the Creation continued without ending, are: VI) "By Him All Has Been Made" (6 is the figure of the Creation) – XII) "The Almighty Word" (12 = 2 times 6).

I. *Regard* of the Father

The complete statement of the *Theme of God*. And God said, "This is my beloved son, with whom I am well pleased …" (The Gospel according to Saint Matthew III:17).

II. *Regard* of the Star

Theme of the Star and the Cross. One finds there a mysterious echo of the Greek meter and the neumes of plain-chant.

III. The Exchange

The entire piece is written in crescendo, according to the procedure of "asymmetrical enlargement": the same fragments, juxtaposed or superimposed, are repeated: each time, certain notes ascend, others descend, others do not move. It is a commentary on this anthem of Missel: "Oh admirable commerce. The Creator of human kind, taking a body and a soul, has deigned to be born of the Virgin, for us to share in his divinity."

IV. *Regard* of the Virgin

Very simple and naïve, the music depends on the alternation of two Greek meters: Ionic minor and the 3rd Epitrite. In the middle: superimposition of "modes of limited transposition": mode 4^4 over mode 3^1, mode 6^3 over mode 2^2, mode 3^2 over mode 4^2, with all the mixtures of

colors that it comprises. At the start of a new section, a new melodic counterpoint expresses the tenderness of the maternal *regard*.

V. The *Regard* of the Son upon Himself

It concerns the Son-Word looking at the Son-child-Jesus. Three sonorities, three modes, three rhythms, three superimposed musics. Three rhythms. Two musics, the uppermost and the median form a rhythmic canon by adding a dot. The proposing [or initial] part aligns 3 decî-tālas (Hindu rhythms): râgavardhana, candrakalâ, lakskmîça. The answering part replies at the same duration, but dotted, that is to say longer by a half, in restating the notes already marked off in the proposing part: there is therefore a discrepancy of tempo between the two musics such that the upper music is able to unfold three times while the middle music unfolds only twice. The lower music makes heard, in slow values, the complete phrase on the *Theme of God*. Three "modes of limited transposition". The upper music aligns chords in mode 6^3, whose color is a transparent sulphur [greenish] yellow, to mauve reflections, with Prussian blue and purplish-brown corners. The middle music is in mode 4^4, whose color recalls the flower petunia; somber violet, white to sketchy violet, purple-crimson. The lower music is in mode 2 in its 3 transpositions, especially in the first or 2^1, whose dominant color is blue-violet. The general register being high, the luminous tone of F-sharp major partly absorbing mode 2, all these violets and these blues circulate in a general atmosphere of gold and silver with a little red copper. From time to time, the polyrhythms and polymodality break off, and the *Theme of God* continues, in counterpoint only with an ideal bird-song, which borrows at the same time from the Black Merle and the Garden Warbler. After these technical and colorful explanations, one perhaps better comprehends the little mystical poem that is set as a quotation for the piece:

"Mystery, rays of light in the night – refraction of joy, the birds of silence – the personification of the Word in one natural human being – marriage of the human and divine natures in Jesus Christ."

VI. By Him All Has Been Made

It is about the Creation, accomplished by the Son of God or Word (and the child-Jesus is this Son of God made man), "By the Word all has been made, and without Him nothing has been made." (The Gospel according to Saint John, I: 3).

This Creation of All: space, time, stars, planets – and the Face (or better the Mind of God) behind the flame and the foaming, no one is able to speak about it. Nor did I speak of it … I hid myself behind a Fugue. "The Art of the Fugue" by J.S. Bach and Opus 106 of Beethoven have nothing to do with the scholastic fugue. Completely like these great models, here is an anti-scholastic fugue.

Exposition. The subject is never presented in the same fashion. 1st entry: Subject and Countersubject normally – 2nd entry: Subject changed in rhythm and register, superimposed with itself in "asymmetrical enlargement" – 3rd entry: inverted Answer and inverted Countersubject – 4th entry: Answer changed in rhythm and register, superimposed following the Subject in "asymmetrical enlargement". Immediately, stretto of the Subject, in triple canon of "non-retrogradable rhythms". The Countersubject, in turn, is changed in rhythm and register. One hears a rapid succession of chords with 6, 7, 8 notes: these chords constitute the *Theme of Chords*. A new triple rhythmic canon of the Subject is superimposed with short sound effects in the extreme low-end of the piano. Later, the Subject is further transformed: it is treated in equal values (simple and dotted), widespread over the entire range of the piano, and each of its notes is

emphasized by a pair of grace notes. Crossing with it, a fragmentation of the *Theme of Chords*, split into groups of 1, 2, 3 and 4 sounds (especially 2 sounds). The same *Theme of Chords* reappears in grace-note groups and trilled chords, like an attack, a rumble of metallic percussion. A Great Divertimento of the Fugue which superimposes two elements. a) Highest part: the Subject is treated in "non-retrogradable rhythms" (that is to say that if one reads it from left to right, then from right to left, one finds exactly the same order of values, from a psychic force of the rhythm). The Subject is progressively eliminated, symmetrically in the right and in the left, so the "non-retrogradable rhythm" remains therefore always as such, since it is amputated at the same time in both directions, and we have here one of the processes most striking of the development of a "non-retrogradable rhythm". b) Simultaneously, the bass utilizes a fragment of the Subject changed in rhythm and register, and repeated in "asymmetrical enlargement". This fortissimo bass in the low register is clearly heard and gives a great power to the entire Divertimento.

Middle. Alternating groups of very short and very long durations. I got this idea from reading publications in astronomy (order of the larges) and microphysics (order of the smalls). The Countersubject in rapid thirty-second notes (in the extreme high and extreme low registers together) play the role of the electrons and the photons (extremely small). The inserted measures play the role of the stars (extremely large), and utilize the *Theme of Chords* split into groups of 2 to 4 sounds, with changes in register, and canon at the octave starts at different places, the whole completely blurred by the pedal. The alternation of the two groups shows a new style of the piano: brilliant intensity of the fortissimo attribute in the extremes, blurring the double and triple sounds overlapped in the middle register pianissimo.

After the Middle, reprise of the whole Fugue in "crab" form, in retrograde. Then, great Stretto on the Subject featured in "asymmetrical enlargement".

It is at first a triple canon. At the end of each, all three of the voices have notes which ascend, notes which descend, fixed notes. At the end of a certain number of times, the voices find themselves, in places, excessively spaced, or close to crossing. The effect continues in the thicker chords of the Subject and the inverted Subject together. Above everything, the accelerando, then the rallentando, pose their infernal machine. As this passage goes from the most distant pianissimo to the most tremendous fortissimo, one hears an enormous crescendo tying the order of motion to the intensity and density. Other crescendo: it passes imperceptibly from a dark and atonal language to the victory of color and clarity by the forceful entry of the joyous major third.

Development on the *Theme of God*, followed by the *Theme of Mystical Love*. Both are presented in slow values, chorally, in fanfare. They are heard in F-sharp major, B-flat major, D major, the major sound always being mixed with a "mode of limited transposition". The *Theme of Chords* is here also, but played in the extreme low register, in crescendo, at full speed, with a blurring of the pedal, which completely transforms the sonic matter and creates a sort of transmutation. One hears equally the Subject of the Fugue pounded in low notes with changes of register and started by a "**ra**" of the drum. After a silence, a conclusion, which can be divided into two Codas. First Coda: all of Creation sings in F-sharp major on the *Theme of God* and on the *Theme of Mystical Love*. 2nd Coda: reprise of the alternating groups of very short and very long values heard in the Middle, but with another music – the last proclamation of the Subject with changes in register in canon at the octave – and a great final arpeggio which makes the

entire piano resound and where the harmonic material of the piece is found summarized: major third, *Theme of Chords*, total chromatic.

VII. *Regard* of the Cross

Theme of the Star and the Cross, accompanied by a perpetual chromatic moaning, in anacrusis, accented and muted – which transforms itself between each occurrence of the theme in painful and yet colored polymodality: mode 6^4 (general color: vertical bands of yellow, violet and black), superimposed with mode 4^6 (general color: shimmering carmine red, purplish crimson, orange, gray mauve, gray rose). This superimposition is opposed to the blackish grey of chromaticism and always leads to a minor chord with a major sixth, of an intense violet.

VIII. *Regard* of the Heights

It is in the night of the Nativity that the song of the Angels resounds for the first time: "Gloria in excelsis" (Glory in the Heights!). These heights are symbolized here by the birdsongs. One hears in turn the musical thrush, the nightingale, the blackbird, the garden warbler, and a choir of all sorts of birds together. The great soloist, the one who constantly holds the highest regions of the scene, is the lark of the fields, bird of the whole sky, bird of the heights par excellence, whose song evolves between two poles: one long, low note in the brief moments of gliding flight, one very high-pitch dominant for the flapping of the wings; around this dominant is wound all the melodic garland of the solo, as toward a perpetual ceiling, sublime, and untiring!

IX. *Regard* of Time

The incarnation of the Word is like an eruption in the Eternity of Time: Time sees born in it the One who is Eternal. We are here before a mystery, for some theologians the greatest of all mysteries. The entire piece is therefore mysterious, and the musical material sound remains strange. Two musics evolve alternately: a) a theme with its different periods – b) a rhythmic canon. The rhythmic canon is triple, and its three voices (in complexes of augmented and perfect fourths) always enter at the distance of an eighth note. The general rhythm of the canon is the Cretic rhythm (long, short, long), with long and short notes of various values (more or less long or short), whose chaining creates the following relationships: withdrawal to 3/4, addition of double the amount withdrawn, withdrawal to 2/3, addition of quadruple, withdrawal to 4/5.

X. *Regard* of the Spirit of Joy

The soul of Christ, in the course of his life on earth, enjoyed the constant privilege of beatific vision. God is happy, and Christ possessed this same joy, this transport, this spiritual intoxication, that we convey by these words: "tu solus Sanctus" (you, the only Saint!). This joy leads to the permanent home of the Holy Spirit: such is the sense of the title of the piece. It can be divided into 7 sections. 1) Oriental dance, played in the extreme low register of the piano, and cut up by the violent grace-note groups in contrary motion. It uses the neumes of plainchant and sounds repeated 2 and 3 times (distropha, tristropha). 2) 1st development on the *Theme of Joy*. 3) Passage of transition, superimposing two asymmetrical extensions, in which certain notes ascend or descend at each term, except the E never moves. Always on the E (dominant of the forthcoming A major), one interesting trait of the piano: it is played with the hand flat, the fingers gliding to the right and the left of the flattened thumb, in a motion of rotation and

balance. Once again inverted grace-note groups lead to the 4th section. 4) Third theme, in Cretic rhythm, which sounds like four horns. It is presented in 3 successive variations: the 1st in A major, the 2nd in D-flat, the third in F. 5) 2nd Development of the *Theme of Joy* and the *Theme of God*. The *Theme of Joy* is treated in chimes of high-pitched bells. Starting from a subito pianissimo, an ascent in crescendo on the first four notes of the *Theme of Joy*, harmonized by a contraction of the *Theme of Chords*. 6) Reprise of the Oriental Dance and neumatic from the beginning, extreme high register and extreme low register together. 7) Coda on the *Theme of Joy*, slowly, with great resonance. One line combined with the trills forms a birdsong. A final reminder of the third theme (the one of the four horns) and the last line that starts in rocket and descends very quickly toward a bang of the large drum.

XI. First Communion of the Virgin

We are here between the Annunciation and the Nativity: it is the first and greatest of all the communions. Mary adores Jesus in her: my God, my Son, my Magnificat! my love without the sound of the words ... *Theme of God* pianissimo, in B flat and in mode 2^2. Quick flourishes recall the design of the stalactites in the Oracle caves. Other flourishes, much slower, in pairs of notes, like two ideal flutes, very tenderly close the arm on this Truth which speaks to us silently. A short reminder of "The Virgin and the Child" (another piece by the same composer on the "Nativity of the Lord"), and here the Magnificat! The *Theme of God*, more rapidly, in Cretic and trochaic rhythms, with added dotted values, supports the breathless anacruses which prepare each accent of the canticle of joy and praise. Then, the note D (note of the anacruses) is harmonized in about twenty different ways, making use of it in the "chords with transposed inversions" and alternating it with two series of numbers, of which one goes from 1 to 13, and the other from 3 to

15: these numbers, at first implied, are then expressed in the low register in regular pulsations that represent the beating of the child's heart. Coda on the *Theme of God*, which fades into silence near the last third of the internal embrace.

XII. The Almighty Word

The child Jesus is this Son, this Word, "who maintains all things by the power of his speech." (Letter from Paul to the Hebrews, I: 3) The musical material here is simple and terrifying. It is a fortissimo monody, established on a great melodic mode which extends over 3 octaves: diatonicism and chromaticism in the highest octave, more disjunct intervals then, three fifths in the low register. Certain notes have their own ornament: downward grace notes which always precede them. One hears here and there some Greek rhythms: Amphimacer, Bacchius, and the different Epitrites. One percussion instrument in the extreme low register, in the sonority of the tam-tam, replaces the missing harmony: it is an ostinato on a "non-retrogradable rhythm", aligning the values 3, 5, 8, 5, 3 (sixteenth notes) – each term of the ostinato being separated from the neighboring sound by a silence equivalent to 7 (sixteenth notes). Several low C's are provided as a drum roll in crescendo which violently comes to blows in the rhythm of the tam-tam.

XIII. Christmas

The first part of the piece is church bells: they are the bells of Christmas. One also notices there a xylophone theme, the *Theme of Chords* concentrated then spread, and the Hindu rhythm "miçra varna" (which means mixture of colors in Sanskrit). More of the trembling sounds, the rustling of silk. The middle recalls the Holy Family and the Adoration in front of the

Child in the crib. It is written in "mode of limited transposition" number 3^1 (color orange, gold, and milky white). In opposition, one other polymodal color: mode 3^4 (orange, red, with a little blue) superimposed with mode 2^2 (gold and brown) – and one third color: the mode 3^2 (gray and mauve), with one upper pedal of which the foreign notes add a little red. At the reprise of the first part, the bells increase in one long convergent motion.

XIV. *Regard* of the Angels

First strophe. Flamboyance**,** attained by a turning gesture, by crossed hands, on the white and black keys – it illustrates this quotation from Psalms: "Your servants are as tongues of flame" (Psalm 104: 4). Following are the *Theme of Chords* and a triple rhythmic canon on Hindu rhythms. Then one iconographical evocation borrowed from the "Last Judgment" of Michelangelo (Sistine Chapel): it is those athletic angels, in human form, with eyes rolling with effort, who blow in immense brass low-sounding trombones or Tibetan trumpets: above the expansive intervals of the trombones, fragmentation of the *Theme of Chords*.

The 2nd and the 3rd strophes take up the same material, by extending them, each strophe is therefore longer than the preceding one. 4th strophe: birdsongs (especially the Black Merle). Continuation of the rhythmic canon under the birdsongs. At the 5th strophe, the trombone theme is taken up again and repeated on the 3rd Greek Epitrite (2 long, short, long): there is an enormous expansion of intervals, the broadening of which continues 23 times, combined with a long crescendo from pianissimo to more than fortissimo, which expresses the astonishment of the Angels: for it is not in them (pure spirits), but in the human race, that God unites himself, and the Son of God incarnate "is not ashamed to call us his brothers.**"** (Saint Paul, Letter to the Hebrews, II: 11).

XV. The Kiss of the Child Jesus

Utilization of the 2nd "mode of limited transposition", in its three transpositions, applied to F-sharp major: 2^1 for the tonic, 2^2 for the dominant, and 2^3 for the subdominant. Flowing and precise rhythms, with prime numbers, troches and iambs, with the falls cushioned by the addition of the dot. Very simple pianistic writing at the outset (also borrowed from Rameau), of which the variations evolve toward a charming ornamentation (going from Mozartian accentuation to the light features marked by the Etudes of Chopin). All this being nothing but the technical presentation of material. The subtitles written on the music say much more: the sleep – the garden – the arms extended toward love – the kiss – the shadow (hint) of the kiss. I remember an image that I liked a great deal, and that depicted the child Jesus leaving the arms of his Mother in order to embrace the young Sister Theresa. At each communion too, the child Jesus opens the door to the marvelous garden, then rushes to every light in order to embrace us. The explanation of this mystical poem resides perhaps in the fact that one hears there without cessation the *Theme of God* treated in lullaby: as if the heart of the heavens surrounded our sleep in its inexhaustible tenderness… And like the Apocalypse (XXI: 4) says with so much love, "God will wipe every tear from our eyes!"

XVI. *Regard* of the Prophets, the Shepherds, and the Magi

Exotic music: tam-tam and oboe, enormous and nasal concert…. In the introduction: progressively accelerated values, in the chromatic scale of durations, and in decrescendo. In the Coda: progressively slowing values, in the chromatic scale of durations, and in crescendo. These two opposite effects create a union of the quantitative and the dynamic.

XVII. *Regard* of Silence

The same rhythmic canon by the addition of the dot which is in the 5th piece: "*Regard* of the Son upon Himself" – but with another music. The proposing part uses an ostinato of 17 chords in mode 3^4. The responding part (the one of which the durations are dotted) uses an ostinato of 17 chords in mode 4^4. After this introduction where the music seems to come out of the silence like the colors come out of the night, two Strophes. 1st Strophe. Several registers, several intensities, several colorations, in "harmonic litany" on the notes: sol, fa. There one hears "chords with transposed inversions," "chords with contracted resonance," the concentrated *Theme of Chords* (all notes simultaneous), the oppositions of color between the mode 3^3 (blue and green), the mode 2^2 (mauve and rose in the high notes, gold and brown in the low), the mode 4^4 (violet veined with white), and the contrary arpeggios with crossed hands that ripple delicately like the spider's web. Toward the end of the Strophe, the *Theme of Chords* combined with itself in retrograde and prime form, the retrograde making resonance and reverberation of the prime form, like two rainbows of which one surrounds the other. The 2nd Strophe uses the same material as the 1st, with some changes. The Coda takes up again the polymodality of the introduction, in the very high register, alternating the chords between the two hands: multicolored and impalpable music, in confetti, in light gems, in crashing reflections.

XVIII. *Regard* of the Awesome Sacrament

The Word takes a certain human nature; chosen by the flesh of Jesus by the dreadful Majesty … This is that unique, incredible, terrifying Sacrament, of which Psalm 45 speaks. In order to manage to convey this marvelous mystery, I have examined one old tapestry

representing a scene from the Apocalypse: the Word of God in conflict under the features of Christ on a horse – one sees only his two hands on the hilt of the sword which he brandishes in the middle of the flashes of lightning!...

The entire piece is a powerful chorale of brass, led by the jolts of lightning. In the Introduction: progressively slowing values superimposed with progressively accelerated values, in two chromatic scales of durations, crescendo molto, get closer and closer by convergent motion. In the Coda: progressively accelerated values superimposed with progressively slowing values, in two chromatic scales of durations, crescendo molto, move further and further away by divergent motion.

XIX. I Sleep, But My Heart Keeps Watch

One hears here the *Theme of Mystical Love*. Taken from the most beautiful of all the poems mystical love, the "Song of Songs", the title expresses the feeling of the soul who waits for the Beloved. The music is able to say more than the words and I will only explain it with one other image of mystical love, drawn from "Fioretti": the Angel pushed the bow on the viola and made one soft note B, surely if he had continued to draw the bow, one would die of joy…

XX. *Regard* of the Church of Love

Flurry of gestures, in contrary motion, with symmetrical fingerings for the two hands. Non-retrogradable rhythms, amplified by the symmetrical additions to the left and right. *Theme of God* in B major.

Long passage of transition, blurred by the pedal, confused and menacing, which superimposes melodic permutations in the high register with an asymmetrical enlargement in the

low, and moves forward in crescendo like the rising tide. *Theme of God* in D-flat. Second rising tide.

Theme of God in F major. Development of the *Theme of Mystical Love*. Once again, the flurry of gestures in contrary motion, and the non-retrogradable rhythms amplified in the left and right. Third rising tide, longer, and also more agitated than the previous ones by the use of broken octaves. Pedal on the dominant, treated like the ringing of bells, where one finds the *Theme of Chords* and some "chords at transposed inversions": it ends with a progressive thickening of the complexes of sounds, going hand and hand with a progressive slowing down of the durations, and culminating at the unique note C-sharp. Then the Glory opens up, and the exposition begins. Complete phrase on the *Theme of God*, in F-sharp major, in a fanfare of brass, in repeated fortissimo chords, with cymbals, tam-tams, bells, birdsongs. Long Coda, always on the *Theme of God*: after the sheaves of night, the spirals of anxiety, here the triumph of love and the tears of joy – all the passion of our arms around the Invisible!...

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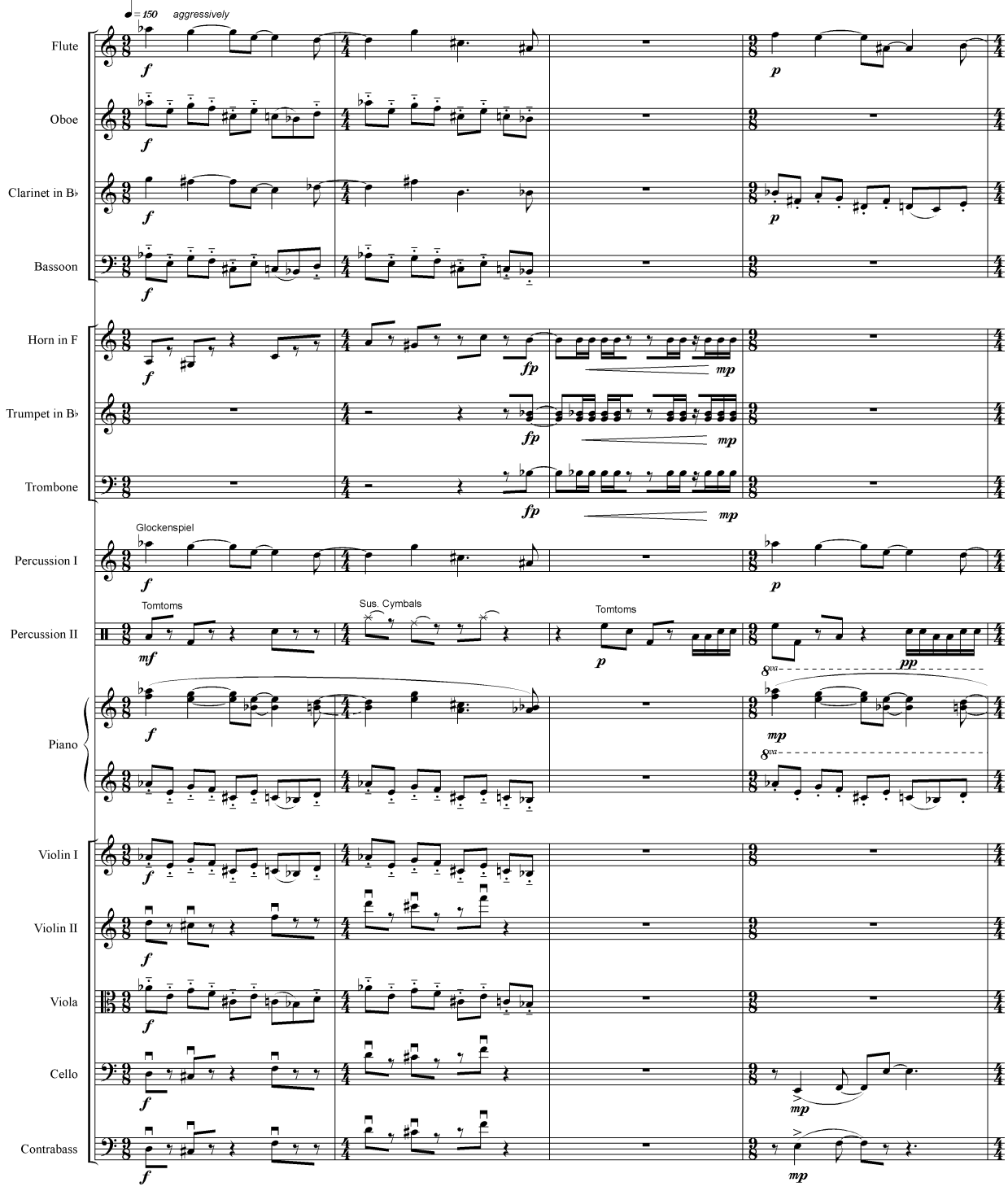
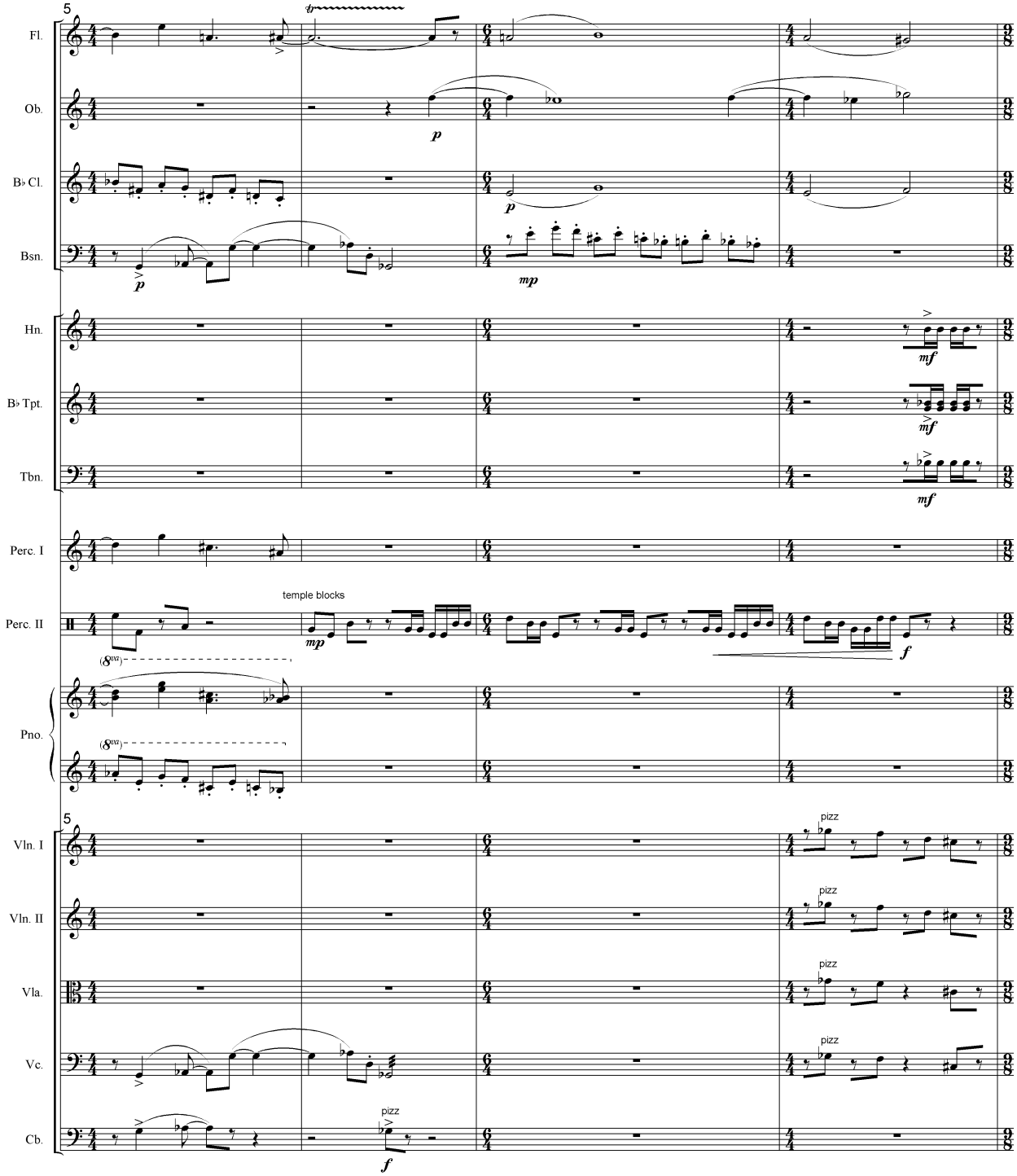
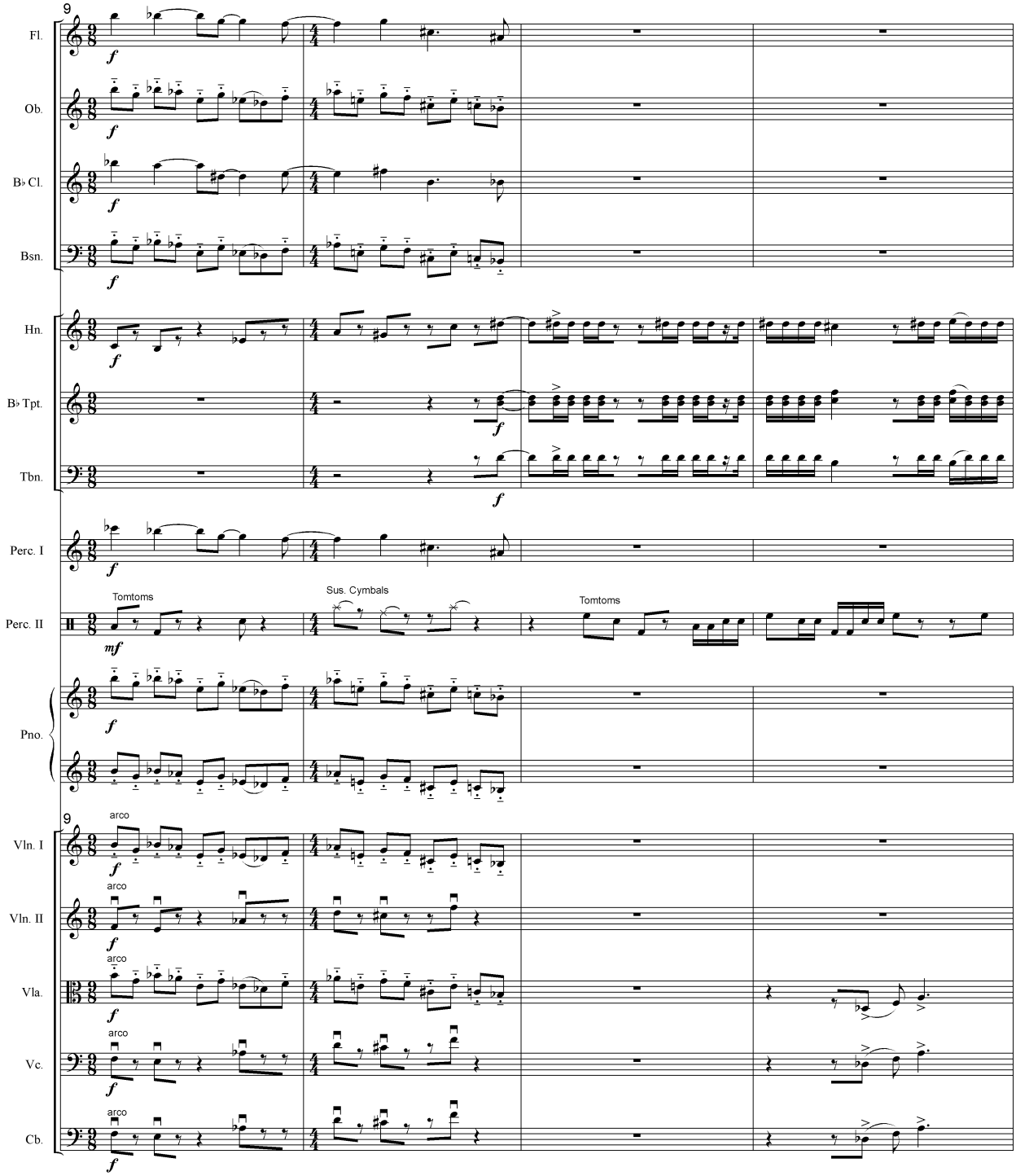
Baptism

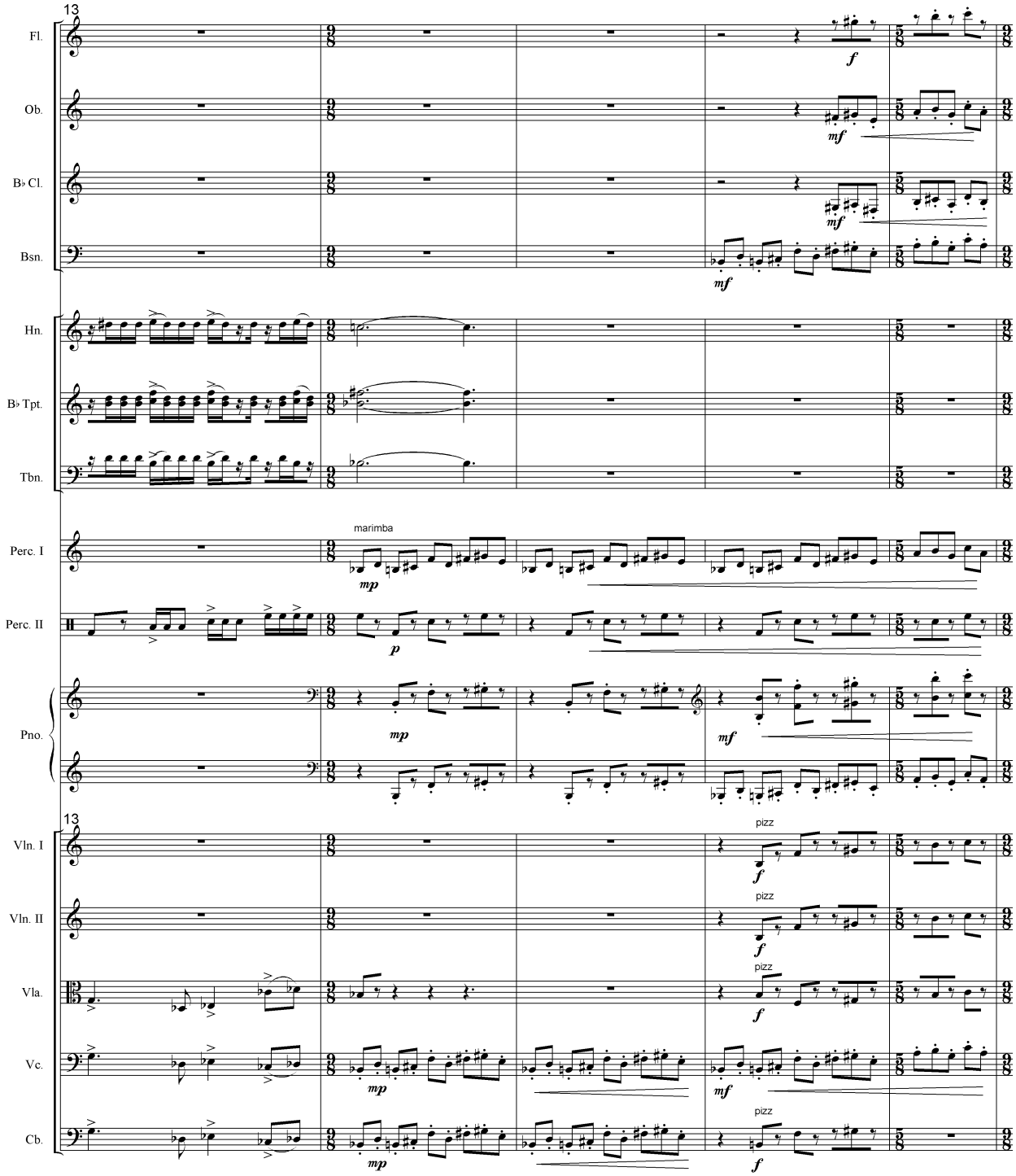
commissioned by the Duquesne Contemporary Ensemble and David Stock
dedicated to Alyssa Kay Stephens

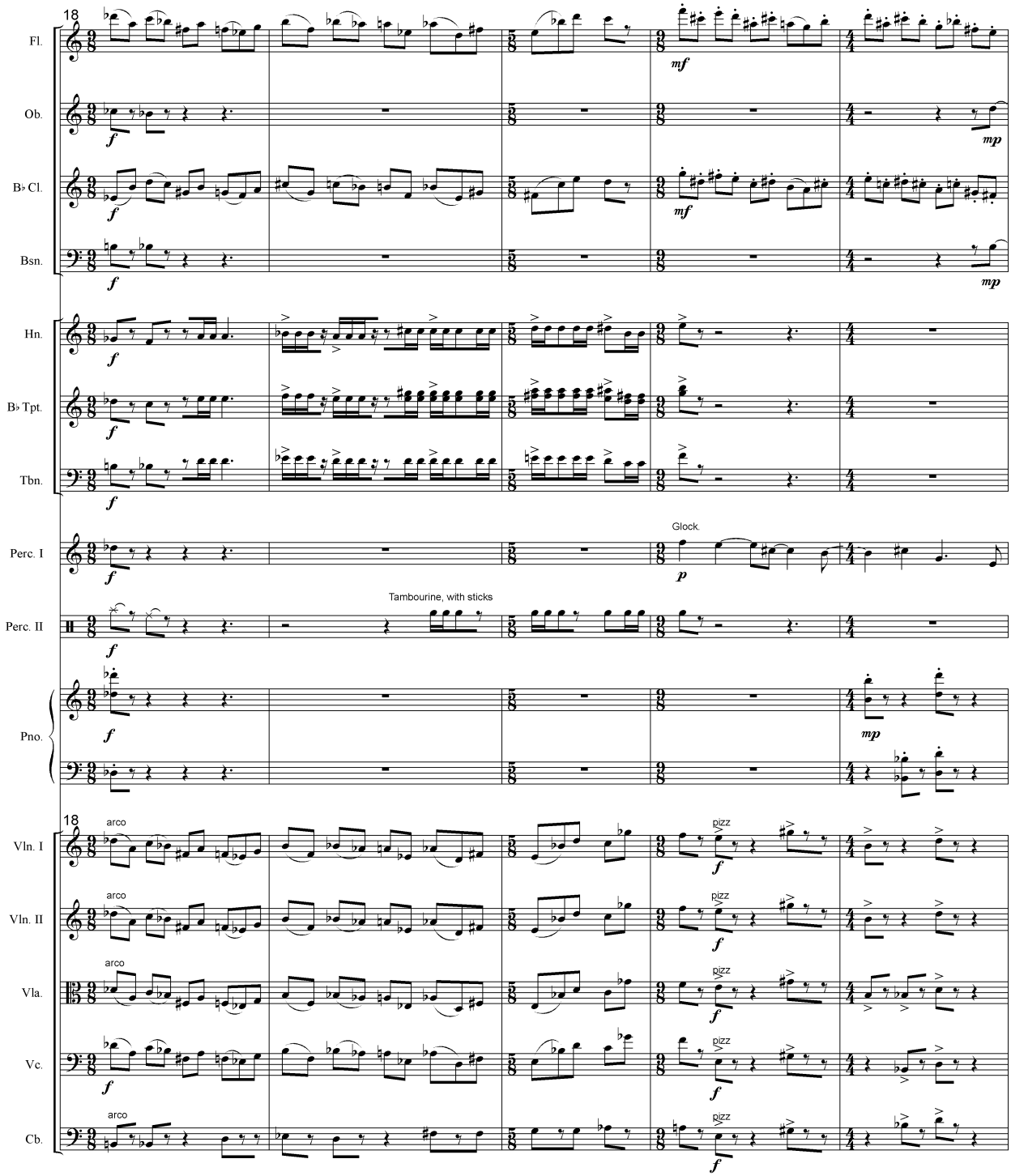
Michael Stephens

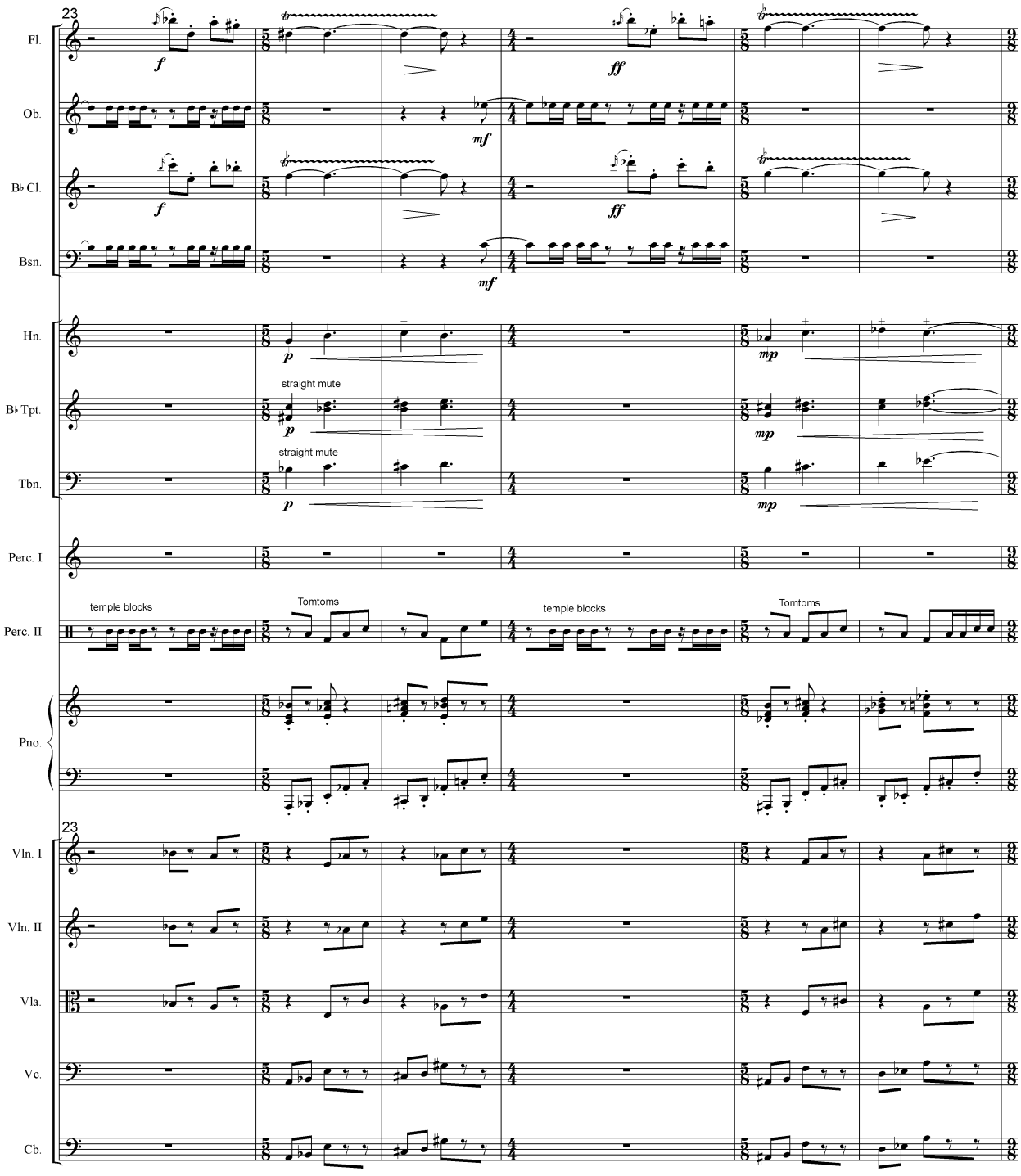


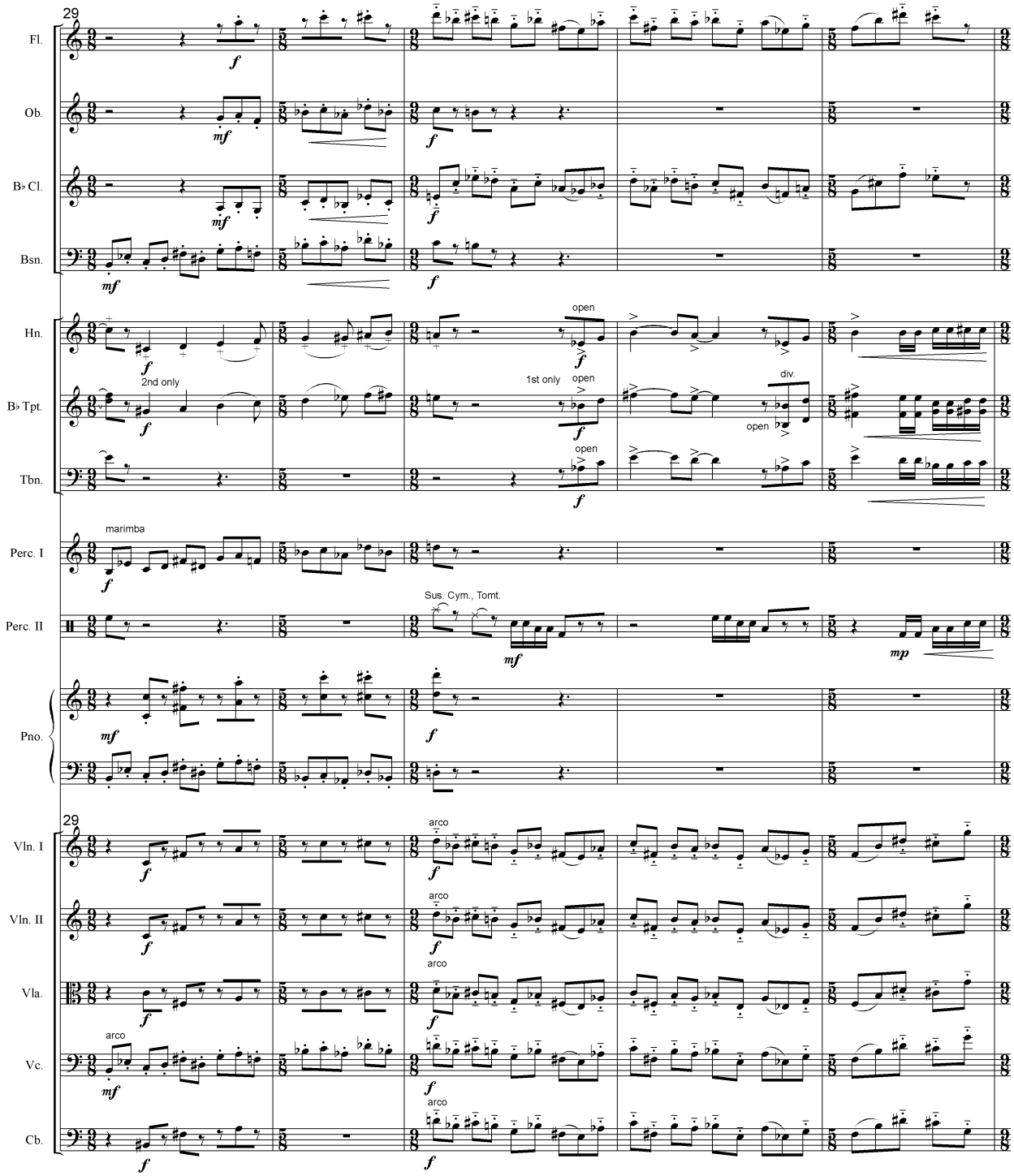

5
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
temple blocks
Pno.
5
Vln. I
Vln. II
Vla.
Vc.
Cb.
pizz
p
mp
mf
f

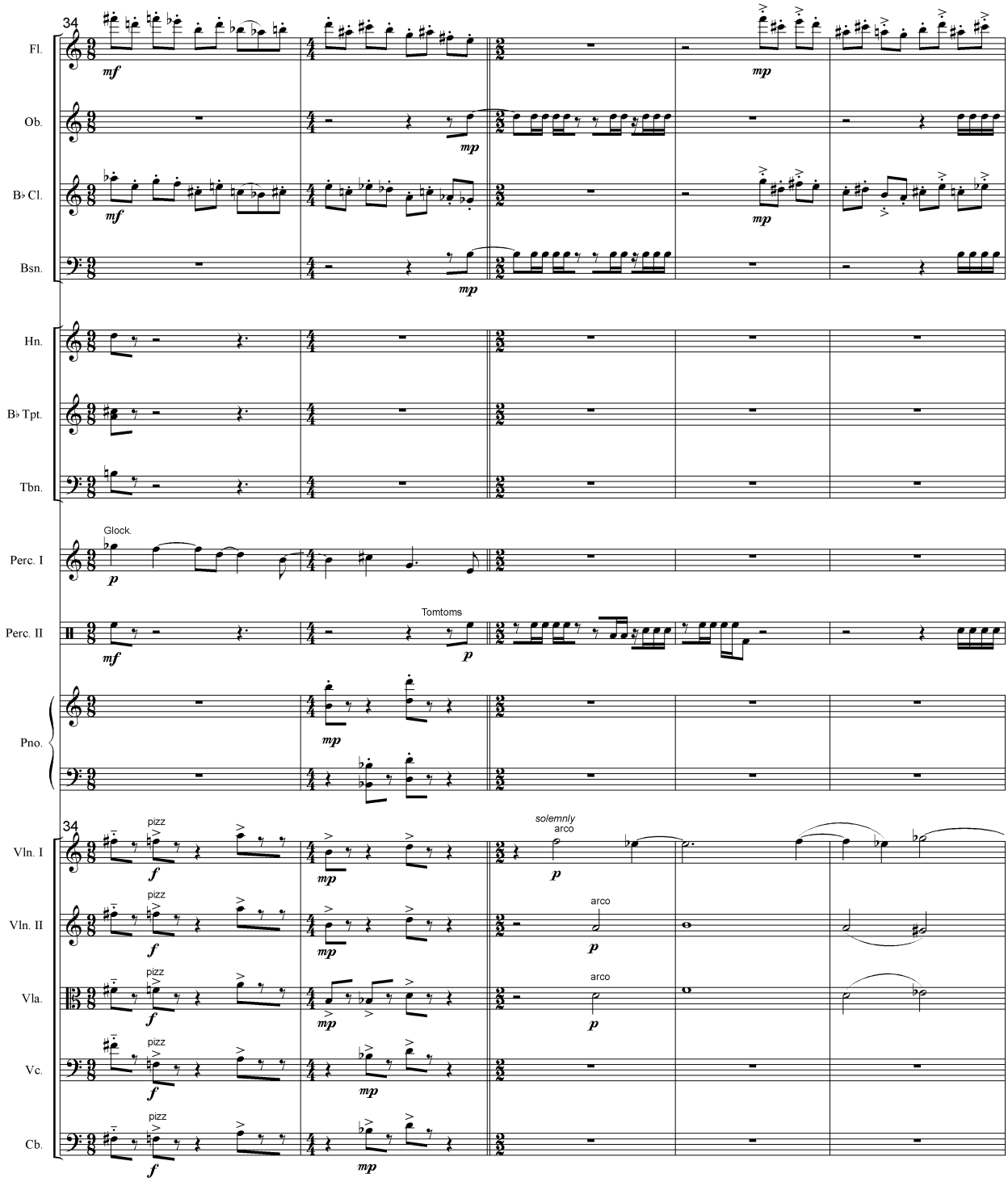

9
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Tomtoms
Sus. Cymbals
Tomtoms
Pno.
9
Vln. I
Vln. II
Vla.
Vc.
Cb.
arco

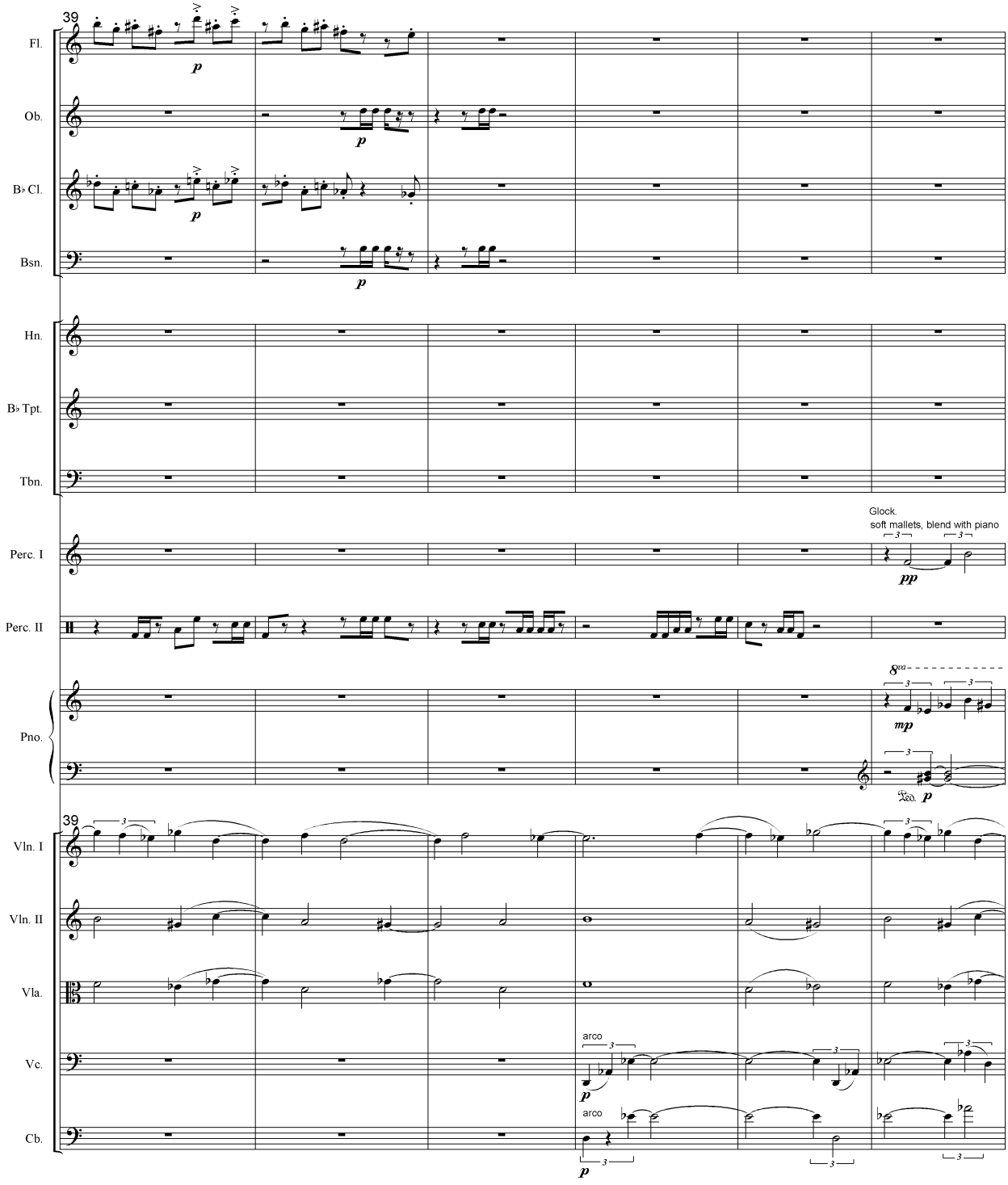

13
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
marimba
Perc. II
Pno.
13
Vln. I
Vln. II
Vla.
Vc.
Cb.
pizz

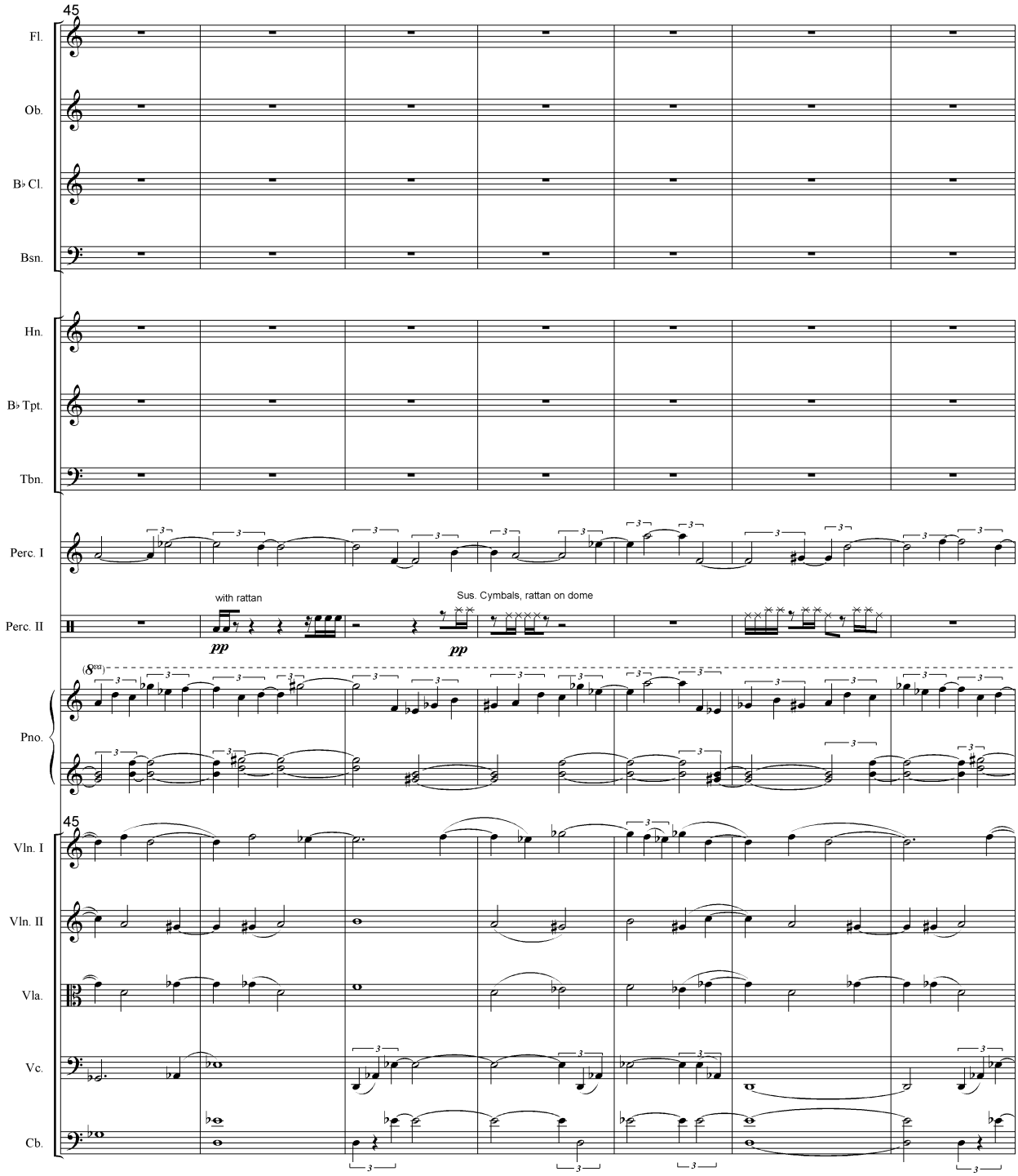

18
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Glock.
Perc. II
Tambourine, with sticks
Pno.
18
Vln. I
Vln. II
Vla.
Vc.
Cb.
arco
pizz

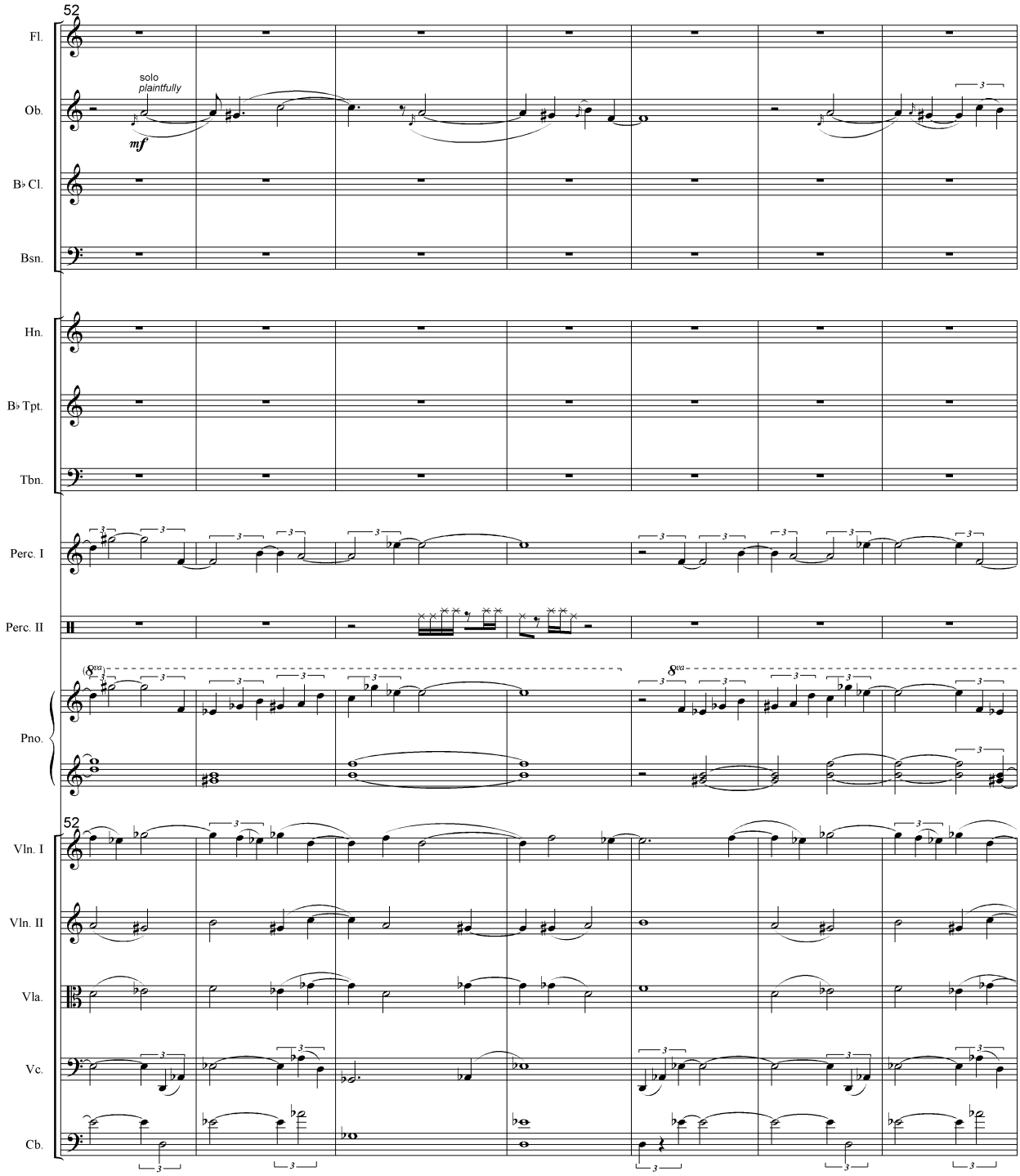

23
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
straight mute
Tbn.
straight mute
Perc. I
Perc. II
temple blocks
Tomtoms
temple blocks
Tomtoms
Pno.
23
Vln. I
Vln. II
Vla.
Vc.
Cb.

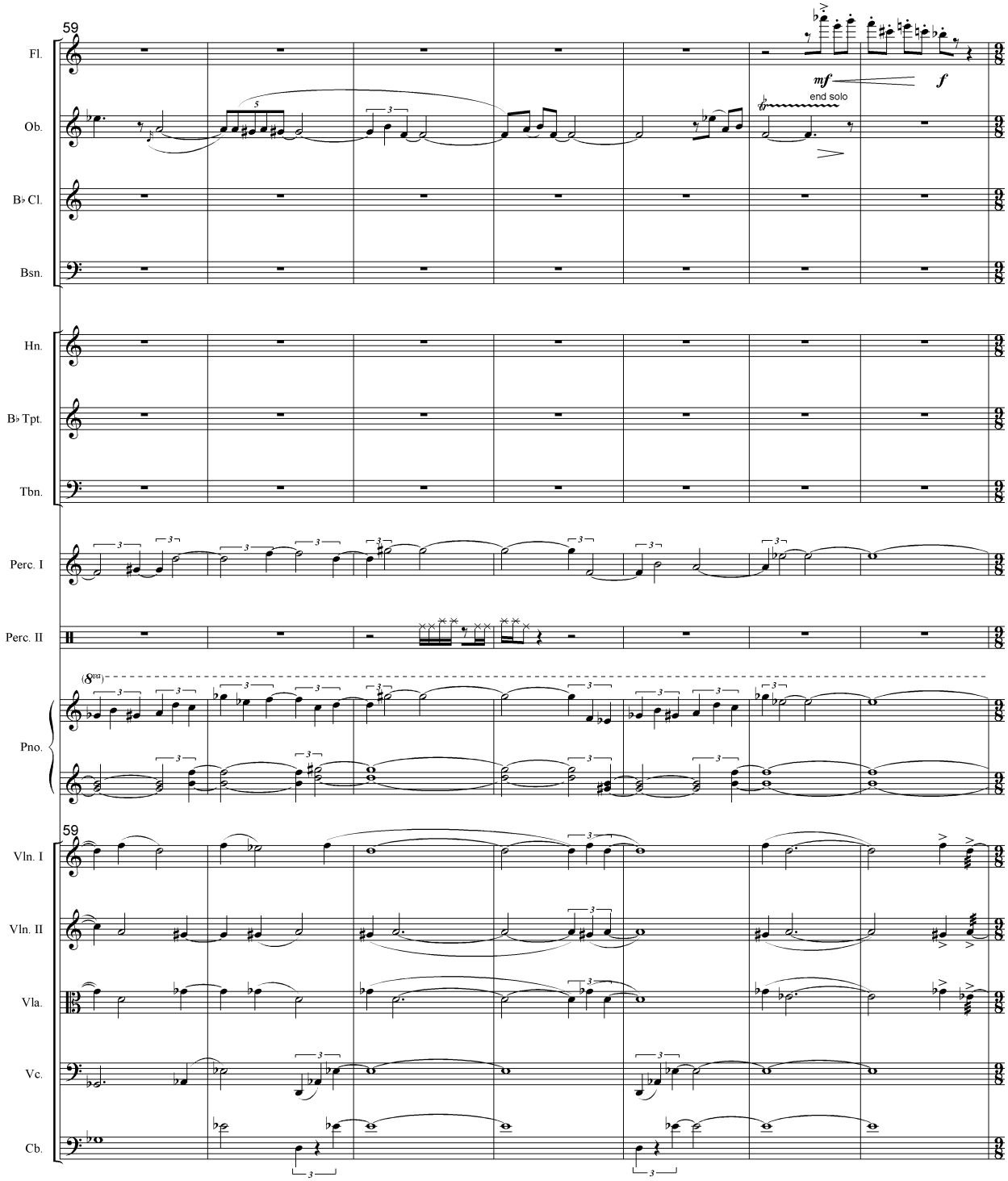

29
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
2nd only
1st only
open
div.
marimba
Sus. Cym., Tomt.
arco

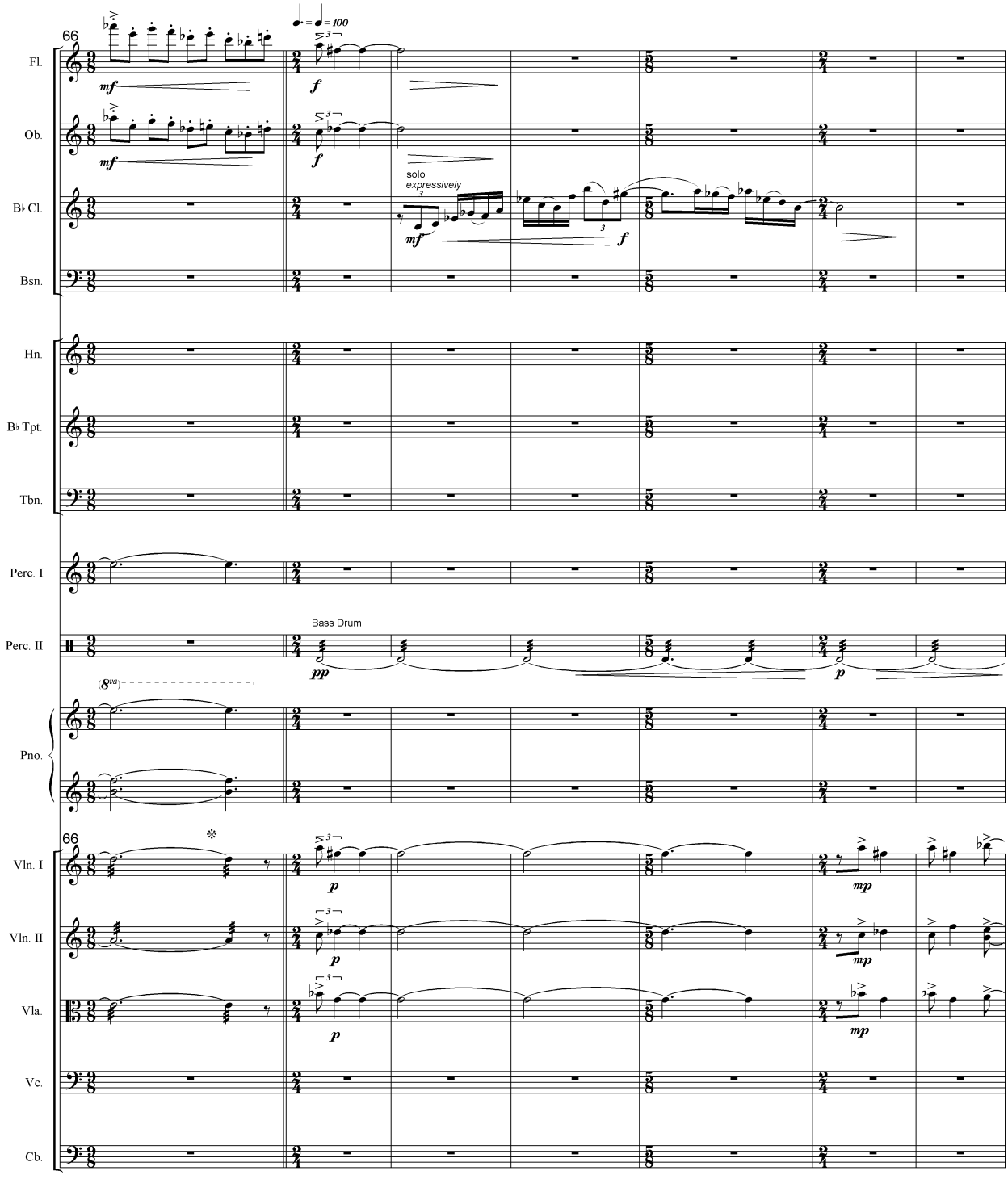

34
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Glock.
Perc. I
Tomtoms
Perc. II
Pno.
34
Vln. I
Vln. II
Vla.
Vc.
Cb.
pizz
solemnly
arco

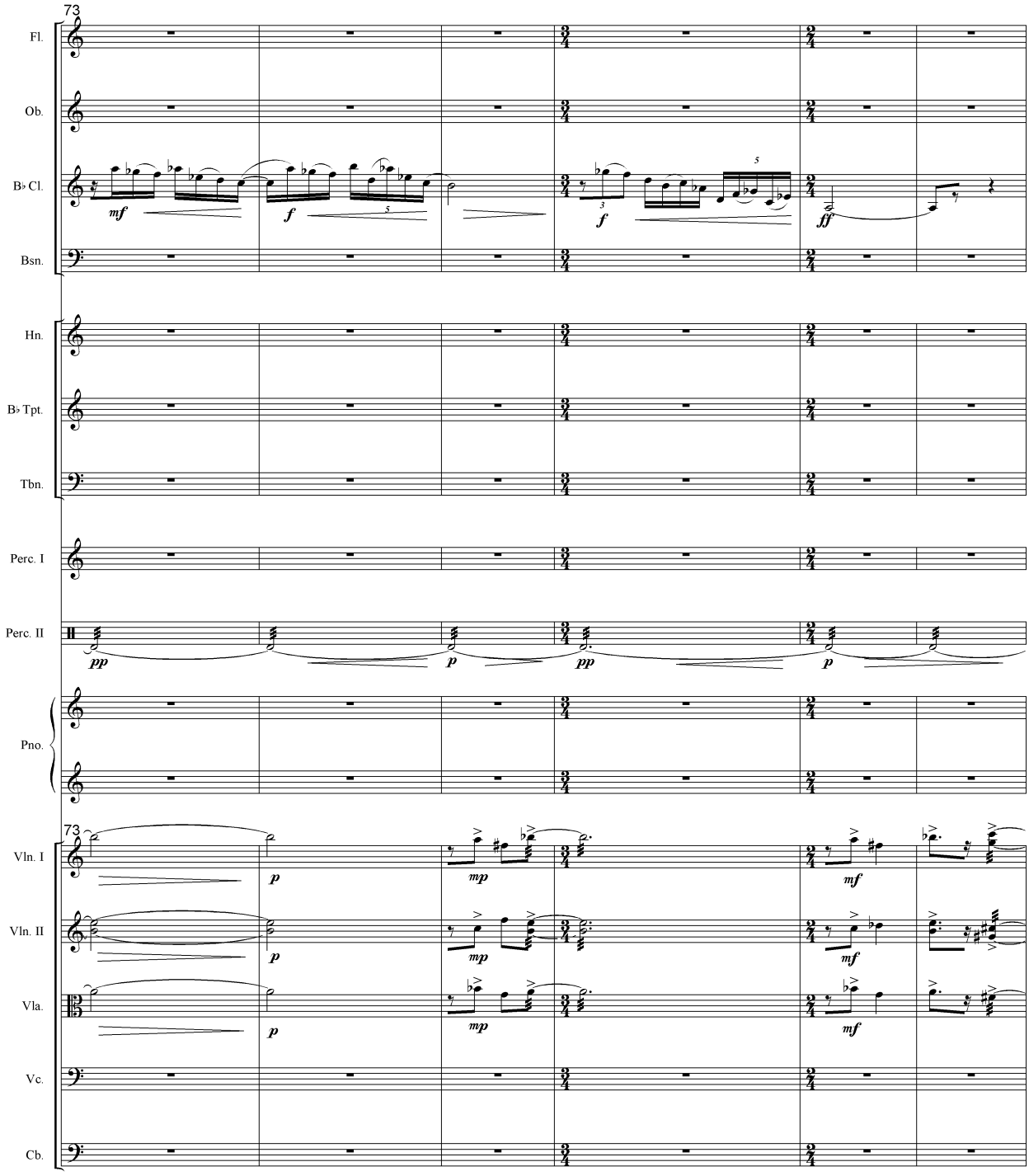

39
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Glock.
soft mallets, blend with piano
Perc. II
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
arco
arco

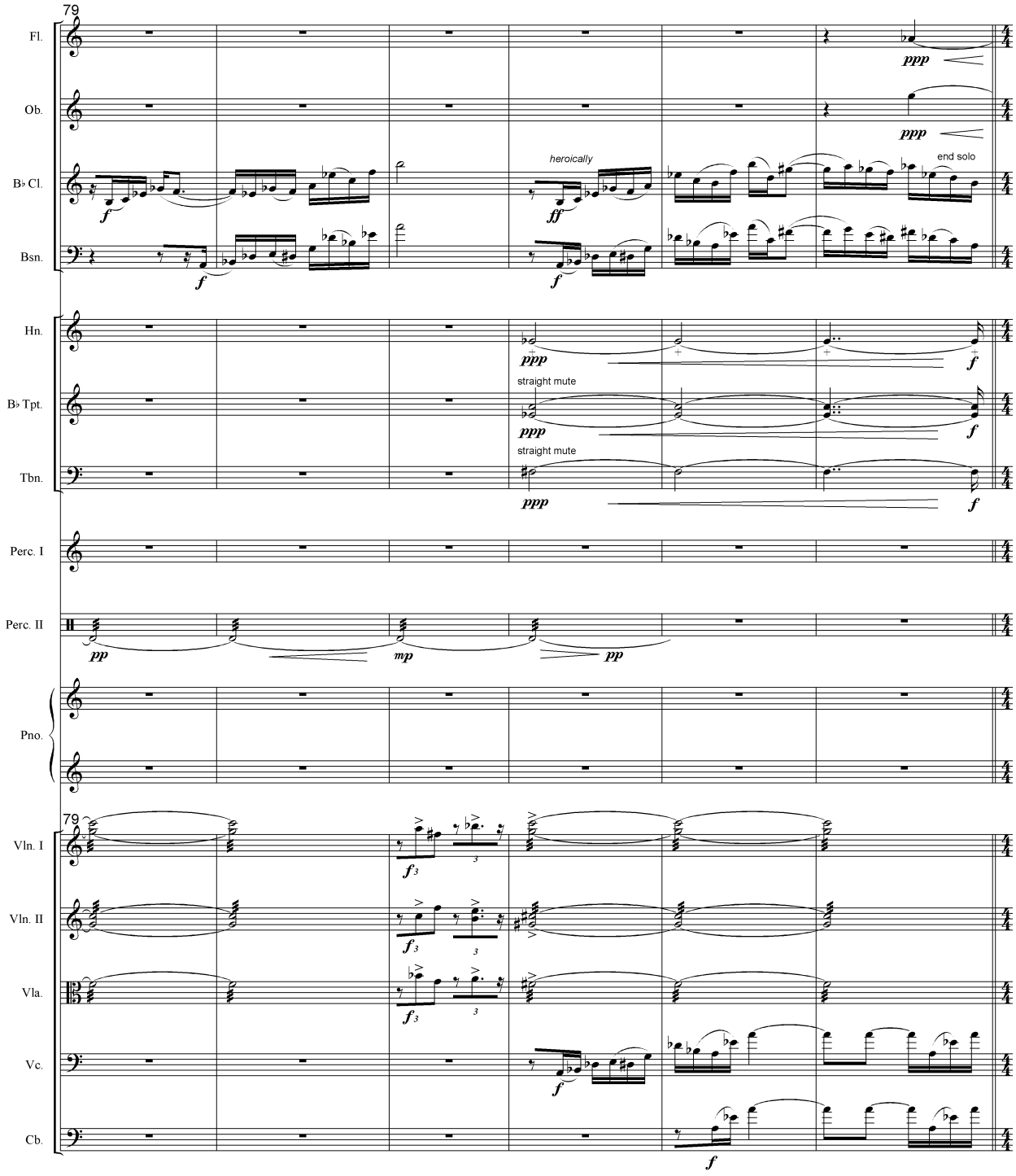

45
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
with rattan
pp
Sus. Cymbals, rattan on dome
pp
(8va)
Pno.
45
Vln. I
Vln. II
Vla.
Vc.
Cb.

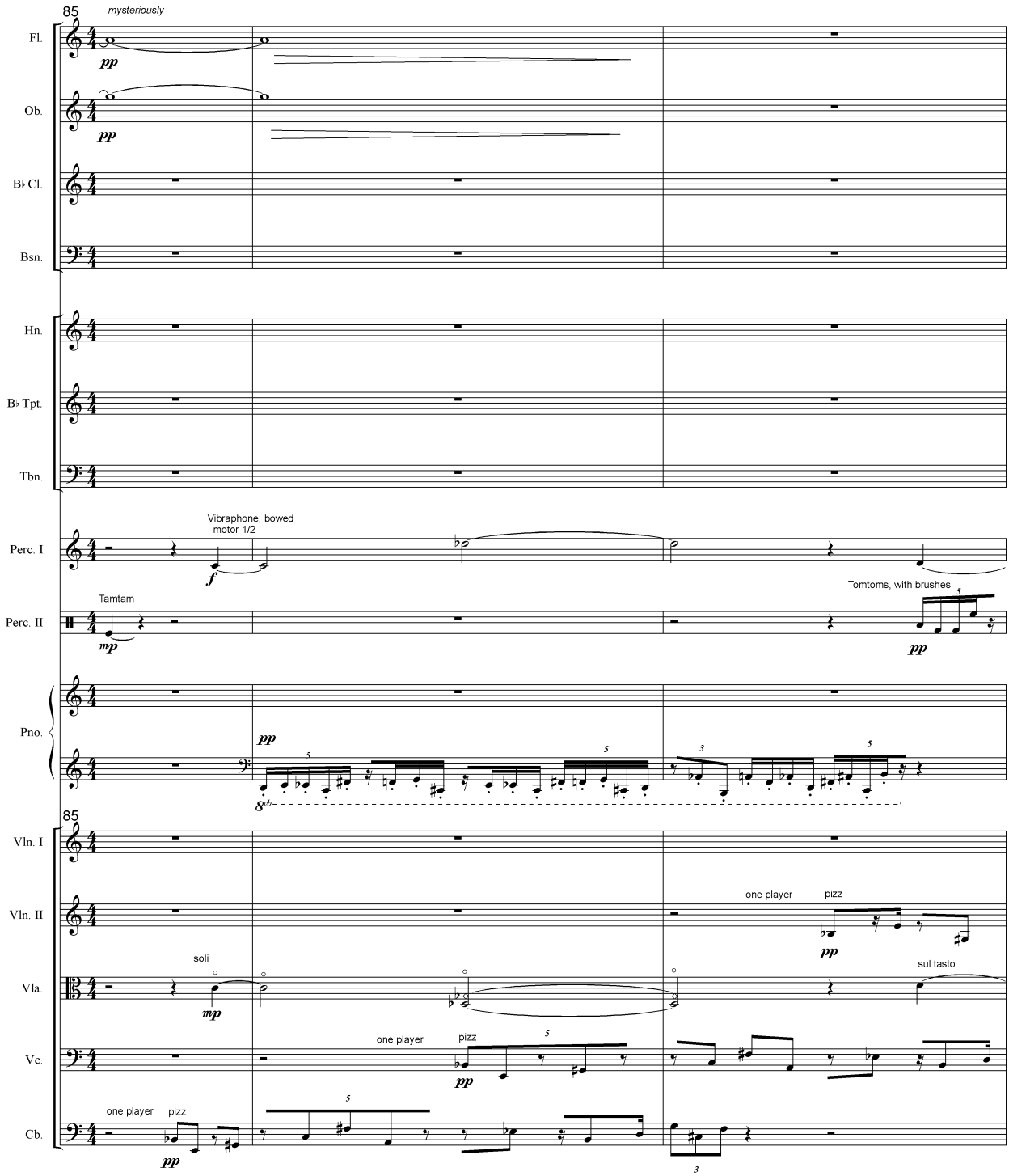

52
Fl.
Ob.
solo
plaintfully
mf
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
8va
8va
52
Vln. I
Vln. II
Vla.
Vc.
Cb.

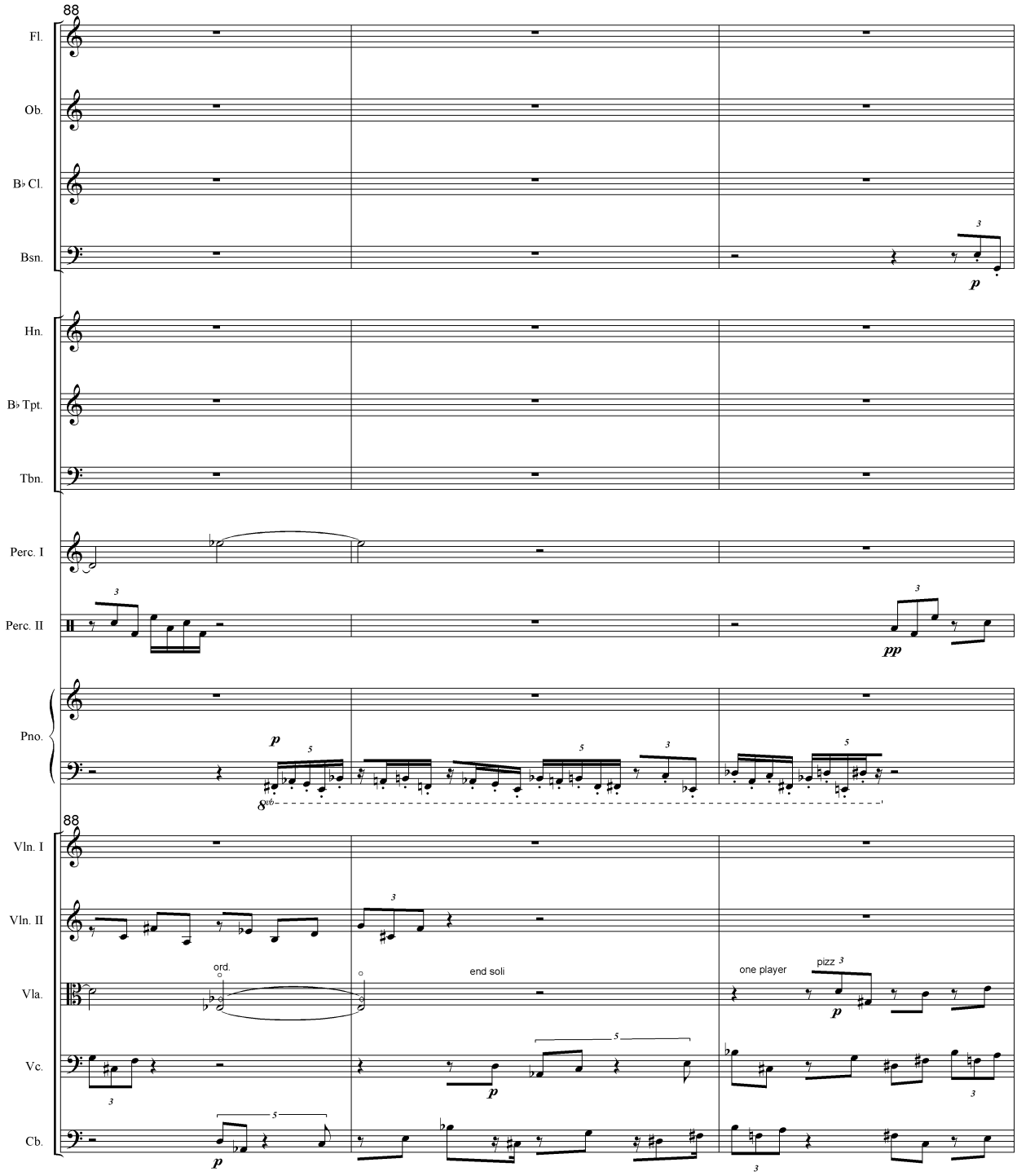

59
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
mf
end solo
f
8va
59
Vln. I
Vln. II
Vla.
Vc.
Cb.

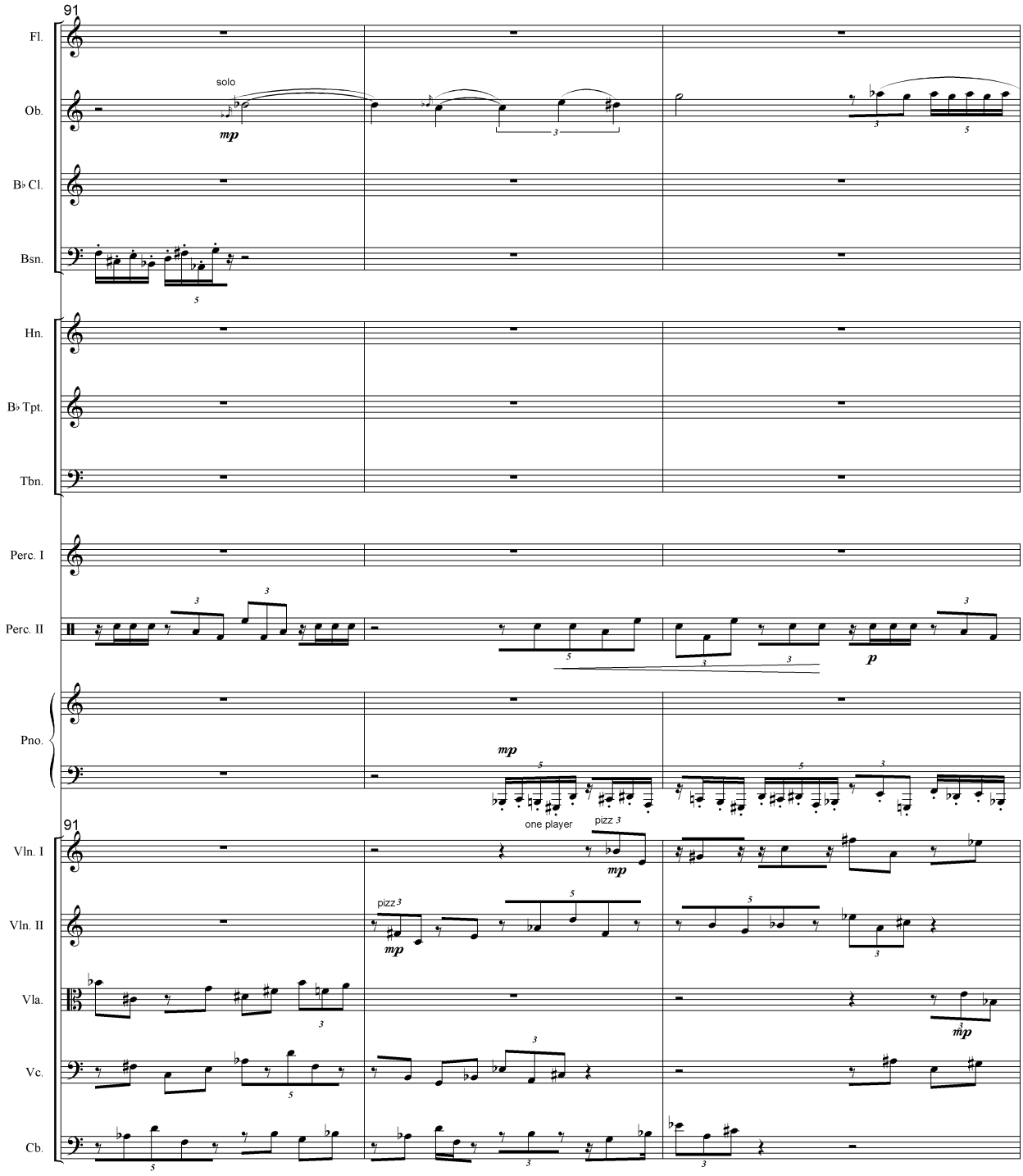

66
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
f
solo
expressively
Bass Drum
pp
p
mp
(8va)

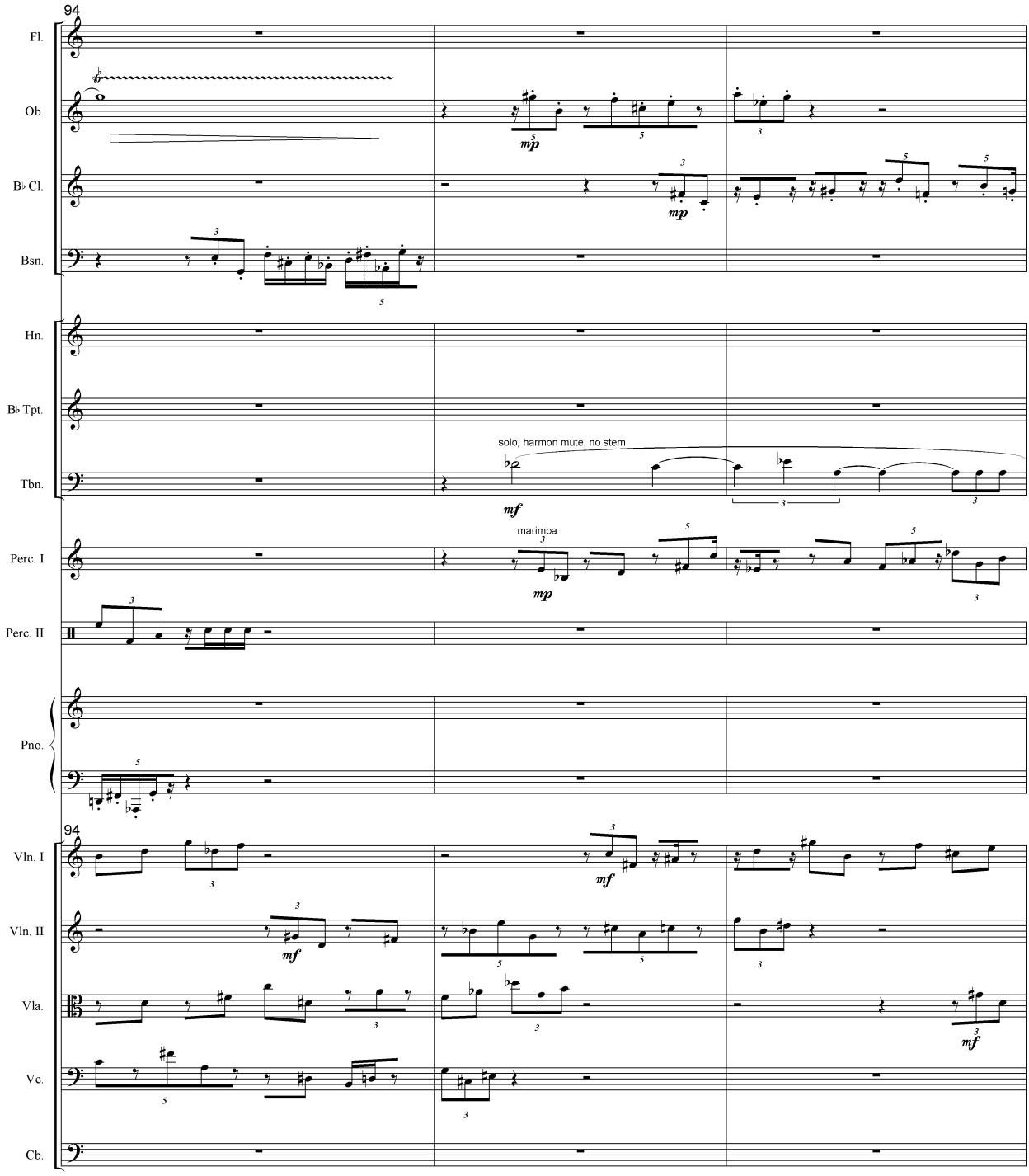

73
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
73
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
f
ff
pp
p
mp

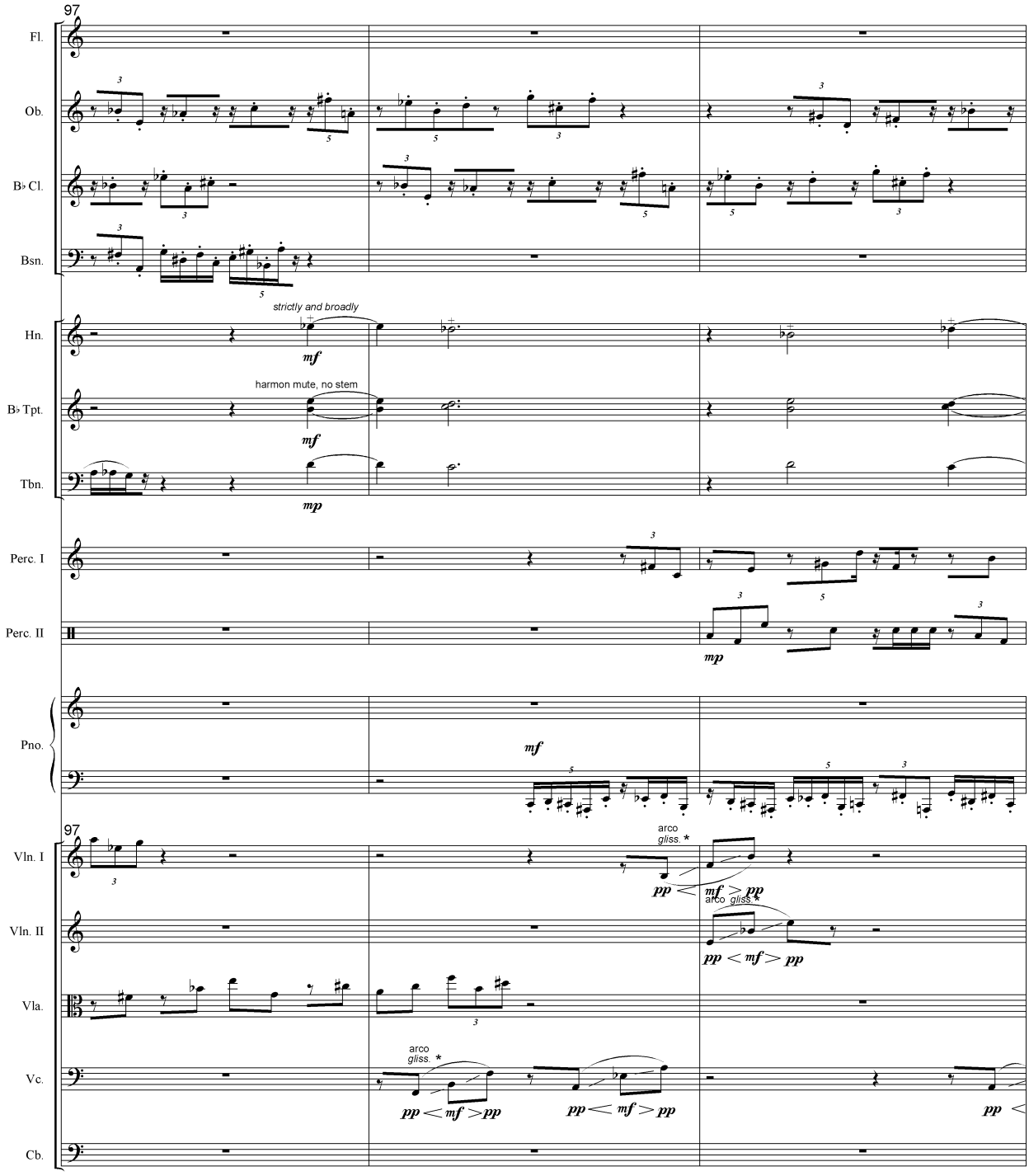

79
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
heroically
end solo
straight mute
straight mute


85
mysteriously
Fl.
pp
Ob.
pp
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Vibraphone, bowed
motor 1/2
Perc. I
f
Tamtam
Perc. II
mp
Tomtoms, with brushes
pp
Pno.
pp
8vb
85
Vln. I
Vln. II
one player
pizz
pp
soli
Vla.
mp
sul tasto
Vc.
one player
pizz
pp
Cb.
one player
pizz
pp

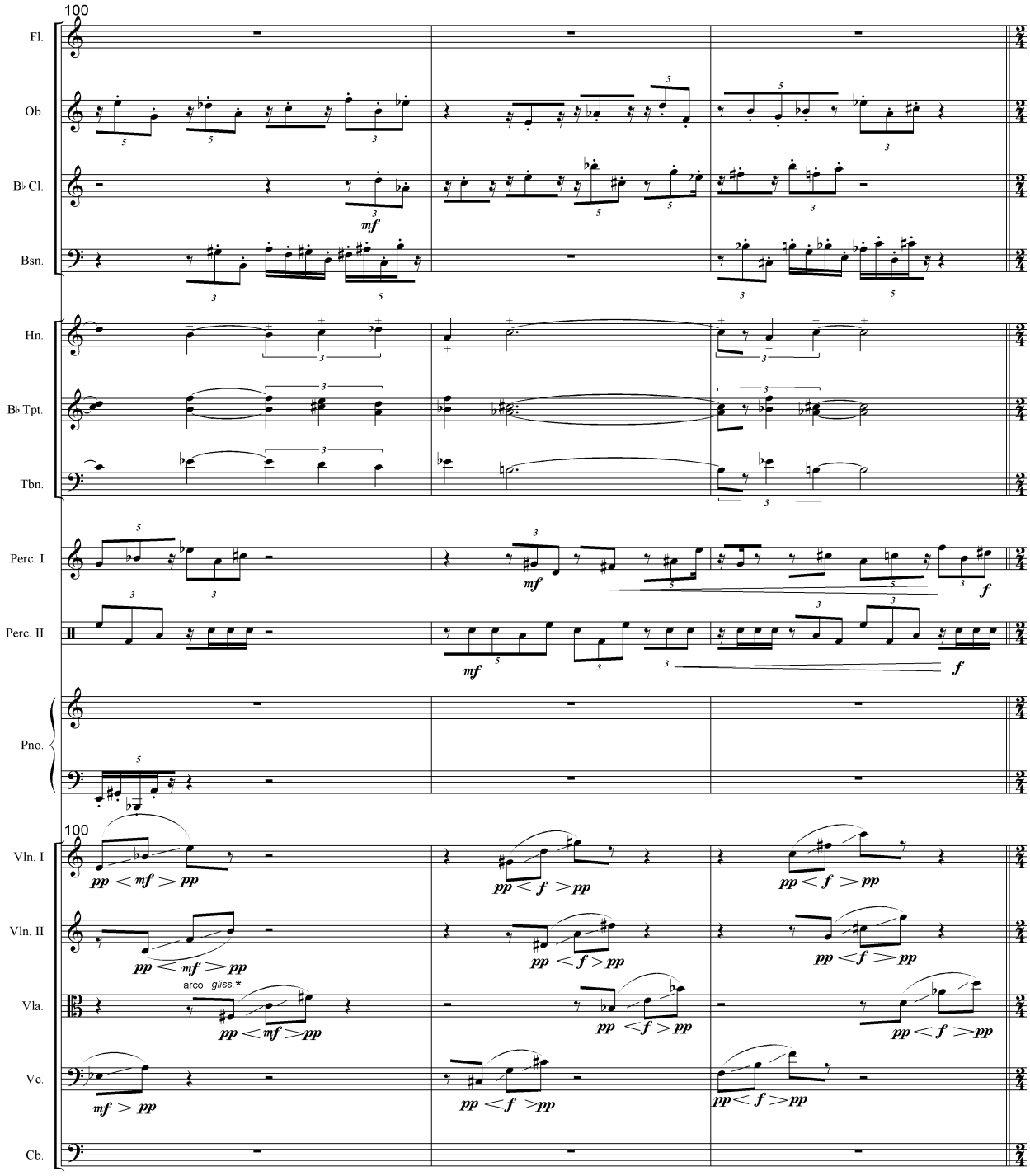

88
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
8vb
88
Vln. I
Vln. II
Vla.
Vc.
Cb.
ord.
end soli
one player
pizz
p
pp

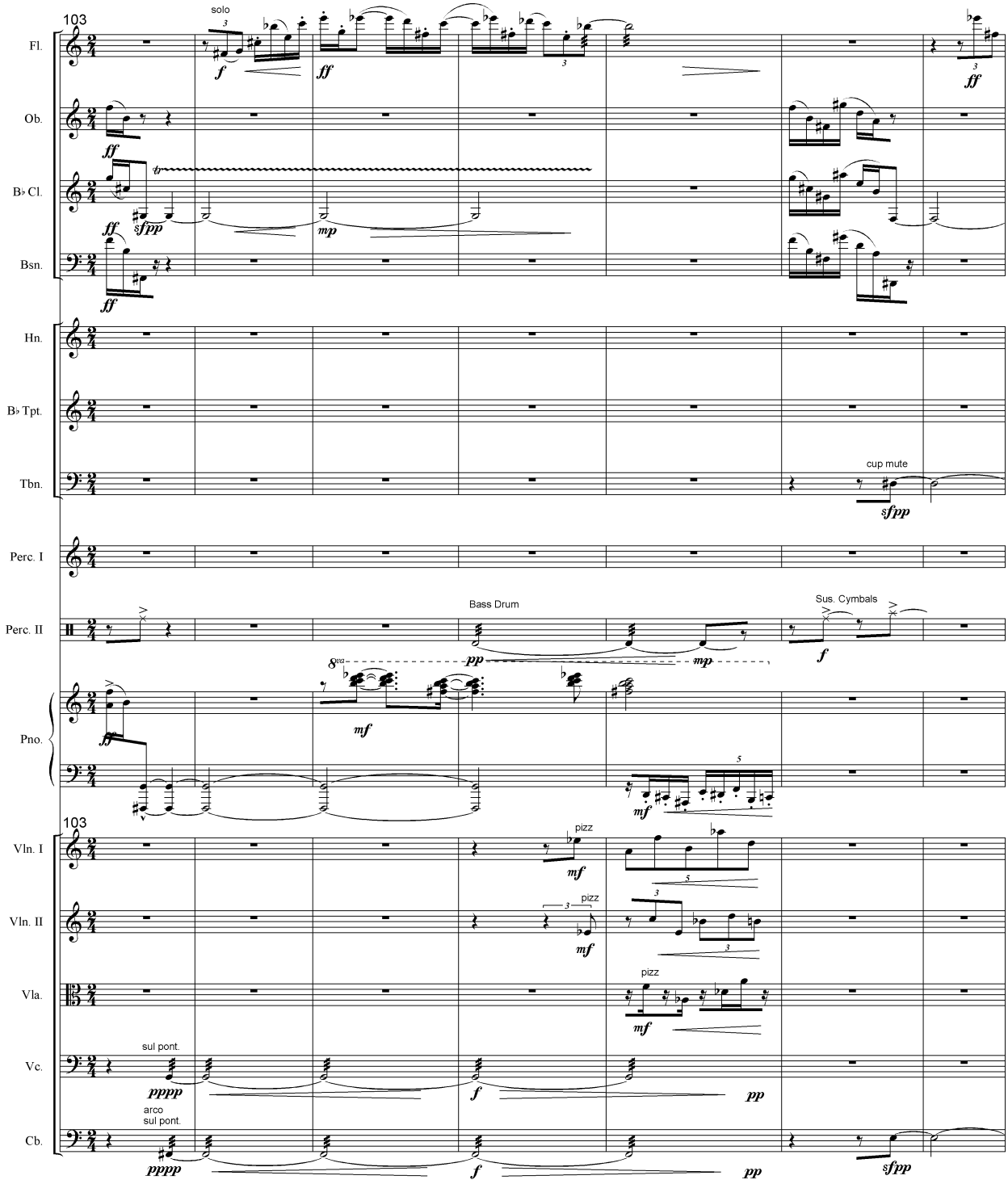

91
Fl.
Ob.
solo
mp
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
p
Pno.
mp
91
one player
pizz 3
mp
Vln. I
Vln. II
pizz 3
mp
Vla.
mp
Vc.
Cb.

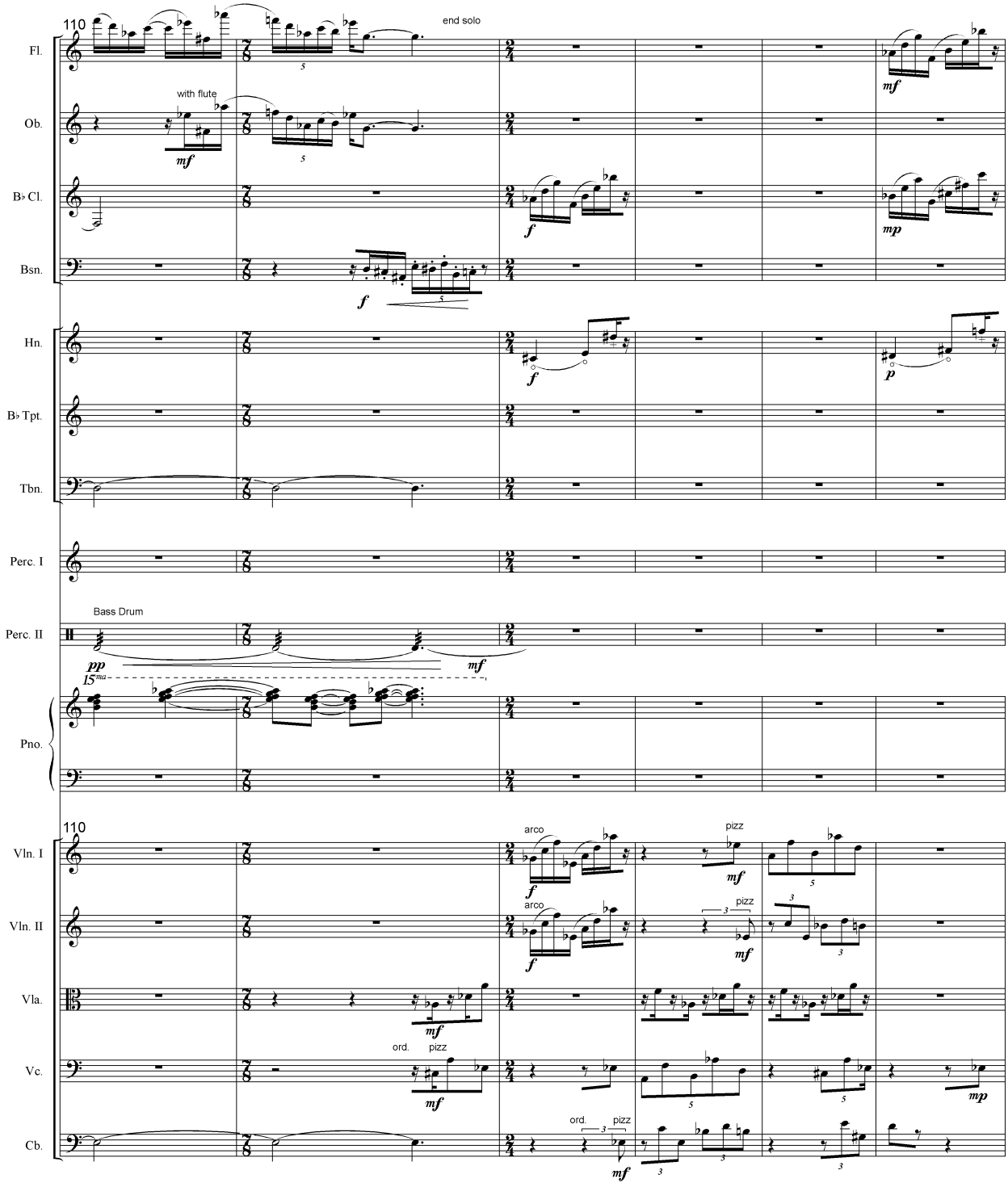

94
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
94
Vln. I
Vln. II
Vla.
Vc.
Cb.
mp
mf
solo, harmon mute, no stem
marimba

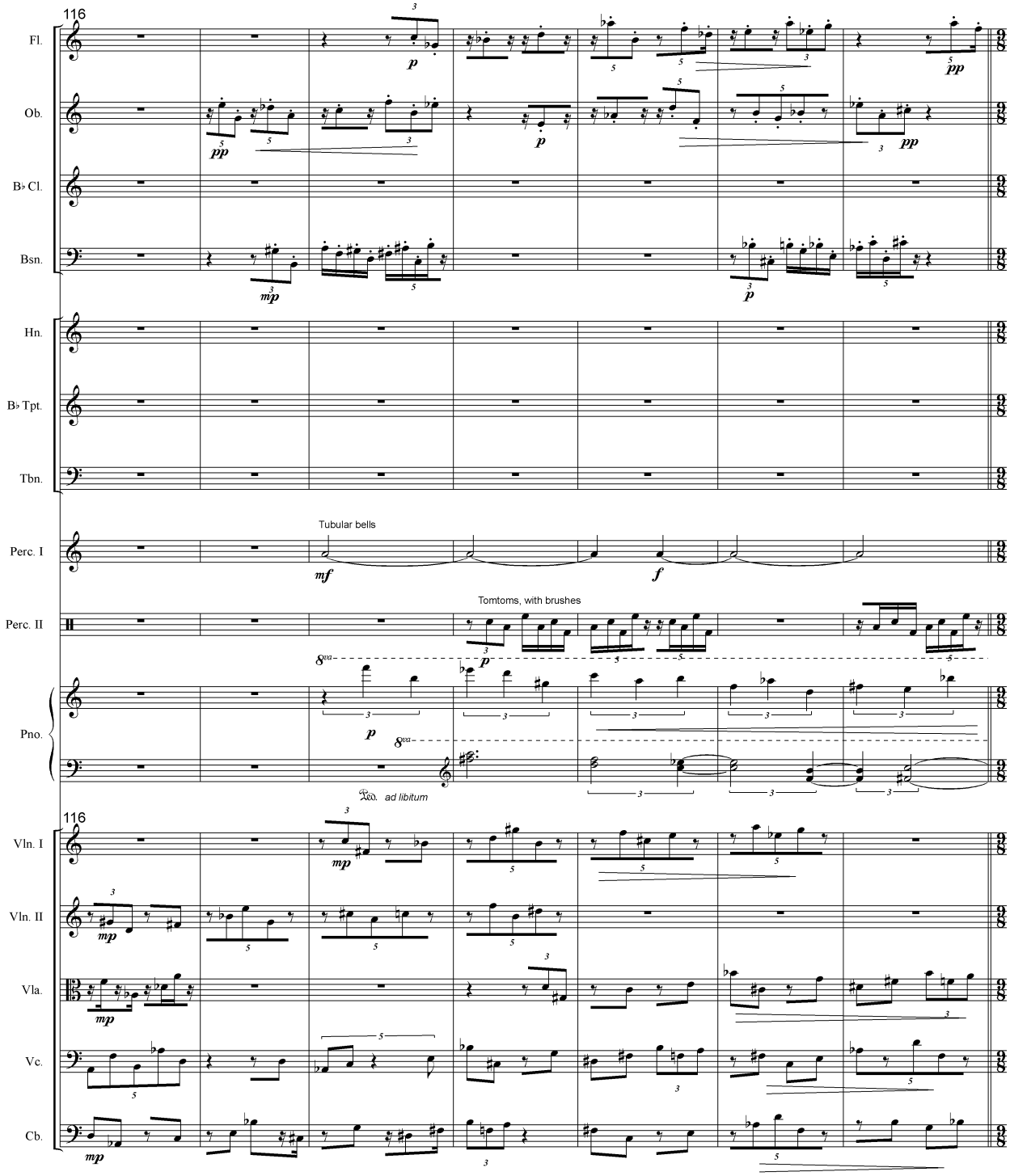


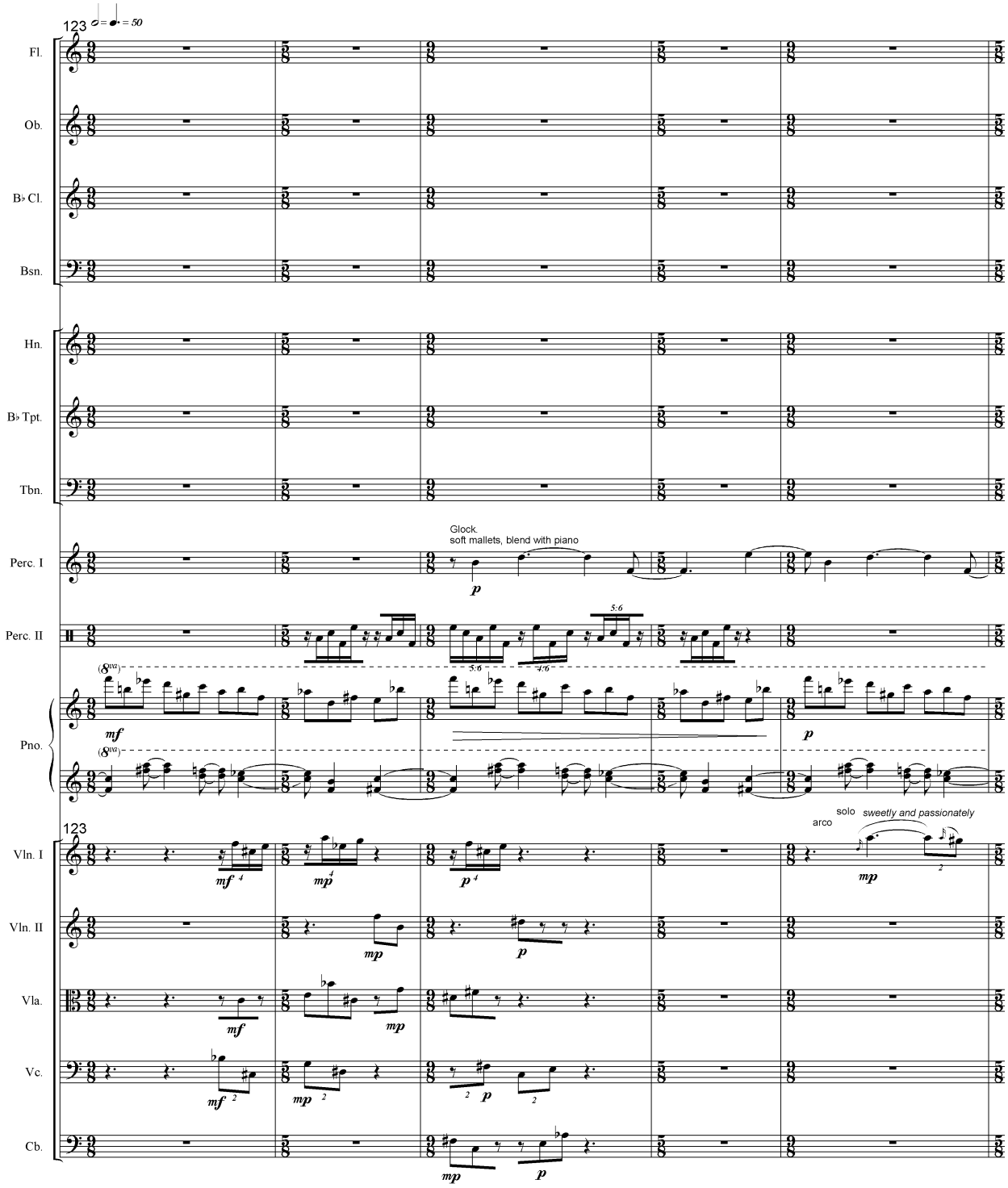
* emphasize the gesture more than the precise pitches

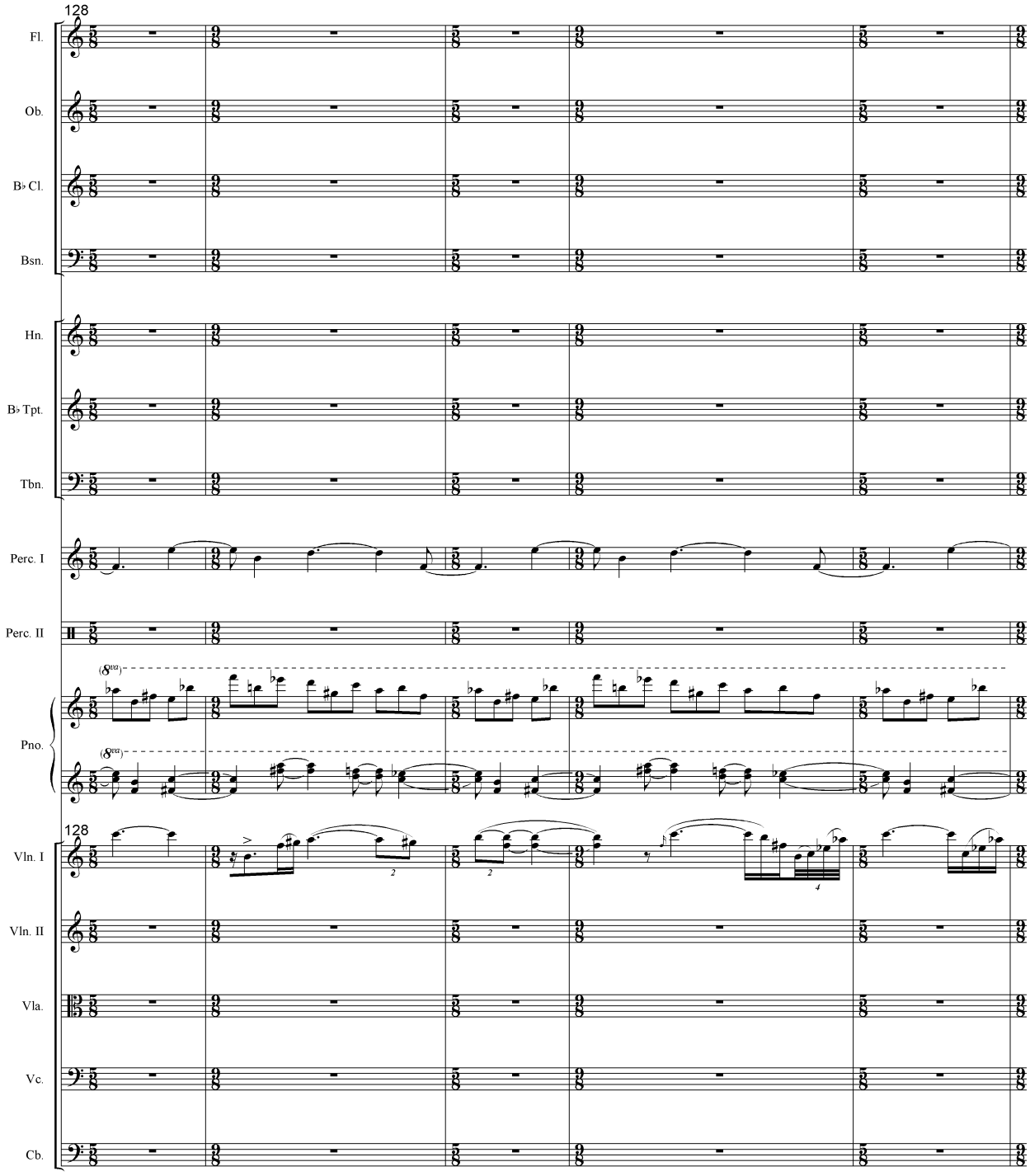

100
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
100
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
f
pp < mf > pp
pp < f > pp
arco gliss.*
mf > pp

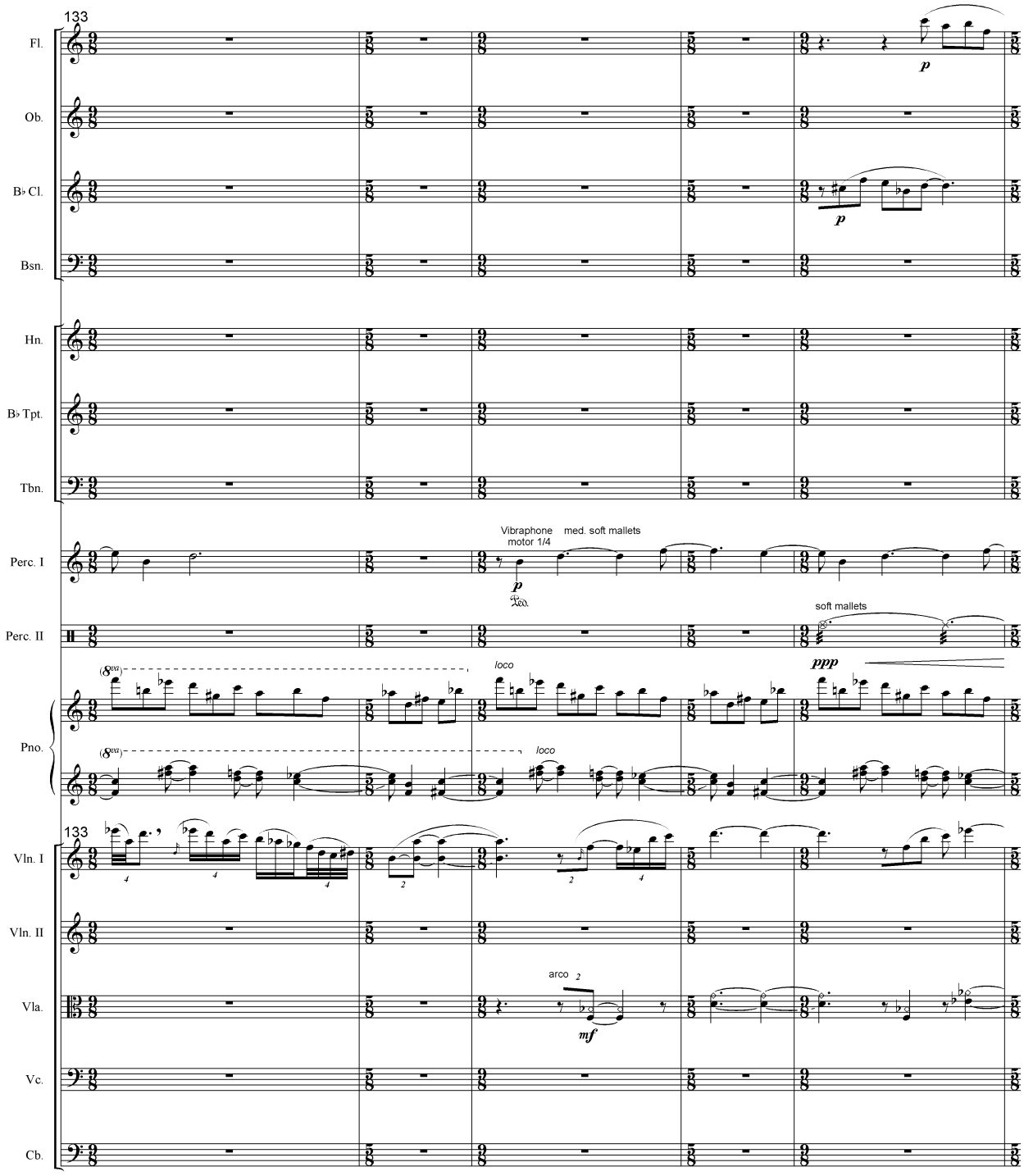

103
solo
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
cup mute
Perc. I
Perc. II
Bass Drum
Sus. Cymbals
Pno.
103
Vln. I
pizz
Vln. II
pizz
Vla.
pizz
Vc.
sul pont.
Cb.
arco
sul pont.

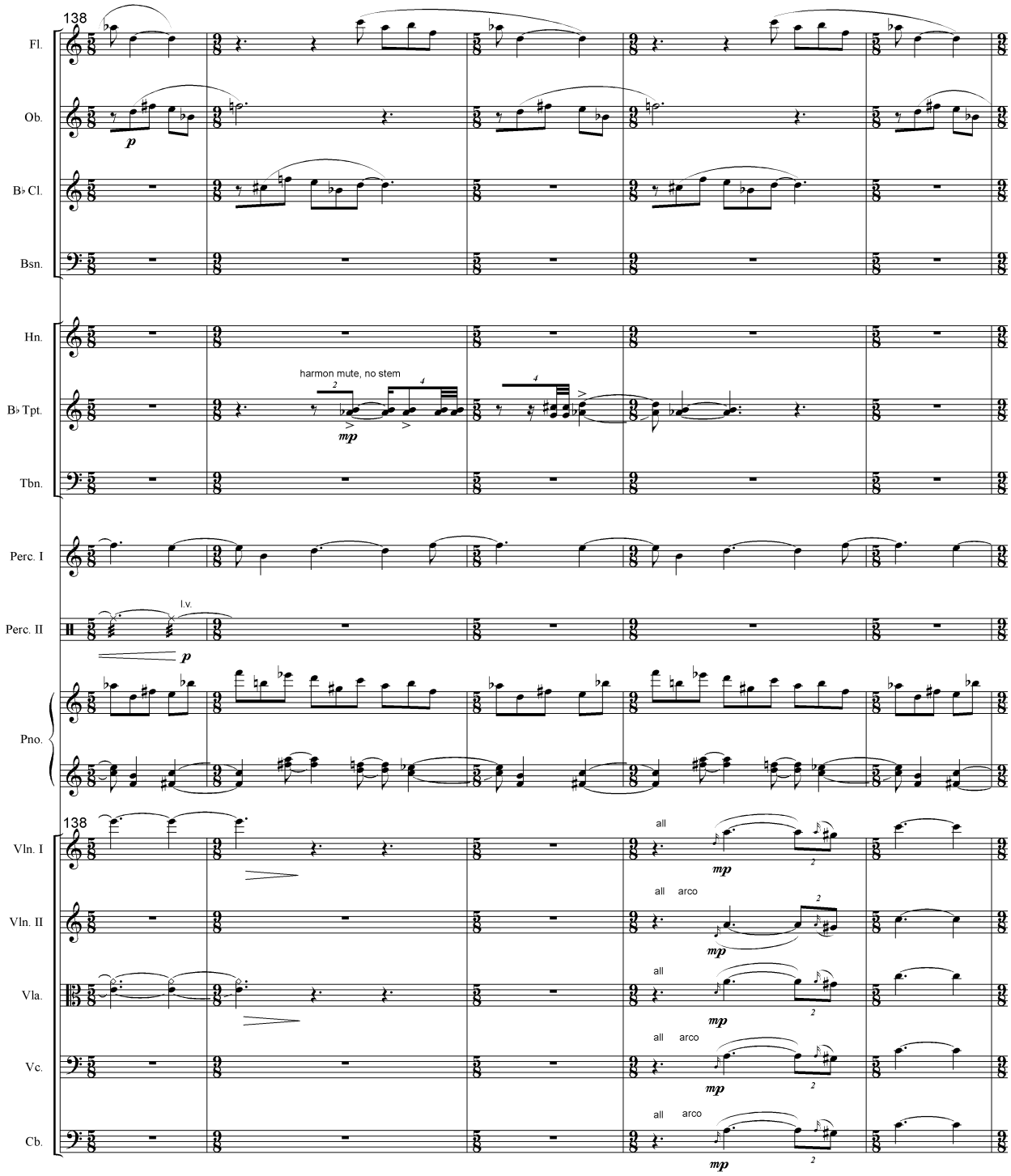

110
end solo
Fl.
with flute
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Bass Drum
Perc. II
Pno.
110
arco
pizz
Vln. I
Vln. II
Vla.
ord.
pizz
Vc.
Cb.

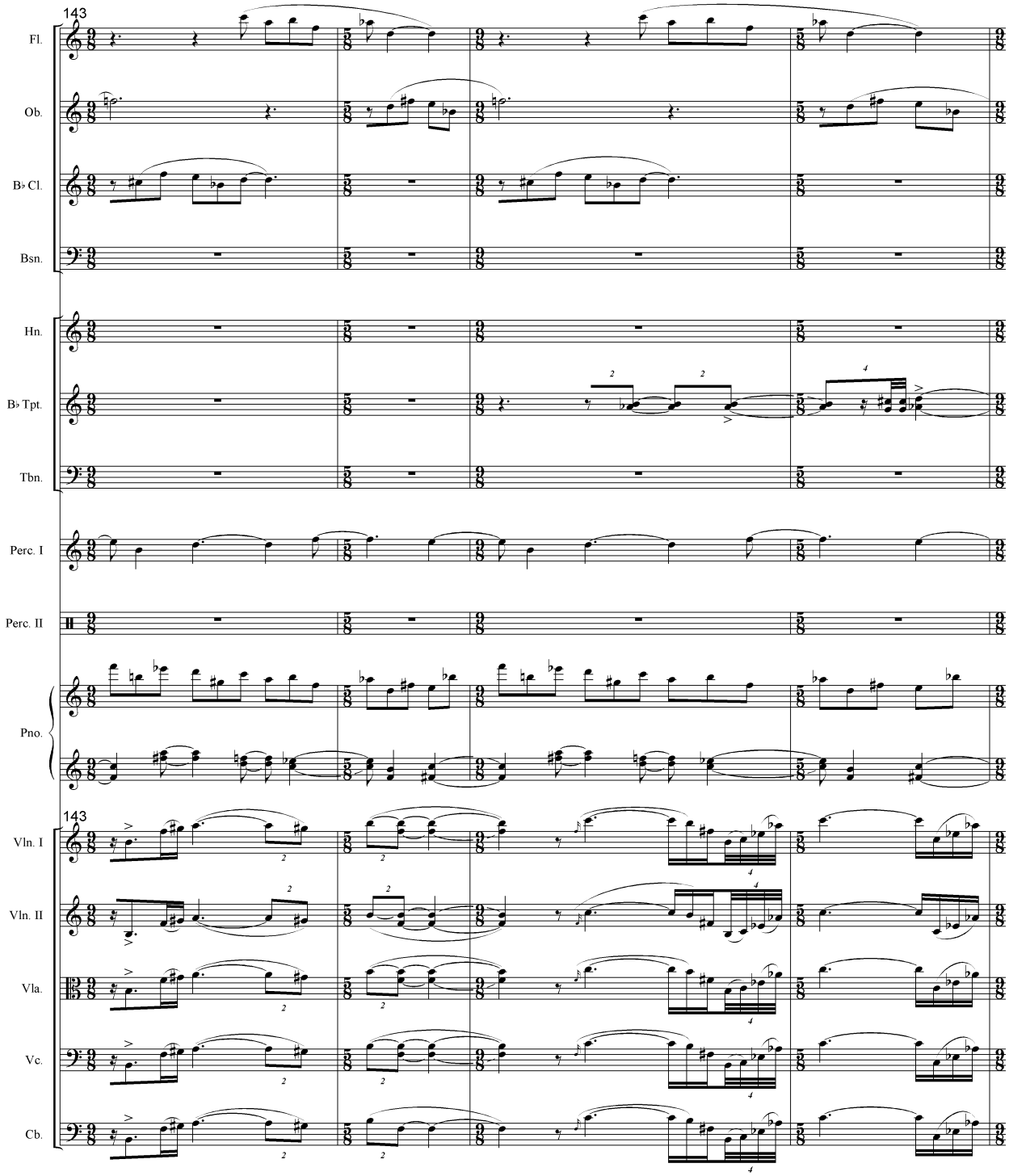

116
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Tubular bells
Perc. II
Tomtoms, with brushes
Pno.
ad libitum
116
Vln. I
Vln. II
Vla.
Vc.
Cb.

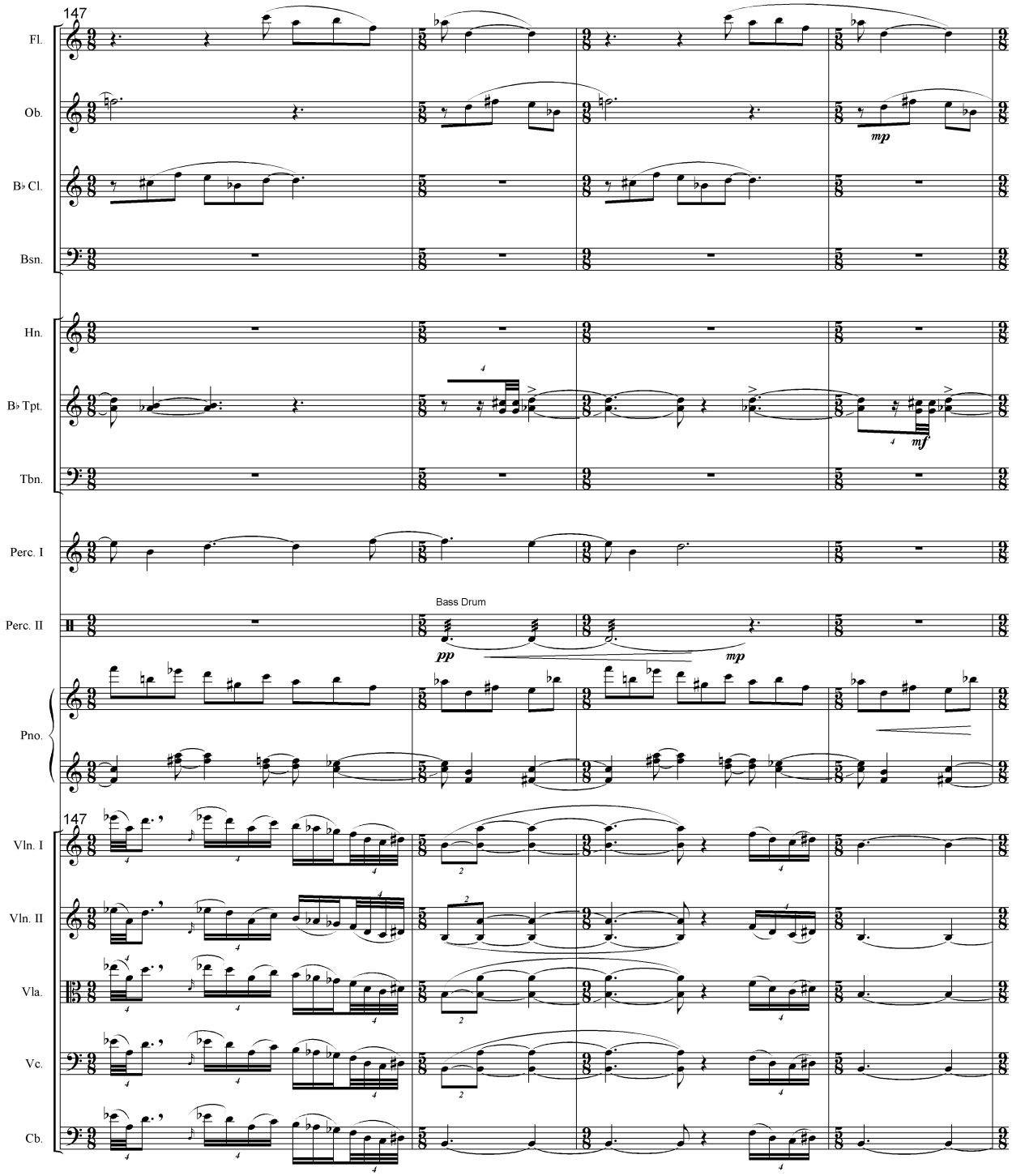

123
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Glock.
soft mallets, blend with piano
Perc. II
Pno.
123
Vln. I
Vln. II
Vla.
Vc.
Cb.
arco
solo
sweetly and passionately

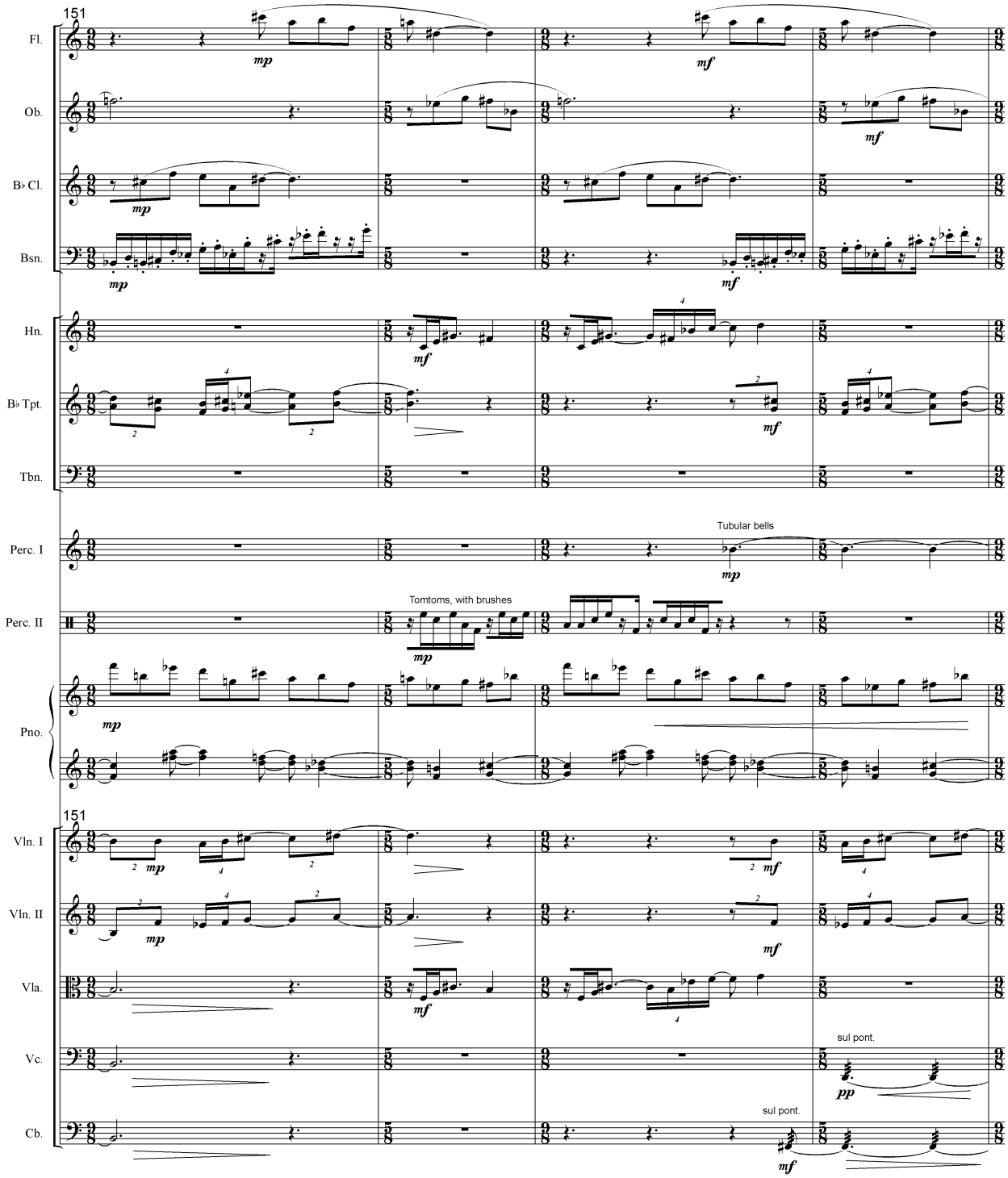

128
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
128
Vln. I
Vln. II
Vla.
Vc.
Cb.

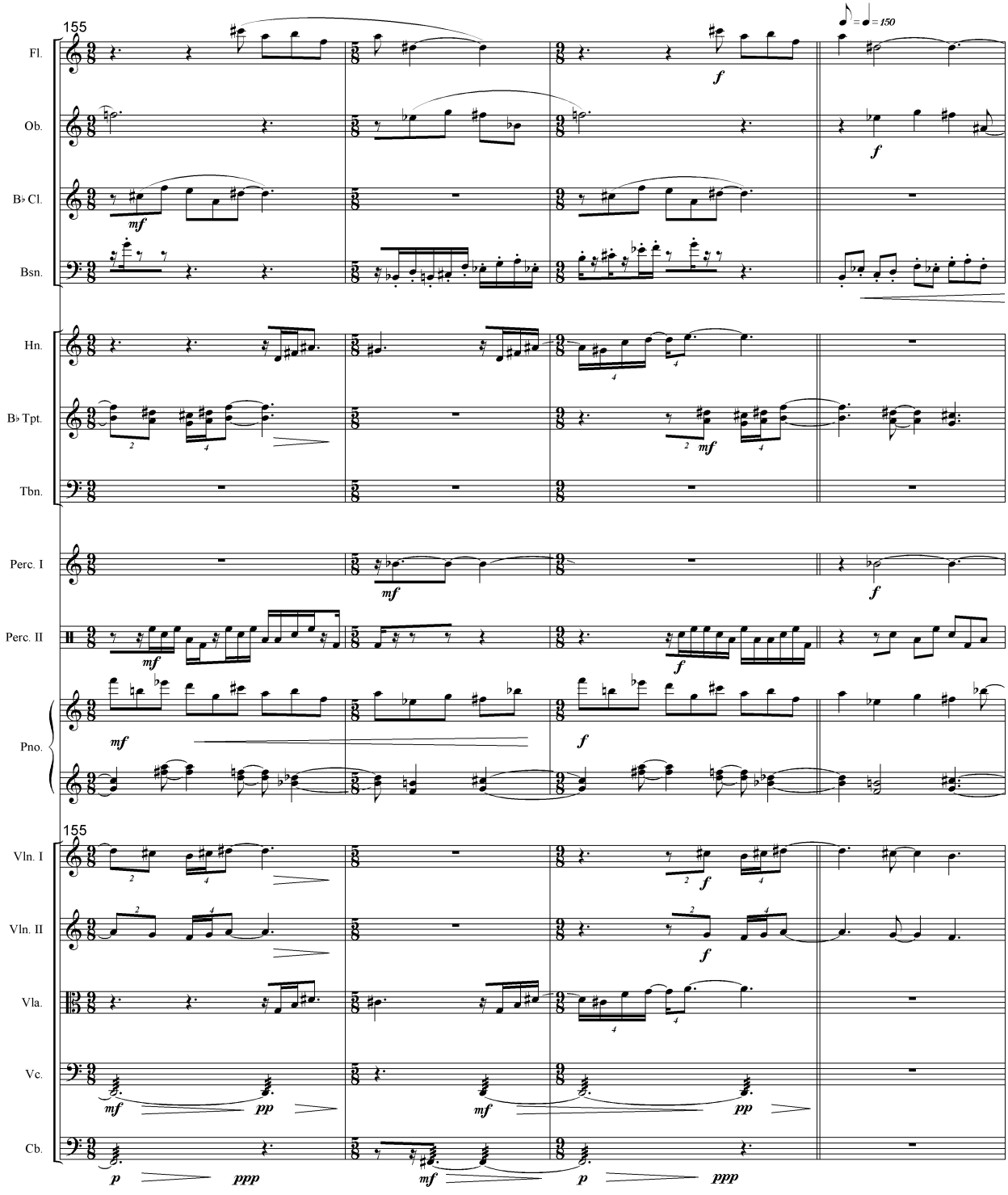

133
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Vibraphone
motor 1/4
med. soft mallets
Perc. II
soft mallets
Pno.
loco
loco
ppp
133
Vln. I
Vln. II
Vla.
arco
Vc.
Cb.

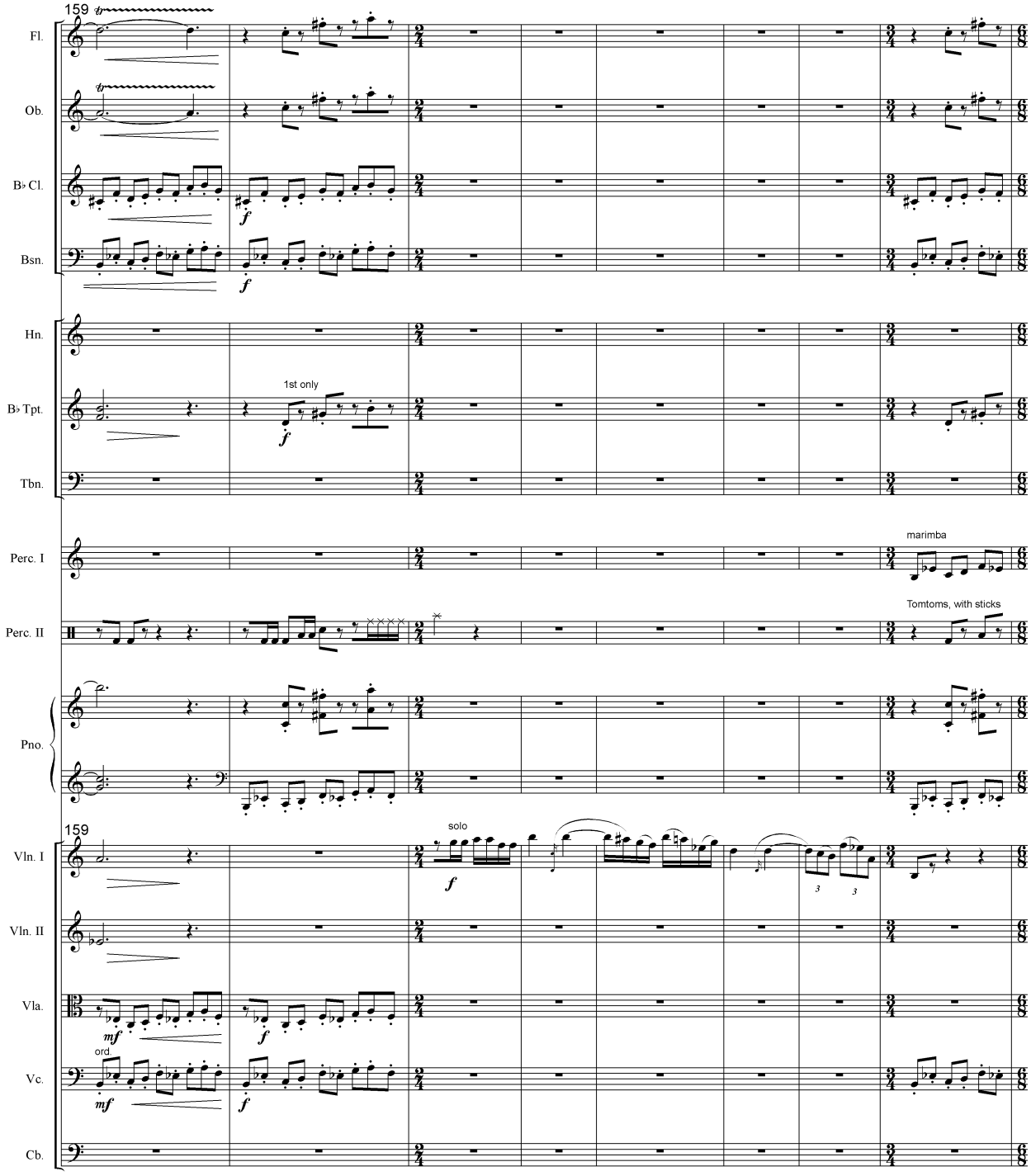

138
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
harmon mute, no stem
Tbn.
Perc. I
Perc. II
l.v.
Pno.
138
Vln. I
all
Vln. II
all arco
Vla.
all
Vc.
all arco
Cb.
all arco

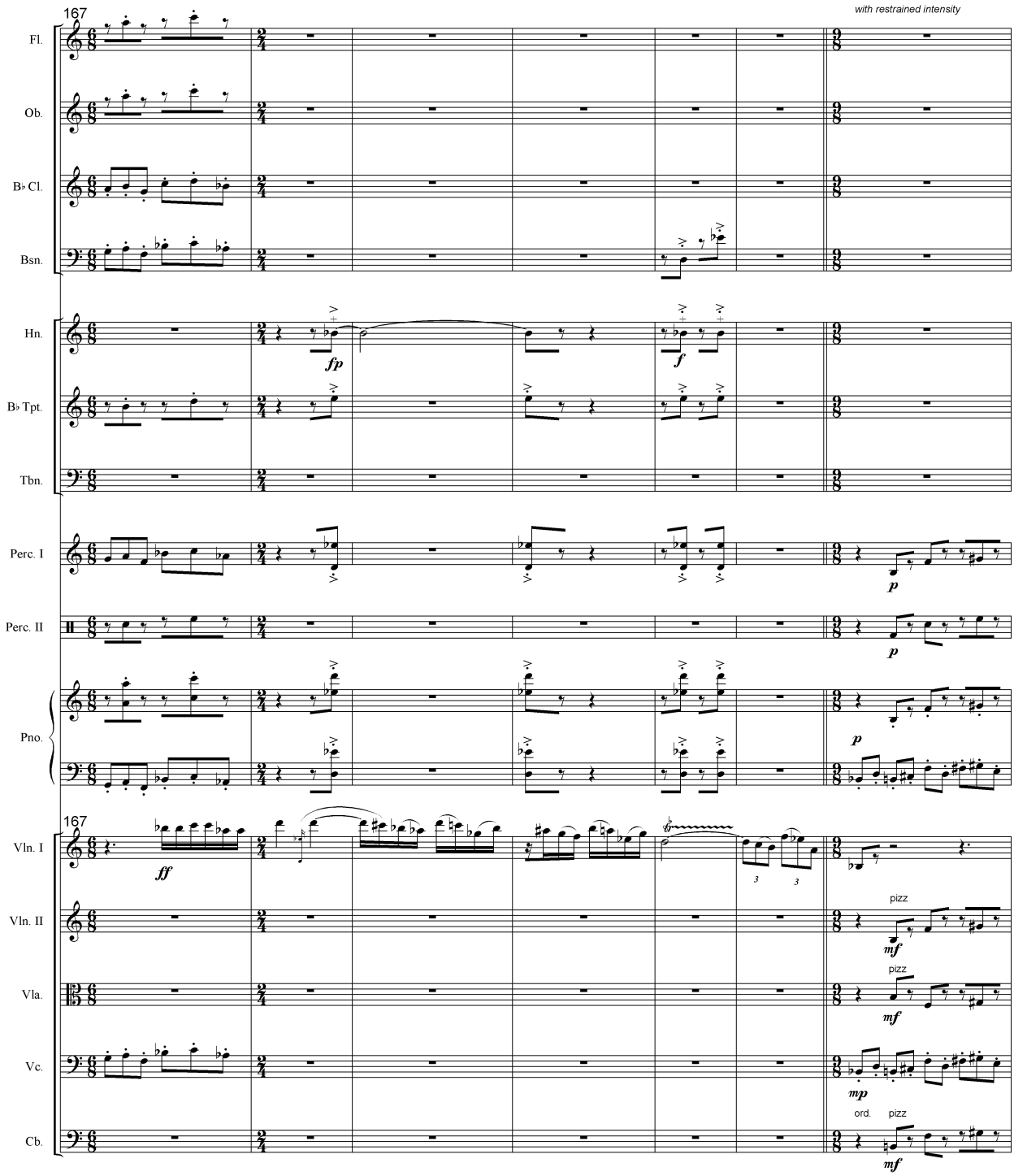

143
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
143
Vln. I
Vln. II
Vla.
Vc.
Cb.

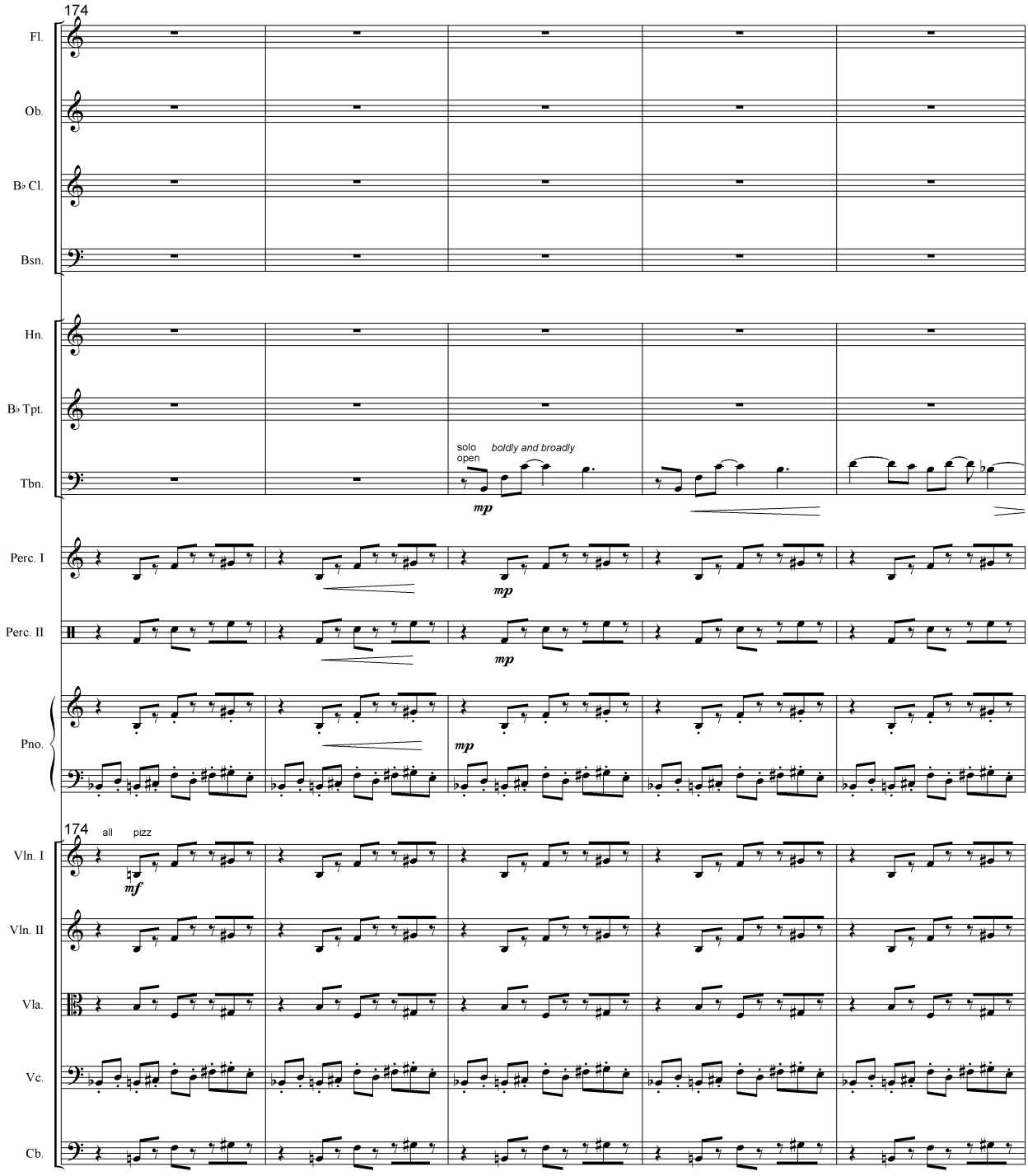

147
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Bass Drum
Pno.
147
Vln. I
Vln. II
Vla.
Vc.
Cb.

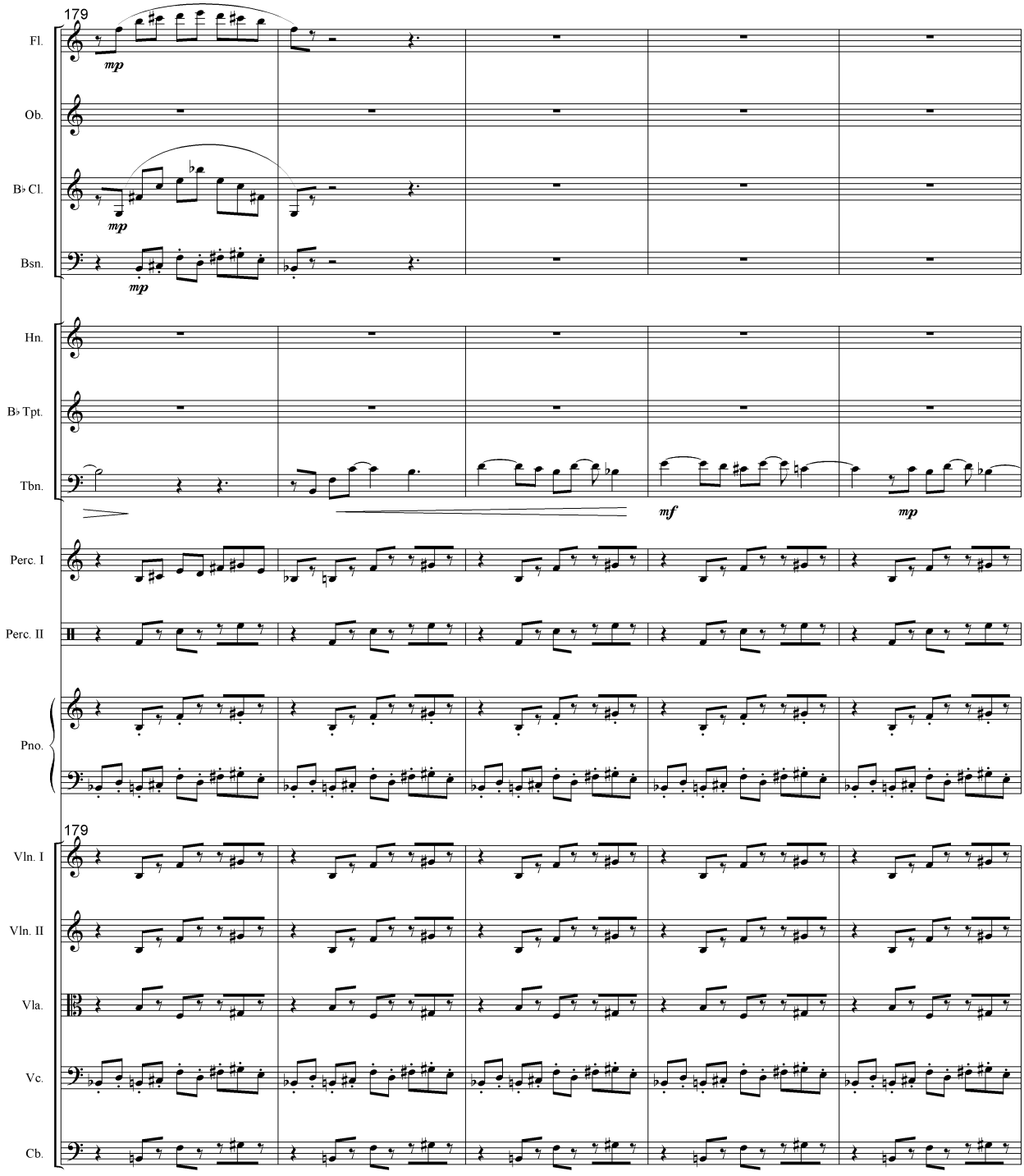

151
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
Tubular bells
Tomtoms, with brushes
151
Vln. I
Vln. II
Vla.
Vc.
Cb.
sul pont.
sul pont.

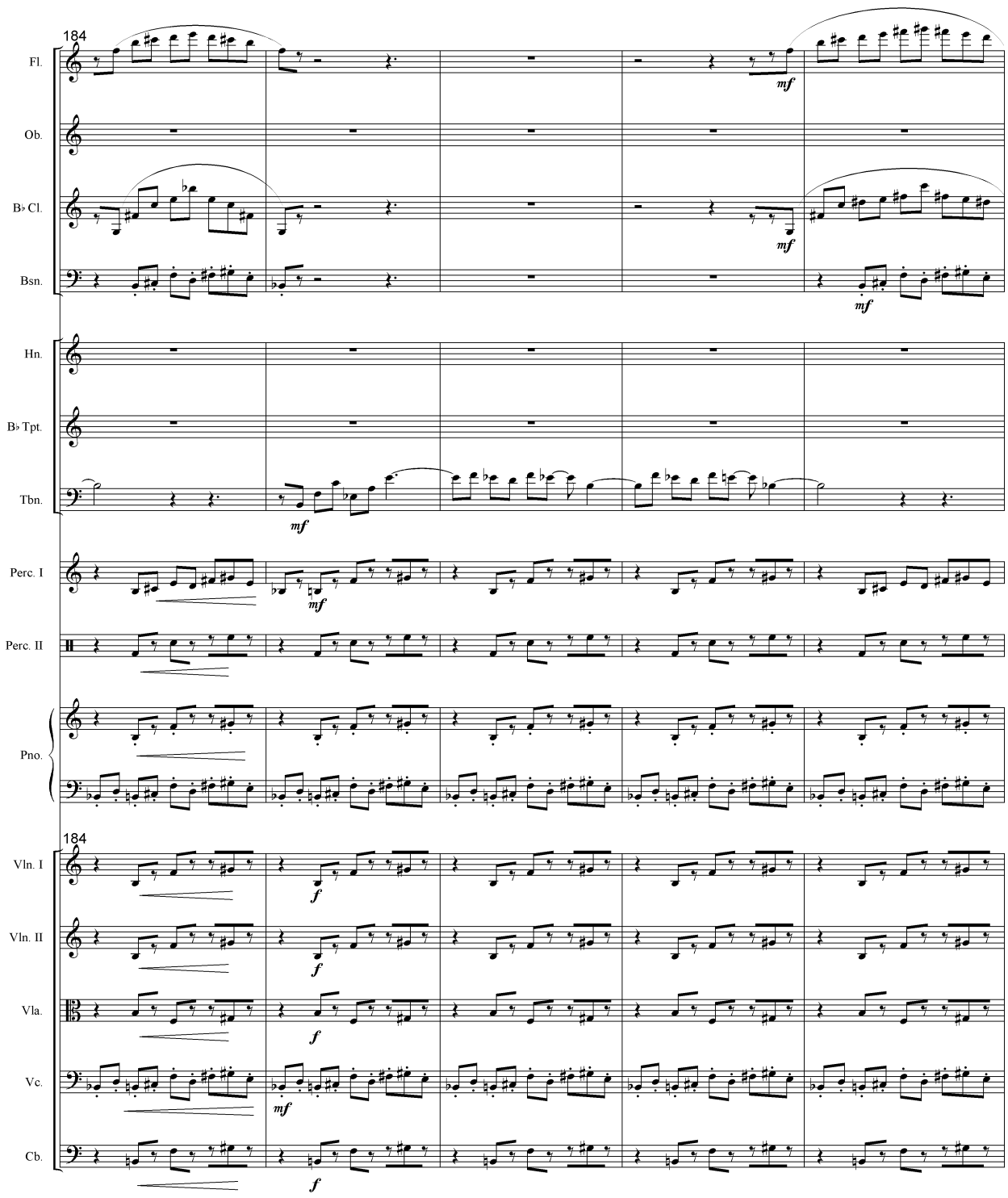

155
♪ = ♩ = 150
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
155
Vln. I
Vln. II
Vla.
Vc.
Cb.

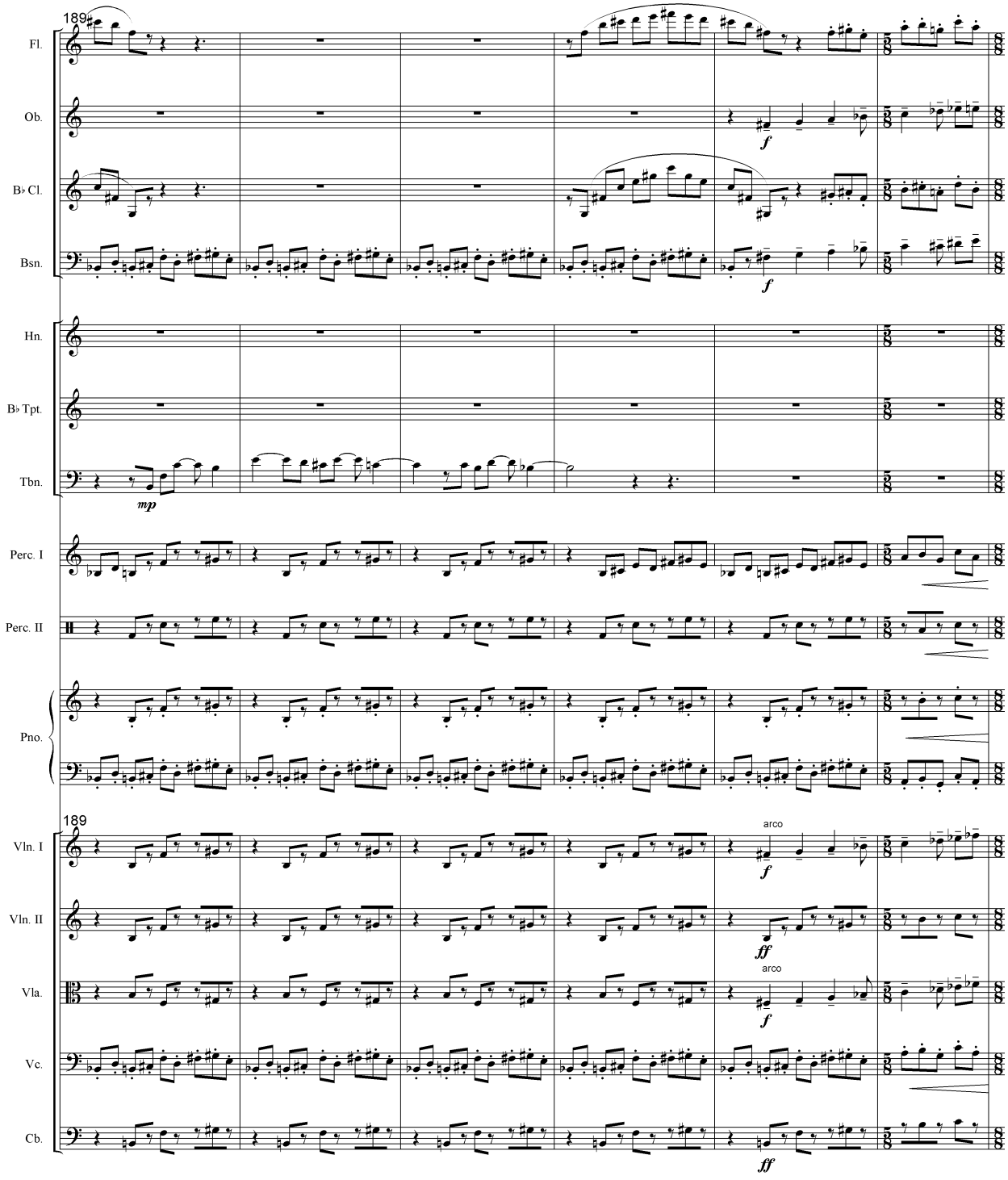

159
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
1st only
Tbn.
Perc. I
marimba
Perc. II
Tomtoms, with sticks
Pno.
159
solo
Vln. I
Vln. II
Vla.
Vc.
ord.
Cb.

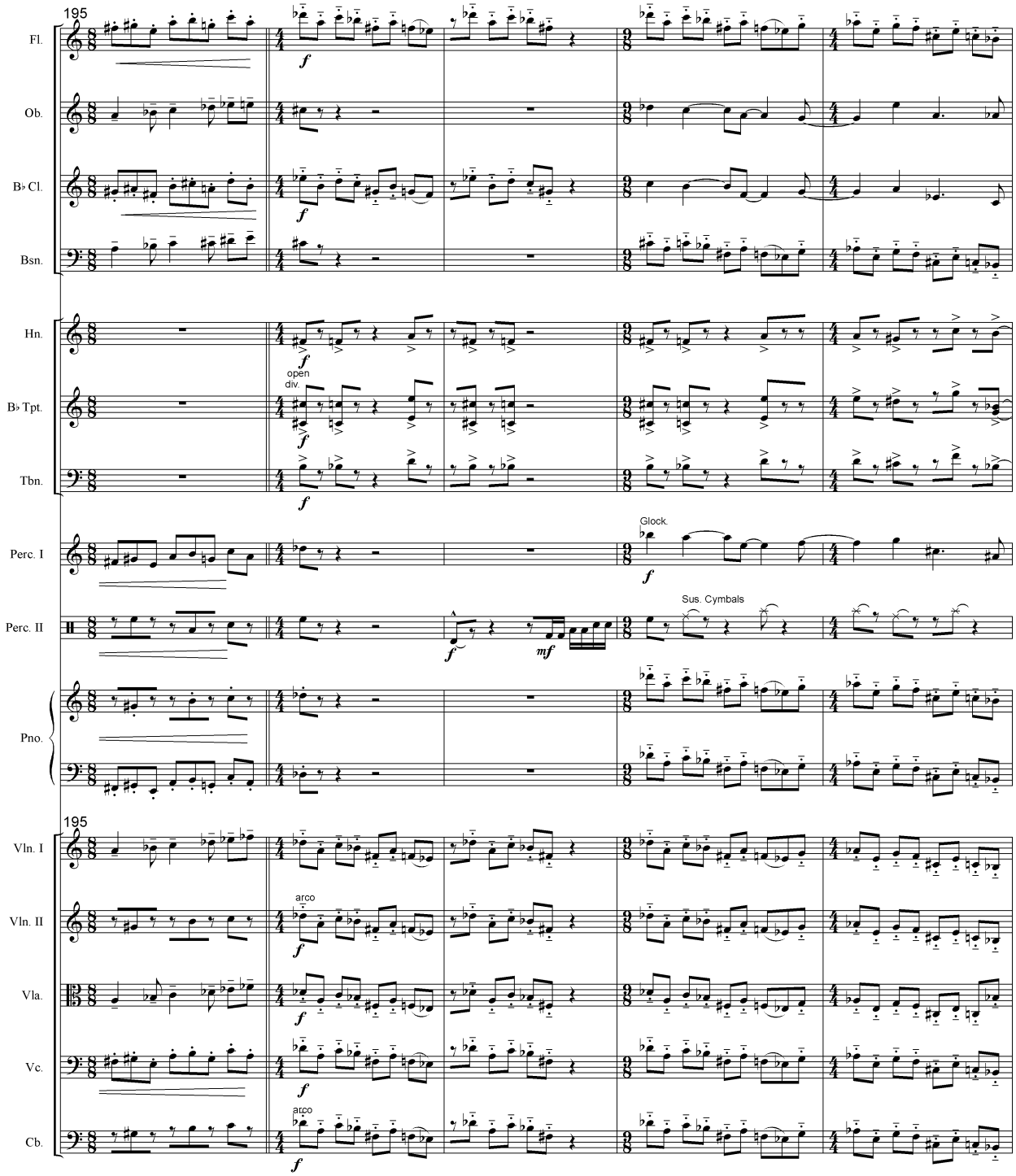

167
with restrained intensity
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
167
Vln. I
Vln. II
Vla.
Vc.
Cb.
fp
f
p
ff
pizz
mf
mp
ord.

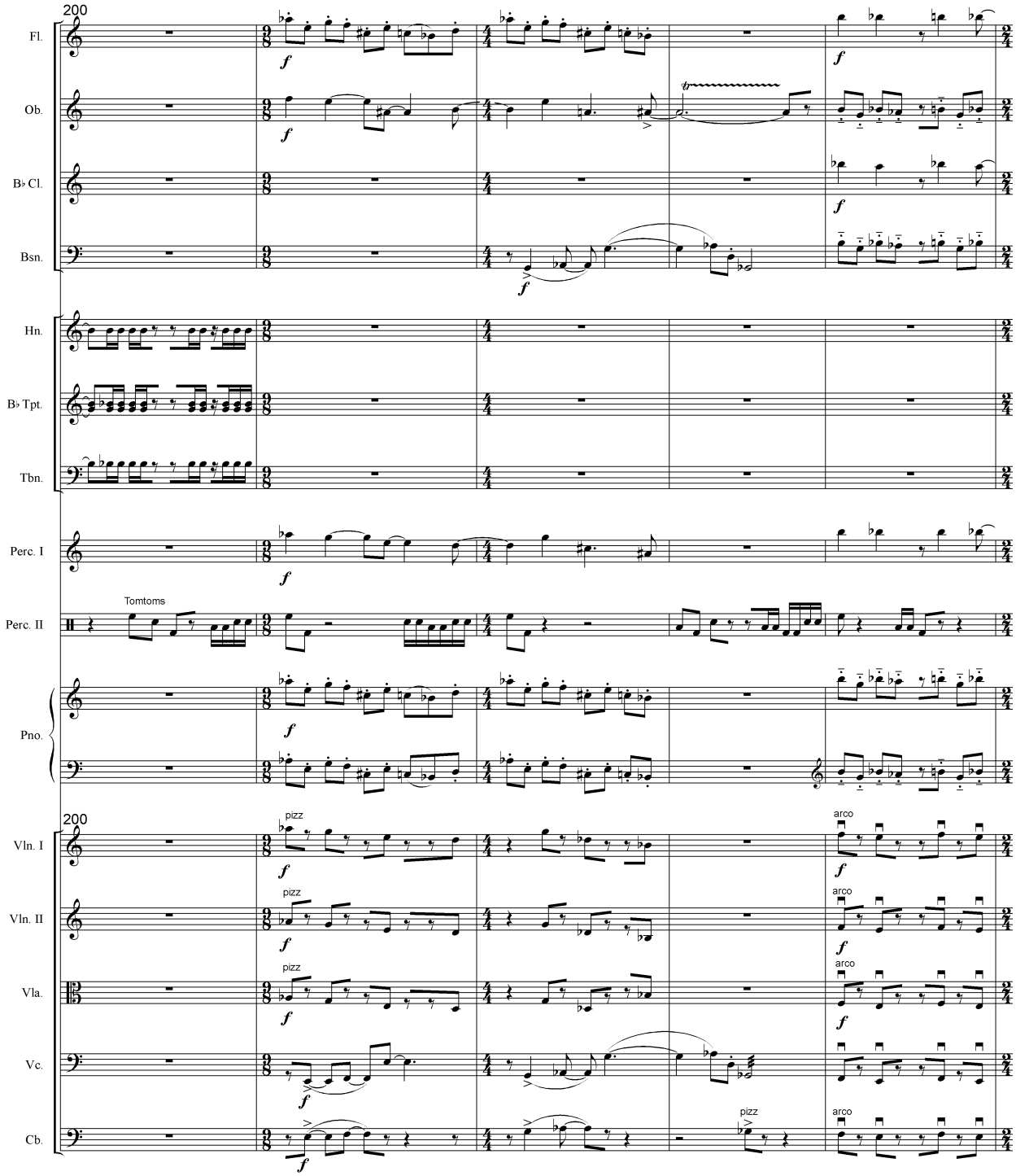

174
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
solo
open
boldly and broadly
mp
Perc. I
mp
Perc. II
mp
Pno.
mp
174
all
pizz
mf
Vln. I
Vln. II
Vla.
Vc.
Cb.

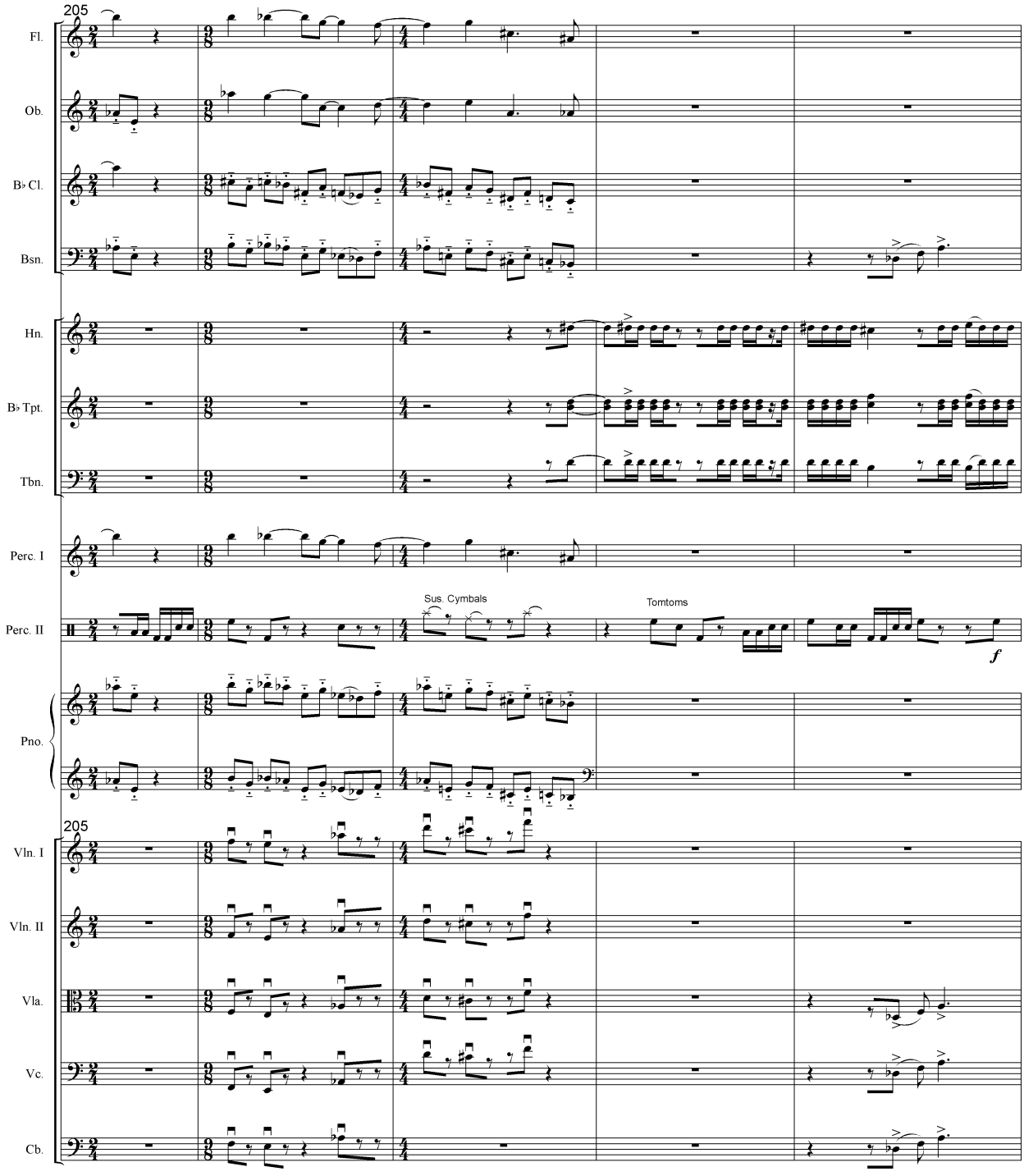

179
Fl.
mp
Ob.
B♭ Cl.
mp
Bsn.
mp
Hn.
B♭ Tpt.
Tbn.
mf
mp
Perc. I
Perc. II
Pno.
179
Vln. I
Vln. II
Vla.
Vc.
Cb.

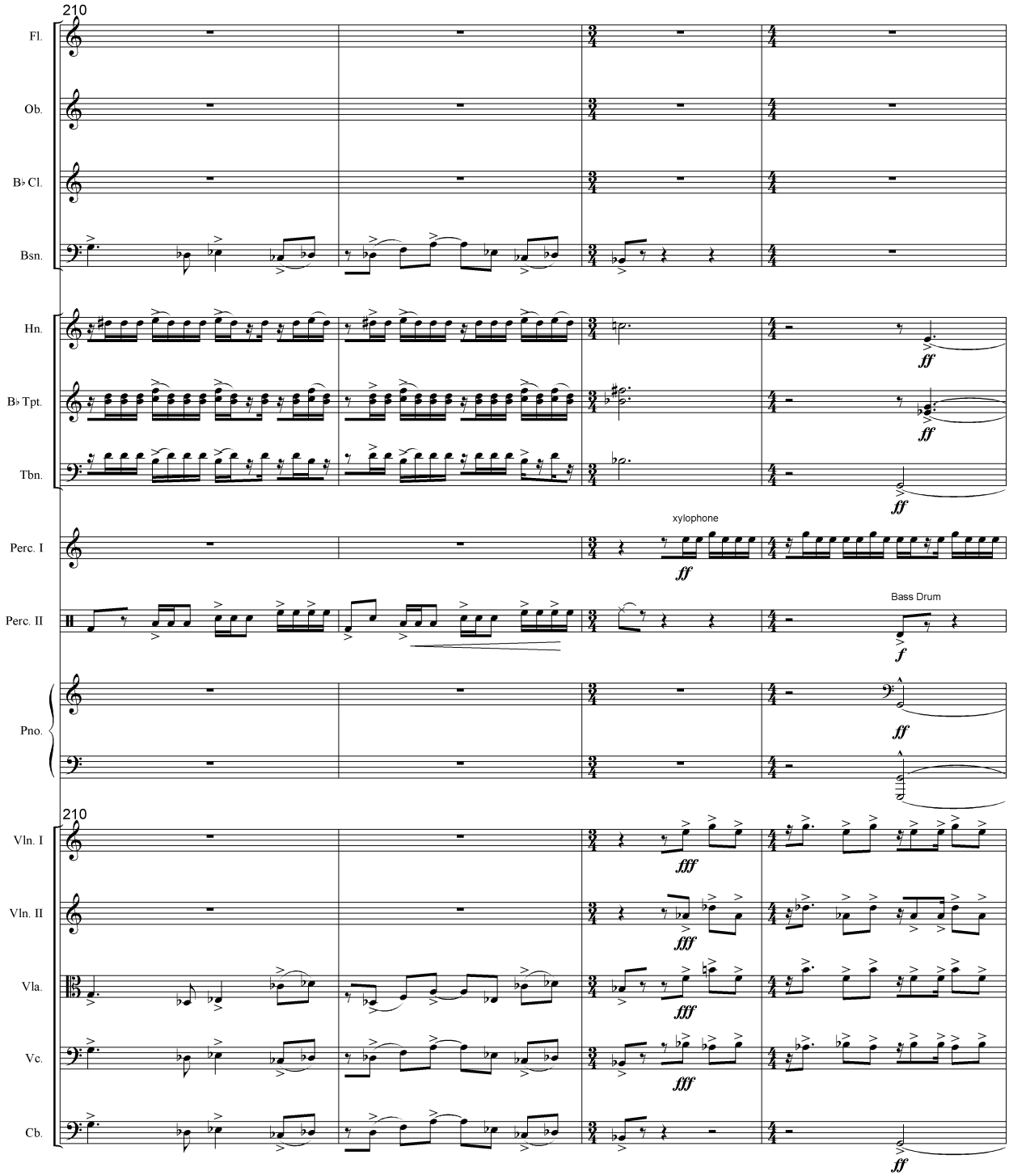

184
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
184
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf
f

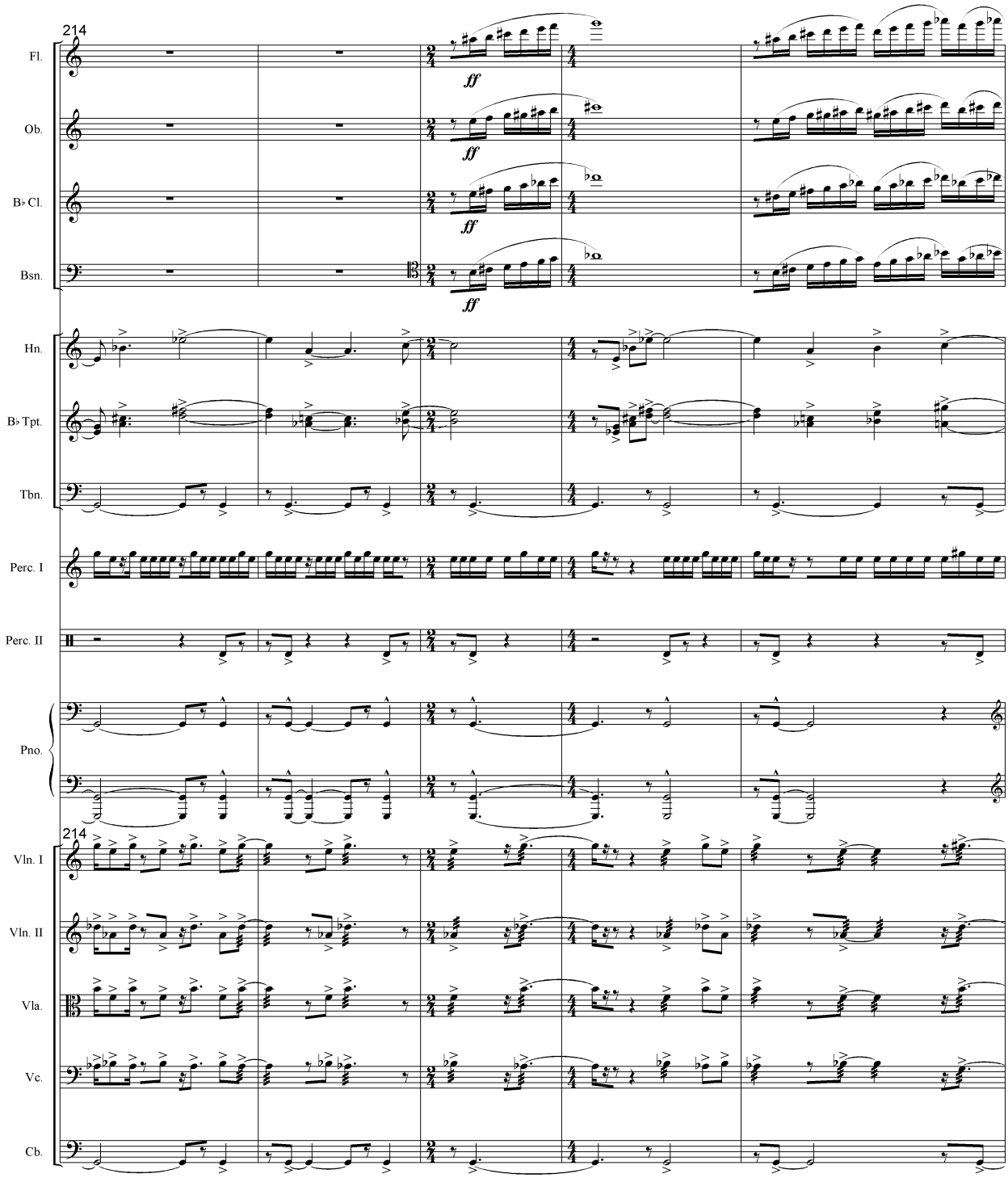

189
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
189
Vln. I
Vln. II
Vla.
Vc.
Cb.
arco
arco

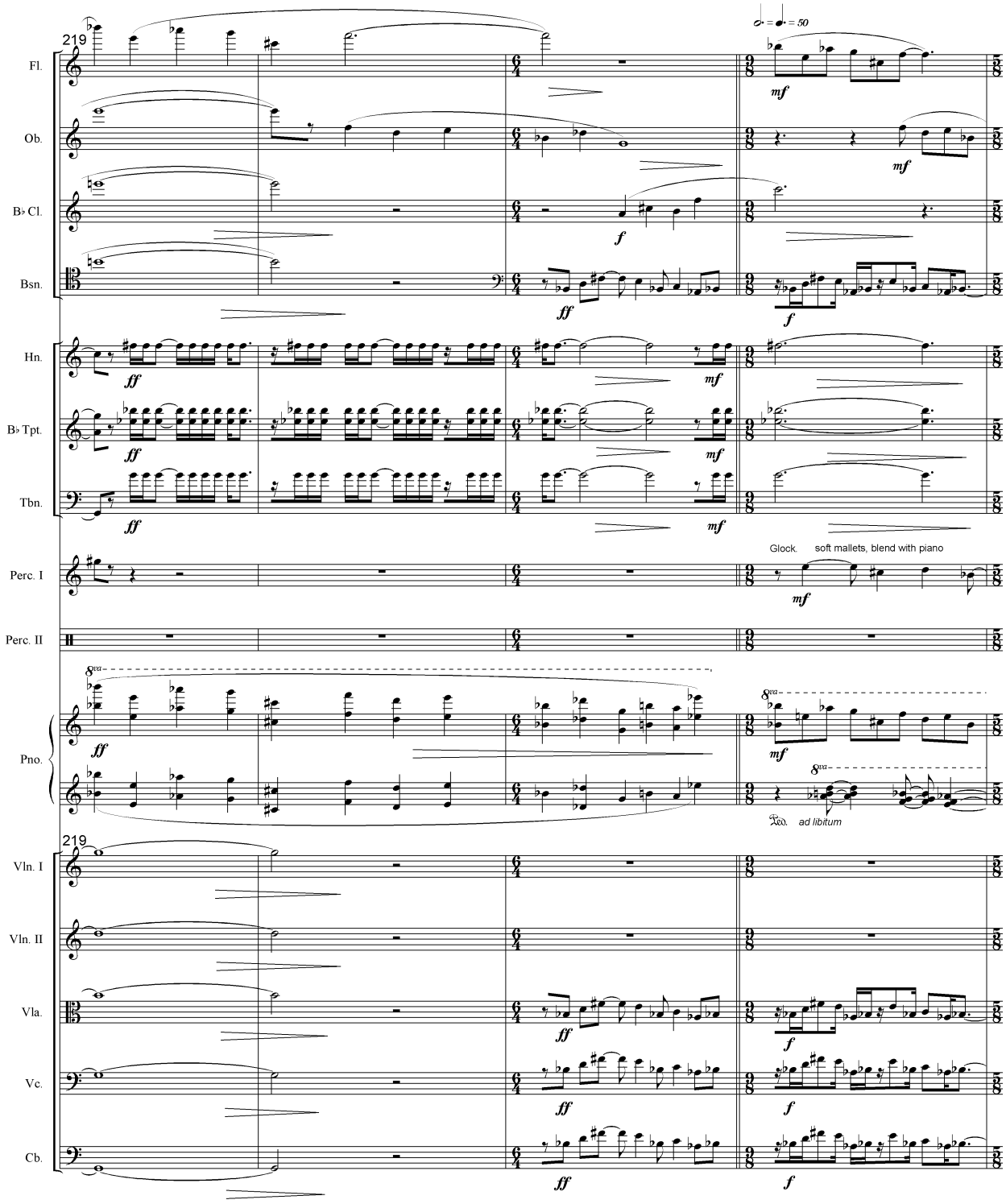

195
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
Vln. I
Vln. II
Vla.
Vc.
Cb.
f
open
div.
Glock.
Sus. Cymbals
mf
arco

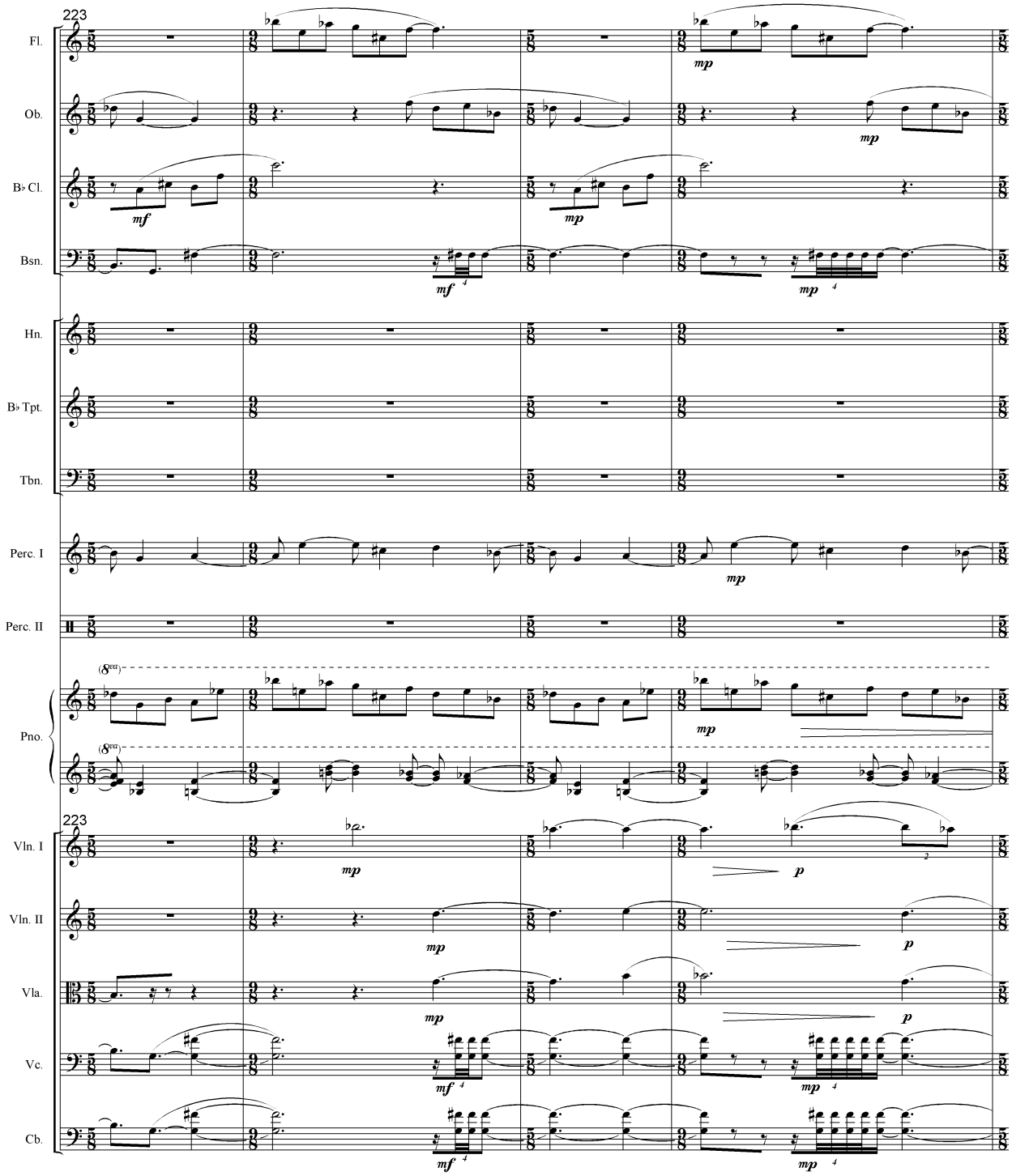

200
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Tomtoms
Pno.
200
Vln. I
Vln. II
Vla.
Vc.
Cb.
pizz
arco
f

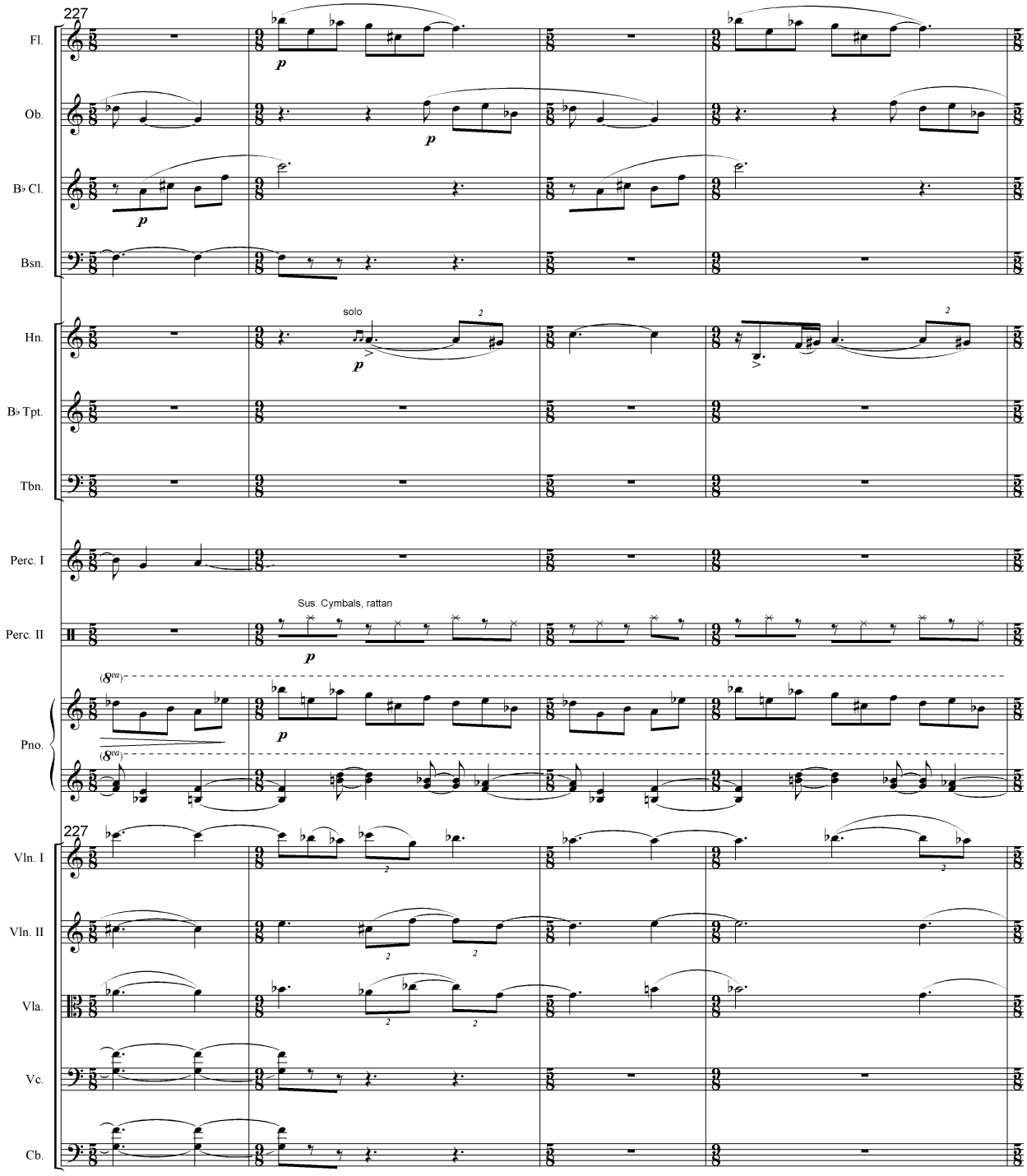

205
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Sus. Cymbals
Tomtoms
f
Pno.
205
Vln. I
Vln. II
Vla.
Vc.
Cb.

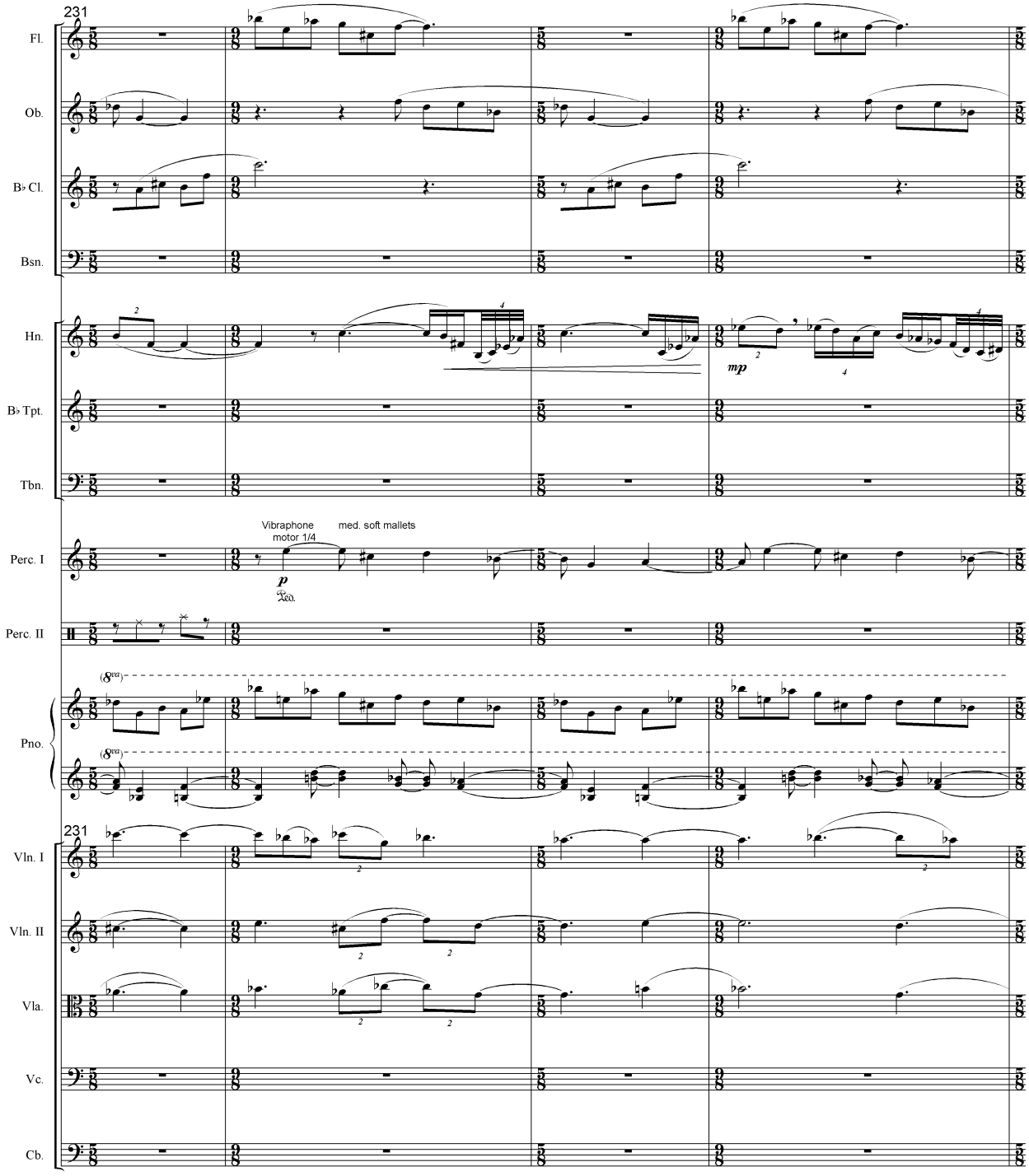

210
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
xylophone
Perc. II
Bass Drum
Pno.
210
Vln. I
Vln. II
Vla.
Vc.
Cb.

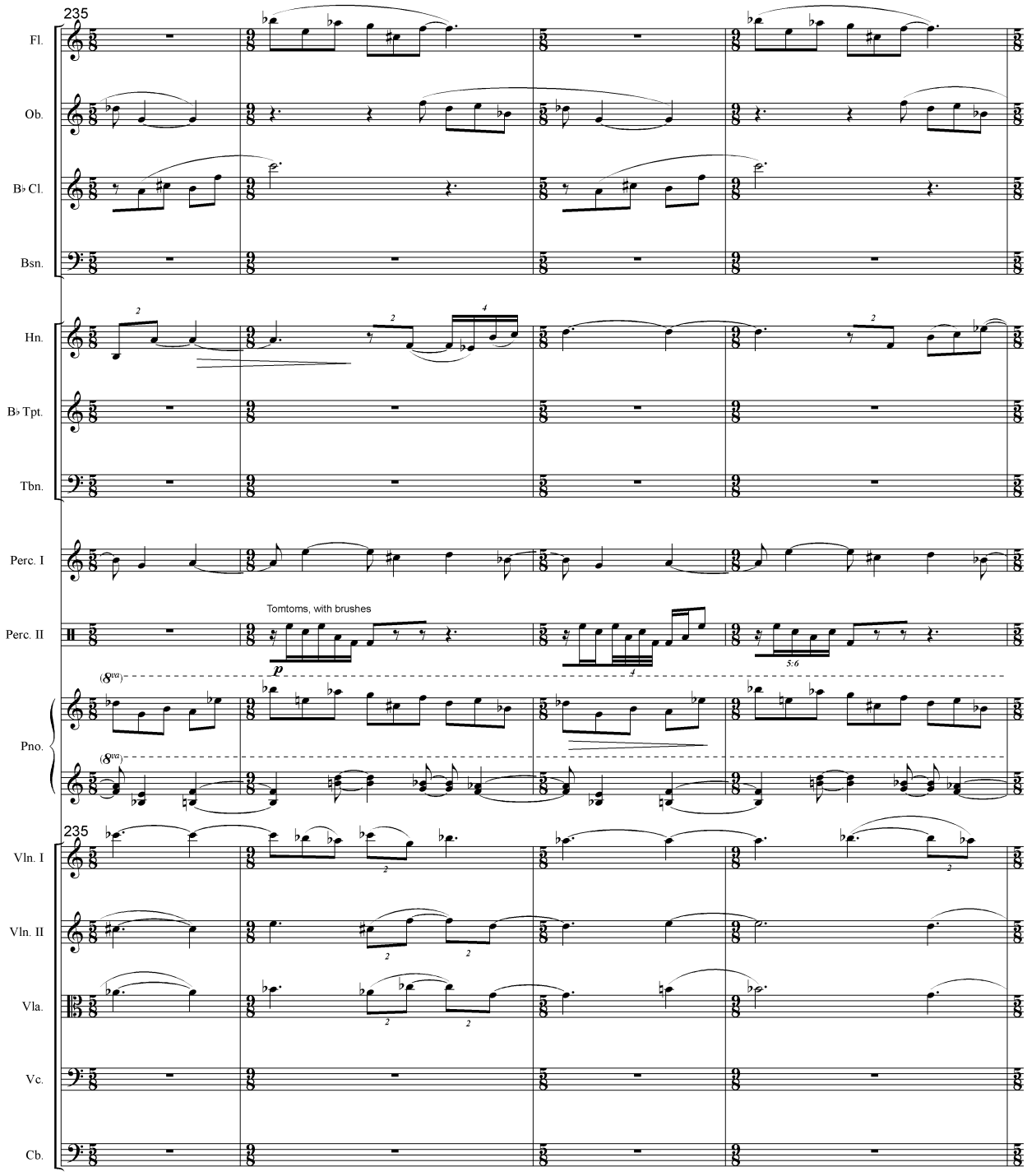

214
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
214
Vln. I
Vln. II
Vla.
Vc.
Cb.

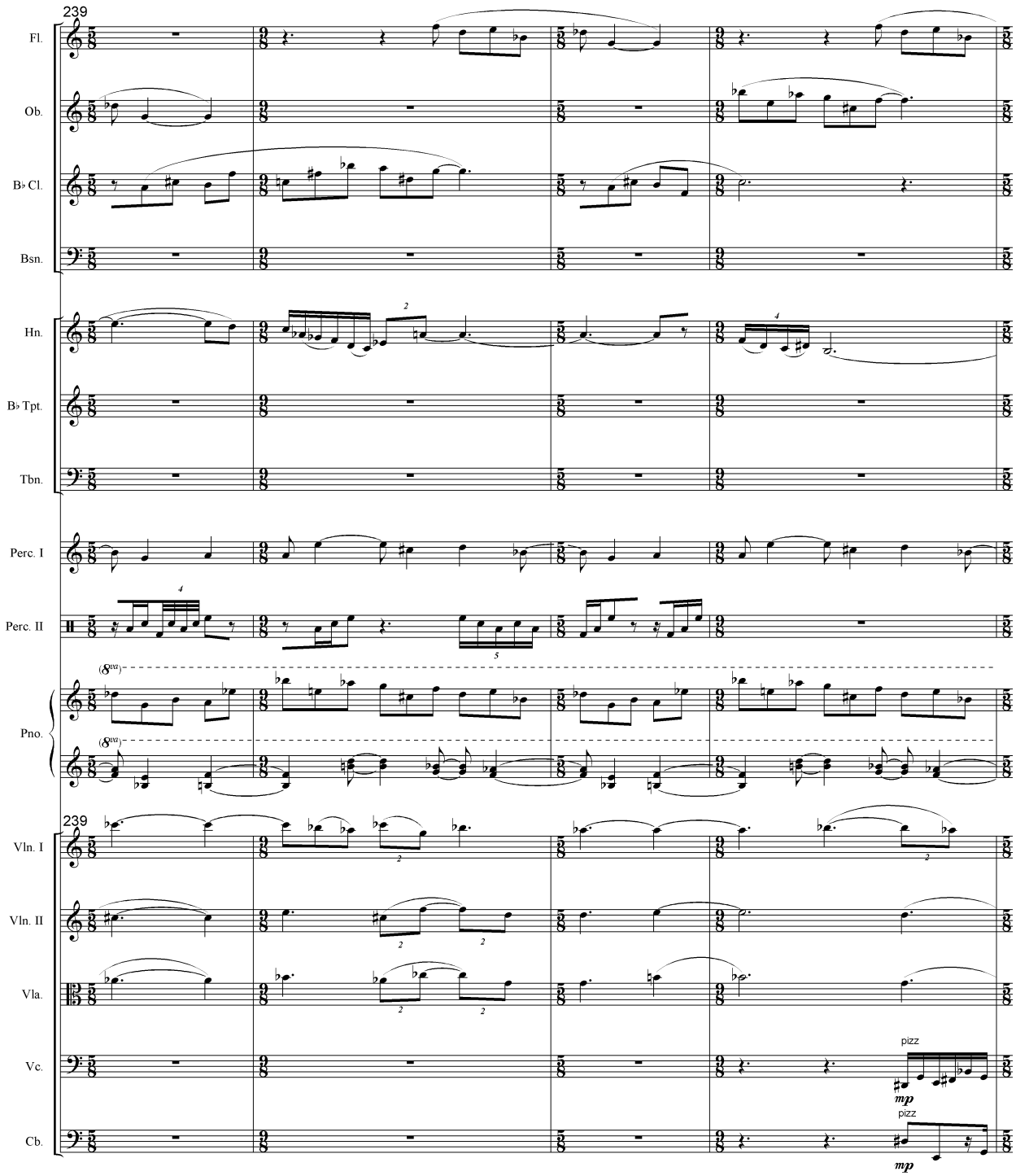

219
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
Glock.
soft mallets, blend with piano
ad libitum
219
Vln. I
Vln. II
Vla.
Vc.
Cb.

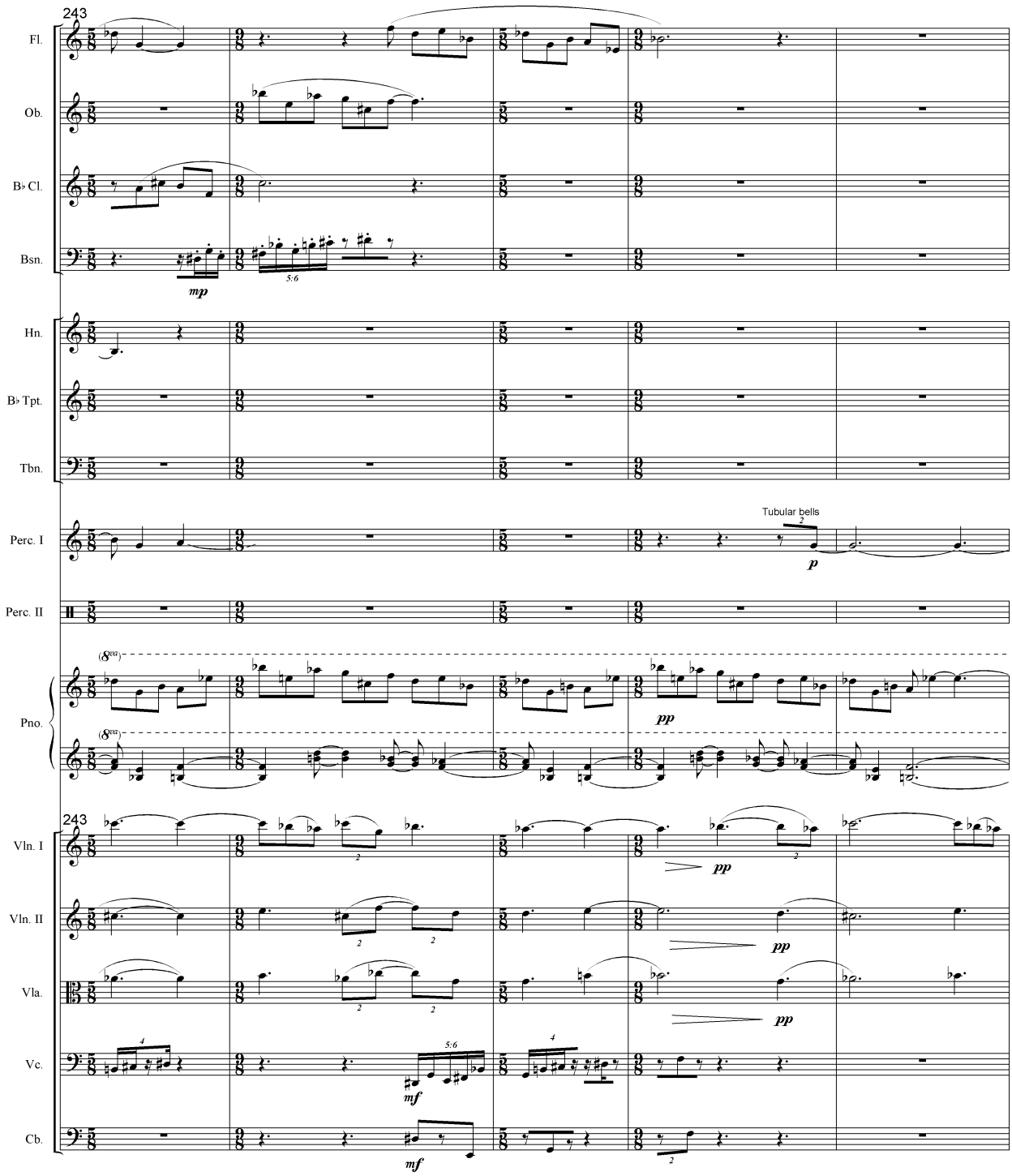

223
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
223
Vln. I
Vln. II
Vla.
Vc.
Cb.

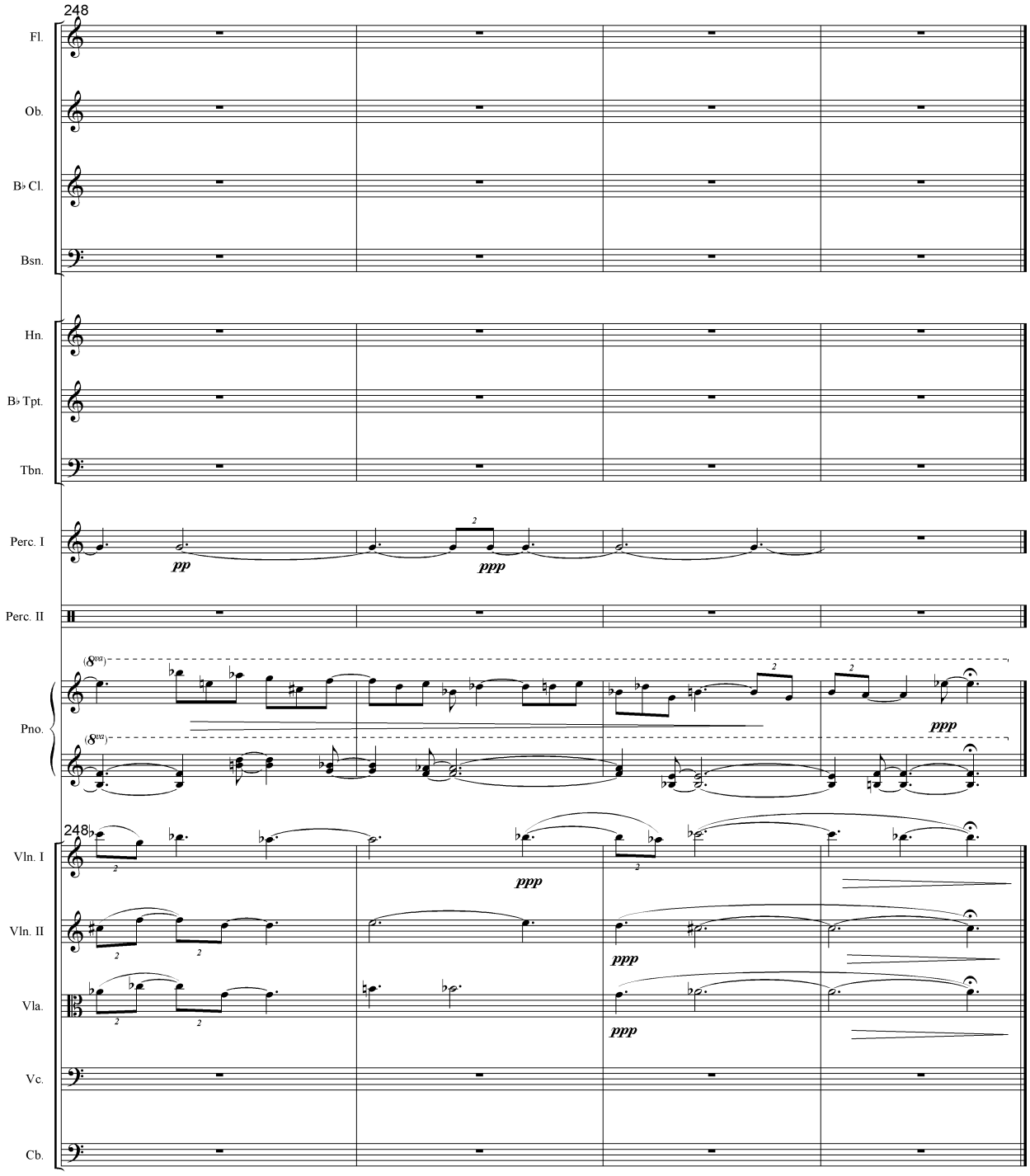

227
Fl.
Ob.
B♭ Cl.
Bsn.
solo
Hn.
B♭ Tpt.
Tbn.
Perc. I
Sus. Cymbals, rattan
Perc. II
Pno.
227
Vln. I
Vln. II
Vla.
Vc.
Cb.


231
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Vibraphone
motor 1/4
med. soft mallets
Perc. II
Pno.
231
Vln. I
Vln. II
Vla.
Vc.
Cb.


235
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Tomtoms, with brushes
Pno.
235
Vln. I
Vln. II
Vla.
Vc.
Cb.


239
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
Perc. II
Pno.
239
Vln. I
Vln. II
Vla.
Vc.
Cb.
pizz
mp
pizz
mp


243
Fl.
Ob.
B♭ Cl.
Bsn.
mp
5:6
Hn.
B♭ Tpt.
Tbn.
Perc. I
Tubular bells
p
Perc. II
(8va)
Pno.
pp
243
Vln. I
Vln. II
Vla.
Vc.
Cb.
mf


248
Fl.
Ob.
B♭ Cl.
Bsn.
Hn.
B♭ Tpt.
Tbn.
Perc. I
pp
ppp
Perc. II
Pno.
ppp
248
Vln. I
ppp
Vln. II
ppp
Vla.
ppp
Vc.
Cb.