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Stumbling to Syntax: narrative, structure, and syntax in Steven Mackey’s Stumble to Grace

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VOLUME I

Stumbling to Syntax: narrative, structure, and syntax in Steven Mackey's *Stumble to Grace*

VOLUME II

Concerto for Piano and Chamber Orchestra

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Music

by

Zach Neufeld

2019

ABSTRACT OF THE DISSERTATION

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Concerto for Piano and Chamber Orchestra

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Doctor of Philosophy in Music

Professor David Samuel Lefkowitz, Co-Chair

Professor Ian Krouse, Co-Chair

The primary focus of this dissertation is a theoretical analysis of Steven Mackey's piano concerto, *Stumble to Grace*, commissioned by the Los Angeles Philharmonic, New Jersey Symphony Orchestra, and St. Louis Symphony, and premiered in 2011. Inspired by his son "learning to become human," the concerto moves through 5 stages (movements) that progress from awkward all-thumbs playing in the first stage—which represents an immature, childlike way of playing—to complex, mature counterpoint in the fifth stage, which represents the arrival as a fully mature, sophisticated human being. The motivation for this study comes out of the

dearth of analytical study of Mackey's music, despite its originality and growing reputation. Two questions are central to this study: 1) how does *Stumble to Grace* interact with and comment on the history of the concerto genre? and 2) how does Mackey create a musical syntax with his personal harmonic language? The primary method for the analysis of harmonic syntax is set-theory using Pitch-Class set notation. Edward Pearsall's method of analyzing consonance and dissonance in atonal music is used, as well as Santa's Modulo-7 approach to post-tonal diatonic music. The study will show that *Stumble to Grace,* like many concertos before it, invites the listener to consider the role of virtuosity in concert music, but in a new way: the concept of virtuosity is center-stage in the narrative of the piece. The narrative generates a progressive form, in which individual stages have returns to their opening material while the piece as a whole does not have returns or recapitulations (beyond structural pitch-class sets). The results of the analysis reveal (1) a motivic, thematic, and harmonic design interconnected by important pitch-class sets, (2) phrase-level harmonic syntax that is partially controlled by those sets, and (3) a theory of the logic of consonant and dissonant sonorities within the piece. It is my hope that this study not only furthers the understanding of Mackey's music among theorists and composers, but also that conductors and concert programmers looking for connections to programmatic works about a life's journey discover *Stumble to Grace.*

The dissertation of Zachery Daniel Neufeld is approved.

James Bass

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University of California, Los Angeles

2019

This work is dedicated to my parents, who have made my career as a musician possible, and who have always supported my artistic and academic aspirations.

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Finally, I want to thank my family and friends for their patient support and love, especially my parents and my wife Erica.

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INTRODUCTION

The concerto has long been fodder for discussions regarding genre, virtuosity, and societal implications of music. According to Simon Keefe, "No musical genre has had a more chequered history than the concerto but has simultaneously retained as consistently prominent a place in the affections of the concert-going public. Historically speaking, concertos have had a more polarizing effect than any other kind of musical work."[1] This polarizing effect is at least in part due to the perennial arguments over quality vs. virtuosity, wherein one side purports that the concerto has too often been a vehicle for saccharine display of virtuosity, while others argue that virtuosity in and of itself is an appropriate goal.[2] Steven Mackey's piano concerto *Stumble to Grace* interacts with this history and these questions in a new and interesting way. It is cast in five Stages played continuously that follow a programmatic narrative: a progression from "naive and awkward" music at the beginning to sophisticated complexity at the end, inspired by the composer's observations of his son "learning to become human."[3] *Stumble to Grace* is not alone in its narrative of a life's journey (or at least episodes in a life): other notable examples include Beethoven's *Les Adieux* sonata (op. 81), Berlioz's *Symphonie Fantastique,* Liszt's *Les préludes,* and Strauss' *Tod und Verklärung, Ein Heldenleben,* and *Symphonia Domestica.* I will discuss its relationship to the history of the concerto genre as a whole, the programmatic implications of a concerto (i.e., the representation of the soloist as an individual juxtaposed with the masses), its

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[1] Keefe, Simon P., ed. *The Cambridge Companion to the Concerto,* (Cambridge UP, 2005), 2.

[2] Howard, Vernon A. "Virtuosity as a Performance Concept: A Philosophical Analysis," *Philosophy of Music Education Review* 5 (1997): 42-54.

[3] Steven Mackey, "Stumble to Grace Composer's Notes," Boosey and Hawkes page, accessed July, 2016. <https://www.boosey.com/cr/music/Stumble-to-Grace/54811>.

relationship to virtuosity (and especially non-virtuosity as a programmatic element), and its formal, motivic, and harmonic structure. This dissertation focuses on two main questions: (1) How does *Stumble to Grace* fit in with the history of the genre of piano concerto as a whole? and (2) What is its structure and harmonic syntax? The answer to this second question will show a depth of detail and complexity that prior analysts of Mackey's music have not shown. The dissertation will also use Piaget's Four Stages of Cognitive Development as a backdrop for analyzing the programmatic nature of the piece.

In Chapter I, I will begin by reviewing prior analytical work on the music of Mackey, proceed to a discussion of the history of the concerto genre and its societal implications, and finish with a brief overview of the form and structure of concertos, up to the 20th century. Chapter II will discuss the problems that arise in an analysis of harmonic syntax and hierarchy in post-tonal works (especially works like *Stumble to Grace* which include sections that are somewhat diatonic, layered sections with no identifiable pitch center, and everything in between). This will include a discussion of mod-7 versus mod-12 approaches to set theoretical analysis and non-functional consonant/dissonant hierarchies. Chapter III will analyze the programmatic structure of *Stumble to Grace* and how the music reflects it. Chapters IV, V, and VI are my analysis, including formal structure, set theory analysis (which reveals a motivically, thematically, and harmonically interconnected design), and phrase-level harmonic syntax, which shows important PC-sets partially controlling the syntax.

Prior analysts of Mackey's music have tended to take the easy route regarding harmonic and pitch-structure analysis, ascribing the syntax to Mackey's background in rock and jazz, especially as a guitarist. Perhaps this is partially because they have tended to focus on his more

rock-influenced music, but nonetheless, a more rigorous analysis of harmonic structure has not been attempted. I argue that such a surface level analysis is missing a depth of detail in the harmonic, thematic, and formal structure of Mackey's music, just as an analysis of a popular song misses a majority of important details when it limits itself to simplistic views of form and harmony, disregarding transformations in texture, timbre, and register. Ronald Caltabiano's "appreciation" for Mackey and Steiger is just that: an appreciation rather than any kind of full scale analysis.[4] It looks at Mackey's piece Indigenous Instruments (1989) from the perspective of the piece's relation to rock influences and idioms.

David Hall's dissertation on "See Ya Thursday," Mackey's solo marimba piece, contains a relatively thorough analysis, but it is done more from a performer's perspective in relation to the marimba and marimba repertoire.[5] The goal of Hall's dissertation, as stated in the introduction, is to assist with some of the technical difficulties of performing this work through analysis. The harmonic analysis is relegated to chord symbols and a short discussion of foreground and background levels in the harmony (which arise out of a passacaglia-like bass pattern).[6] While this paper does not provide much context for Mackey's oeuvre, it does constitute a precedent for harmonic and textural analysis of Mackey's work.

Alec Summers' dissertation on Troubadour Songs is the best academic analysis of Mackey's music to date; it includes harmonic, motivic, textural, and referential studies in an

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[4] Ronald Caltabiano, *Composers Steven Mackey and Rand Steiger: An Appreciation*, (Contemporary Music Review 10, 1994): 133-148.

[5] David Hall, *Innovations in musical texture and aural perspective: Steven Mackey's "See Ya Thursday" for solo marimba,* (DMA diss., University of North Texas, 2013).

[6] Ibid. 14

attempt at the first complete analysis of one of Mackey's works.[7] It includes the idea of foreground and background elements in harmony (where two separate levels are interacting) which is something Mackey mentions in reference to later works. His motivic and harmonic analysis shows a relation between motives and the harmonic structure they engender, as I will show in *Stumble to Grace.* Using both mod-12 and mod-7 PC-set analysis (Summers does not use any set theory methodology in his dissertation), I will show an even more complex and detailed organizational structure, and build on Summers' precedent for a rigorous analysis of Mackey's music.

Anthony Wardzinski's dissertation includes a brief study of Mackey's Physical Property, and is a study of the "revitalization" of the string quartet in contemporary times. In a parallel to my study, Wardzinski places Mackey's quartet as an example of a reimagining of and old European form in a new American way, just as Mackey reimagines the concerto. However, the analysis is cursory, and relies very heavily on the Rock/Classical juxtaposition like Caltabiano.[8]

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[7] Alec Summers, *Mackey's World: an analysis of "Troubadour Songs" and "Three Moments" for large chamber ensemble*, (PhD diss., University of Pittsburgh, 2013).

[8] Anthony Wardzinski, *The Integration of Cultures within the Modern American String Quartet*, PhD diss., (UCLA, 2010).

CHAPTER I:

HISTORY OF THE CONCERTO GENRE/CONTEXT FOR *STUMBLE TO GRACE*: FROM THE BEGINNING TO CLASSICAL/ROMANTIC

Perhaps due to the obvious nature of a concerto (that of a solo juxtaposed with a group, or a smaller group juxtaposed to a larger one), concertos can be seen since the beginning of the genre–at least the solo concerto idiom that arose in the 17th century out of the Concerto Grosso–to be representative of a conversation: the one compared with the many, or, at least in the very beginning, two contrasting groups of tone.[9] Even to an inexperienced observer, simply the stage setup of a modern concerto will indicate a kind of agency for the soloist that audiences might not give to a group. The music itself will usually communicate to the audience a similar message: that of a dialogue between a person and a group, or a person and some outside force. Abraham Veinus explains,

> "It has been compared in principle to a Greek tragedy in which the drama of an individual's fate achieves meaningful context against a backdrop of solemn commentary by the chorus; to which one might add a further comparison with the soliloquies of the Shakespearean drama in which soloist, so to speak, meditates upon the social complex from which he has momentarily detached himself."[10]

Another important aspect of the concerto genre is its relationship to the concept of virtuosity. Unlike any other form, the concerto has a particular power to focus attention on the skill, prowess, and power of the soloist. This prompts several questions: what does a focus on virtuosity imply for society? Does virtuosity preclude "true artistry?" There has been wide

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[9] Abraham Veinus, *The Concerto: from its origins to the modern era,* (Dover, New York, 2012), 2.

[10] Ibid. 34

disdainment among music critics that the concerto is simply a trite vehicle for virtuosic display, and distracts from or precludes "serious" art.[11]

Stumble to Grace interacts with this idea in an interesting and new way: the character of the piano (the child) begins in a state of unskilled play and exploration, and progresses (occasionally interrupted by a temporary regression) to technical mastery and virtuosity by the final stage, with several stops and references to different kinds of virtuosity along the way (these will be considered in section IV). By choosing this programmatic nature for *Stumble to Grace*, Mackey invites the audience to reconsider virtuosity and its meaning within concert music.

1.1 BAROQUE CONCERTO GROSSO

According to Michael Talbot, the main types of the concerto, with the exception of the early Roman concerto, were cultivated by Vivaldi.[12] Many of these concertos use what is called *ritornello form,* which is characterized by a refrain (section that returns, as a refrain in song form) in the orchestra (the large ensemble, sometimes called 'concerto grosso' or 'ripieno') which establishes the tonality and main ideas, contrasted with alternate sections (episodes) from the soloist or group of soloists which present contrasting ideas and modulations. The fact that the soloist(s) play contrasting material (ornate filigree, for example) much of the time, and not the same material as the orchestra, is one of the defining characteristics that differentiates the Baroque concerto from the typical Classical iteration.

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[11] See Sudip Bose, *Music: On Virtuosity: A mastery of technique ought to be exalted, not disdained*, (The American Scholar 74, 2005): 113-116. and Veinus 154.

[12] Michael Talbot et. al., *The Instrumental Concerto: Origins to 1750*, (Grove Music Online, 2001): 2. iii. Talbot contrasts the early Roman concertos of Corelli and Torelli with the Venitian examples of Albinoni and Marcello.

1.2 THE CLASSICAL CONCERTO

The concerto form that codified the genre arose in the Classical period with Haydn and Mozart, among many others, concurrently with the shift from contrapuntal forms in the Baroque to Sonata form and its variants in the Classical.[13] An extension and variation of ritornello form discussed above, it is based on alternating solo and tutti sections just like ritornello form, but the first entrance of the soloist typically restates the opening ritornello material, thereby creating two expositions (wherein the entrance of the soloist in the second exposition remains in the tonic). The resulting structure is a kind of Sonata Form, wherein the only problem for the composer is who plays each section. To the listener, this characteristic of trading-off will be the most apparent attribute of the piece, more so than its similarity to the thematic and tonal structures of Sonata Form. This idea of trading-off is what encourages listeners to hear a concerto as a dialogue, and by extension, personify—or give agency to—the soloist vs. the ensemble. The orchestra could be interpreted as many people speaking with one voice, many people saying disparate things, or a bureaucracy or system of society, with which (or against which) the soloist interacts.

Susan McClary provides a convincing analysis of the implications and possible meanings of Mozart's Piano Concerto in G Major (K. 453)—and of 18th century conventions and sensibilities—in her 1987 paper *A Musical Dialectic from the Enlightenment.* Of particular interest is her discussion of the choices that the audience has to make—consciously or unconsciously—regarding how to interpret the piano solo's pushing against the conventions of the time (and conventions inherent in the piece itself). When the soloist competes with or

[13] Abraham Veinus, *The Concerto,* 65.

disagrees with the orchestra, we can read it as "heroic in its opposition to the collective orchestral force," or as "indulgent in its mode of self-presentation."[14]

An excellent example of the concerto's form and societal implications in the 18th century is given by Simon Keefe in his 1997 dissertation.[15] Keefe shows the high regard that Enlightenment society had for dialogue and conversation, and how Mozart's Viennese piano concertos interacted with and reflected the importance of dialogue to the Enlightenment mind. He also argues that "dialogue" in late-18th century concertos "is more akin to contemporary drama than to conversation."[16]

1.3 THE 19TH CENTURY CONCERTO

According to Leon Botstein, the piano concertos of Beethoven were the benchmark of innovation for subsequent concertos in the 19th century and beyond. He writes,

> "Beethoven was a pioneer in controlling and integrating the dialogue between orchestra and soloist. The orchestra was not reduced to background accompaniment; the soloist was not primarily engaged in decorative elaboration and variation designed purely to show off technical proficiency."[17]

Beethoven's innovations, including the greater prominence of the piano as a dramatic protagonist and the orchestral character of his piano writing (double octaves, thick textures) greatly influenced concerto writing in the 19th century, and spurred discussions regarding the place of virtuosity in the concerto.[18]

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[14] Susan McClary, *Dialectic from the Enlightenment, Mozart's "Piano Concerto in G Major, K. 453", Movement 2,* (Cultural Critique, No. 4, 1986), 147.

[15] Simon P. Keefe, *The Cambridge Companion to the Concerto,* 2.

[16] Ibid. 13

[17] Leon Botstein et. al., "Concerto," (*Grove Music Online,* 2001): section 4.

[18] Ibid. Botstein discusses Schumann's defense of the Beethovinian style of concerto writing, as opposed to the concerto as a mere vehicle for empty virtuosic display.

While in Beethoven's piano concertos the growing prominence of the soloist did not destroy the conventional three-movement design and double exposition sonata-form first movement, many subsequent concertos, such as those of Schumann and Liszt, left those formal restrictions behind, instead using fantasy form or eliminating breaks between movements.[19]

1.4 THE 20TH CENTURY CONCERTO

Paul Griffiths argues that the concerto's longevity into the 20th century can in part be ascribed to the "relative looseness of the term 'concerto' as a formal definition."[20] Along with the trends in composition in general, the concerto's form could rely less heavily on functional, tonal structures to delineate form, instead using theme and texture as the main organizational methods (along with alternating solo and ensemble sections, of course). In keeping with the trends of the late 19th century, the form of concertos became more ambiguous, and the lines between solo and ensemble sections became more blurred.[21] Just like all other forms in the 20th century, the influences on the concerto are wide and varied, from neo-Baroque and neo-Classical influences in Stravinsky, neo-Romantic in Nielsen, Rachmaninoff, and Elgar, to serialism in Schönberg and Berg.[22] [23]

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[19] Ibid., section vi

[20] Paul Griffiths et. al., "Concerto," (*Grove Music Online,* 2001): section 5.

[21] Ibid. section 5

[22] Ibid. section 5

[23] Ibid. section 5; A possible forerunner to the 5-part form we will see in *Stumble to Grace* are Bartók's concertos, of which the first two are cast in 5-part form. The way the form is treated in Bartok's concertos is quite different: Bartok's are arch for with middle ABA' movements, while *Stumble to Grace* has a quasi-symmetrical form.

1.5 PROGRAMMATIC CONCERTOS

George Tsontakis's piano concerto *Man of Sorrows* is a programmatic work based on the Stations of the Cross. Unlike *Stumble to Grace*, *Man of Sorrows* does not unfold chronologically, and does not expressly personify the piano solo. There is not express indication that the piano represents Christ, for instance. Perhaps the soloist can be heard more as a narrator/evangelist, or as a translator for what the orchestra says (they trade material as in a typical concerto). Its form is somewhat akin to a tone poem, as each of the movements foreshadow or recall material from previous movements, and the form is sprawling and not clear-cut.[24] According to Agocs, the non-linearity of the program encourages listeners to hear gestures with symbolic meaning, because they are like icons that give a "flash of inspiration" as Tsontakis calls it.

Messiaen's *Turangalila-Symphonie* is even more ambiguously programmatic, but serves as a precedent for thematic connections across movements (which I will show later in *Stumble to Grace*). It is more chronological than Tsontakis' piece, but less specifically programmatic. It centers around themes of love and terror, and the characters are two lovers, but they are not represented by any particular consistent instrument.[25] The thematic connections across movements are like Wagnerian leitmotives, and they replace the organization provided in traditional concertos by Sonata Form thematic development. A similar organization exists in *Stumble to Grace*; we will see that there are connections across movements provided by themes, PC-sets, and progressions.

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[24] Kati Agocs, "Two Recent Concertos by George Tsontakis," (*Tempo 62,* 2008): 13.

[25] Olivier Messiaen, CD booklet with Turangalîla Symphonie, (Myung-Whun Chung, conductor; Orchestre de la Bastille; Yvonne Loriod, piano; Jeanne Loriod, ondes martenot). CD recording. DG 431 781–2.

Paul Griffiths cites "characterization" as a principle of concerto writing used by Berg, Nielsen, and notably Carter, whose Piano Concerto is cast as a "capricious individual whom the orchestra and a concertino group attempt to influence."[26] In Berg's *Violin Concerto,* the solo is a character as well. Griffiths writes, "to some extent Berg provided in the solo part a portrait of Manon Gropius, to whose memory the concerto was dedicated."[27] While not as expressly programmatic as *Stumble to Grace*, these examples of characterization are a precedent for the express personification of the soloist in *Stumble to Grace*.

1.6 *STUMBLE TO GRACE* IN CONTEXT

Stumble to Grace is similar to classical and romantic concertos in that the piano solo is personified as a character that interacts with a larger force (the world, parents, society, etc…) It differs in form in that it is an expressly programmatic work (whereas a Romantic-period concerto might represent the piano as a nameless hero, *Stumble to Grace* is much more specific). *Stumble to Grace* comments on the concept of virtuosity in a new way, in which we get to witness the piano's character become virtuosic, instead of starting with developed skill at the beginning. This progressive nature means that the form of the entire piece is necessarily different than a traditional concerto, in which well-defined themes are presented up front and developed later. In contrast to Tsontakis' *Man of Sorrows*, *Stumble to Grace* is explicitly chronological; however, the gestural symbolism in *Man of Sorrows* could be seen as a precursor to meaningful gestures in Mackey's work (such as tentative music representing a child's trepidation, or heroic music representing the child finding identity or attaining a life goal). While there are formal designs

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[26] Paul Griffiths et. al., "Concerto," (*Grove Music Online,* 2001): section 5.

[27] Ibid.

within *Stumble to Grace* that reference tradition—such as a preponderance of three-part form, and motivic-developmental techniques, as I will show in later chapters—they are all in service of the story of the piece. The overall arc of *Stumble to Grace* is a progression to complexity, which results in a feeling that we (the audience) are witnessing the piece being composed in real time, almost like a large-scale improvisation. However, I will show that this improvisatory, progressive nature belies a very tight construction, in which a seed tetrachord generates most of the material for both soloist and orchestra.

CHAPTER II. THE PROBLEM OF POST-TONAL HARMONIC SYNTAX

Neo-Reimannian theory, and the work of Lewin, have considered ways of applying group transformations to late nineteenth century music, and of considering triads as ordered PC-sets, as one would consider any other important PC-set in atonal theory.[28] This kind of analysis necessarily applies to triadic music, which will be of use in certain sections of *Stumble to Grace*, but not as much in the sections that are essentially non-triadic. This points to a problem in the analysis of *Stumble to Grace*: the music moves freely between sections that sound tonal or modal, sections that are held together only by motive and rhythm, and sections that are so heavily layered with conflicting material that the result is total tonal ambiguity. This freedom of pitch language, I argue, is a rhetorical device designed to illuminate the programmatic ideas of the piece, and thus necessitates a concomitant freedom of analytical methods.

Pearsall (1991) makes use of prolongations in his analysis of harmonic progressions in Webern. "In this paradigm, harmonic progressiveness is determined by the consonant and dissonant intervals that occur contrapuntally between parts. Therefore, harmony is bound to the tonal vocabulary which identifies consonances and dissonances. It seems unlikely that when the vocabulary is not tonal, harmony and consequently prolongation can be defined by the tonal *Ursatz."*[29] Pearsall provides a solid background for the analysis of harmonic progressions and prolongations in post-tonal music, but in his context, "post-tonal" refers to a specific repertoire of music (mainly the Second-Viennese school). The present difficulty arises out of the fact that

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[28] Laura Mason, "Essential Neo-Riemannian Theory for Today's Musician," (Master's Thesis, University of Tennessee, 2013): 1.

[29] Edward Pearsall, "Harmonic Progressions and Prolongation in Post-Tonal Music," (*Music Analysis*, Vol. 10, No. 3, 1991): 346.

Stumble to Grace is neither completely tonal, nor post-tonal. It resides, much like late Romantic-period music, or Britten, in a beautiful ambiguous space that draws from both worlds. Pearsall, after Straus (1987),[30] argues that an analysis of prolongation, or of structural pitches, in an atonal composition requires the analyst to approach each atonal composition via its unique structural attributes, and the unique pitch relationships in each atonal composition.[31] Although there are no truly atonal sections in *Stumble to Grace*, I will use Pearsall's method of finding consonant/dissonant relationships in Webern as a starting point for the analysis of phrase-level relationships in the least tonal areas of *Stumble to Grace*.

Matthew Santa (1999) has considered analytical methods for works such as this in his dissertation and several subsequent papers. He argues for the application of a modulo 7 (mod^7) approach to post-tonal diatonic music, and integration between "the analysis of tonal allusions in post-tonal diatonic music with the analysis of motivic networks by finding a common language with which to express both."[32] His mod^7 approach attempts to reconcile set theory with predominantly diatonic music, in order to show salient similarities between otherwise dissimilar sets (within a mod^{12} perspective). Santa uses the generalization "step-class,"[33] which generalizes chromatic sets into their background diatonic context by calling for the equivalence of pitch

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[30] Joseph N. Straus, "The Problem of Prolongation in Post-Tonal Music," (*Journal of Music Theory*, Vol. 31, No. 1, 1987): 1-21.

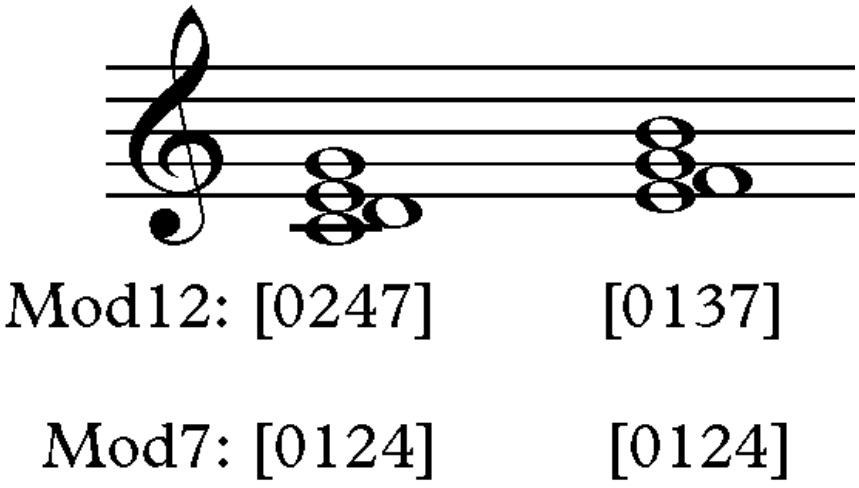
[31] Edward Pearsall, "Harmonic Progressions and Prolongations," 354

[32] Matthew Santa, "Analysing Post-Tonal Diatonic Music: A Modulo 7 Perspective," (*Music Analysis*, Vol. 19, No. 2, 2000): 168.

[33] Alexander Brinkman calls this the "name-class" in "A Binomial Representation of Pitch for Computer Processing of Musical Data." (*Music Theory Spectrum* 1986, 8: 44–57. Stephen Dembksi was the first to use the name "step-class" in his paper, "Skips and Steps from Content and Order: Aspects of a Generalized Step-Class System," (Presented at the Annual Meeting of the Society of Music Theory, 1988).

letter names, regardless of accidentals.[34] The integer notation for the mod^7 system, in light of the equivalence of pitch-class letter names, is as follows: C, C#, C ♭ = 0; D, D#, D ♭ = 1; E, E#, E ♭ = 2; etc… His example is as follows: the sets (0247) and (0137) are dissimilar in mod^{12}, but when mod^7 is applied—and they thus both are analyzed as (0124)—their non-chromatic similarity is apparent (Figure 2.1). By applying mod^7 set theory, we are able to quantify the fact that both [0247] and [0137] in the mod^7 system have the same diatonic interval pattern: up a step, up a step, up a third. In order to distinguish between the two systems, Santa uses superscripts to indicate either mod^{12} or mod^7 PC-sets (i.e., $[0247]^{12} = [0124]^7$).

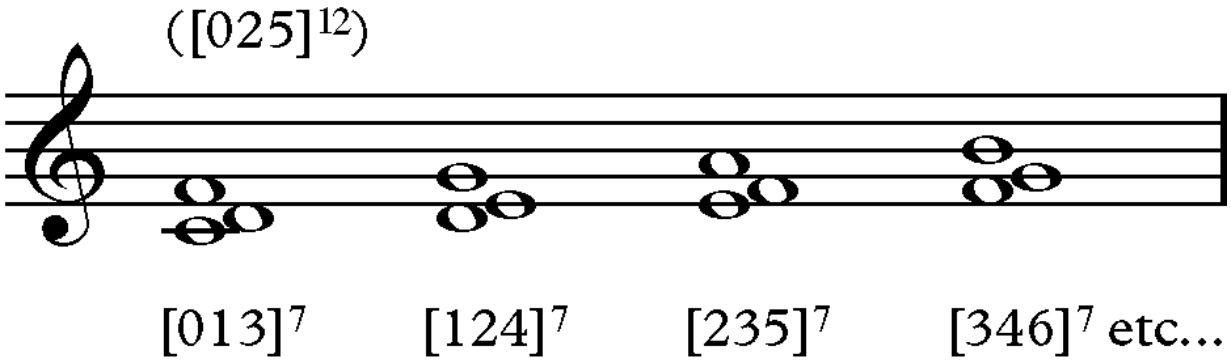
Figure 2.1



To further clarify the use of the mod^7 system, Santa shows the transpositions of a $[025]^{12}$ trichord in a diatonic space (Figure 2.2).

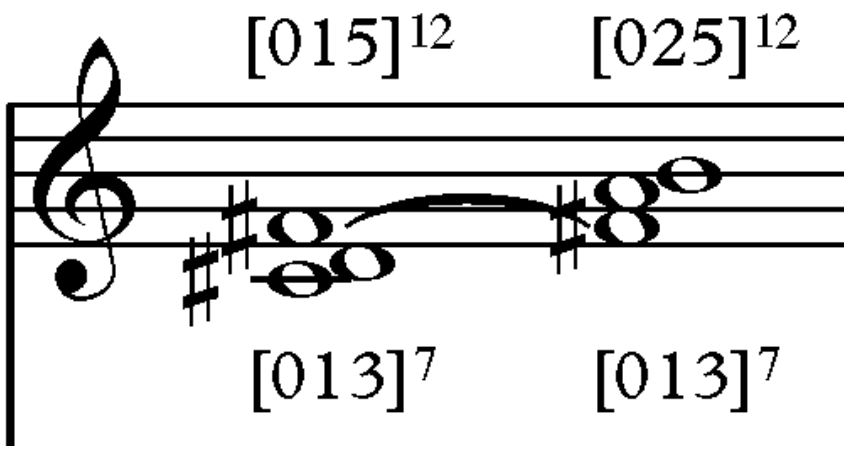
[34] Matthew Santa, "Analyzing Post-Tonal Diatonic Music," 6.

Figure 2.2



An example that is applicable to *Stumble to Grace* is his analysis of Stravinsky's *Concerto in D,* where he shows that the predominant $[015]^{12}$ and $[025]^{12}$, when seen in a mod^7 context—and therefore both $[013]^7$—are inverted around the axis F#, shown in Figure 2.3.[35]

Figure 2.3



[35] Ibid., 15.

This approach sheds some light on certain global connections in *Stumble to Grace*, but in detailed analysis, they will only be applicable to certain mostly diatonic sections, because of mod^{7}'s reliance on determining a prevailing diatonic pitch collection. Santa proposes parsing music into "spans" of diatonic collections, which thereby allows for a sensible mod^{7} analysis. In the more chromatic sections of *Stumble to Grace*, in which a diatonic collection cannot be identified, a mod^{12} approach in combination with insights from mod^{7} will suffice.

Because of the aforementioned spectrum of degrees of tonal implications in *Stumble to Grace*, the phrase level analysis will show that a combination of Pearsall's and Santa's methods are most successful. Because even the most atonal sections of *Stumble to Grace* have tonal implications, Pearsall's method alone does not sufficiently explain the syntax (meaning that there are always simpler tonal references to be perceived, and certain sections which are analyzed with tonal methods). Conversely, Santa's approach—which essentially asks "can a given PC-set be fit onto a diatonic scale?"—is successful to a point, but is made stronger when paired with Pearsall, because alone it can miss interval class detail. The analysis will show that, despite the fact that it is the most structurally important PC-set of the work, [0148] is an outlier among the other important PC-sets when analyzed via both mod^{12} and mod^{7}, and therefore can be seen as dissonant in Pearsall's method of consonance/dissonance hierarchy. Santa's mod^{7} approach is used in this study to bridge tonal and post-tonal considerations of analysis, and show patterns that otherwise might not be perceived, such as [0148] as an outlier in both mod^{7} and mod^{12} worlds. I will show that [0148] appears as a simultaneity in progressions mainly at cadences, and typically serves as an antecedent function, serving as a recurring question in the life of the piano's character.

CHAPTER III. PROGRAMMATIC STRUCTURE OF *STUMBLE TO GRACE*

Mackey states in his program note for *Stumble to Grace* that the inspiration for the narrative of the piece came from observing his two-and-a-half year old toddler learning to become human.[36] My programmatic reading of the piece differs in that I have generalized his stated progression—naive and awkward "plinks and plunks" to sophisticated contrapuntal music—to extend beyond the age of Mackey's two-and-a-half year old to a broader context. In my reading, the virtuosity and grace displayed in Stage 5 reaches beyond the confines of 0-2$^{1/2}$ years of age.

The following analysis of the programmatic structure of *Stumble to Grace,* and the way the music reflects it, uses both internalist and externalist forms of semiotics; i.e., some analysis is based upon internal musical relationships within the score itself, and some is based upon extra-musical references and my own personal experience and intuition.[37] These different readings can be based on sounds referenced from the real world, associations within music history, or intuitive responses to texture.

The opening of Stage 1 is a world of sensory overload, perhaps being confused or fascinated by a mobile above the crib, and a lack of fine motor control (represented by lack of clear tonal centers, out of tune pitches, dizzying glissandos in the bass, and the music-box-like celeste melody). As the theme takes shape additively, the baby starts to take on an identity as it figures out free will (or at least the manipulation of objects). By the end of Stage 1, the baby is

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[36] Steven Mackey, "Stumble to Grace Composer's Notes," Boosey and Hawkes page, accessed July, 2016. <https://www.boosey.com/cr/music/Stumble-to-Grace/54811>.

[37] Naomi Cumming, "Semiotics," (Grove Music Online, 2001); Accessed 12 Dec. 2019.

lost or distracted again, as at the beginning. Important sets (to be discussed in Chapters IV and V) [0135], [015], and [0148] are introduced in a diffuse way, shown in Figure 3.1.

Figure 3.1

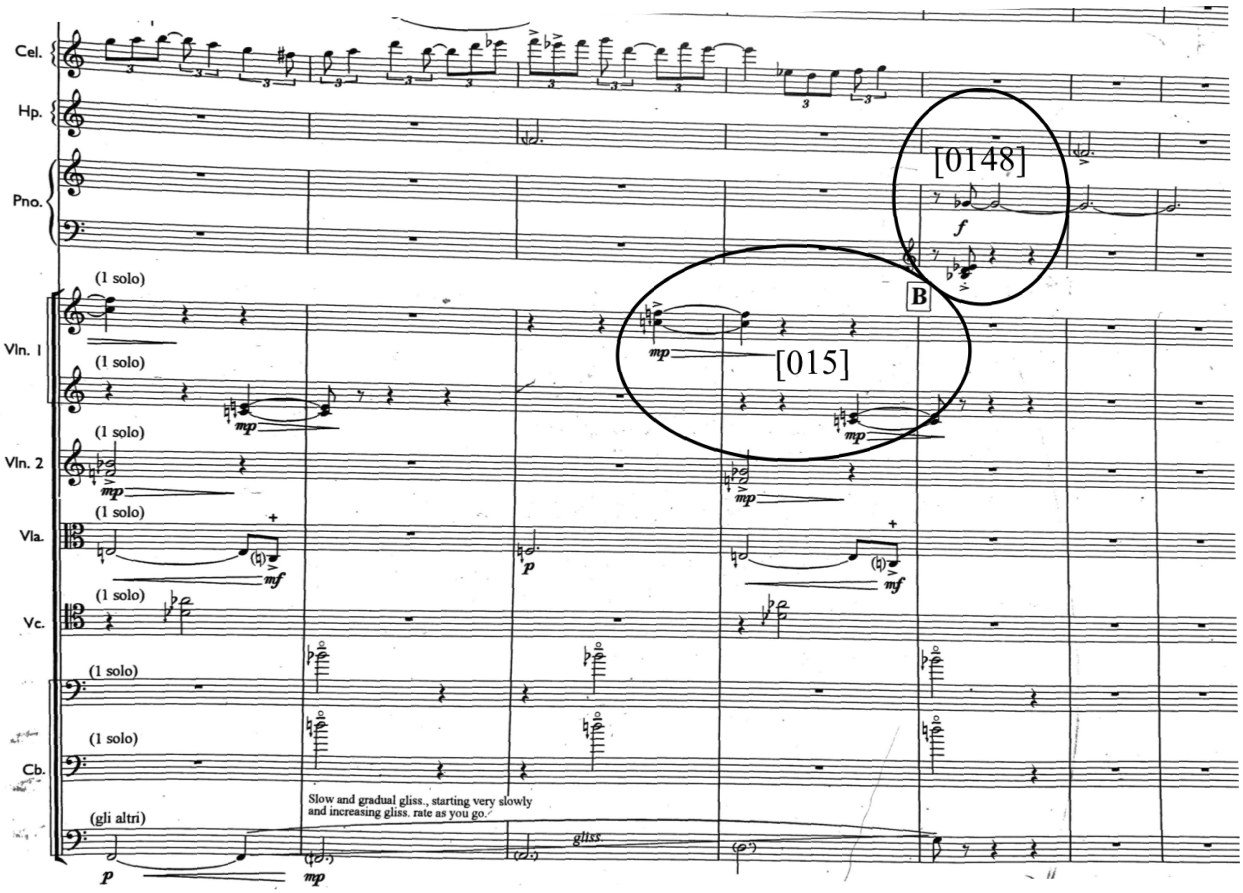
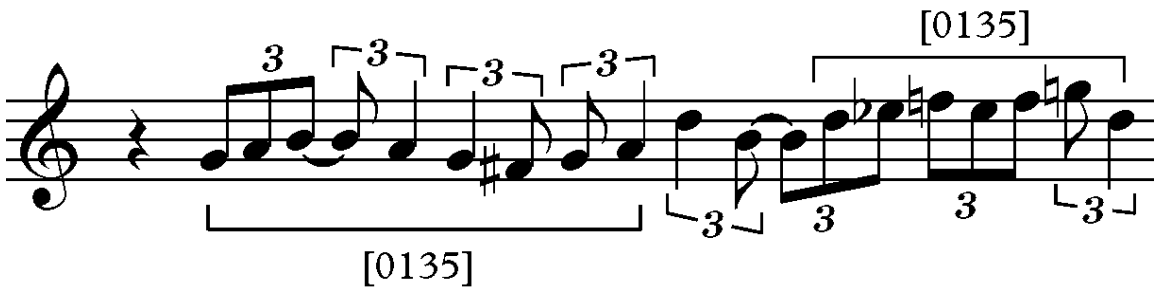


Figure 3.2 (detail of celeste melody from Figure 3.1)



Stage 1 maps onto the idea of a baby exploring the world for the first time. The shapes in the piano, the tonally ambiguous and microtonal orchestra environment, and the additive progression of pitches all reflect the idea of a child exploring an entirely new environment. Some voicings in the piano part, while odd and exploratory, are sometimes widely spaced, not what one would expect from a child at a piano. The middle section of Stage 1 gets quite difficult for the pianist, and might be surprisingly virtuosic so early in the piece. However, those parts are somewhat playful and obsessive, and there isn't a sense of an intention of virtuosic display. Rather, the *impression* of the music doesn't line up with its *difficulty;* a pianist will know how hard it is to play, but the effect is one of imprecise and jumbled searching, which reflects the way a baby might clumsily explore her or his world.

Stage 2 begins as a humorous caricature of an "angry" toddler, then progresses to a the triadic, heroic setting of the Stage 2 theme (Figure 3.3), which is virtuosic but naive. The surprisingly triadic music represents the child figuring out something that feels triumphant to him/her, but in the grand scheme of life is not necessarily cause for triumph. The child is playfully and mischievously squashing and expanding the [0135] tetrachord from Stage 1 into its new versions [0124] and [0246], shown in Figure 3.3 and 3.4. This is perhaps the sonic equivalent of a tantrum: low register, somewhat violent and clumsy beating of dissonant sonorities that are derived from the compacted, squashed version of the opening trichord and tetrachord. The opening of this stage is an example of the sometimes blurred line between the characters of the piano and orchestra. The orchestra begins with what seems like an imitation of an angry toddler, but it could also be interpreted as the child's simplistic view of what the parents are like: authoritative and not much fun at all. When the piano enters, it is with the same

character as-and similar music to-the orchestra, but the orchestra quickly changes to swells and pads with mostly dissonant relationships to the piano.

Figure 3.3

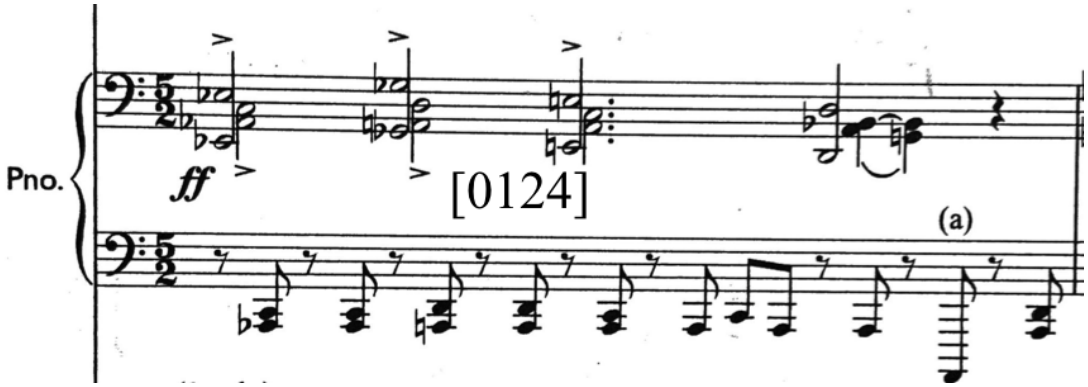
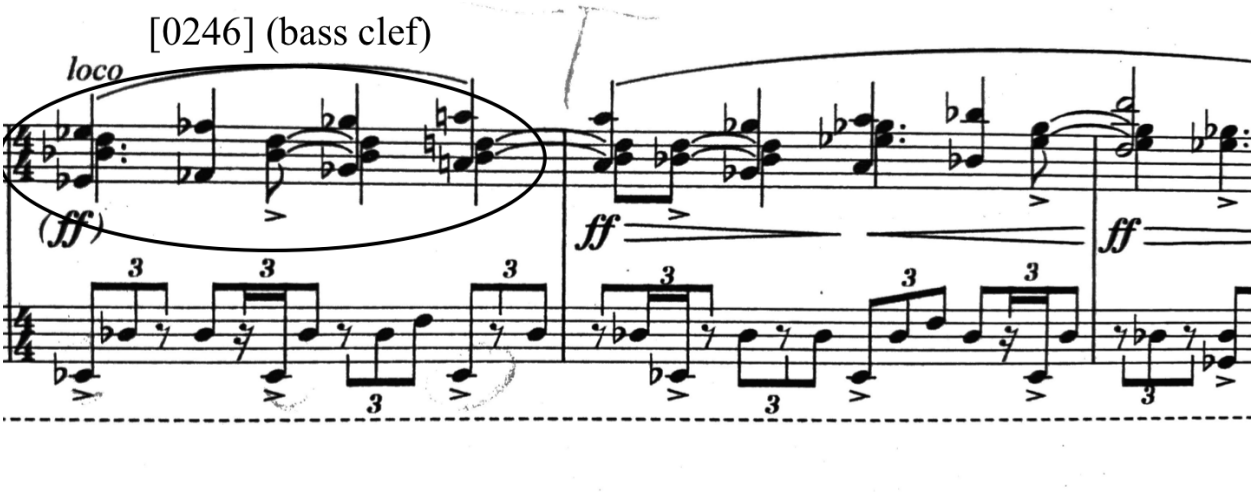


Figure 3.4

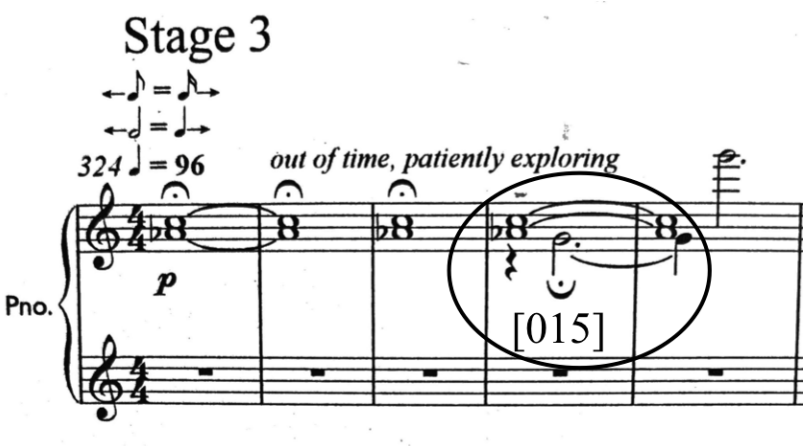


At 222 in Stage 2, the piano begins new music that will build to a virtuosic display, and the orchestra starts to be brought along, perhaps mirroring playtime between parents and the child (or at least the child's environment is satisfactory to the child, for the moment). After a

somewhat tentative conversation from 235 to 247, at 248 a fun-spirited competition begins, with music instigated by the piano. At 283, the piano begins a triumphant passage with happy arpeggiated triadic triplets that engender a positive response from the orchestra, and the trading off builds to grand, Romantic-era-like chords in the piano that obsessively ruminate on a repeated chord progression. This perhaps reflects Piaget's Stage 2, in which the child has difficulty acknowledging others' perspectives and feelings, instead being almost entirely self centered.[38] This grand triadic music seems successful within its own context, but immature compared to the music surrounding it.

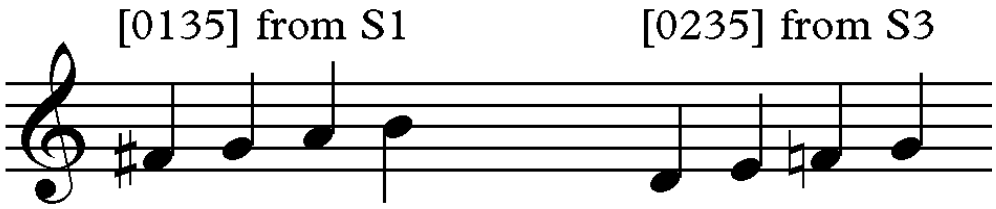
Stage 3 is for piano solo (with the exception of two measures of horns at the end), and finds the child suddenly alone. The fermatas and stasis indicate a discovery, and a new perspective on something learned earlier (represented by the [015] trichord at the beginning of Stage 3—the inversion of the first three notes of the piece, shown in Figure 3.5—or the [0235] tetrachord theme which is a more contemplative, introspective version of the [0135] and whole-tone tetrachord heard earlier in Stages 1 and 2 (Figure 3.4).

Figure 3.5



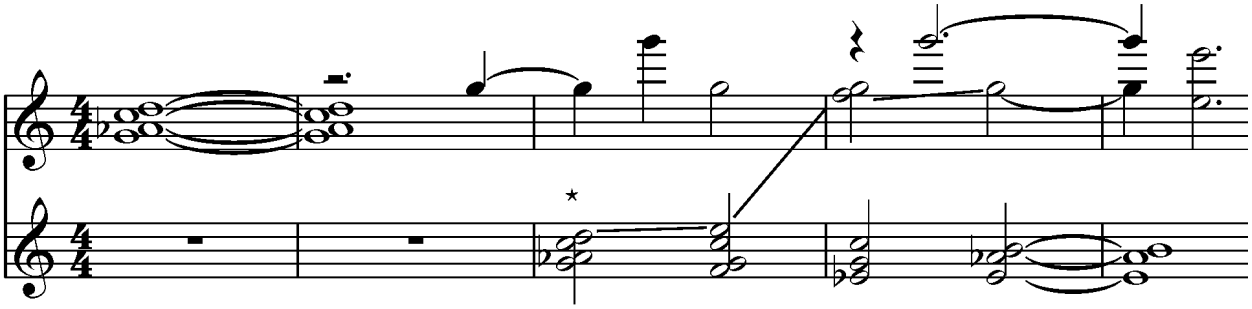
[38] Fatima Malik, Raman Marwaha. *Cognitive Development,* (StatPearls [Internet]. Treasure Island, FL: 2019), https://www.ncbi.nlm.nih.gov/books/NBK537095/

Figure 3.6



The harmonized [0235] melody at m. 331 (Figure 3.6) is a remembrance of the chorale fragment from m. 235 in Stage 2, and it becomes a basis for harmonic exploration in the piano, shown in Figure 3.7. Because this is not simply imitation of the outside influence of the orchestra, but original "thoughts" on previous ideas, this stage corresponds with facets of Piaget's "Concrete Operational Stage," in which children begin to use logic, inductive reasoning, and eliminate egocentrism.[39]

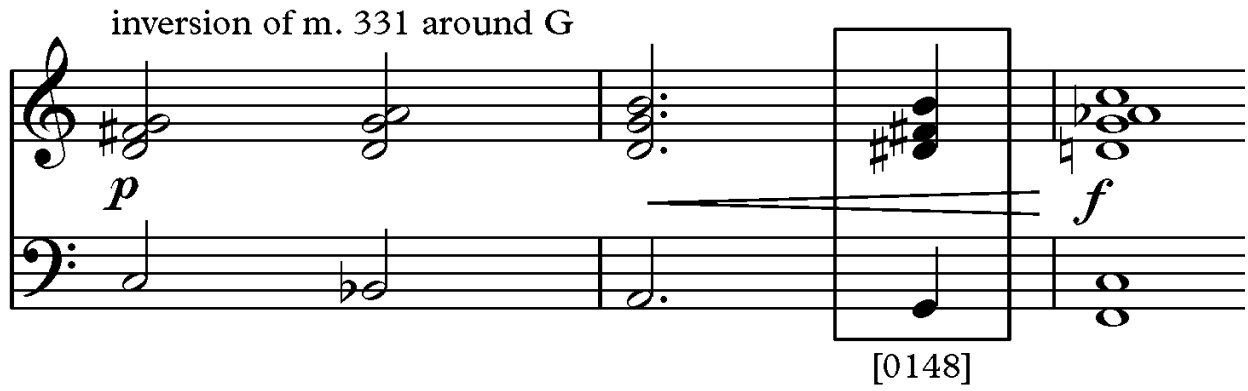
Figure 3.7



The music is tentative at first, ruminating around the pitch G (and in fact inverting the above chorale harmonization around G). Cadential points feature [0148] prominently, while the outer voices of the chorale outline [0135] and [0235] (Figure 3.8).

[39] Fatima Malik, Raman Marwaha. *Cognitive Development,* (StatPearls, 2019). https://www.ncbi.nlm.nih.gov/books/NBK537095/

Figure 3.8



As the music changes at m. 364 into a confident, ostinato-like groove, the piano plays around with familiar PC-sets [015] and [025] (subset of [0135]), especially in the main voice in the bass at 367, which outlines interlocking [015]s (Figure 3.9 and 3.10).

Figure 3.9

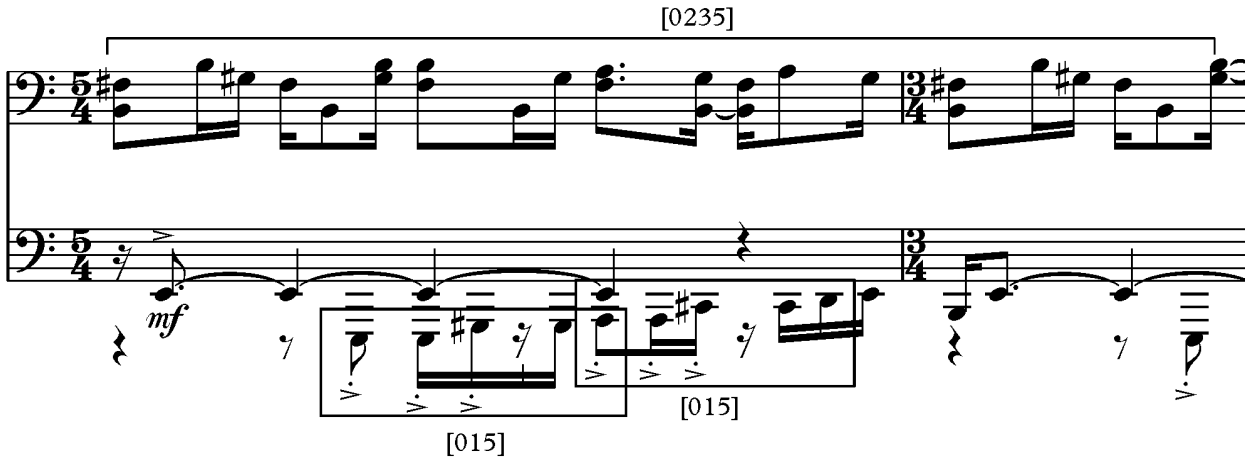
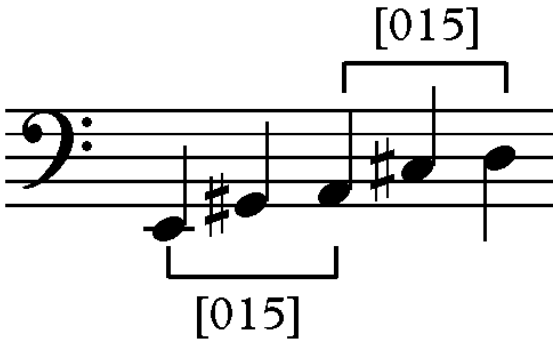


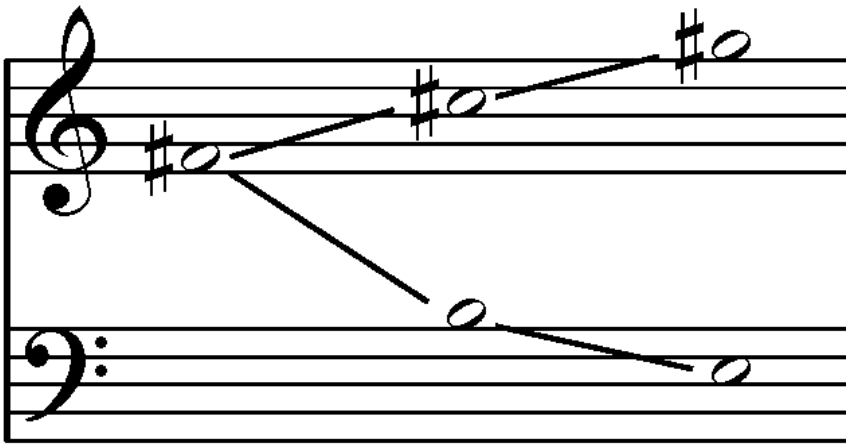
Figure 3.10



As the "groove" section progresses, it explores different modal collections and references tetrachord themes from earlier in fragments. It breaks off suddenly after a microtonal entrance by the horns, as if confused. Perhaps an event in the outside world breaks the inner thought process of the child. After the quarter-tone horn cluster in m. 421 disrupts the piano's solitude, the piano angrily ends the stage with dissonant jabs, and loses its confidence in the transition to Stage 4.

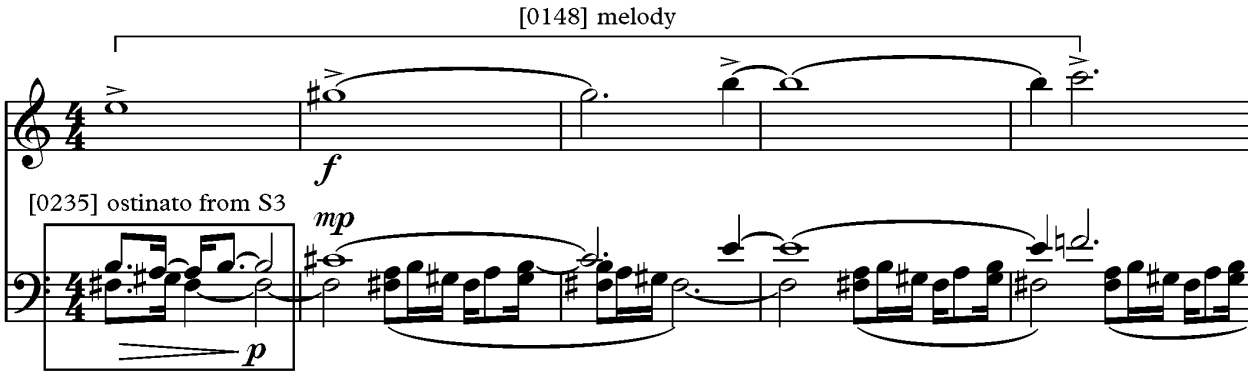
Stage 4 is tranquil but somewhat worrisome. The 4ths-based harmony is unique among the stages (with the exception of the confused opening of Stage 1), and stands out as being new and strange. The suddenly new material reflects the child (or person, by this point) encountering some type of existential crisis or self-doubt. The elements that tie it to the other stages are the [0235] ostinato (F#, G#, A, B) in the LH, and the prominent [0148] shape in the melody (E, G#, B, C natural), which is generated out of a downward movement around the circle of fifths from F# (as opposed to the rest of the harmony, which is built of 5ths upwards from F#). (Figure 3.11).

Figure 3.11



Stage 4 is somewhat of an outlier in pitch and motivic content: instead of pitches based on recurrent PC-sets or triadic harmonies as we have seen so far, Stage 4 is mainly based around stacked-fifths sonorities, which we haven't heard since the beginning of the entire piece. As mentioned above, there are two main elements that tie it to the rest of the piece: the [0235] ostinato in the left hand, and the prominent [0148] shape in the melody (Figure 3.12). This music in Stage 4 is the least goal-oriented of the entire concerto, and is mostly made up of layered ostinati, akin to Stage 1. This new and strange music is reflective of the child (teenager, perhaps) facing some crisis or self-doubt, but at the very least it is some type of inward reflection and reckoning (not necessarily entirely negative). The prominent [0148] is a recurring symbol of curious questioning or doubt will be discussed in Chapter VI.

Figure 3.12



Stage 5 contains the most complex musical ideas of the piece, and the most competitive relationship between the piano and orchestra. This stage has the most in common with the traditional "piano vs. orchestra" format of a Romantic concerto, in which the piano represents the individual struggling against society. Because of this, the orchestra expands from being identified as the parental figure(s), and more with a general antagonist against which the piano asserts its individuality. The orchestra seems to identify itself through the presentation of very new material (the triadic, descending chromatic idea at m. 547 that returns as an accompanimental figure) and the metrical competition during the piano's fugue.

Stage 5 finds the piano's character at its most confident, capable, and successfully individualistic. The piano leads with a jaunty, optimistic (yet quite disjunct) melody, which leads the percussion of the orchestra to follow suit with permutated imitations. In comparison with Stage 1, which has disjunct music that seems to wander, this opening material in Stage 5 is very goal-oriented and convincingly confident, which reflects the maturity of the child by this point. The main opening motive begins with a prominent [015], which confirms that the child is still

the same character, yet is transformed, grown, and very different than at the beginning. This is reflective of Piaget's view that children progress to a *qualitative* view of the world, and not just a *quantitative* one: Piaget did not view children's intellectual development as a quantitative process; that is, children do not just add more information and knowledge to their existing knowledge as they get older. Instead, Piaget suggested that there is a qualitative change in how children think as they gradually process through these four stages; that is, there is a fundamental change in how she or he thinks about the world.[40] After the jaunty introductory section, the intellectual development of the child becomes explicit: a fugue (marked "quasi-fugue"). This quasi-fugue,[41] entirely led by the piano, is the most tightly constructed music the piano has played, and reflects the child's or person's intellectual success.[42] The fugue subject begins with [0246], the expanded [0135] from Stage 2, and prominently outlines several [025]s. More importantly, each successive subject's starting pitch outlines [0148], the other important recurrent tetrachord, creating a congruent structure, like an acrostic.[43] This structure will be discussed in detail in Chapter V.

The overall programmatic structure shows, as Mackey states, a progression from clumsy fumbling in Stage 1, through increasing technical ability and confidence in Stages 2 and 3, to simpler—but perhaps spiritually or emotionally more sophisticated—music in Stage 4, and

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[40] Patricia Miller, "Theories of Developmental Psychology," (New York: Freeman, 1993): 17-18.

[41] It is a "quasi-fugue" because it has the successive subject entries of a fugue, but it does not have a true contrapuntal texture (the individuality of voices is mostly lost after they state the subject).

[42] Steven Mackey, "Stumble to Grace Composer's Notes," Boosey and Hawkes page, accessed July, 2016. <https://www.boosey.com/cr/music/Stumble-to-Grace/54811>.

[43] A comparison can be made with Britten's *Turn of the Screw*, in which a 12-tone row is the source for both local motives/sonorities and the larger tonal structure. See Erwin Stein "The Turn of the Screw and its Musical Idiom." (*Tempo, New Series*, No. 34, 1954-1955): 6-14.

finally to the confident, complex, and virtuosic music of Stage 5. This is his fundamental re-imagining of the concerto as it relates to the genre and virtuosity: *Stumble to Grace* is a vehicle for virtuosic display, but the very concept of virtuosity itself is a subject of the narrative.

CHAPTER IV. FORM ANALYSIS AND PITCH CENTER STRUCTURE

The overall form is quasi-symmetrical, as shown in the diagram on page 31 (Figure 4.1). Stage 3 is flanked by two stages on either side: Stage 1 is roughly balanced with Stage 5. However, Stage 2 outweighs Stage 4 in length and content. The predominant forms of *Stumble to Grace* are three-part. Stages 1, 2, 4, and 5 are three-part forms; Stage 3 is a two-part form (I here avoid the terms *ternary* and *binary* to avoid confusion with specific tonal/functional implications). Stage 1 is somewhat ambiguous because texturally it is divided into two large sections: an introductory section characterized by layered ostinati and motives that never quite gain the clarity to be called a theme. At m.115, one of these motives–having been introduced by the piano–crystallizes into a fully-formed theme, and it is at this point that the listener feels a sense of forward motion (this theme also happens to be a seed motive for much of the material in the rest of the piece: (see Figure 5.5). At the end of this thematic section, the opening sections return in reverse order, ending up almost where the Stage began, thereby completing a kind of blurry rounded two-part form (ABACBA: also hints at a rondo form, like Summers notes regarding the opening of *Troubadour Songs*).[44] The two stages that exemplify the "piano concerto" idiom the most are 2 and 5, as they include expositions and recapitulations (however, calling the middle sections of each of these stages "developments" is not accurate, because they do not develop material in any thematic way, instead introducing new material).

Stages 3 and 4 follow Stage 2 attacca, with no break in the sound between them. This might seem to hint at a large scale 3 part form, but the middle sections are dissimilar enough that to call them a single section is untenable.

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[44] Alec Summers, "Mackey's World," 10.

Figure 4.1

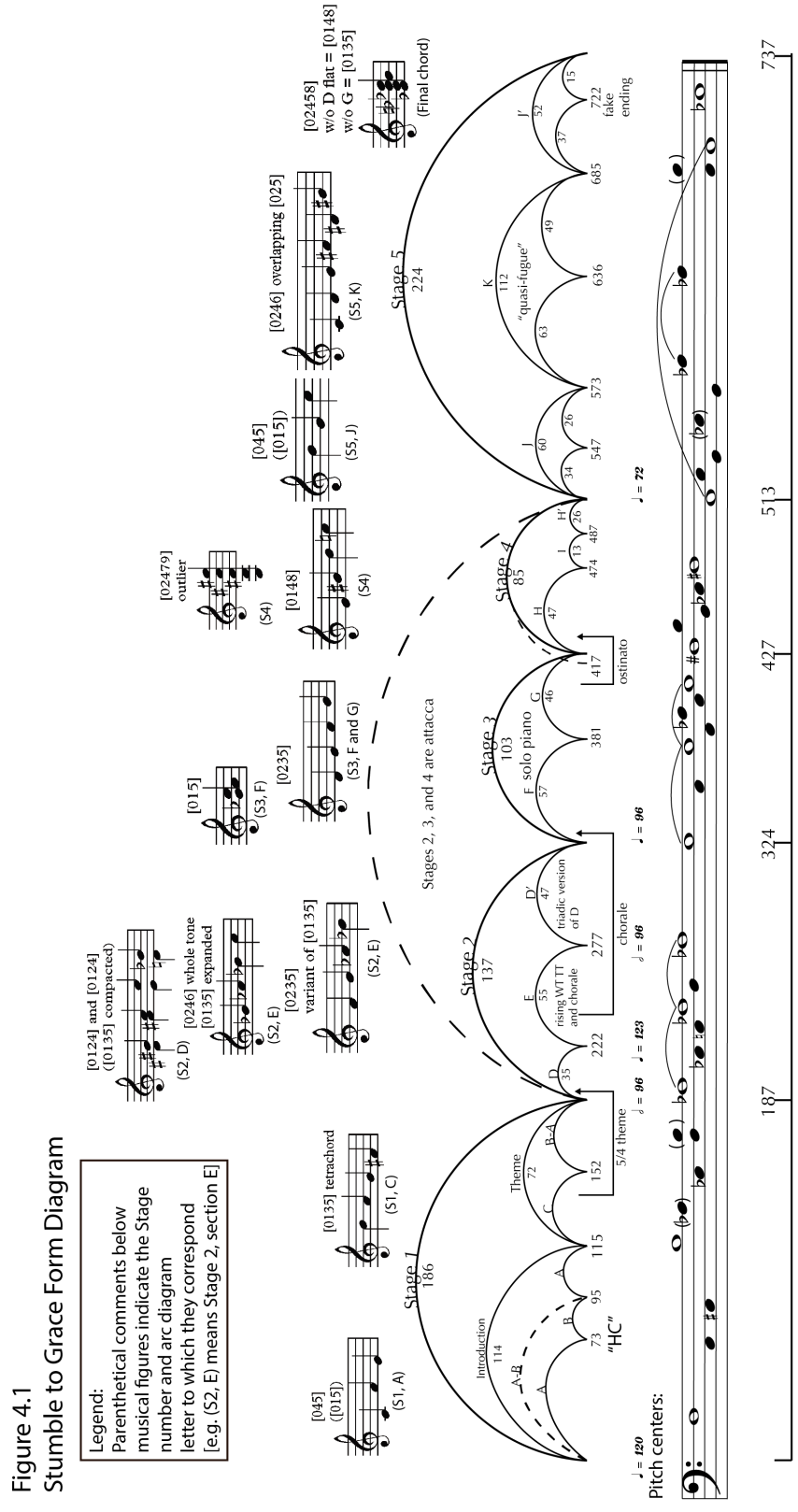


Figure 4.1
Stumble to Grace Form Diagram
Legend:
Parenthetical comments below musical figures indicate the Stage number and arc diagram letter to which they correspond [e.g. (S2, E) means Stage 2, section E]
[0124] and [0124] ([0135] compacted)
(S2, D)
[0246] whole tone [0135] expanded
(S2, E)
[0135] tetrachord
(S1, C)
[045] ([015])
(S1, A)
[015]
(S3, F)
[0235] variant of [0135]
(S2, E)
[0235]
(S3, F and G)
[02479] outlier
(S4)
[0148]
(S4)
[045] ([015])
(S5, J)
[0246] overlapping [025]
(S5, K)
[02458] w/o D flat = [0148] w/o G = [0135]
(Final chord)
Stages 2, 3, and 4 are attacca
Stage 1
186
Introduction
114
A–B
A
B
73
95
A'
115
"HC"
Theme
72
C
152
B–A'
5/4 theme
D
35
222
Stage 2
137
E
55
rising WT TT and chorale
277
D'
47
triadic version of D
chorale
Stage 3
103
F solo piano
57
381
G
46
417
ostinato
Stage 4
85
H
47
474
I
13
487
H'
26
Stage 5
224
J
60
547
26
573
K
112
"quasi-fugue"
63
636
49
685
J'
52
37
722
fake ending
15
♩ = 120
♩ = 96
♩ = 123
♩ = 96
♩ = 96
♩ = 72
Pitch centers:
187
324
427
513
737

Stage 2 begins right away with the compacted version of [0135]: [0124]. The orchestra leads, and until m. 205 the music feels introductory, partially because the piano has not entered, but mostly because of the layered ostinati that don't expand into a fully formed theme. At 205, the piano enters with a seemingly mocking, sarcastic version of what the orchestra just played, perhaps reflecting a child mocking their parents' demands. At 222, a new theme appears, which is based on the expanded tetrachord, [0246]. The piano and orchestra continue to be at odds until 277, when the D material returns, and the two opposing forces begin to at least tentatively agree. This material continues until it suddenly breaks off, leaving the piano alone for Stage 3.

Stage 3 is a formal outlier in that it is a blurred two-part form; almost a fantasy. This formal ambiguity fits with the programmatic nature of this stage discussed in Chapter III: that of the child alone, suddenly looking inward with self-reflection, and thereby exploring somewhat curiously, and at times aimlessly. The first section is built around a chorale (based on a rising [0235] tetrachord) that was hinted at in Stage 2 by the orchestra.[45] A drastically new texture arrives at 397, and the material plays with repeated [025]s and inversions of the [0235] tetrachord melody. The piano wanders, gets perhaps confused and lost, and slams the keys in frustration after the quarter-tone-flat horns disrupt the exploration, which leads directly to Stage 4.

Stage 4 continues the rumination with serene but somewhat unnerving stacked fifth harmonies that harmonize a prominent [0148] melody. Stage 3 and Stage 4 are linked by a murmuring piano motive that morphs slightly and continues from one to the other. The mostly directionless rising theme and pads in the orchestra continue until 474, when the piano stops and

[45] Measure 235 in Stage 2

the orchestra starts a new circling ostinato, which lasts for 13 measures until the piano returns to the theme that opens this stage. There is a brief melody in the strings at 494 which recalls a melody that the piano played in Stage 3 at 359, and lots of filigree in the piano part, but Stage 4 ends similarly to how it began, with sustained stacked 4ths.

Stage 5 is the longest of the stages, and is in an overall three-part form, which is delineated by the thematic material and texture. The first section (J) is defined by the jaunty, disjunct melody with which the piano leads at the beginning. The second section is a quasi-fugue, also led by the piano, with a new theme based on the rising [0246] (from Stage 2, see Figure 3.4) tetrachord linked with [025]. In m. 686, the J theme returns and wildly plays out until the end.

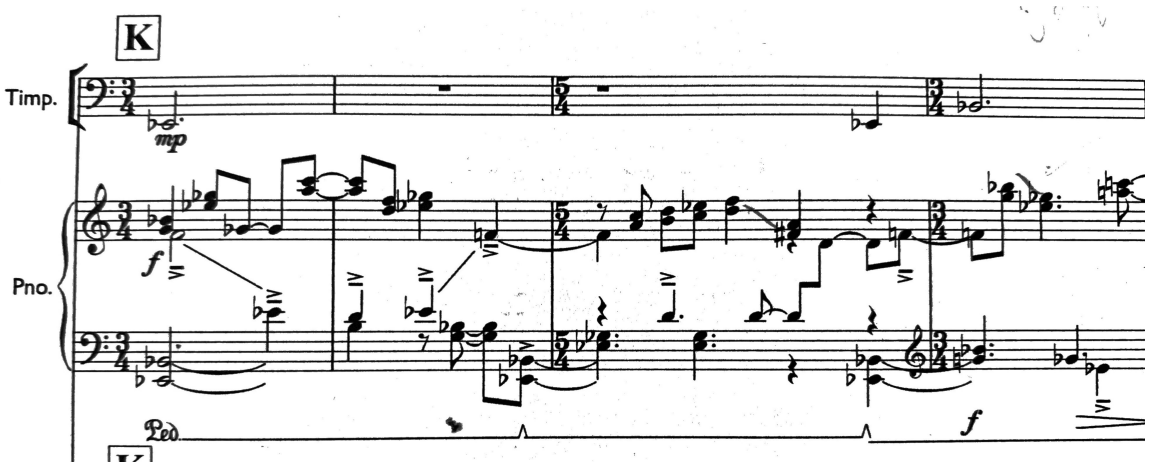
4.1 IDENTIFYING PITCH CENTERS

Much of *Stumble to Grace* can be heard as tonal. Many sections use predominantly diatonic or modal collections of notes, and in those cases, identifying a pitch center is relatively simple. However, there are a number of sections that do not adhere to a recognizable collection of pitches, and indeed some sections complete the chromatic aggregate quite quickly. In these more ambiguous sections, the main considerations taken in analyzing pitch centers are: register, metrical placement, dynamics/orchestration, repetition, and voice leading.[46] Because many sections of this piece use or reference diatonic pitch collections, bass notes will tend to be heard as either the pitch center, or as interacting strongly with that pitch center. Repetition is perhaps the simplest one: the more we hear a note (as an ostinato, pedal point, or simply recurring over and over), the more likely we are to ascribe tonic qualities to that note.

[46] Joseph N. Straus, "The Problem of Prolongation in Post-Tonal Music," 2-6.

When considering the pitch centers of this work, it is important to bear in mind that, though at times they might represent actual "keys" in the diatonic sense, in many cases they do not, and are instead simply prominent notes emphasized by one or more of the considerations mentioned above. Thus, the global pitch centers of *Stumble to Grace* are not all analytically equivalent (that is to say, the evidence supporting them is of different weight). At Letter K, the overall key center is primarily dictated by the repeated E-flat bass notes (including the 5th above), and by the preponderance of pitches on strong beats within the E-flat major or minor key area.

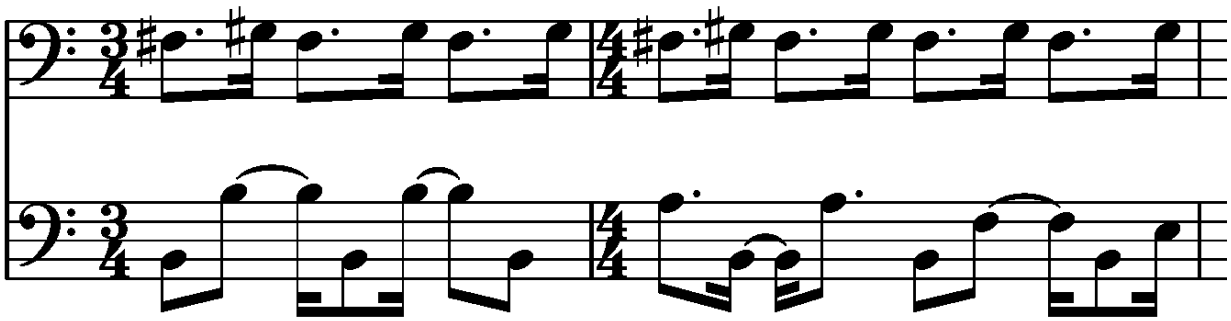
Figure 4.2



At the beginning of Stage 3, the pitch center is G, based on the G pedal point which morphs into a melody in G mixolydian/G major. At m. 364 there is an abrupt change of modal collection that indicates E major (Figure 4.3).[47]

[47] The music that directly follows this at 367, shown in Figure 3.9, confirms E as the center with repeated E bass notes.

Figure 4.3: mm. 364-365



With the exception of the final stage, each stage begins and ends with the same pitch center. Stage 1: F; Stage 2: Ab; Stage 3: G; Stage 4: F#, as shown in Figure 4.1. When zoomed out to this level, the logical guess for the key of Stage 5 would be F. The piece would begin in F, reach up to Ab, and descend chromatically back to F. Stage 5, however, begins in C ("V" of the opening), ventures to Ab, back to C, and unexpectedly drops below F to Eb and stays there for an emphatic ending. A possible explanation for this may relate to the recurring [0148] tetrachord, to be discussed later.

As will be shown in chapters V through VII in local examples, the tetrachords [0148], [0135], and [0235] become important recurring PC-sets (Figure 5.1). Each of these tetrachords occur at structurally important points, or form the basis for main thematic material. The PC-set of the overall pitch-center structure (including the secondary pitch-centers of the first and fifth Stages) is [0123589], or 7-18, which is a super-set of [0148], [0135], and [0235], thereby completing the work at least theoretically and creating a sense of congruence between levels, and

providing an explanation for the lack of return to F.[48] These important tetrachords, I argue, act both as explicit (heard) shapes, and as unheard "ur-sets" which Mackey uses to inform harmonic and motivic decisions throughout.

While having a connection as a super-set of important PC-sets in the piece, this global pitch-center scheme also references tonal harmony in an oblique way. The piece begins in a quasi F tonality, reaches up to A-flat, and descends chromatically to F# in Stage 4, perhaps in a reference to a 3-line in Schenkerian terms. Then, in an odd interruption, Stage 5 begins in C (V of F in Stage 1), but unexpectedly ends in Eb. If we perform a thought experiment in which the piece ends in F, the overall pitch-center structure creates [012367], of which our three important tetrachords are not members. However, if our expectation is thwarted with the Eb, the overall pitch-center structure includes each of those tetrachords (is a super-set), thereby creating a congruence between levels.[49]

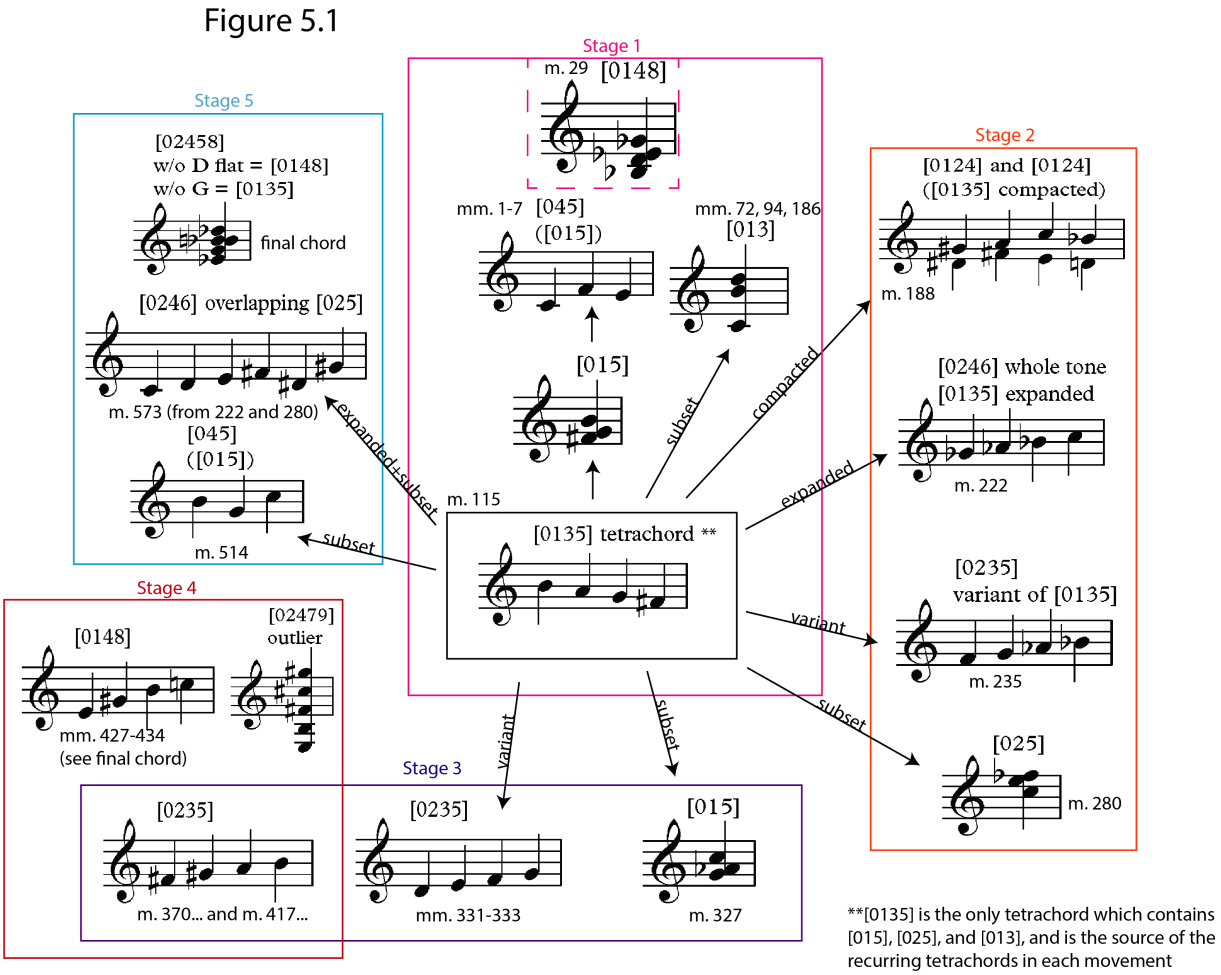
[48] Some may notice that 7-18 is not an unusual septachord in that it contains [0148], [0135], and 0235] as subsets. This somewhat diminishes the significance of this pitch-center structure. However, without the unexpected E-flat as the final pitch-center, none of the important tetrachords occur, which is evidence that these tetrachords play a role in the background structure of the piece.

[49] Summers finds a similar structure in *Troubadour Songs*: "Mackey's World," 50.

CHAPTER V: THEMATIC AND MOTIVIC STRUCTURE

As I mentioned in the previous chapter, there are several recurring tetrachords that are the basis for much of the pitch material in *Stumble to Grace*: [0135], [0235], [0148] and variants of these (Figure 5.1).[50]

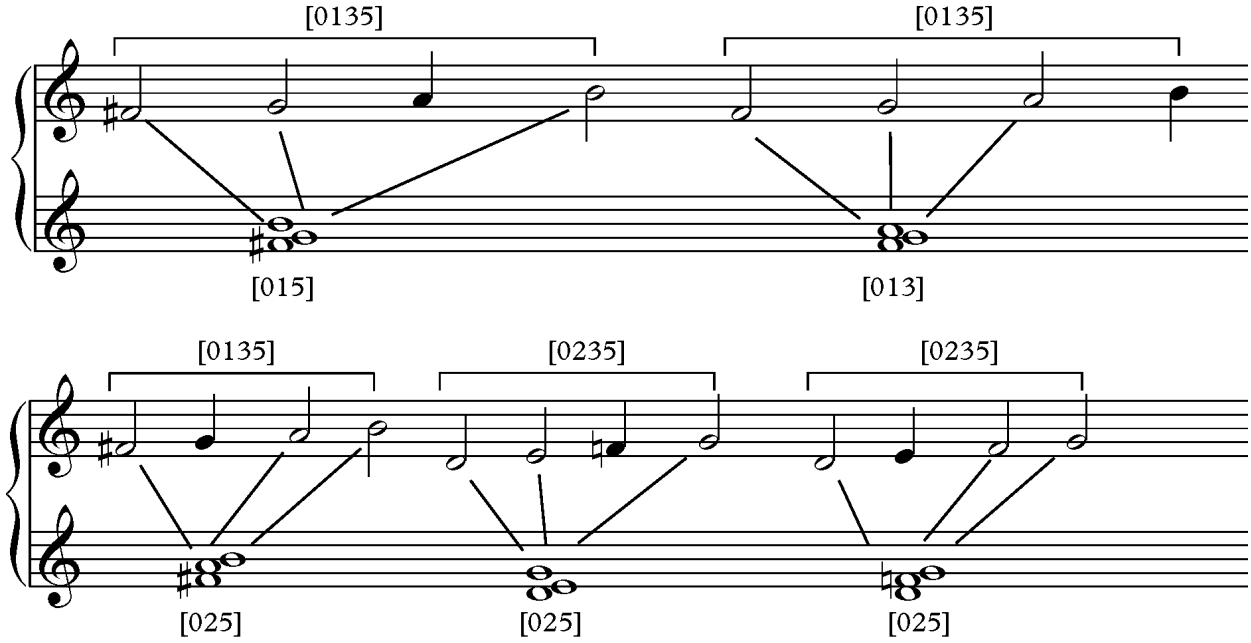
Figure 5.1



[50] [0148] is shown as an outlier, and its status is explained in Chapter VI.

These are made apparent on first listen to the analyst motivically and thematically; each of these tetrachords is stated as a four-note motive or theme at structurally important points and primary voices (Letter G, beginning of Stage 2, rising tetrachord theme in Stage 3, incipit of fugue subject in Stage 5: see Figures 5.4, 5.6, 6.6). The first two of these three tetrachords contain important sub-sets as well: [015], [013], and [025], shown in Figure 5.2. Each of these trichords happen as both melodies and vertical sonorities, and are ubiquitous.

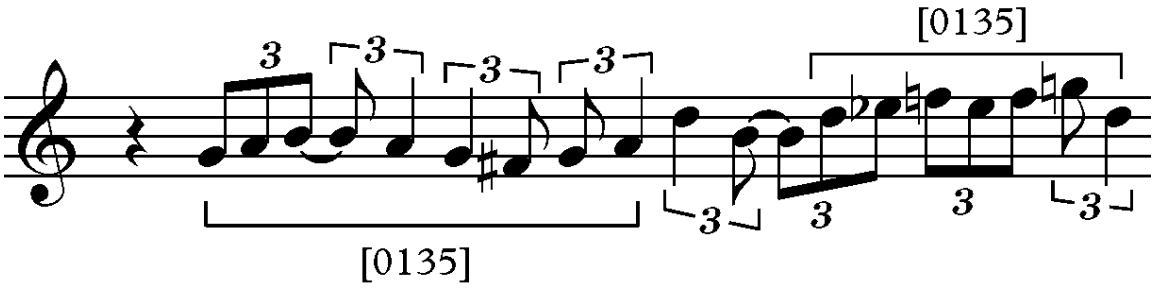
Figure 5.2



Although I argue that [0135] is the seed-tetrachord of the piece, it doesn't appear at the beginning. The first material that we hear in the introductory, crib-mobile world opening is quarter-tone-flat stacked 5ths over B-flat, which is strangely somewhat of an outlier in the context of the whole piece (it returns in Stage 4). However, the [015] that later becomes important is prominent, and the disorienting quarter-tone-flat fifths in the rest of the ensemble are

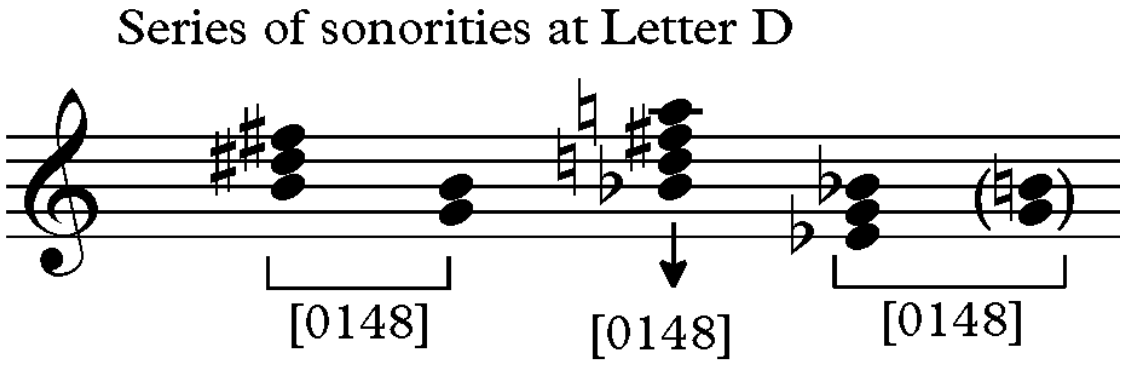
explained by the programmatic structure (disoriented infant encountering the world for the first time), and because of this (and their mostly outlier status), they aren't particularly structurally relevant. The first melody that we hear at Letter A in the celeste outlines the [0135] at two transpositions, and is the first hint of a tetrachord melody (Figure 5.2).

Figure 5.3: Celeste melody at Letter A

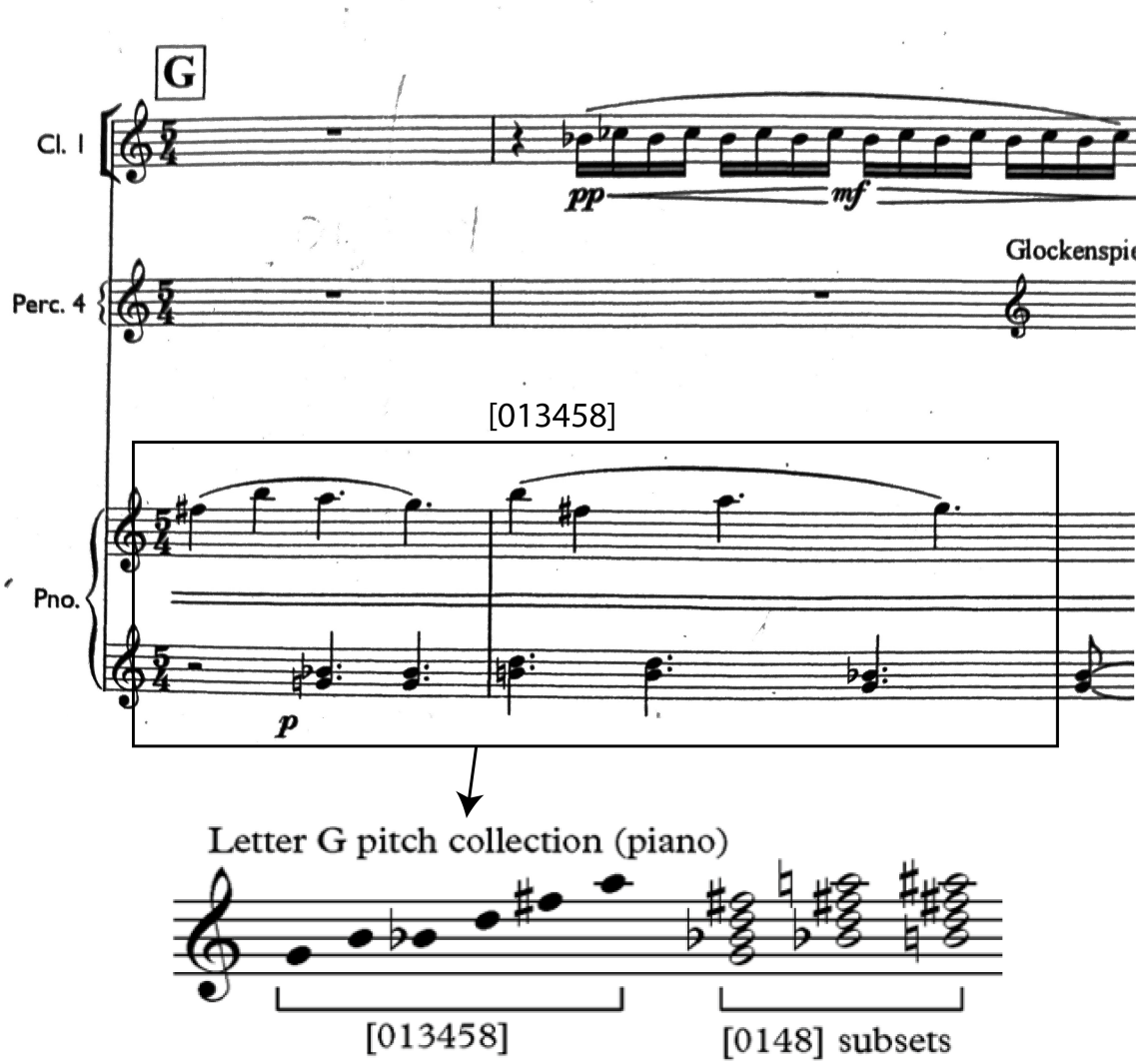


This wandering, confusing introduction continues until the first, jarring piano entrance on another important tetrachord, [0148], which includes [015] as a sub-set. The piano then takes up and harmonizes the celeste [0135] at Letter D with [0148] sonorities that will be explained in more detail in Chapter VI (Figure 5.3). These sonorities are very similar to those at Letter G (Figure 5.4). The first prominent theme is introduced at Letter G in the piano, and is passed off to the orchestra at m. 127 (Figure 5.4). This theme is essentially a reconfiguration of the first [0135] tetrachord (Figure 5.2), and it occurs at the same transposition. This prominent [0135] theme confirms the importance of the tetrachord in general in this piece. The collection of pitches used form [013458], which has three [0148]s as subsets (Figure 5.5).

Figure 5.4



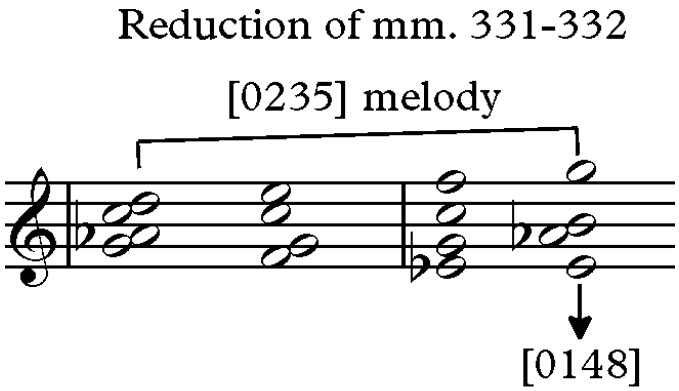
Figures 5.5 and 5.6



With the exception of Stage 4 (which is based around [0148], and relegates [0135] to an accompaniment role), each subsequent stage's themes are based on a variant of [0135]. Stage 2 focuses around [0124], [0246], and [0235], each of which are slightly altered in intervallic content. [0124] is a compacted, squashed version of [0135], [0246] is expanded to the whole-tone variant, and [0235] moves the location of the half-step within the tetrachord (see Figure 5.1).

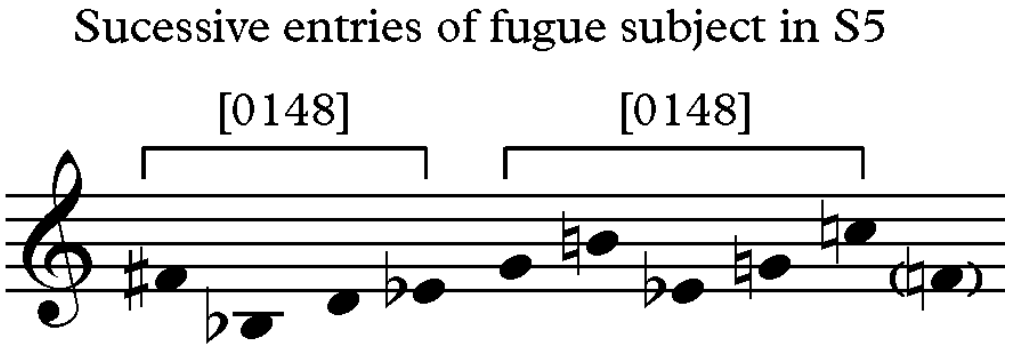
The solo piano Stage 3 uses [0235] harmonized in chorale-like homophony (Figure 5.6).

Figure 5.7



The more contrapuntal Stage 5 features [015], [0148], and the whole-tone [0246] prominently. Especially of note is that in both fugue-like sections, each subject's successive entrance spells out [0148]s, thereby confirming [0148] as a controlling force behind structure (Figure 5.8).

Figure 5.8

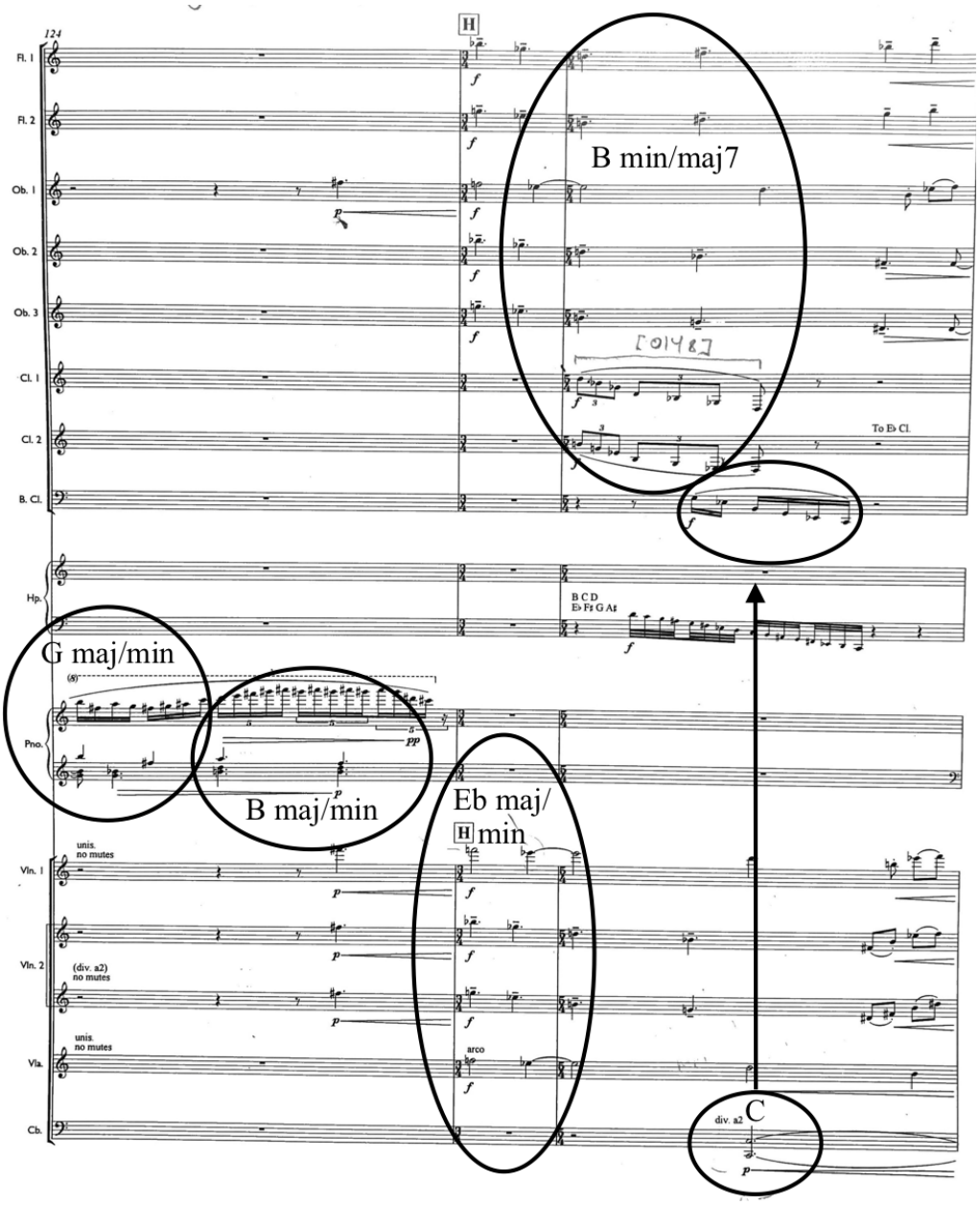


This pattern of successive [0148] entries also occurs at the beginning of Stage 5 with the first five entries of the first theme: B, E, D#, G, C, which contains two [0148]s.

CHAPTER VI: HARMONIC SYNTAX AND MICRO-ANALYTICAL EXAMPLES

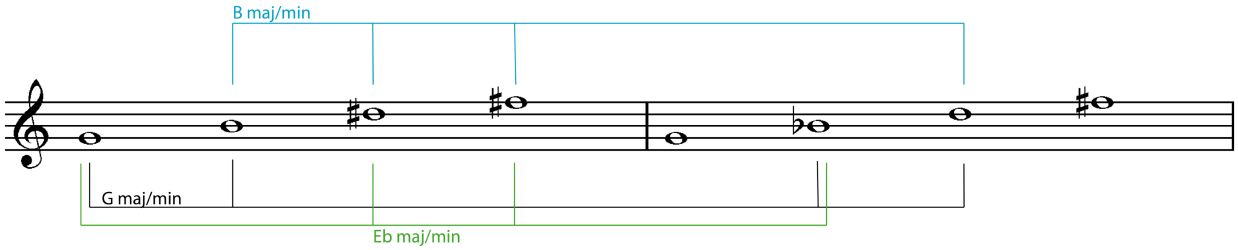
We have seen how the important PC-sets of the piece are built into both motivic and larger scale structures (morphed forms via mod-7, overall harmonic centers by stage, nested structures). We will now look at a few up-close examples of how these PC-sets control local harmonic syntax and sonorities.

Figure 6.1



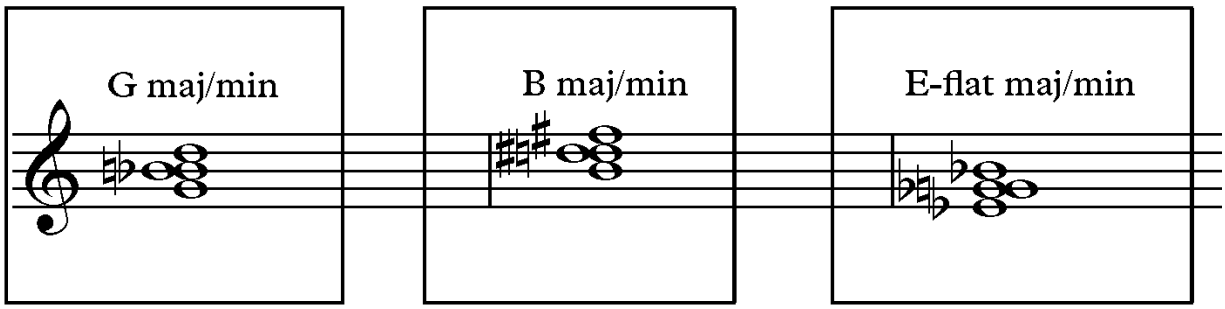
At Letters G-H (m. 124) in Stage 1 (Figure 6.1), the harmony is created by repetitive permutations of several harmonies: B maj/min, G maj/min, D maj, Eb maj/min, shown in Figure 6.3. These roots of these chords are a result of two interlocking [0148] tetrachords, shown in Figure 6.2.

Figure 6.2: Two interlocking [0148] tetrachords



These two [0148]s are the two possible spacings of [0148]: the augmented major 7 chord, and the minor/major 7 chord, which are inversions of each other. However, at this point, [0148] is not heard as a simultaneity, but instead generates the harmony via a mix of its two versions. The combination of the two not only gives rise to the "roots" of the chords heard at Letter G in Stage 1, but also to the sonorities. The predominant sonority is the "split-third" triad (maj/min triad), which in this section occurs on B, G, and Eb (Figure 6.3). These chords are each a combination of the above two [0148]s.

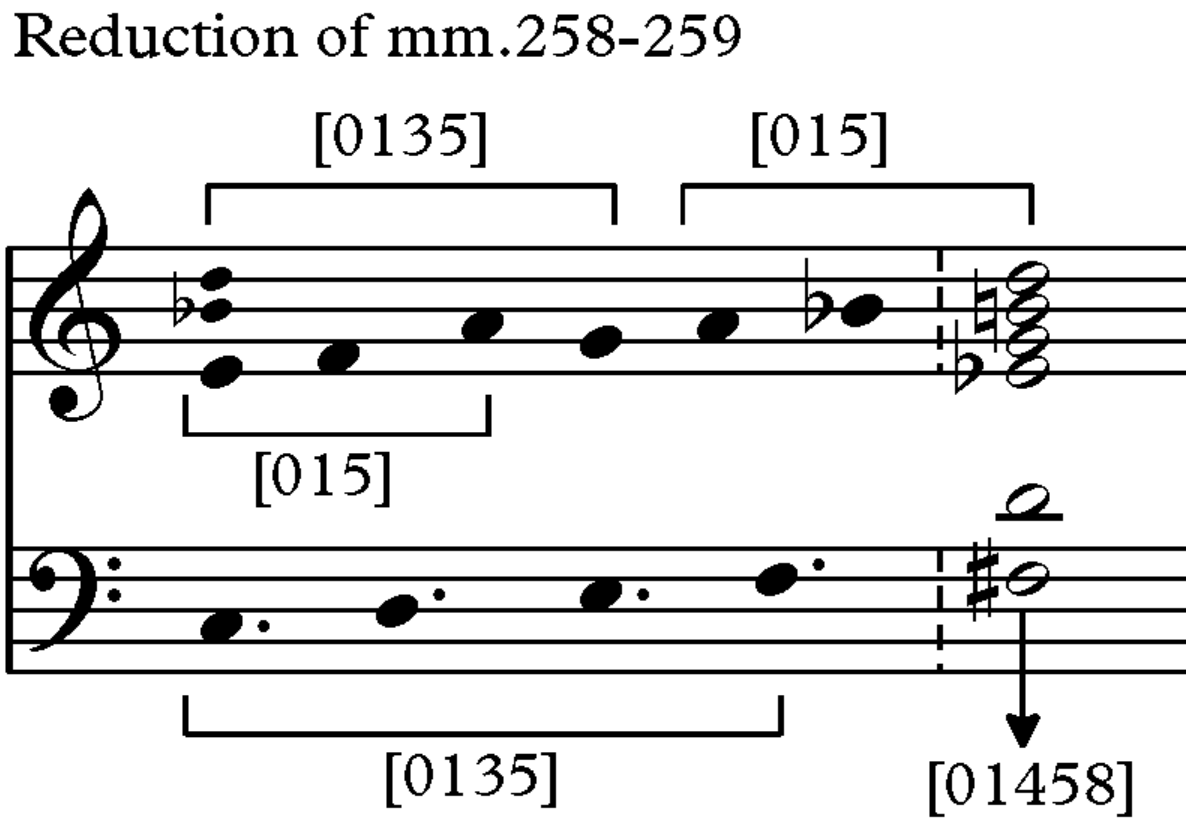
Figure 6.3



At b. 126 there is an outlier note that enters in the bass as a pedal point: C, shown in Figure 6.1. This C completes a different [0148] in the local bass line of the previous progression. After a 5 bar oscillation between B minor and G minor (with the split thirds mentioned above), the bass moves to Eb and then to C, which completes the series B, G, Eb, C, another [0148]. In this way, the harmonic syntax is informed by the expansion of the PC-set content of important chords.

At mm. 258-259, a similar progression happens at the cadential point in the phrase. M. 258 suggests a C dominant type harmony (further confirmed by the previous 2 bars of a C in the bass) with parallel passing notes in the bass and melody. M. 259 is the chord shown in Figure 6.4. Due to the orchestration and doubling, it most strongly suggests B minor, although its inversion and the added tones also suggest Eb augmented/G augmented. Especially notable is the F# in the bass in 259, which given the general F key area of the previous section is unexpected. This is explained by the fact that the downbeat of 259 is the pentachord [01458], which contains two [0148]s as tetrachordal subsets. Without the surprise F#, and perhaps if the bass had doubled another note, only one subset [0148] would occur at that point. The thematic material in this section of the piece is based on various versions of a rising tetrachord: [0135] in the piano, competing/trading with the whole-tone fragment [0246] in the orchestra. In m. 258, the theme outlines two successive [015]s, the second of which can account for the leap to the high D on the downbeat of m. 259.

Figure 6.4



In measures 251-258 in Stage 2, the root progression is F, E, Ab, G, Db, C, as shown in Figure 6.5. These roots together form [0125689], which is insignificant at first glance, but contains 4 [0148]s as subsets.[51] This provides yet more evidence that important PC-sets play a role in controlling the harmonic syntax.

[51] 7-22 [0125689] also contains four examples of (4-18) [0147]; no other tetrachordal subsets occur more than twice.

Figure 6.5

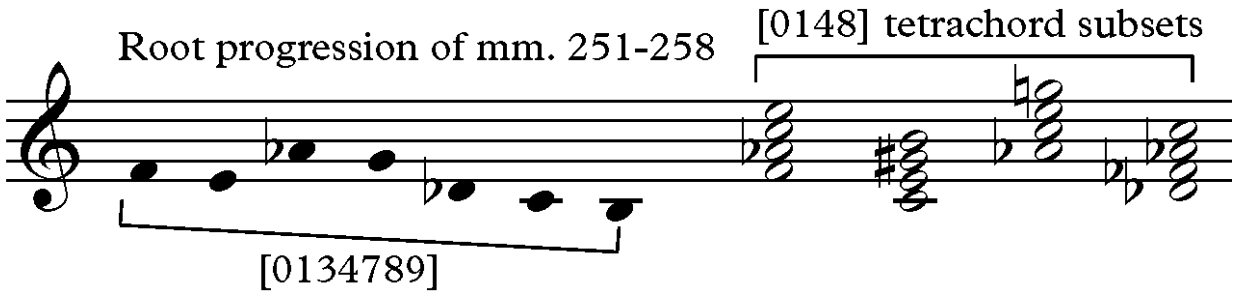
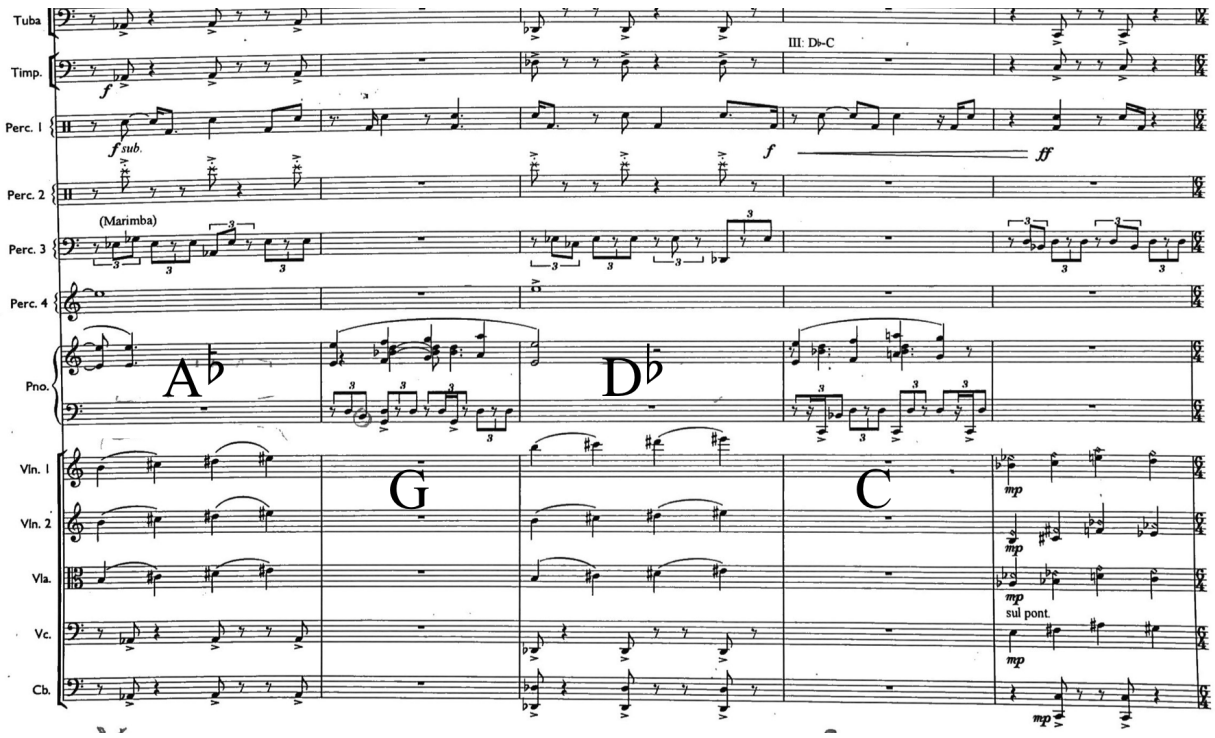


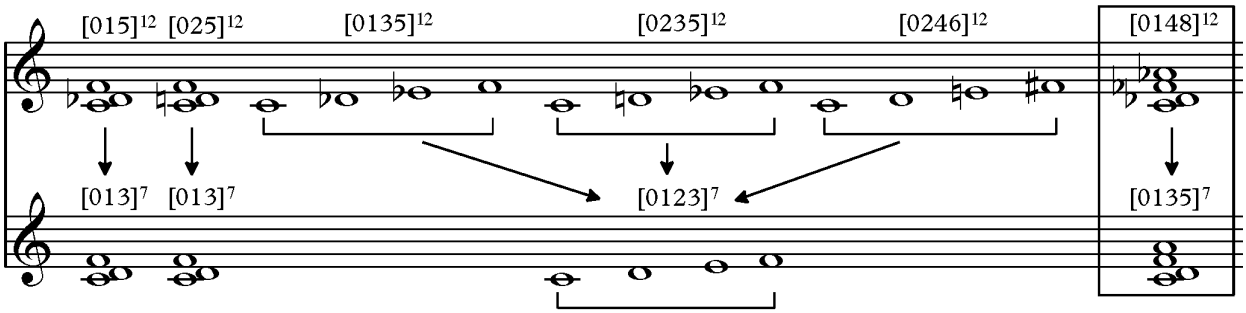
Figure 6.6: Excerpt of roots in mm. 253-257



The previous example makes for an excellent segue to the final analytical portion of this study, that of phrase-level harmonic syntax. As mentioned in the introduction, a combination of the methods of Pearsall and Santa have proven most successful in explaining the phrase-level syntax of *Stumble to Grace*. At prominent cadences, such as mm. 258-259 above, [0148] appears

as the arrival chord, which in the above case, and others which I will show, has an unstable, antecedent effect. Akin to Pearsall's identification of the saturation of interval classes within a piece (and therefore the identification of outliers),[52] I identify the PC-sets [015], [025], [0135], [0235], and [0246] as saturating *Stumble to Grace*. Although [0148] contains a [015], it attains an outlier quality, which is particularly noticeable in a mod^7 analysis, shown in Figure 6.7.

Figure 6.7

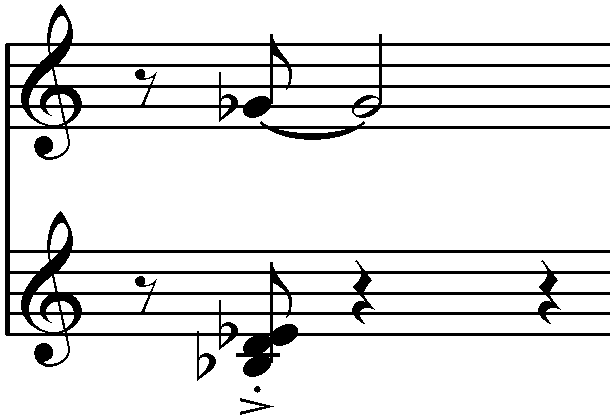


We can see that in a mod^7 analysis, the important PC-sets of the piece all have the same content (of steps and skips, i.e. their basic shape), with the exception of [0148]^{12}. This helps determine [0148]^{12}'s status as dissonant in relation to the other important sonorities of the piece, despite its frequency and structural importance. I argue that this dissonant quality (in context) of [0148] – and its antecedent function at important moments, especially in the piano – make [0148] the "question chord" for the piano's character: the sonority and shape that represents the curiosity, uncertainty, doubt, and wonder that every human experiences growing up. There are, of course, the other somewhat more immediately noticeable shapes, motives, and sonorities in this piece: the group of [0123]^7 (mod^7) tetrachords that engender almost every important motive and theme. But [0148] is the more subtle controller of harmonic syntax and structure, as I have shown

[52] Edward Pearsall, "Harmonic Progressions and Prolongations," 351.

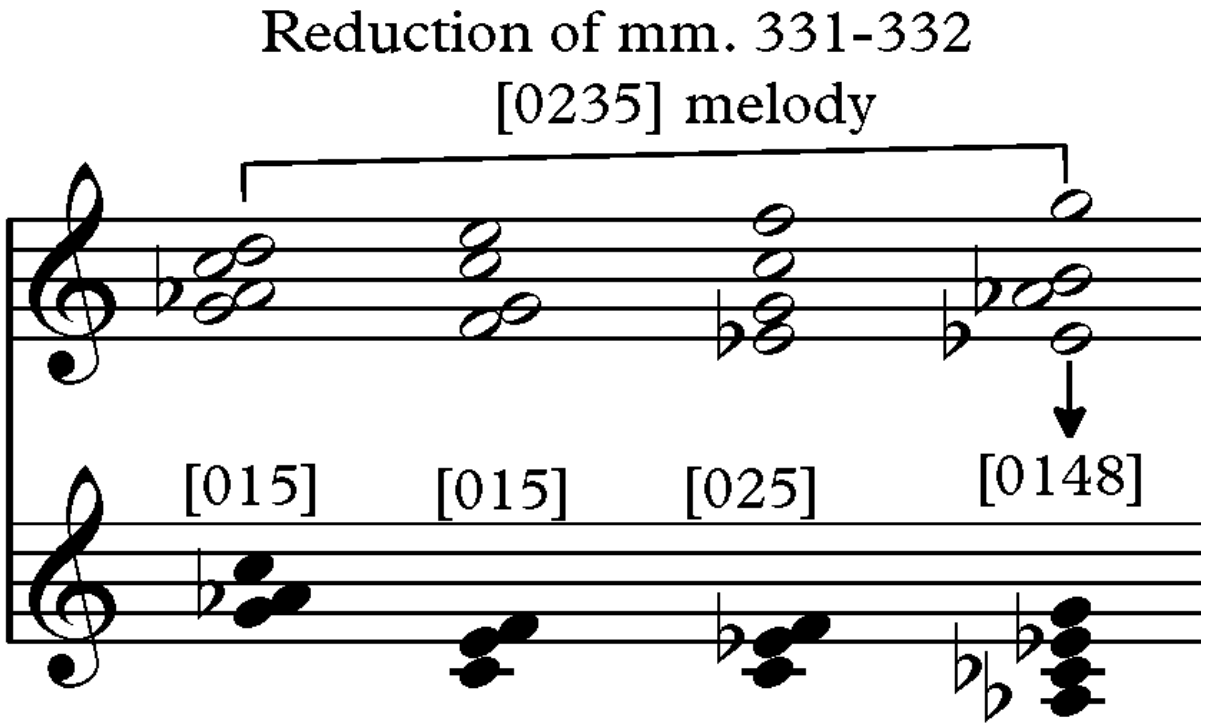
above. It is no accident that the first notes the piano plays (smashes) at Letter B are a very wrong sounding [0148] (Figure 6.8).

Figure 6.8



There is another example of [0148] as dissonant in Stage 3. The harmony of the chorale in m. 331, shown in Figure 6.9, results from the harmonization of the rising [0235] melody with a G pedal point. The first three chords contain [015] and/or [025], which serve a consonant function due to their similarity in mod^7 (both [013]^7). The fourth chord of the phrase is [0148] (in its major-minor seventh inversion), which upends that consonance and serves an antecedent, half-cadence-like function: the piano's "question."

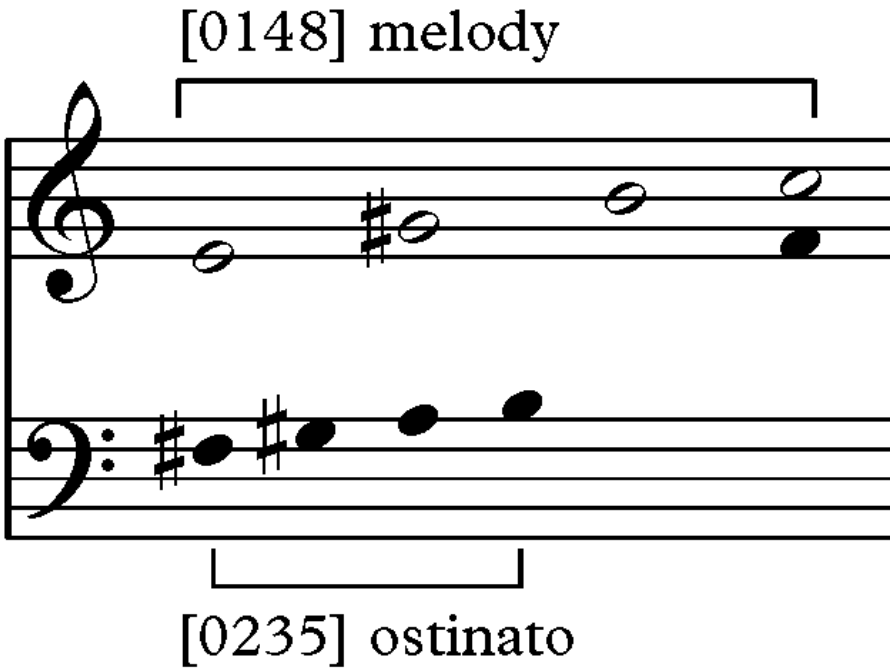
Figure 6.9



Another example of this is found at the beginning of Stage 4. The [0235] ostinato held over from Stage 3 begins, followed by a rising melody in the right hand which match the prevailing key area of E until a surprise C, which completes a [0148] in the melody, shown in Figure 6.10. The C is harmonized by an F (recalling the 5ths based harmony from Stage 1), and the resulting sonority is a cluster (the septachord [0124578]) that does not have any specific meaning in the context of the piece.[53] However, the completion of the [0148] with the dissonant C serves an antecedent function, and makes the phrase feel harmonically open. This results in the feeling of another question from the piano, perhaps a bit more tentative, given the nervous, murmuring texture.

[53] [0124578] (7-z18) does include three [0148]s, but that is not statistically relevant, since a majority of other septachords do as well.

Figure 6.10

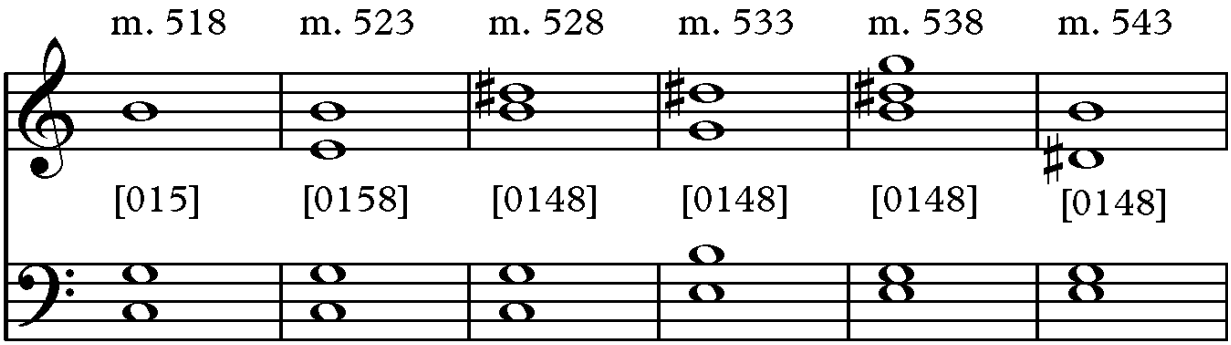


At the beginning of Stage 5, the piano is at its most confident thus far (perhaps with the exception of the naive triumphant triads of Stage 2), and it upends the pattern of main themes ending on [0148], temporarily. The first phrase ends in m. 518 on the same [015] on which it began, as does the second phrase (with an added note that completes a major-7 chord). However, the percussion enters at the next statement in m. 525, and the piano sinks from the earlier E to a D#, which results in a [0148] and an uncertain, open phrase. The next 3 phrases end on the same chord, before the orchestra takes over with new material. These cadential points are shown in Figure 6.11. Thus, given [0148]s status as dissonant, the overall section is harmonically open. The next section for the piano, the quasi-fugue which is discussed above, is highly contrapuntal and therefore no clear syntax is apparent. However, the beginning and end of the subject is based

around [025], which suggests syntactically closed phrases (which are obscured by the continual contrapuntal texture).

Figure 6.11

Cadential sonorities in S5, mm. 514-543

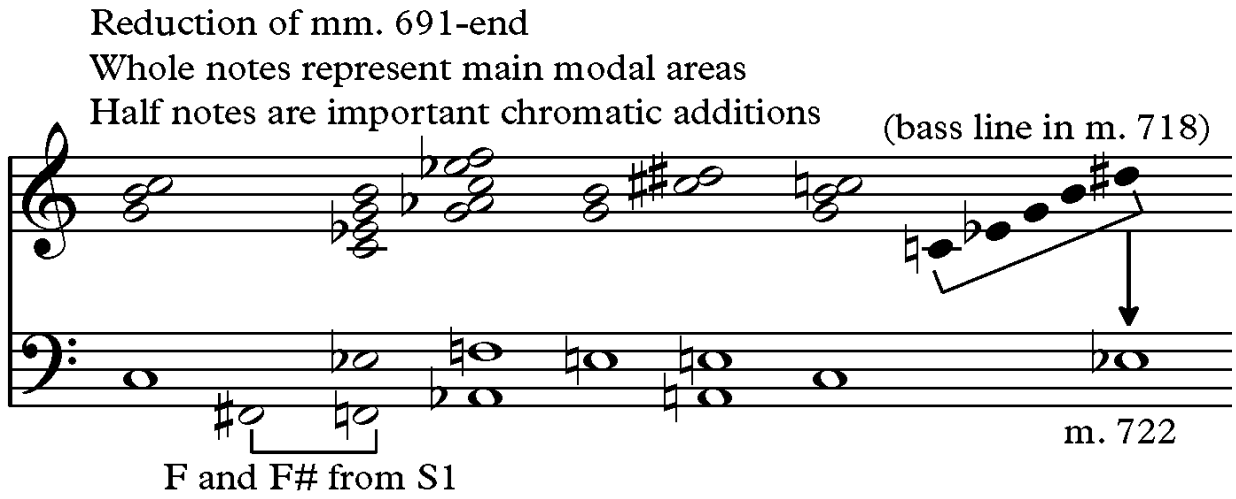


In the final section of *Stumble to Grace* (m. 685 to the end), the frenetic texture of both piano and orchestra reaches a fever pitch, and due to the density of orchestration and rhythmic activation, the harmonic rhythm slows down significantly from the previous contrapuntal section. Because of this augmented harmonic rhythm (one chord change per 4 to 5 bars), this section shows clearly the way harmonic syntax can work in this piece. The prevailing diatonic/ modal collections slowly morph by adding new pitches, which results in a kind of root motion that outlines [0148]. By m. 691, the key area has clearly settled on C. There are two surprising bass notes that don't fit with the prevailing harmony: F# and F. This seems to be a reference to Letter E, where the piano plays with the alternation of F# and F, which in that case results in a childlike, exploratory cacophony that competes with the orchestra's predominant F. The next chromatic pitches that are added are Eb and Ab, which doesn't result in a clear diatonic/modal collection, but is in the realm of Eb major, F dorian or Ab lydian. This pivots momentarily to E minor at m. 702, and then C# and D# (Eb enharmonically from a few bars before) are added

while the bass hovers around A, creating an ambiguity between an E melodic minor mode and A lydian dominant. At m. 712 there is a triumphant return to C major with a few chromatic notes that reference the first theme of Stage 5. At m. 718, the glissando in the bass clearly outlines a [0148] starting on C which forces the piano to take up the Eb/D# in m. 722. The centricity around Eb continues to the end of the piece.

The resulting harmonic syntax is shown in 6.12. This progression of modal areas (with those layered on top of each other—i.e., with alternation or ambiguity between them—in parentheses) is C, (Ab, F), (E, A), C, Eb. This is PC-set [012569], which contains 3 [0148]s' as subsets (like [0125689] from Stage 2 contains 4).[54] This is evidence that [0148] not only controls some large scale aspects of *Stumble to Grace*, but also local harmonic syntax, and the ways modal collections morph from one to the other.

Figure 6.12



[54] p. 35 of dissertation.

CONCLUSION

This study has shown that *Stumble to Grace* interacts with and comments on the piano concerto genre in two main ways: (1) its explicit programmatic structure and relationship to virtuosity, and (2) its formal, motivic, and harmonic structure based on a tetrachord seed-motive and related sets. These two aspects of *Stumble to Grace* are interconnected and inform one another.

The programmatic structure—that of a child "learning to become human"[55]—necessitates a unique approach to virtuosity: a progression to virtuosity rather than starting from it. While virtuosity in relation to concertos has been discussed frequently, *Stumble to Grace* makes virtuosity a topic of the narrative itself.

The music reflects this narrative via its form, use of motives, and harmonic syntax. The form of five stages which progress through levels of virtuosity is the most explicit. The discussion of motivic and thematic content has shown a that main tetrachord—[0135]—is the source for the main themes and melodies as well as important harmonies, which reflects the character of the piano gaining new perspectives and thinking differently about the world. The similarity of these [0135] generated tetrachords ([0124], [0246], [0235]) is made apparent in a mod^7 analysis, which shows they are all four-note stepwise collections: $[0123]^7$. The outlier in both a mod^7 and mod^{12} analysis (compared with the $[0123]^7$ tetrachords), $[0148]^{12}$, appears at important structural moments for the piano, especially at cadences, and acts as a "question" indicator for the piano, both in harmonic syntax and in the narrative. [0148]'s importance is confirmed by its frequent background control of harmonic syntax and chromatic shifts (such as

[55] Steven Mackey, "Composer's Notes"

appearing as the roots of chords in local progressions, or as the successive first notes of the fugue subjects in Stage 5). Because of its outlier status, it is functionally dissonant within the logic of the piece, which sheds light on certain local harmonic progressions (shown in chapter VI).

In *Stumble to Grace*, Mackey has interconnected narrative, motive, harmonic structure, and form into a cohesive whole that further pushes the boundaries of what it means to be a concerto.

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VOLUME II

Concerto for Piano and Chamber Orchestra

Concerto for Piano and Chamber Orchestra, in three movements played without pause, is my creative response to the study of Steven Mackey's *Stumble to Grace* and the piano concerto genre at large. The first movement is the most varied in mood and content; it progresses through frenetic filigree at the beginning through violent conversation between piano and orchestra, a groovy middle section inspired by jazz piano 'comping,' a tongue-in-cheek jaunty section, and finally a toccata-like climax in which the piano shows off with wild arpeggios.

The second movement, following traditional concerto structure, is calm and lyrical. It uses a melody by English Tudor composer Orlando Gibbons (Song 13) as a *cantus firmus.* The simple diatonic nature of the melody allows for the juxtaposition of varied and sometimes quite dissonant harmonizations. The middle section is a chorale in the woodwinds, which is inspired by the Gibbons melody, but does not quote it directly.

The final movement is a fast and playful march which treats the main theme in a variety of contrapuntal transformations. It gradually ramps up in excitement until a sudden quiet middle section which peters out to a moment of tension and pause at Letter O. Virtuosic 16ths in the piano lead to the climax at Letter Q, and, after the interruption of a fake ending, the piano gets one final flourish and an emphatic ending.

INSTRUMENTATION

Flute
Oboe
Clarinet in Bb
Bassoon

Horn in F
Trumpet
Tenor Trombone

Solo Piano

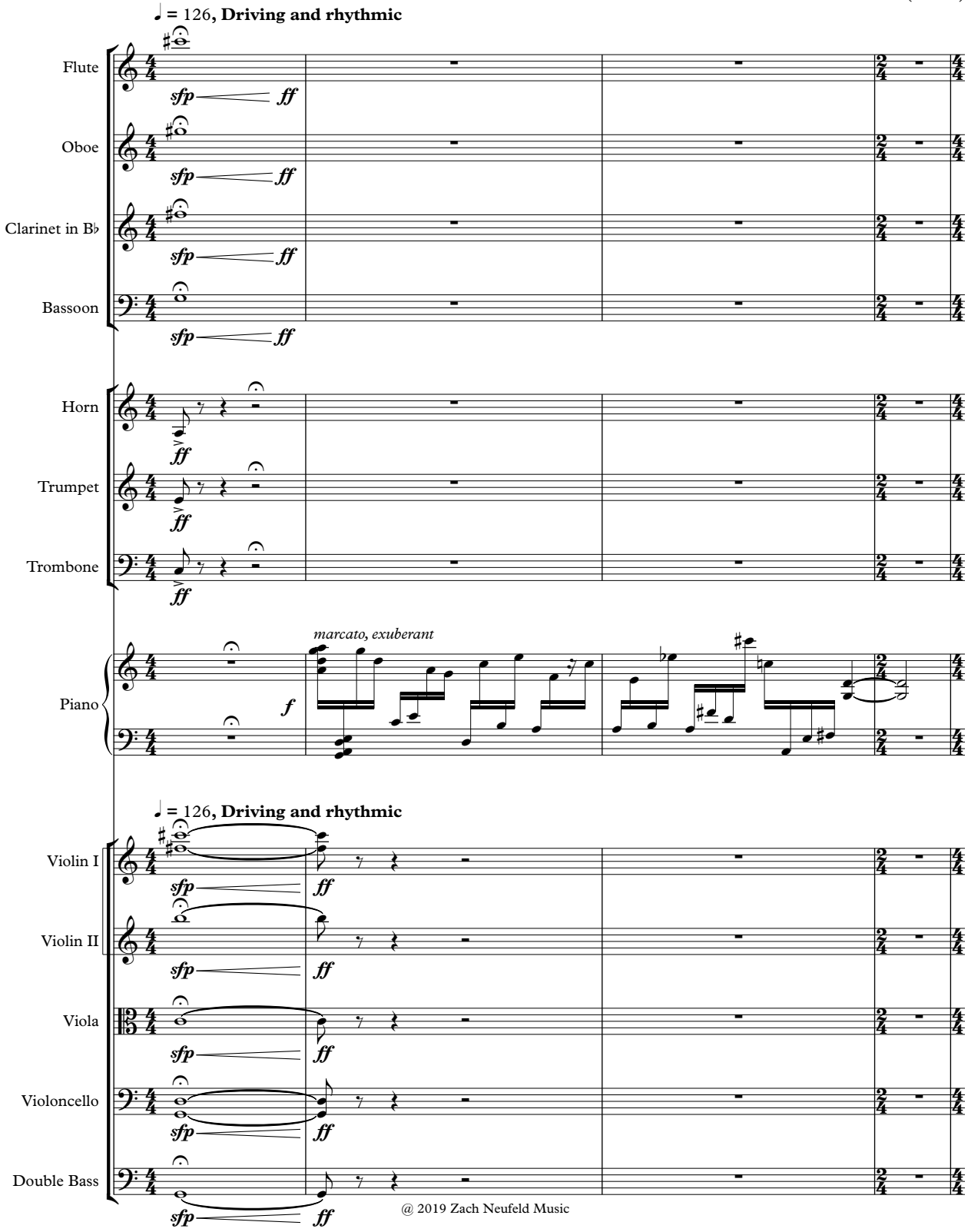
Strings*

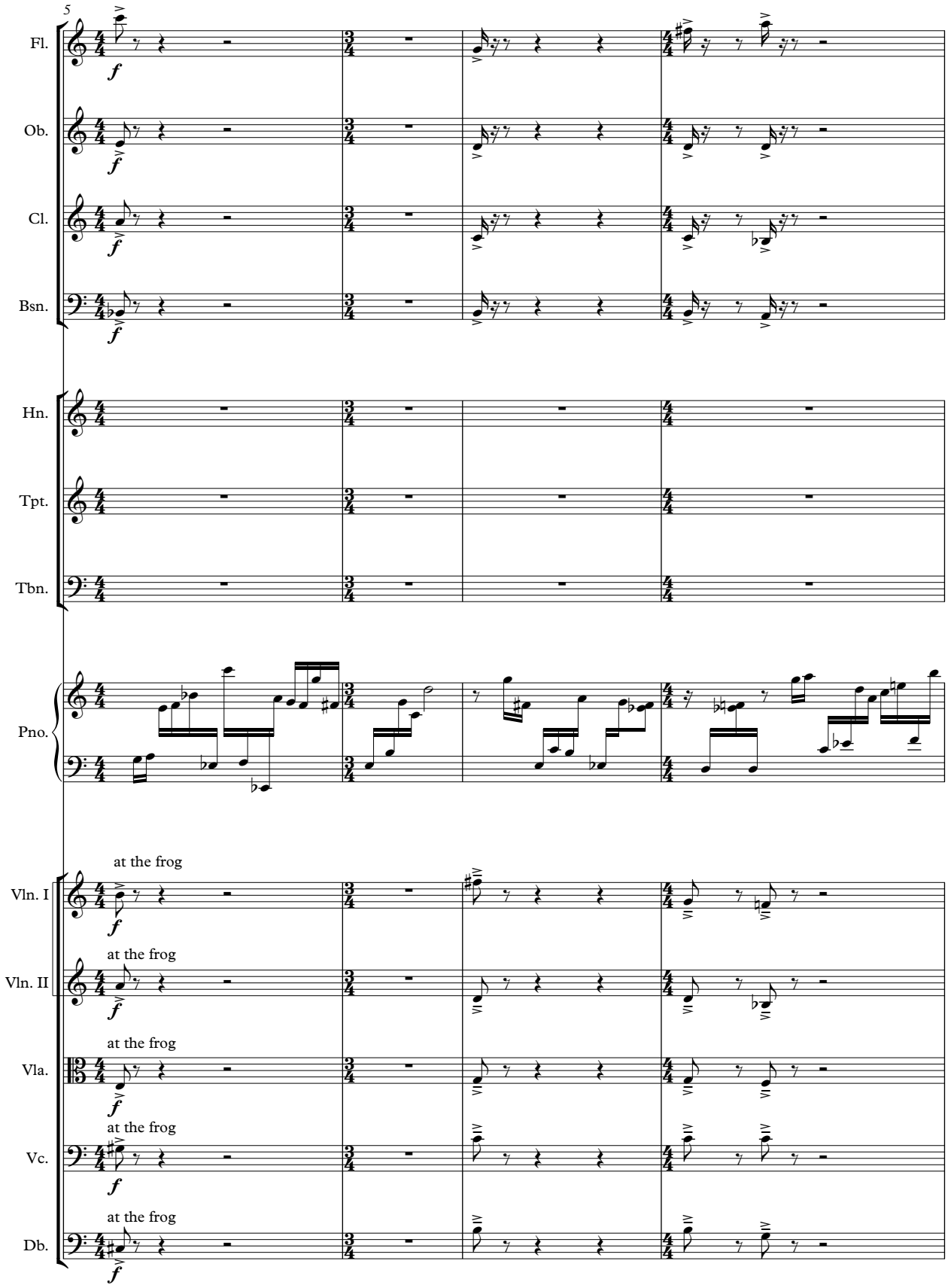
*Ideally 4, 4, 3, 2, 1, but performable with string quintet

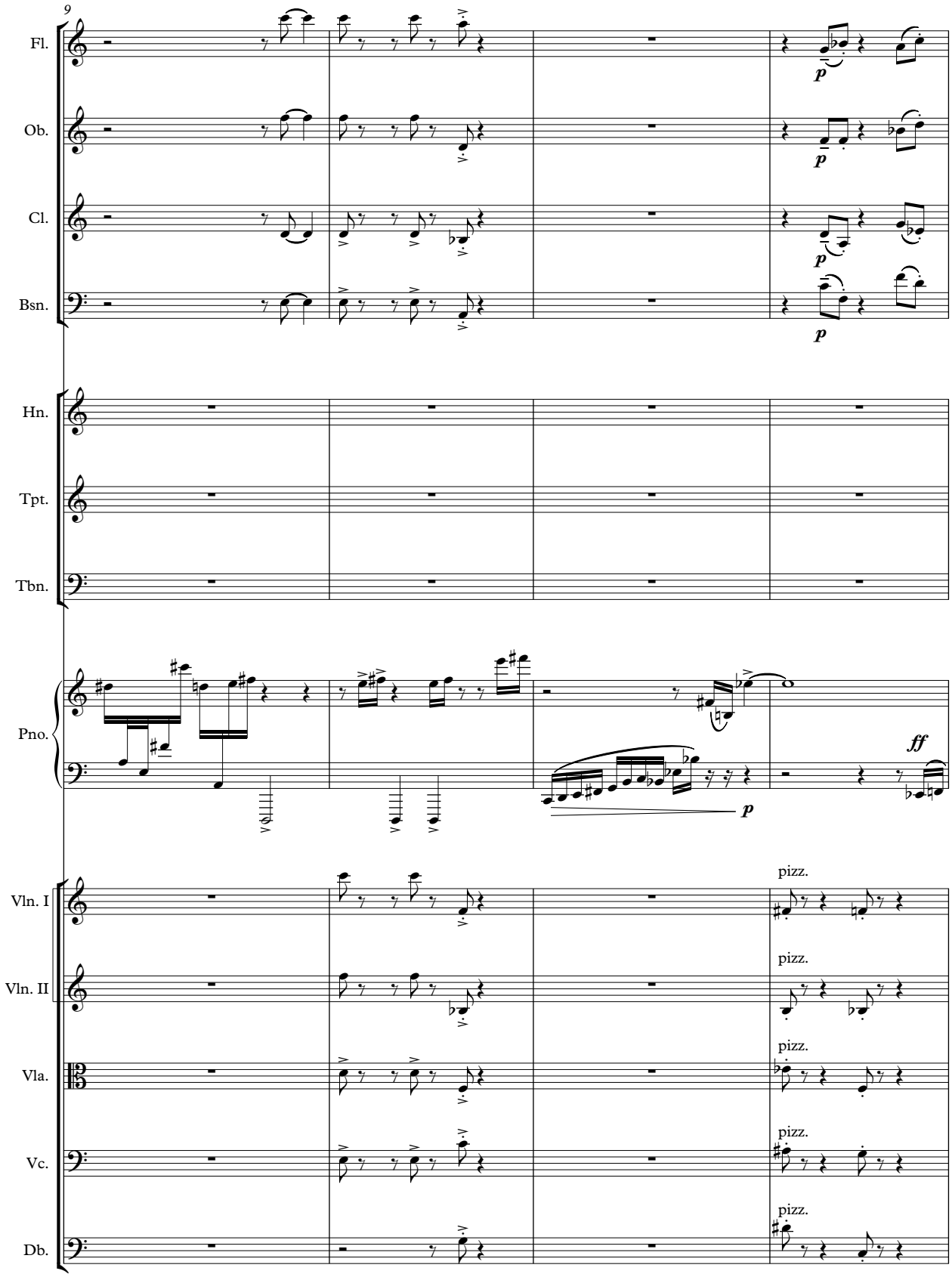
Concerto for Piano and Chamber Orchestra

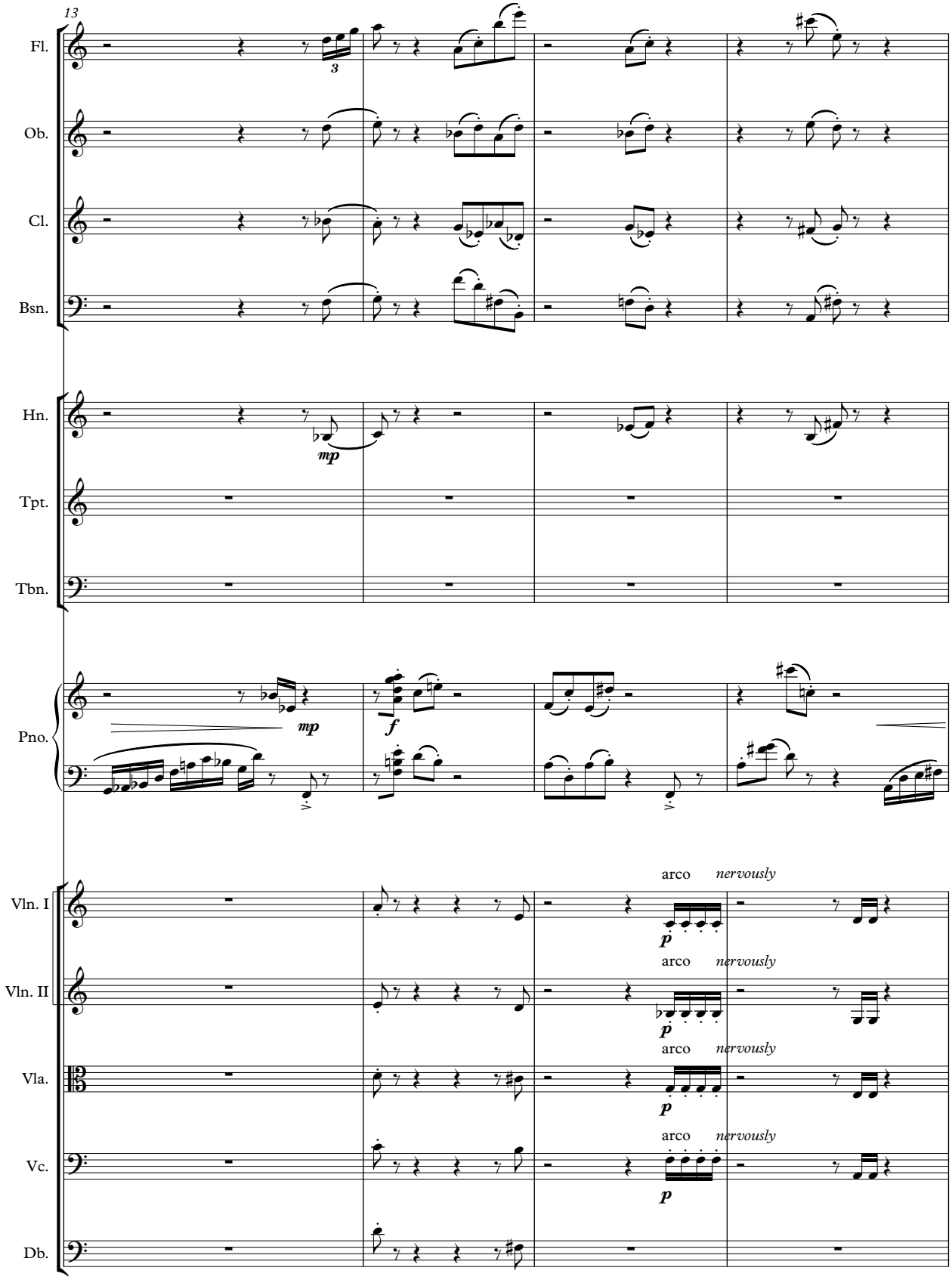
Score in C

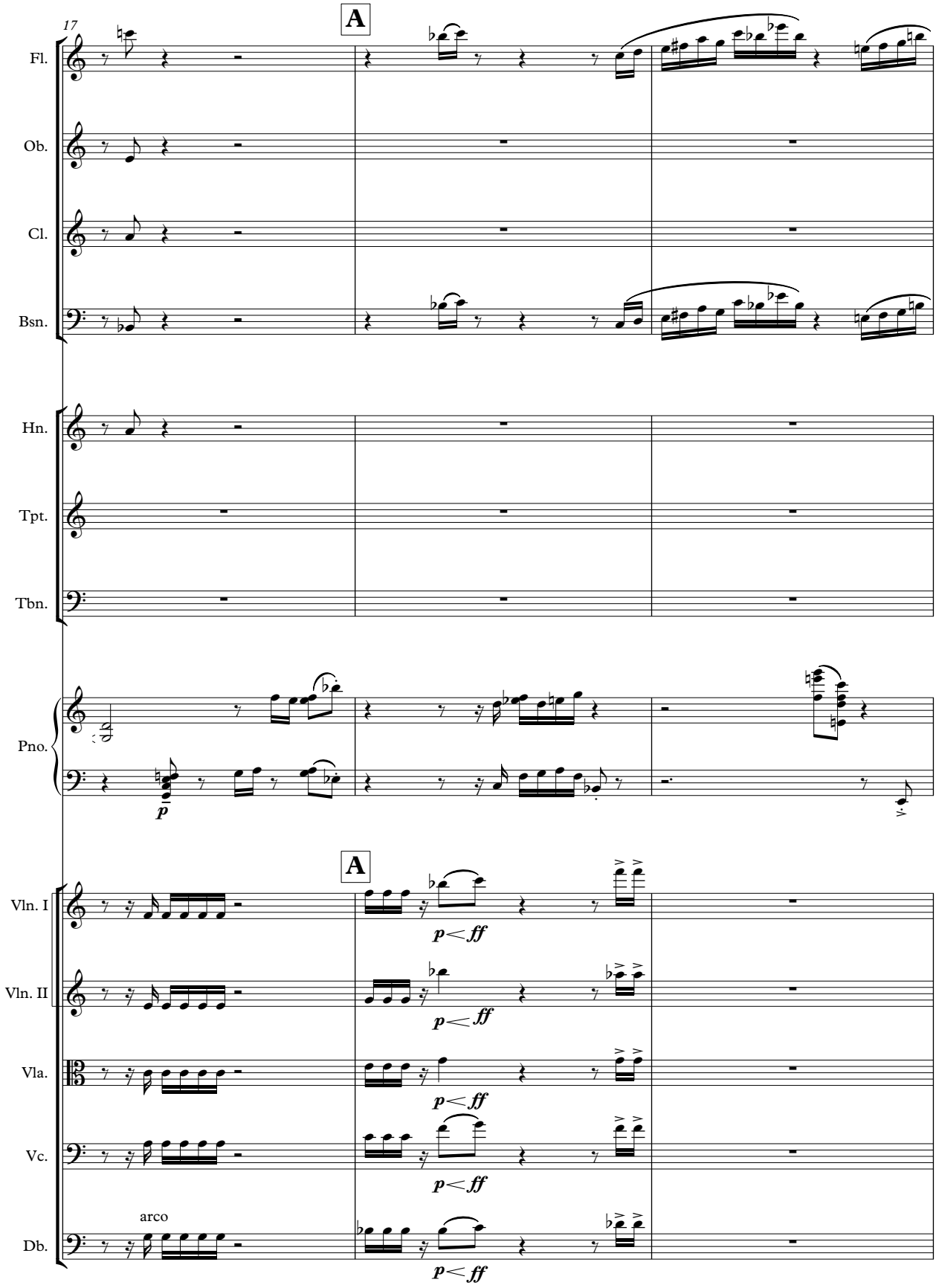
ZACH NEUFELD (b. 1986)

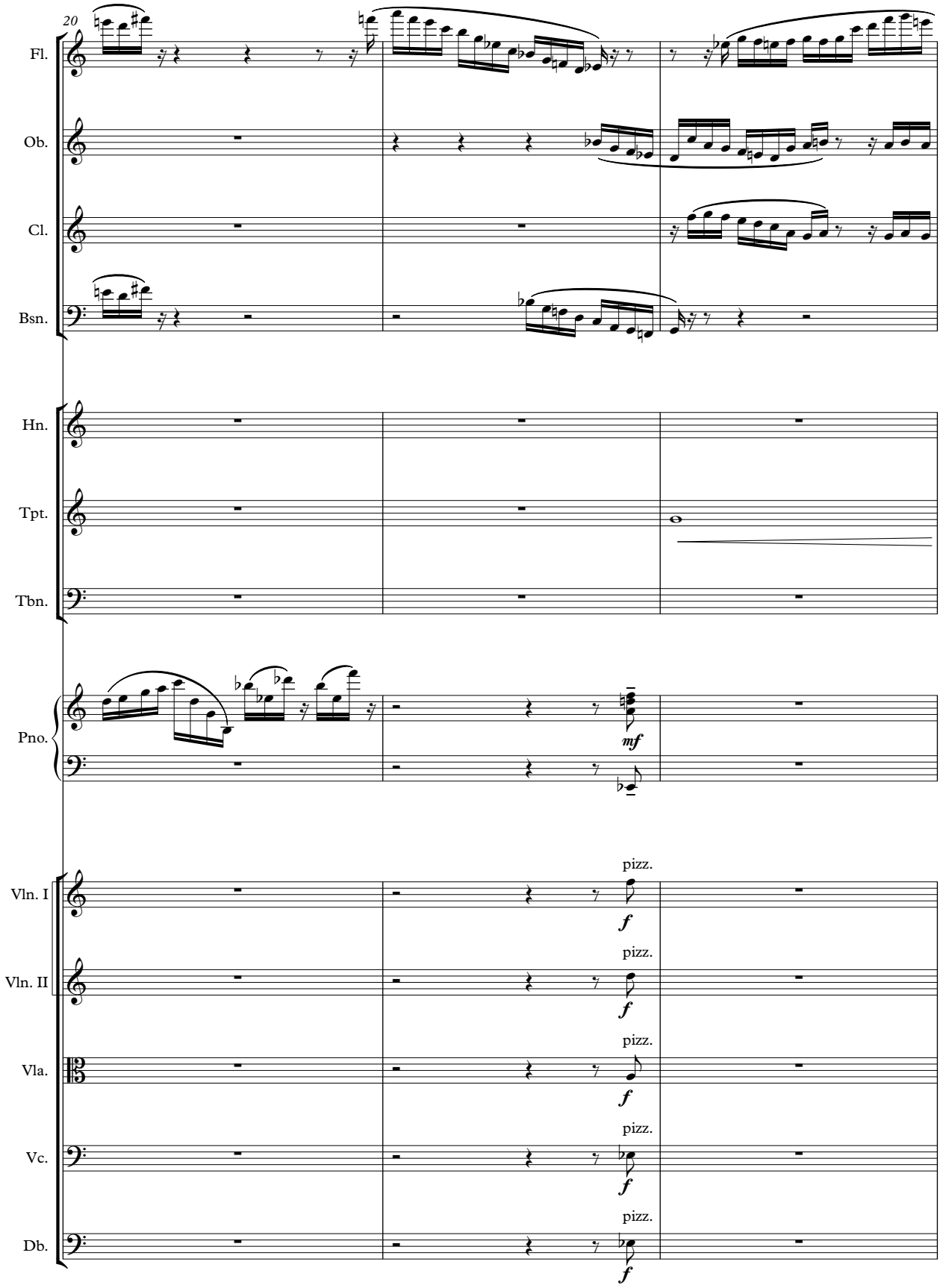


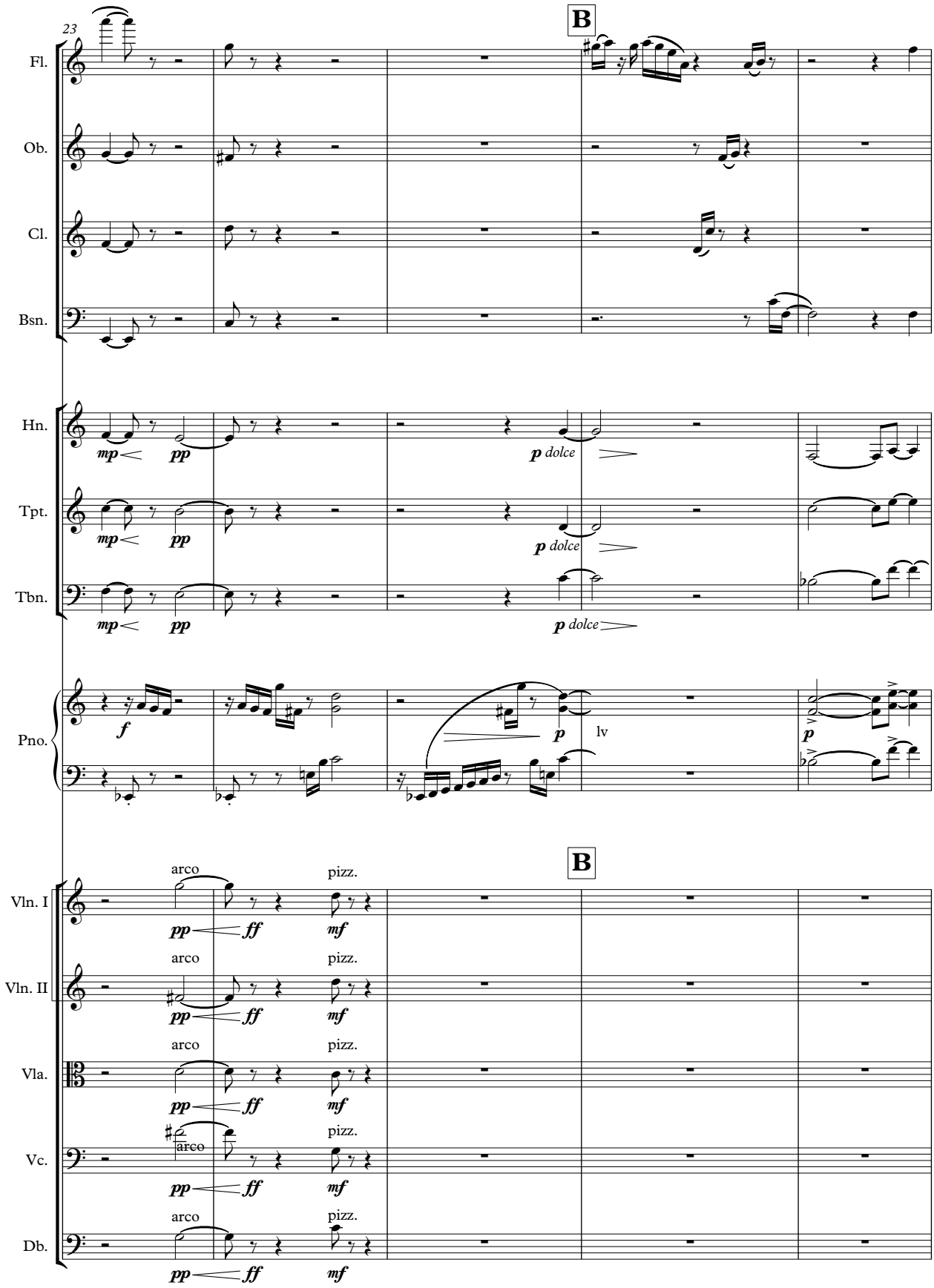

5
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
at the frog
Vln. I
at the frog
Vln. II
at the frog
Vla.
at the frog
Vc.
at the frog
Db.

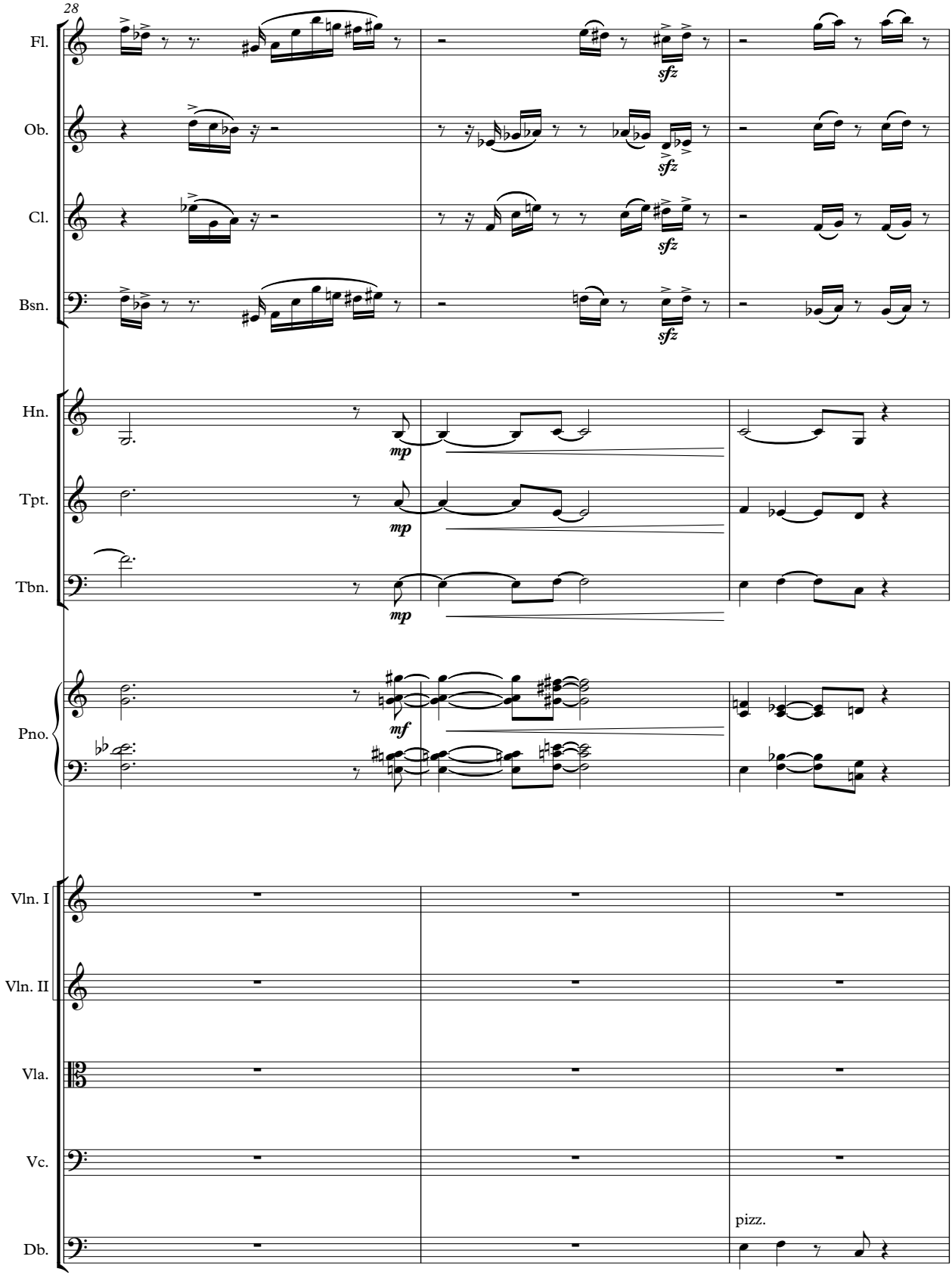

9
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
ff
pizz.

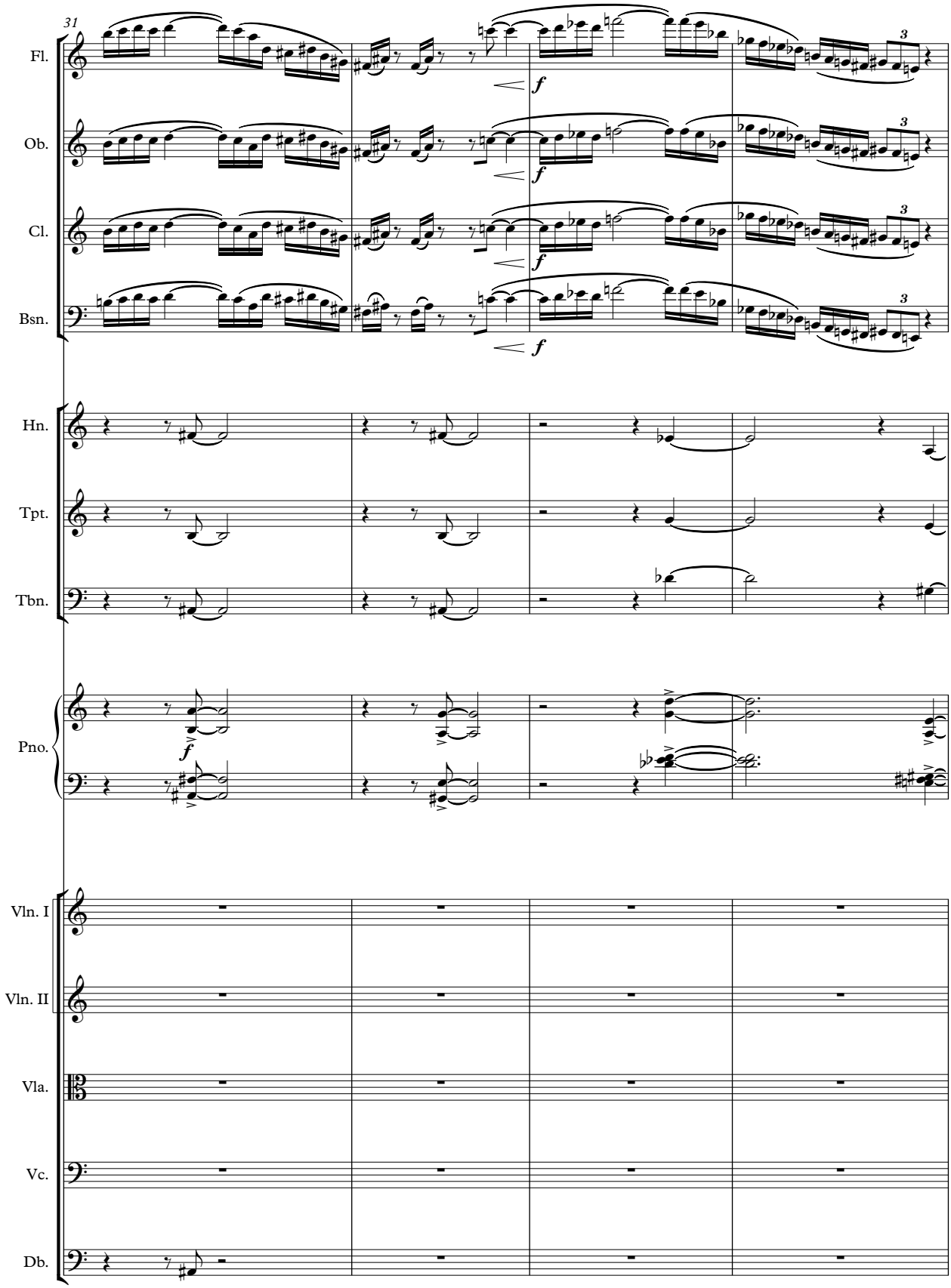

13
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
3
mp
mp
f
arco
nervously
p

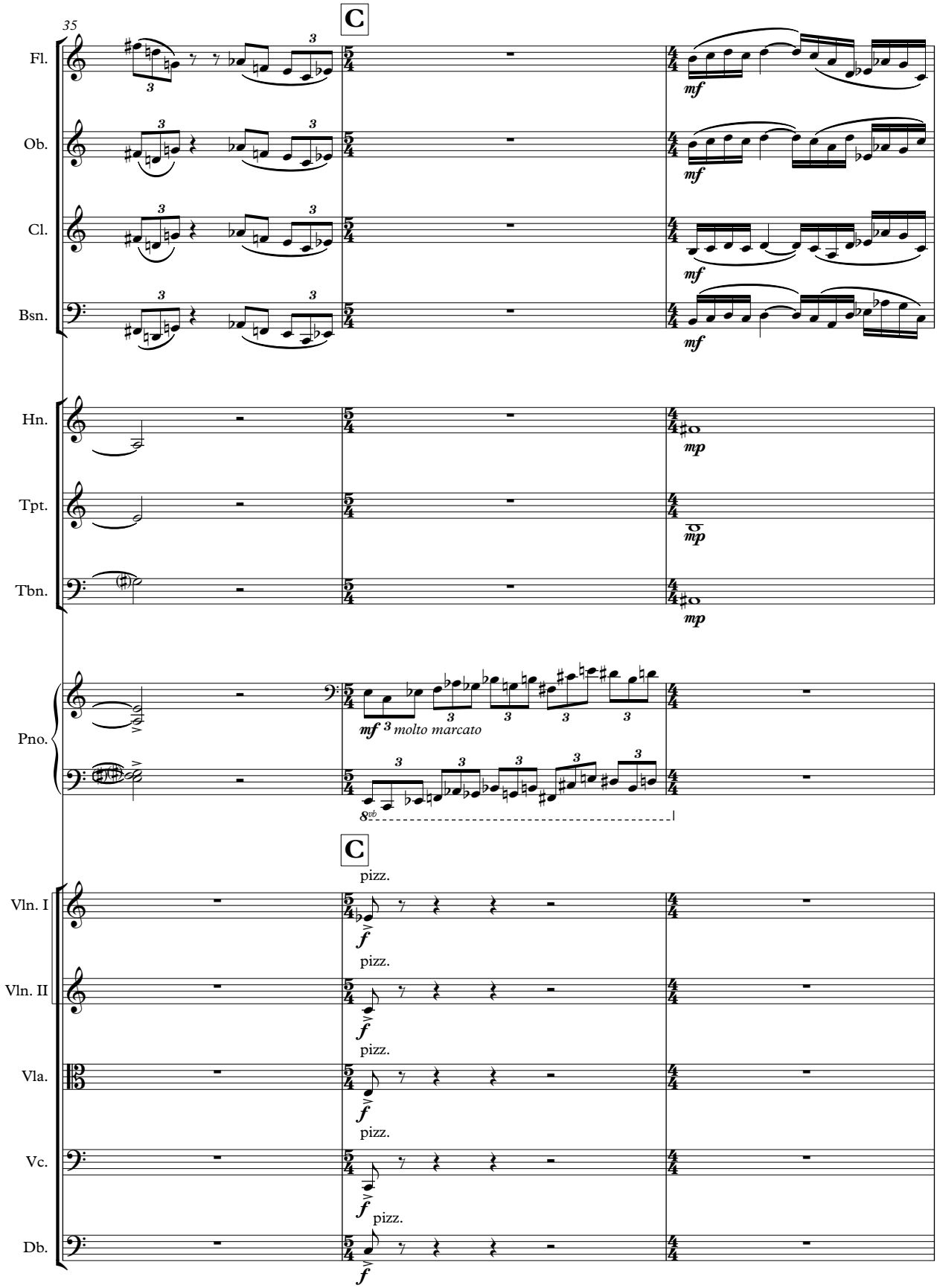

17
A
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
p
A
Vln. I
Vln. II
Vla.
Vc.
Db.
arco
p < ff

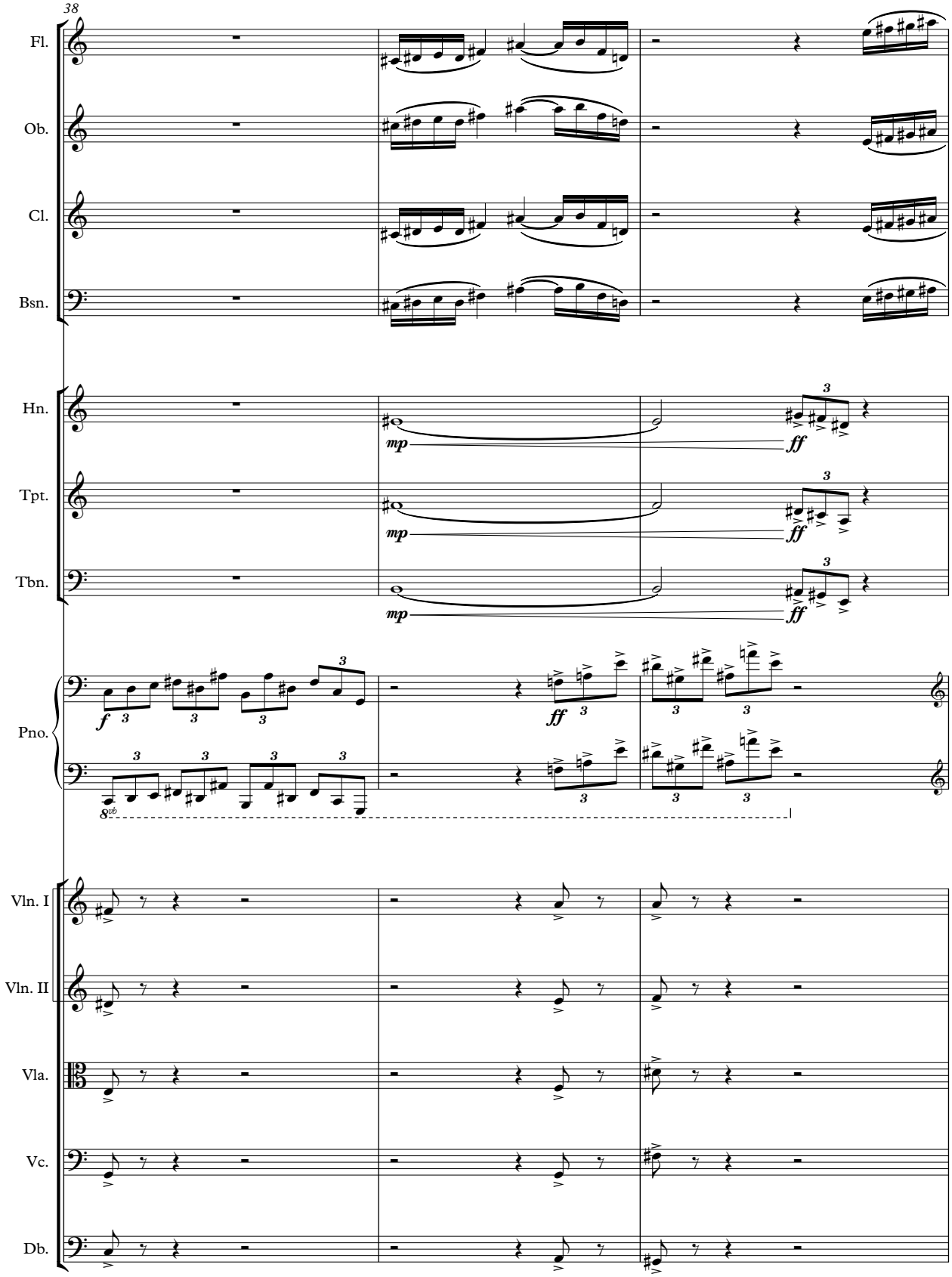

20
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
mf
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz.
f

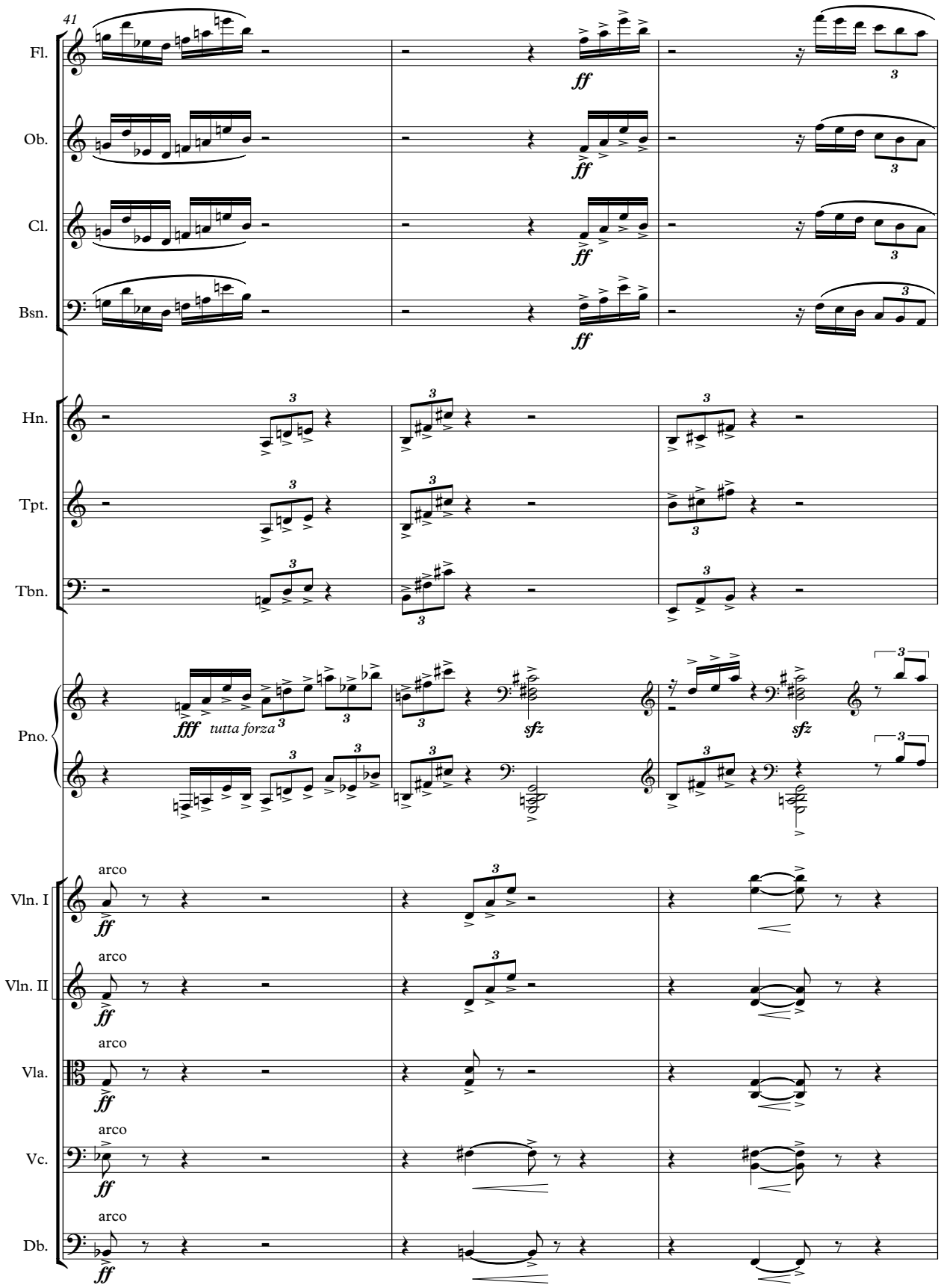

23
B
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mp
pp
p dolce
f
p
lv
arco
pizz.
ff
mf

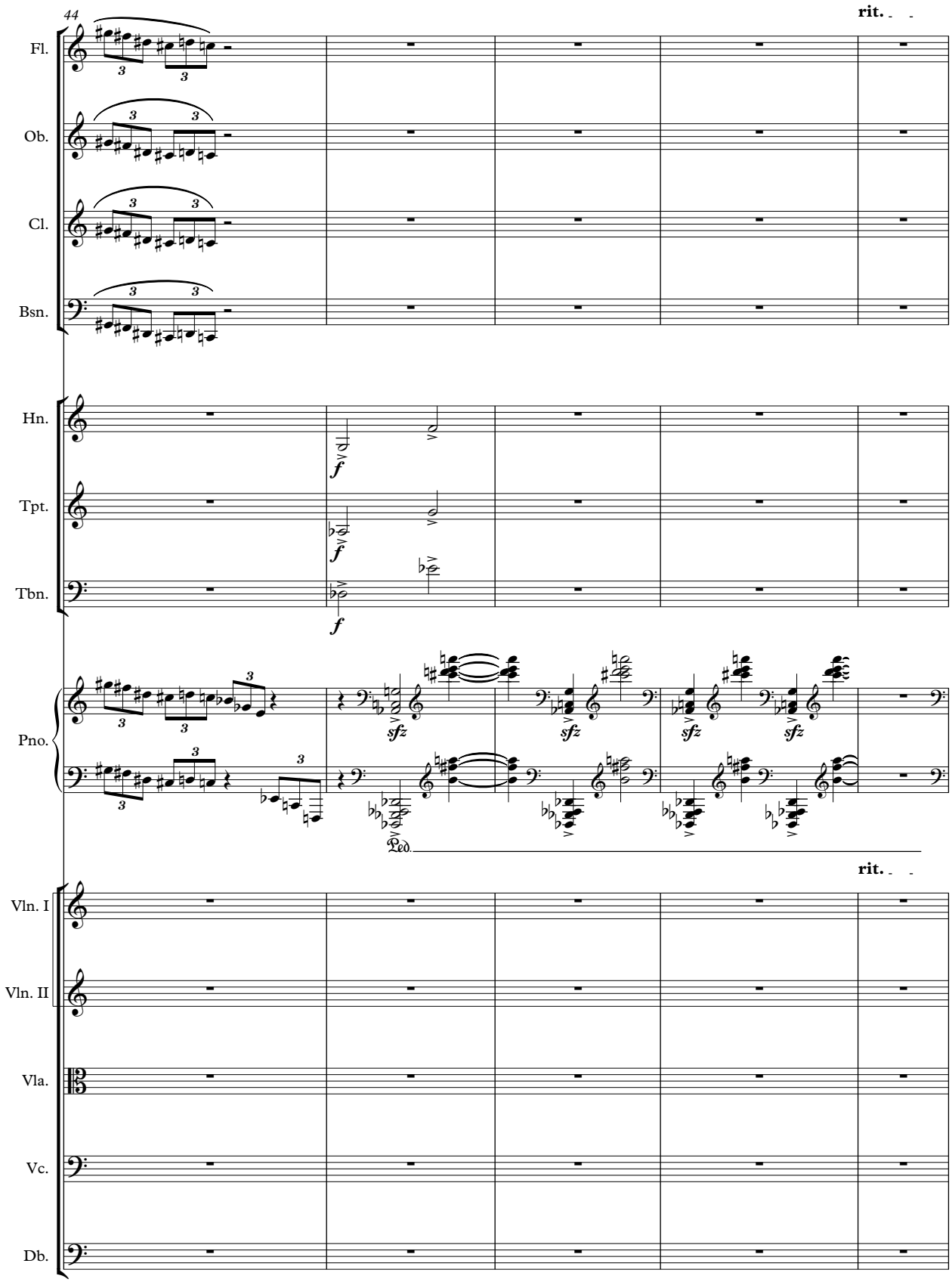

28
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
sfz
mp
mf
pizz.

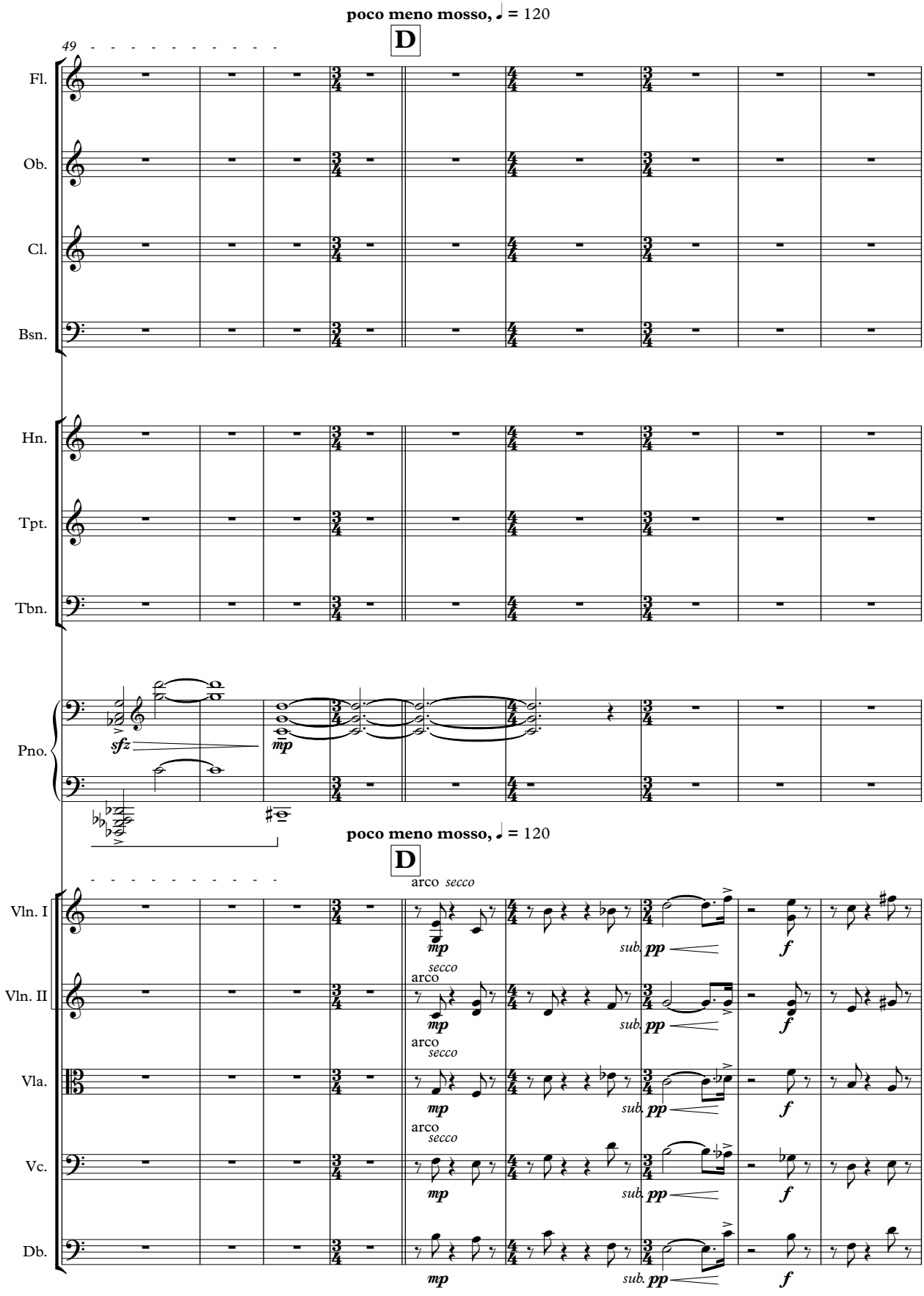

31
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
3

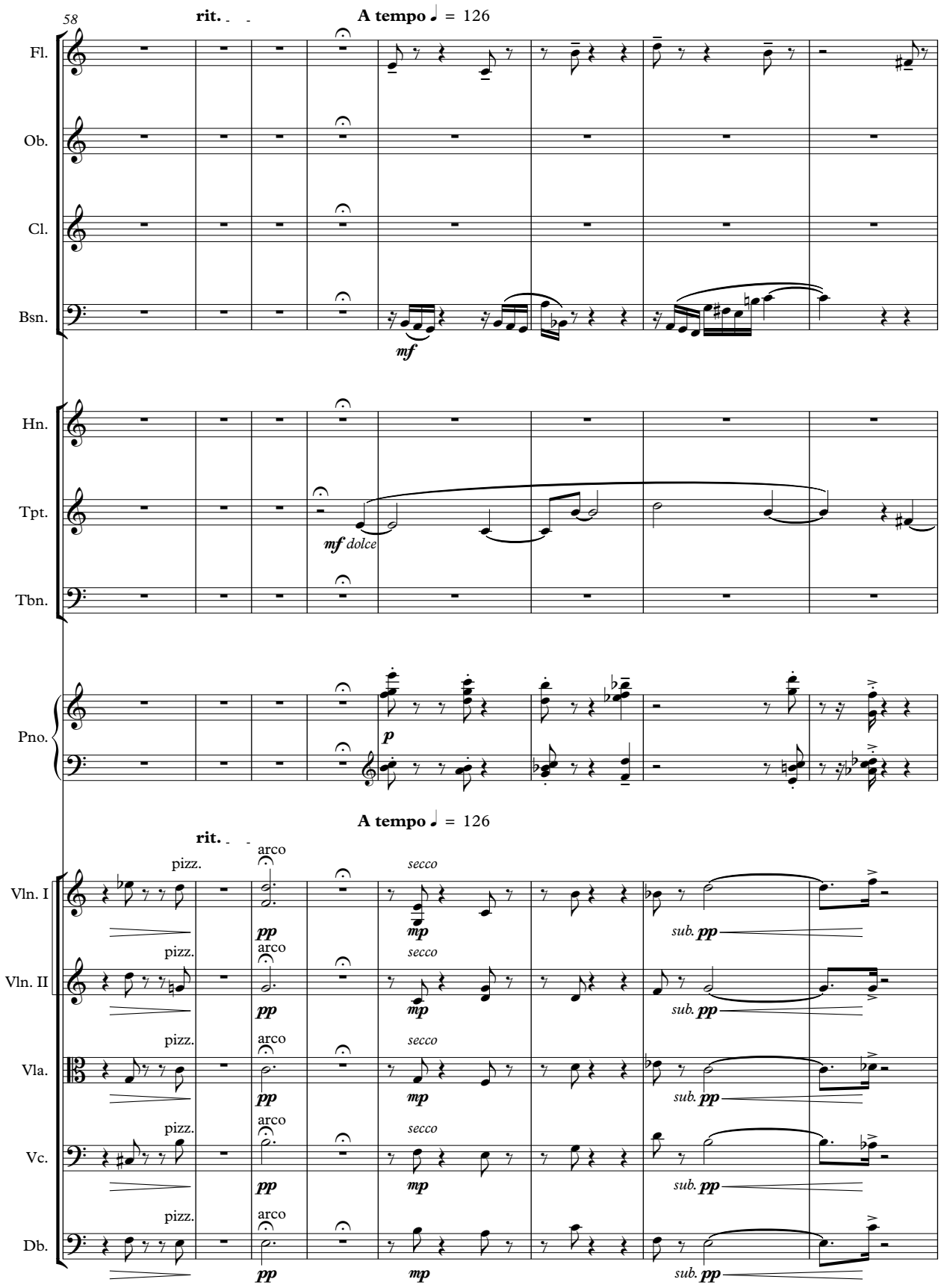

35
C
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
mf
mp
mf molto marcato
C
pizz.
Vln. I
Vln. II
Vla.
Vc.
Db.
f

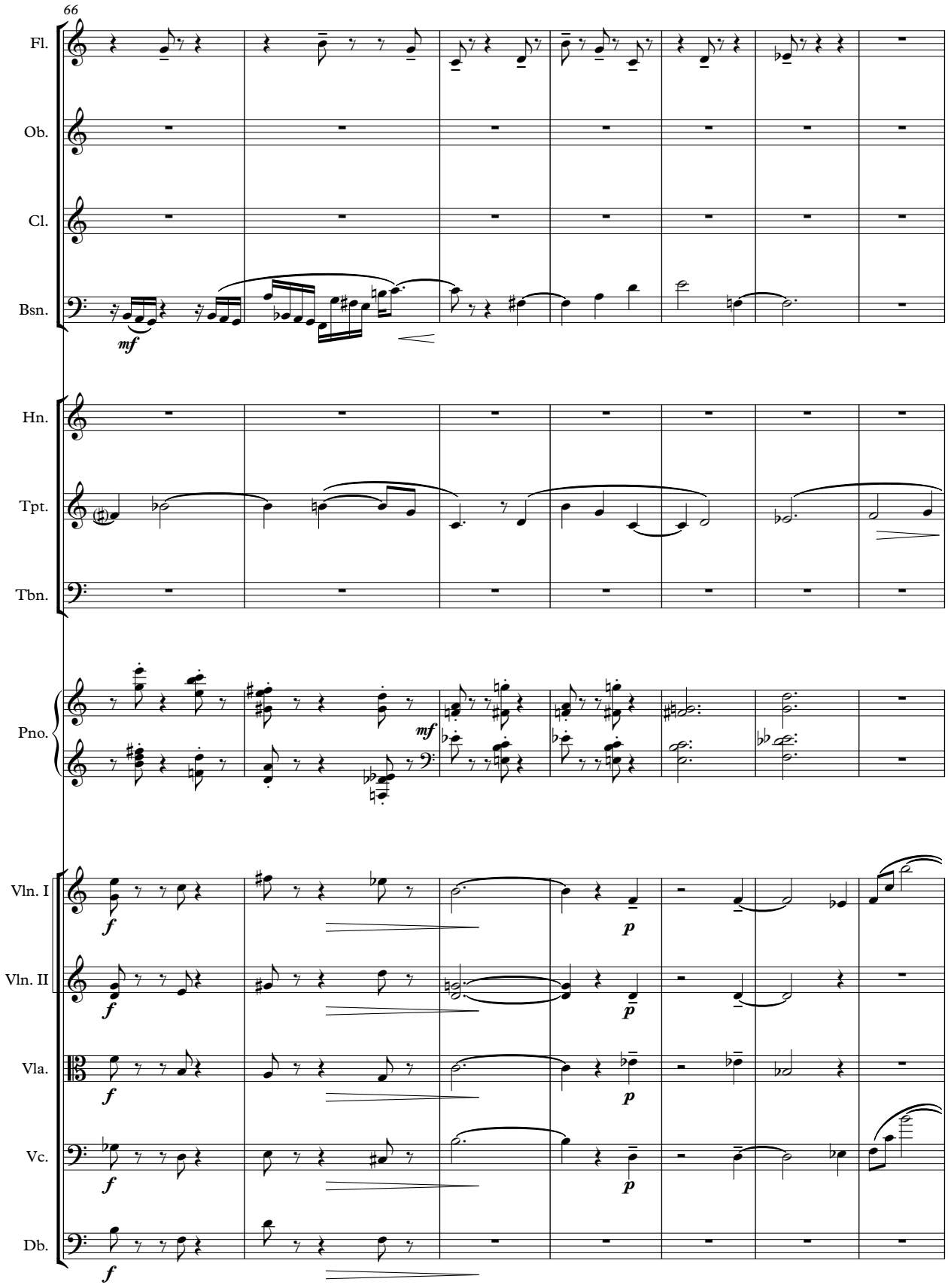

38
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mp
ff
f
8vb

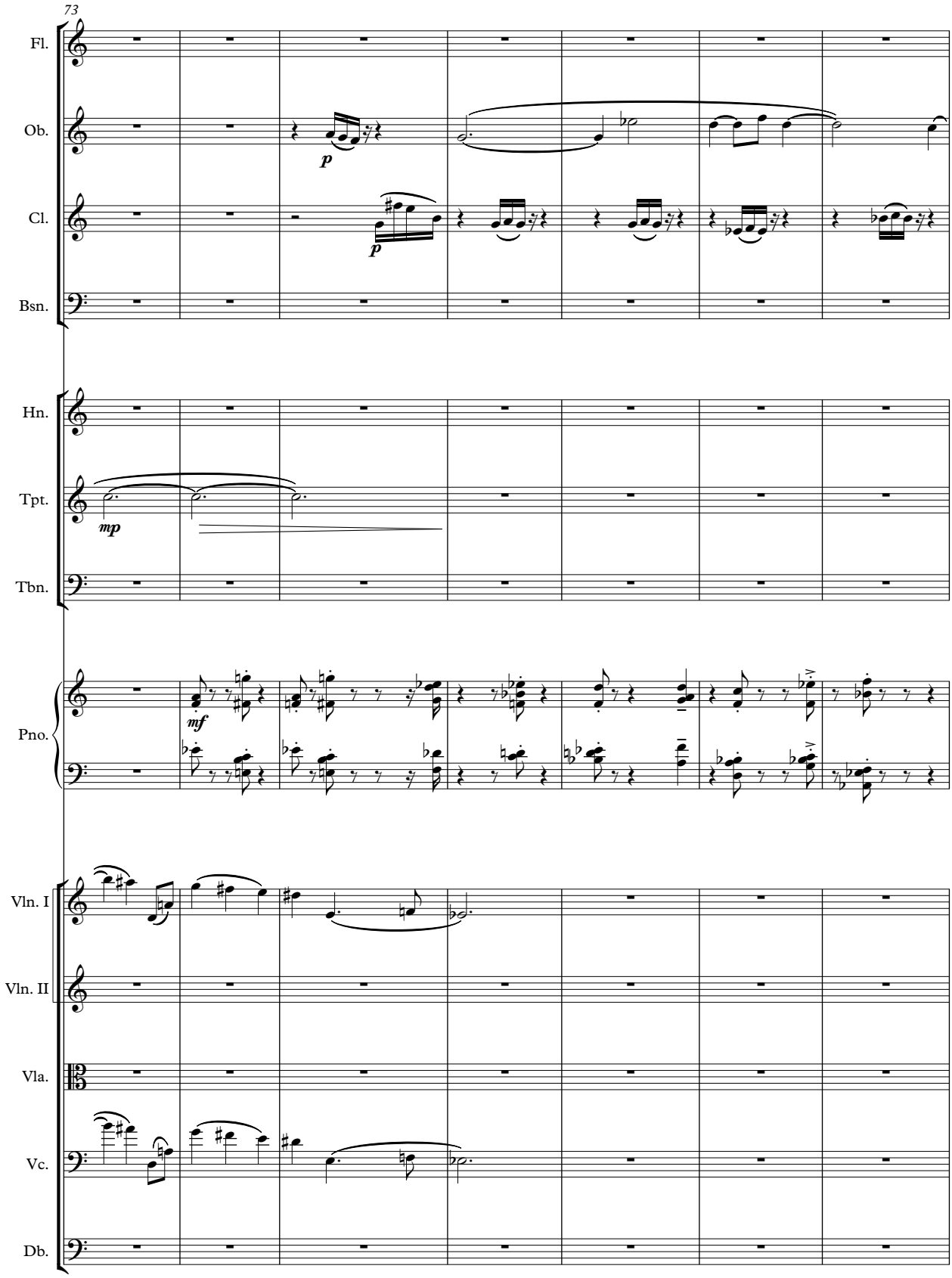

41
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
ff
fff
tutta forza
sfz
arco
3

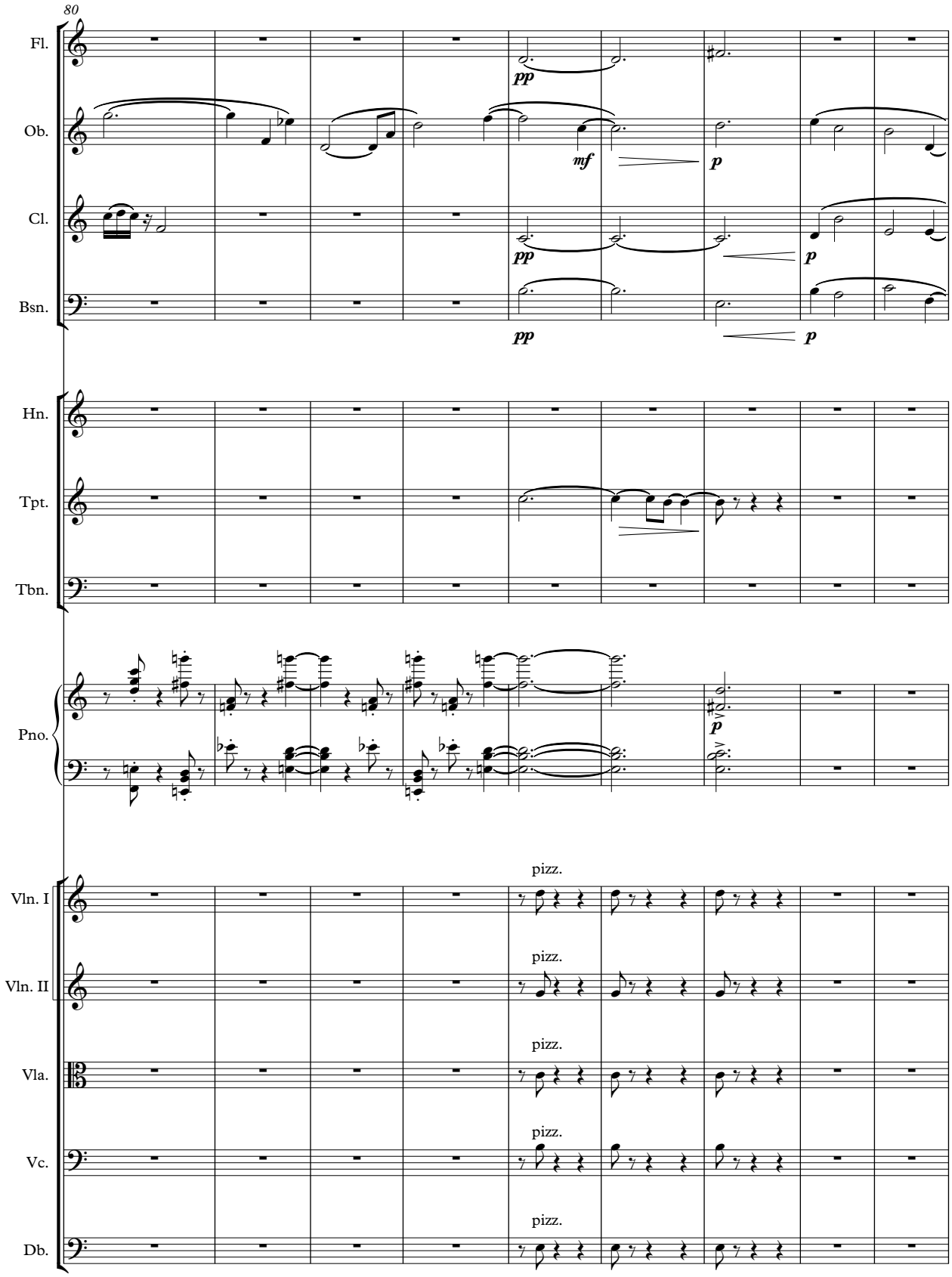

44
rit.
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Ped.
rit.
Vln. I
Vln. II
Vla.
Vc.
Db.

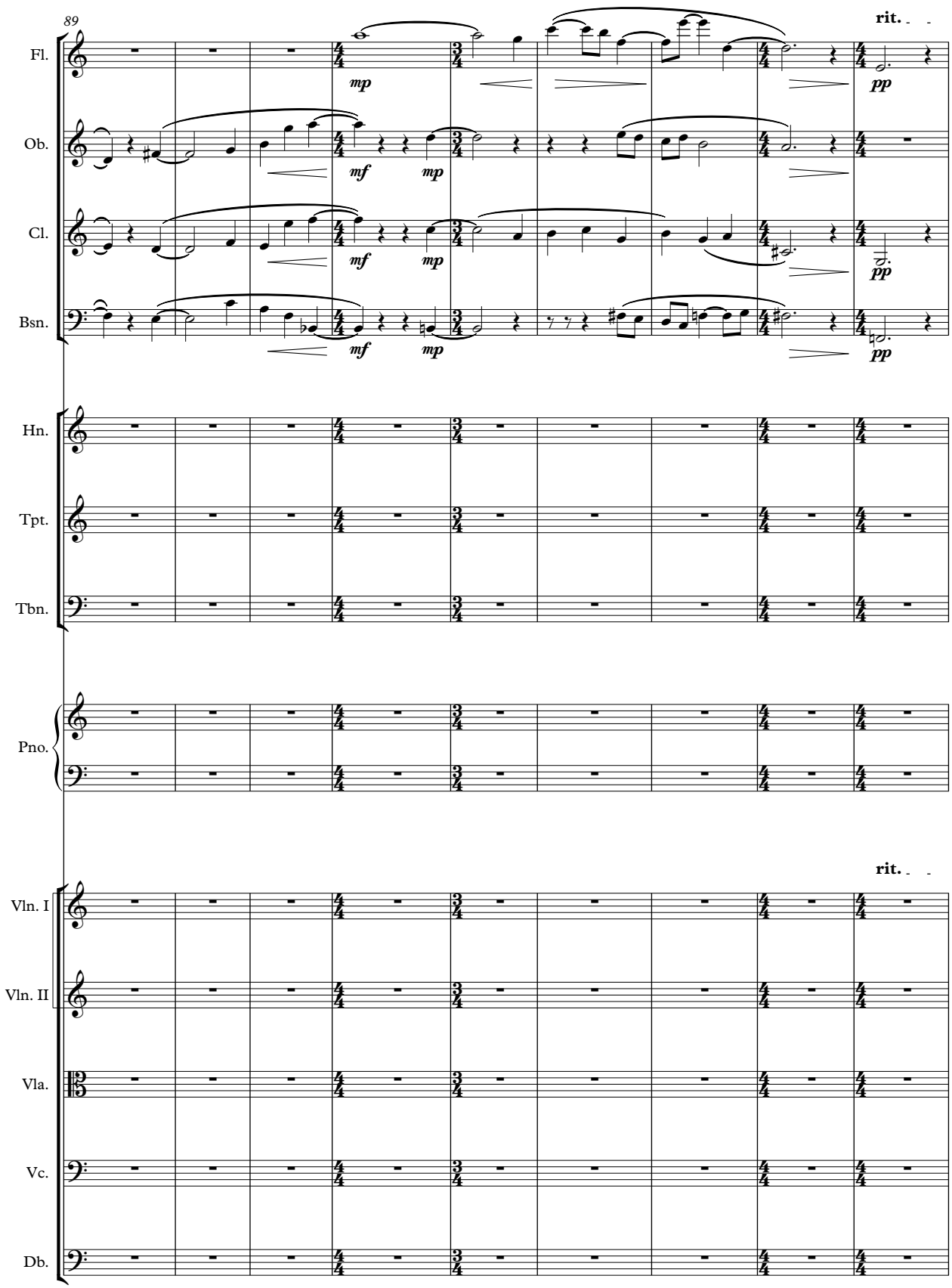

poco meno mosso, ♩ = 120
D
49
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
sfz
mp
poco meno mosso, ♩ = 120
D
arco secco
Vln. I
Vln. II
Vla.
Vc.
Db.
mp
sub. pp
f

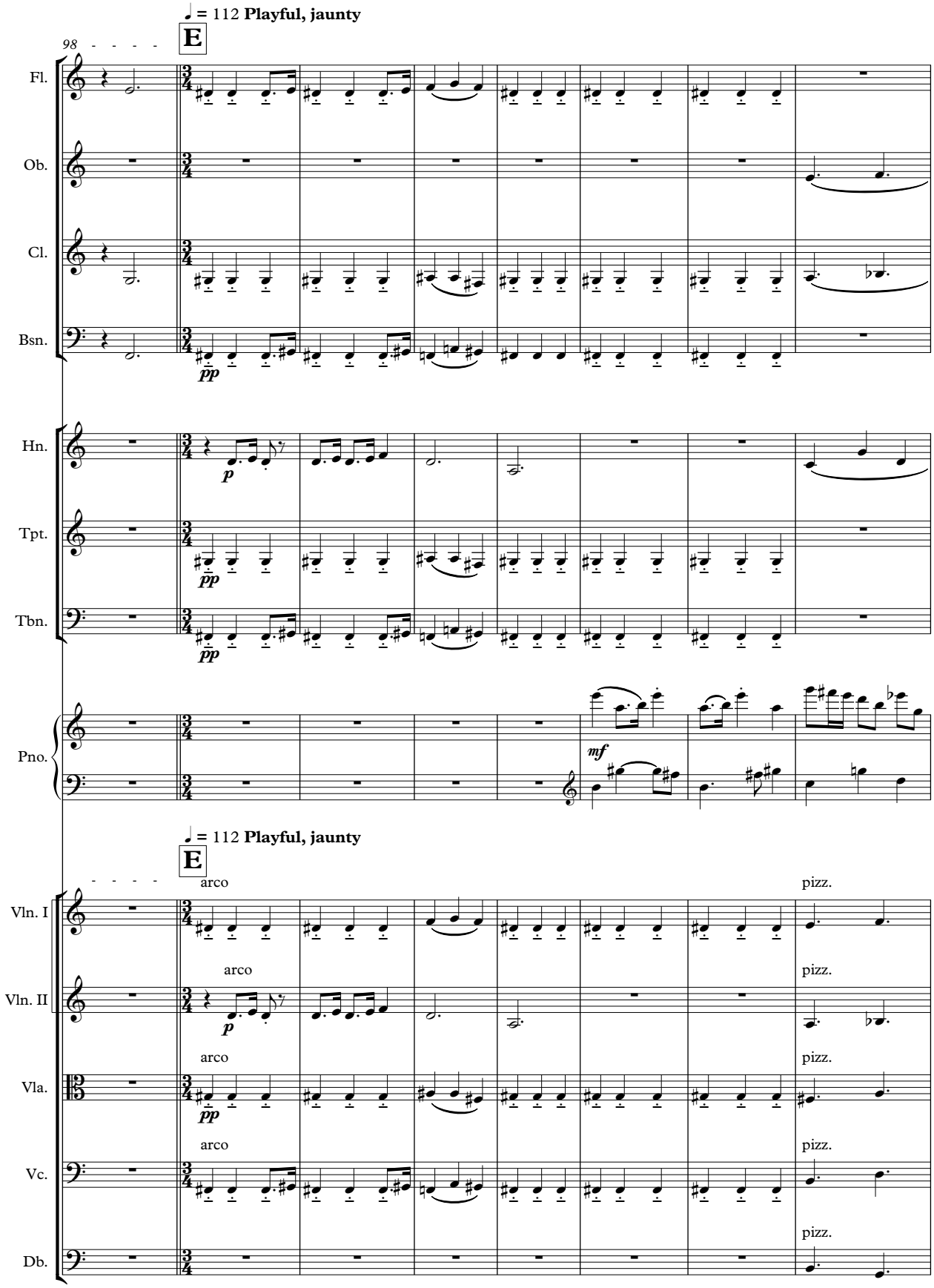

58
rit.
A tempo ♩ = 126
Fl.
Ob.
Cl.
Bsn.
mf
Hn.
Tpt.
mf dolce
Tbn.
Pno.
p
rit.
A tempo ♩ = 126
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz.
arco
pp
secco
mp
sub. pp

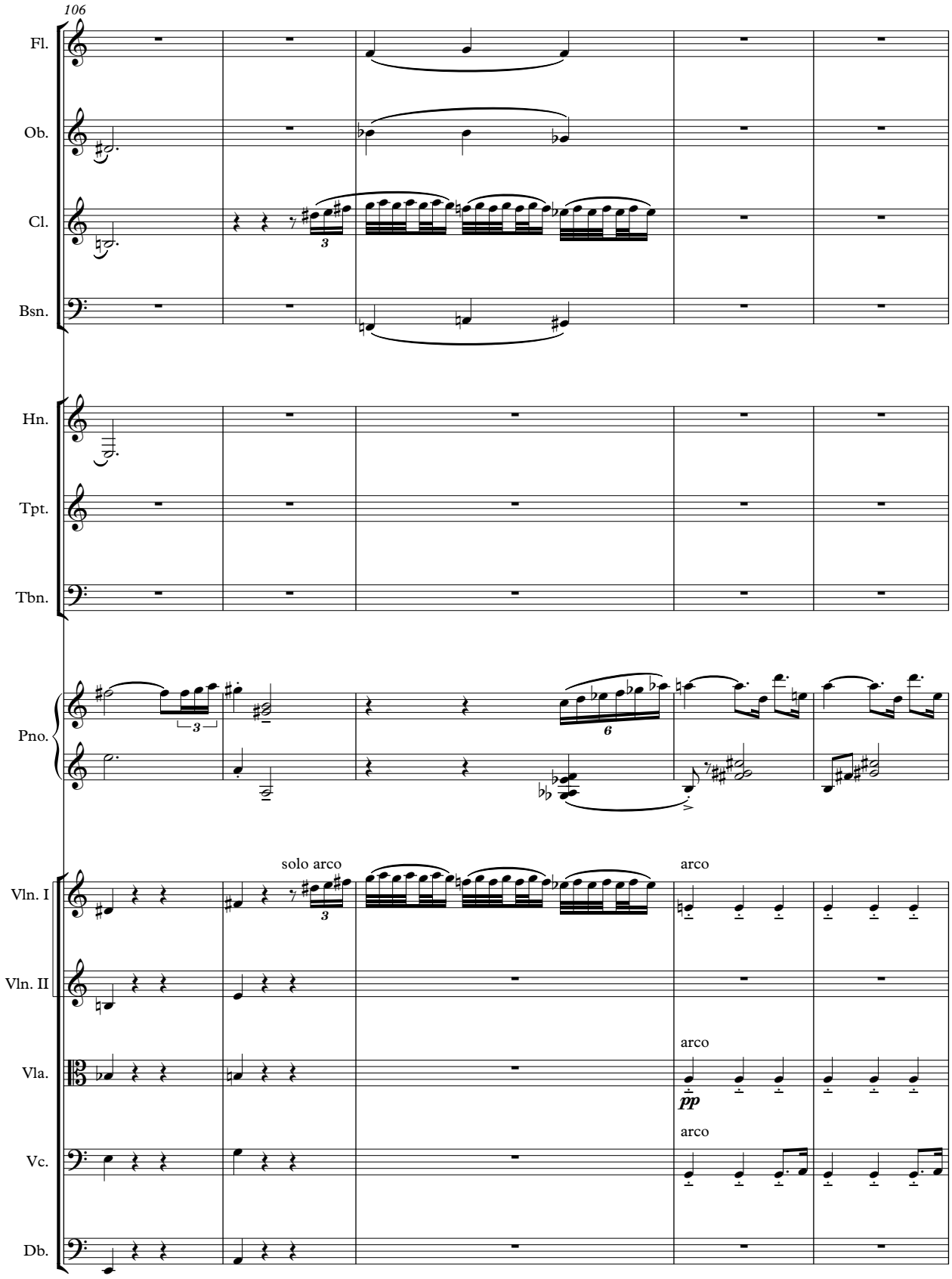

66
Fl.
Ob.
Cl.
Bsn.
mf
Hn.
Tpt.
Tbn.
Pno.
mf
Vln. I
Vln. II
Vla.
Vc.
Db.
f
p

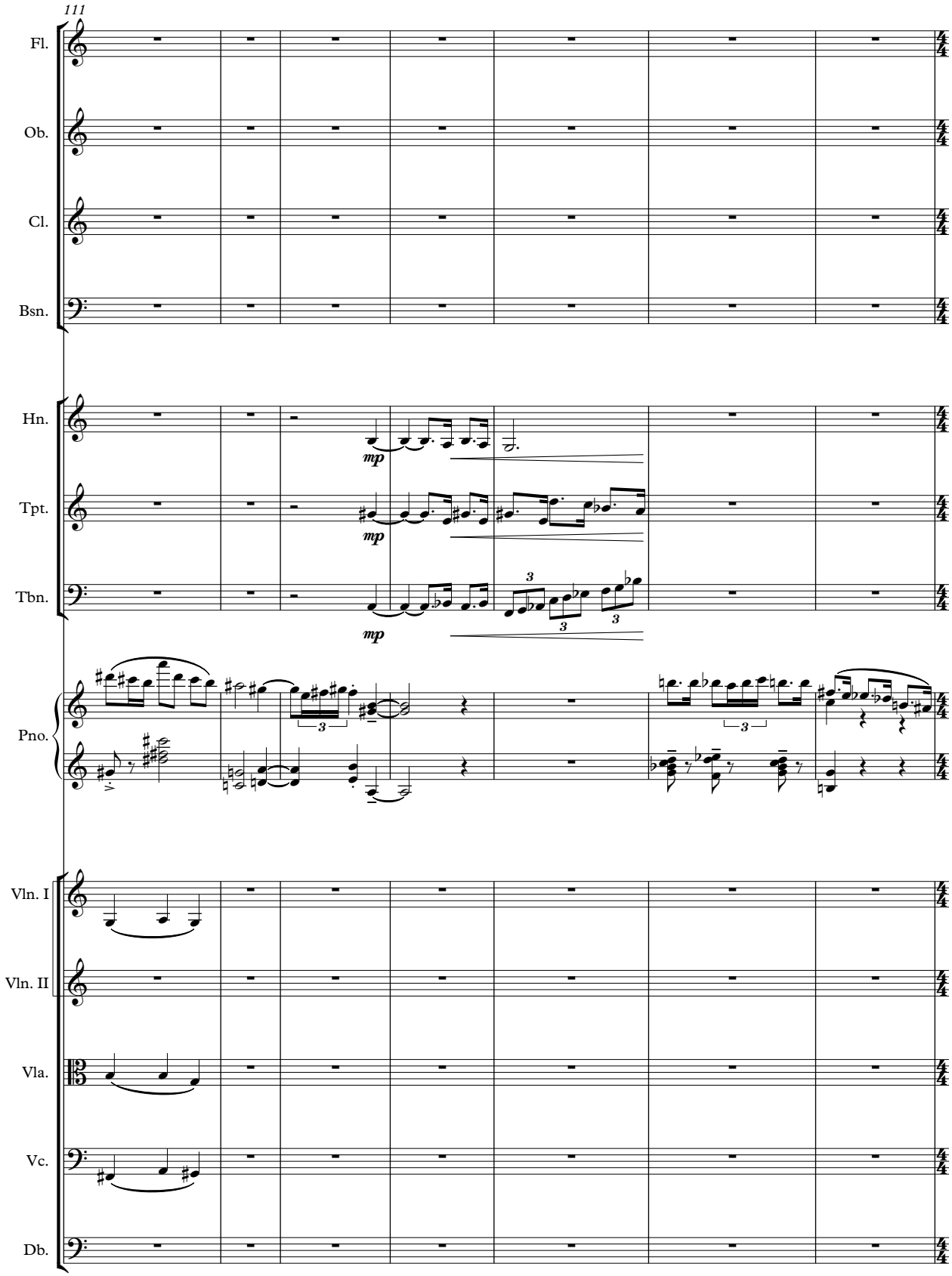

73
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
p
mp
mf

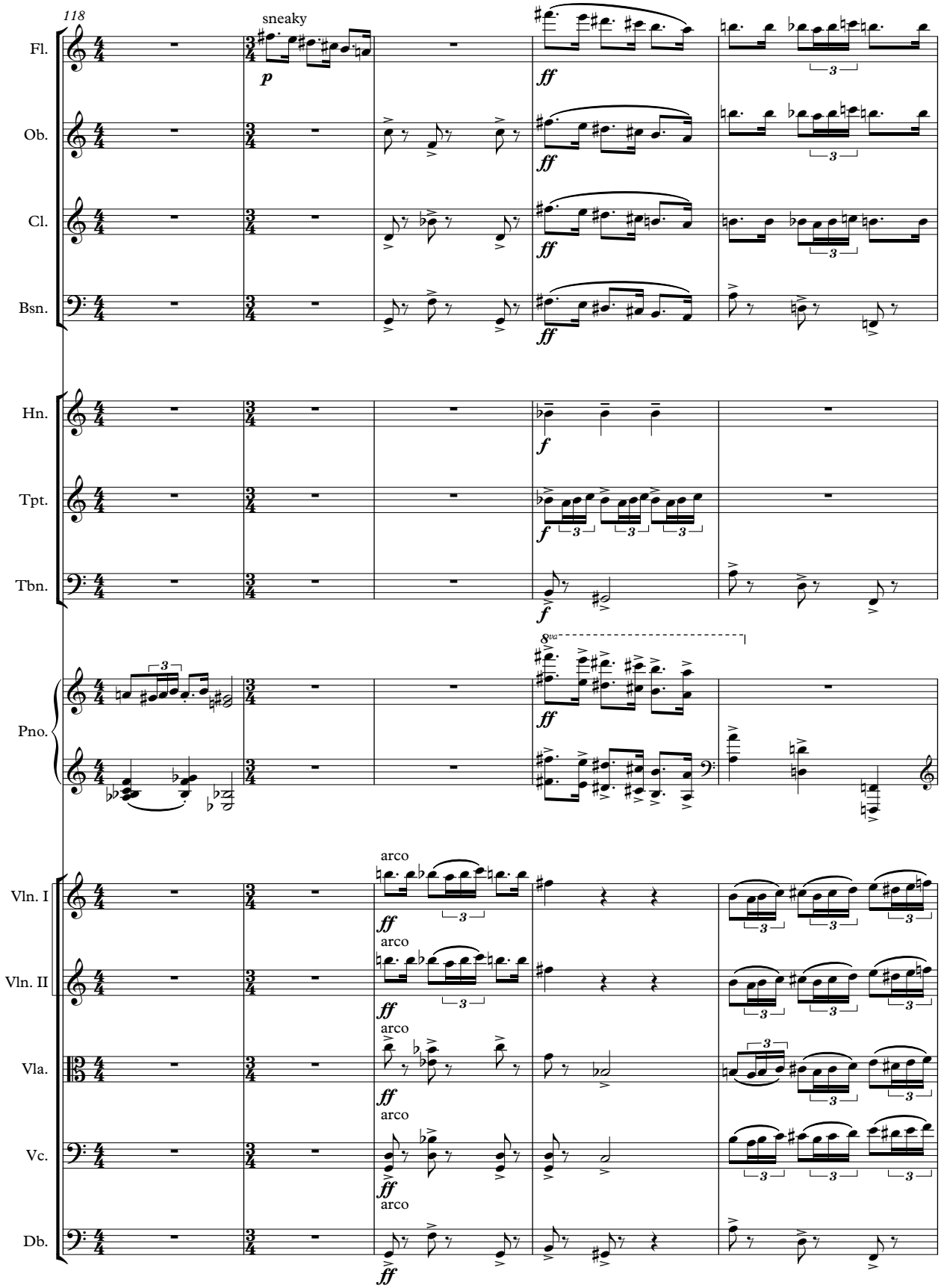

80
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
pp
mf
p
pizz.

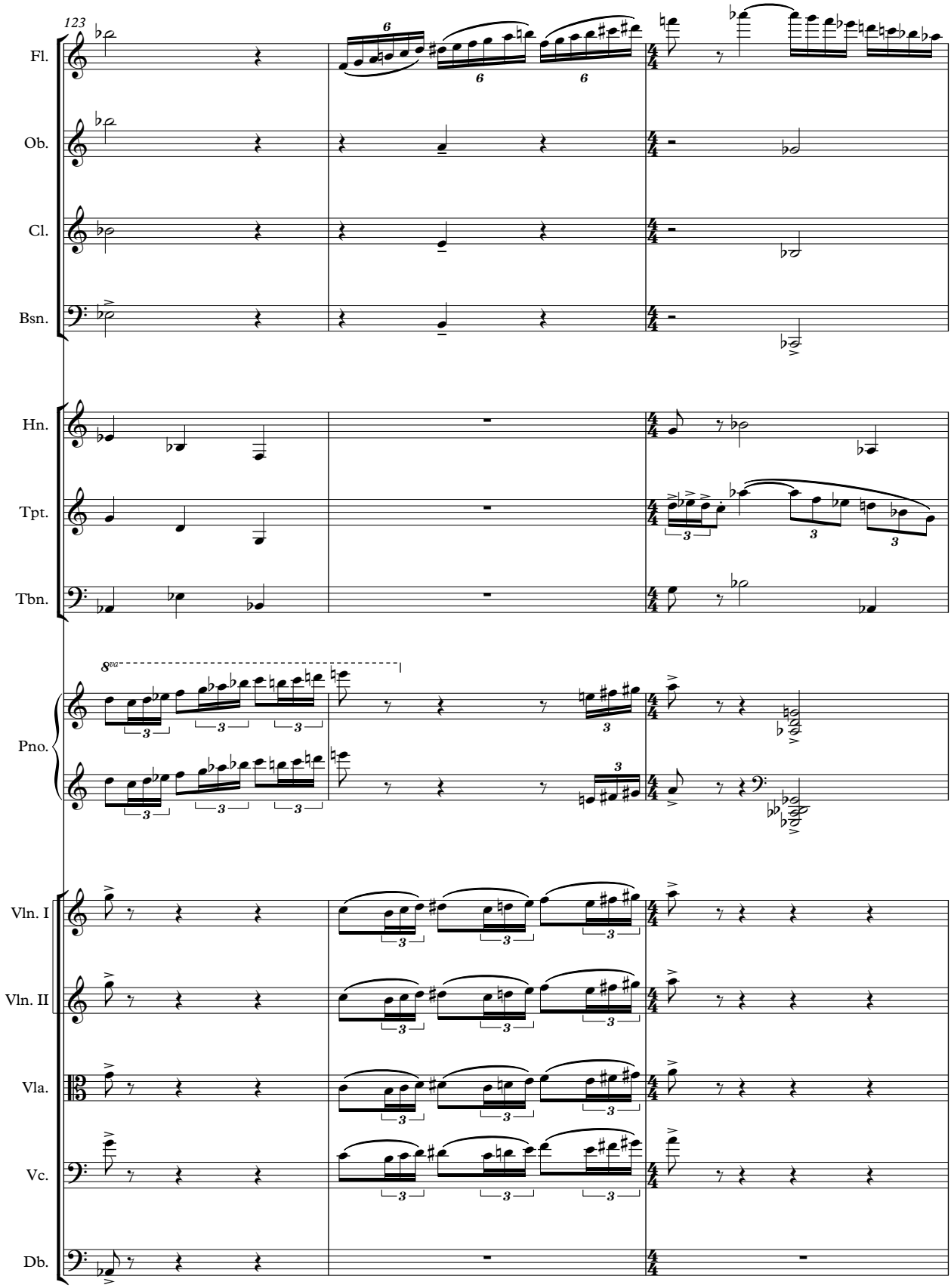

89
rit.
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
rit.
Vln. I
Vln. II
Vla.
Vc.
Db.
mp
mf
pp

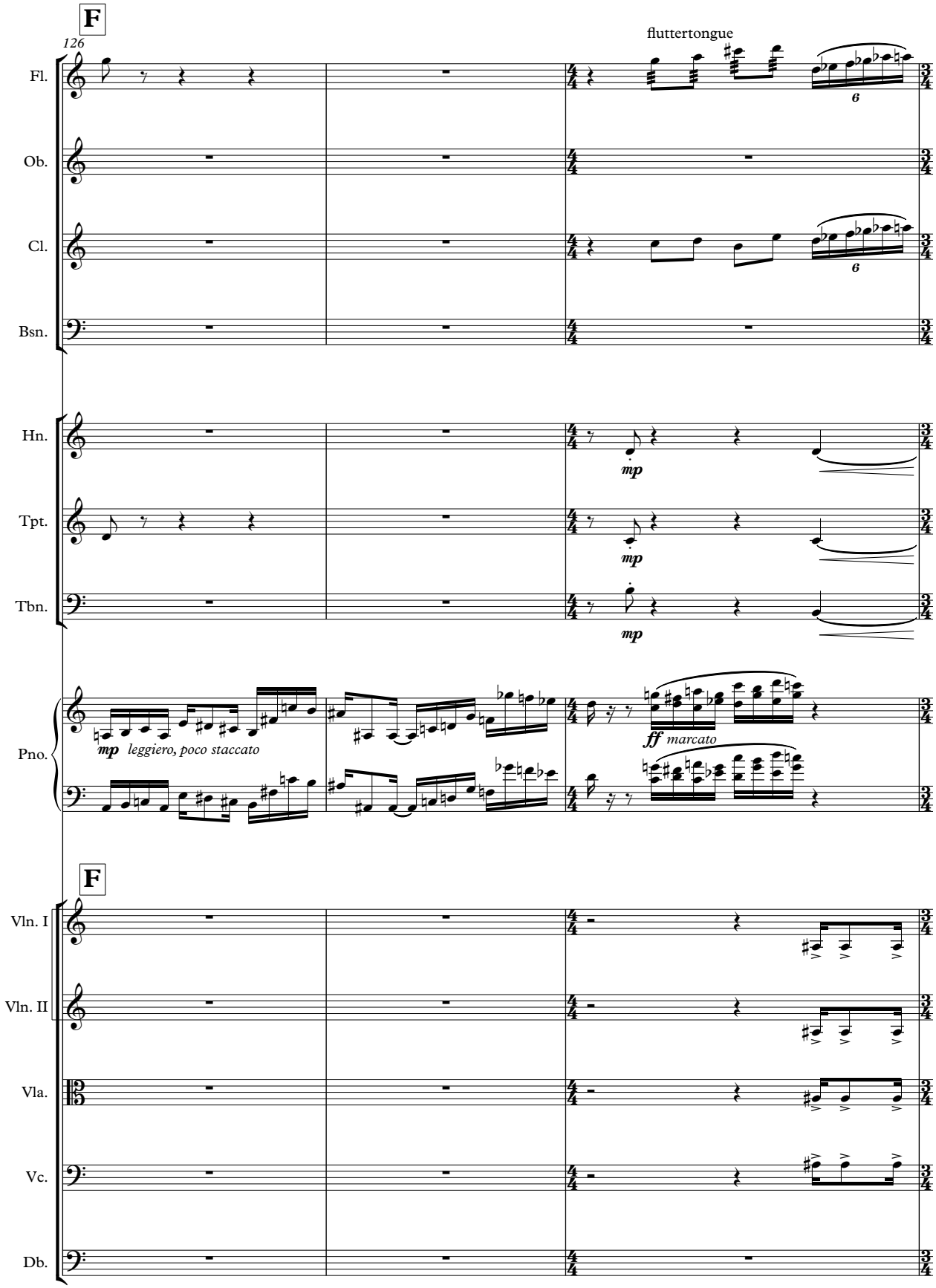

♩ = 112 Playful, jaunty
98
E
Fl.
Ob.
Cl.
Bsn.
pp
Hn.
p
Tpt.
pp
Tbn.
pp
Pno.
mf
♩ = 112 Playful, jaunty
E
Vln. I
arco
pizz.
Vln. II
arco
p
pizz.
Vla.
arco
pp
pizz.
Vc.
arco
pizz.
Db.
pizz.

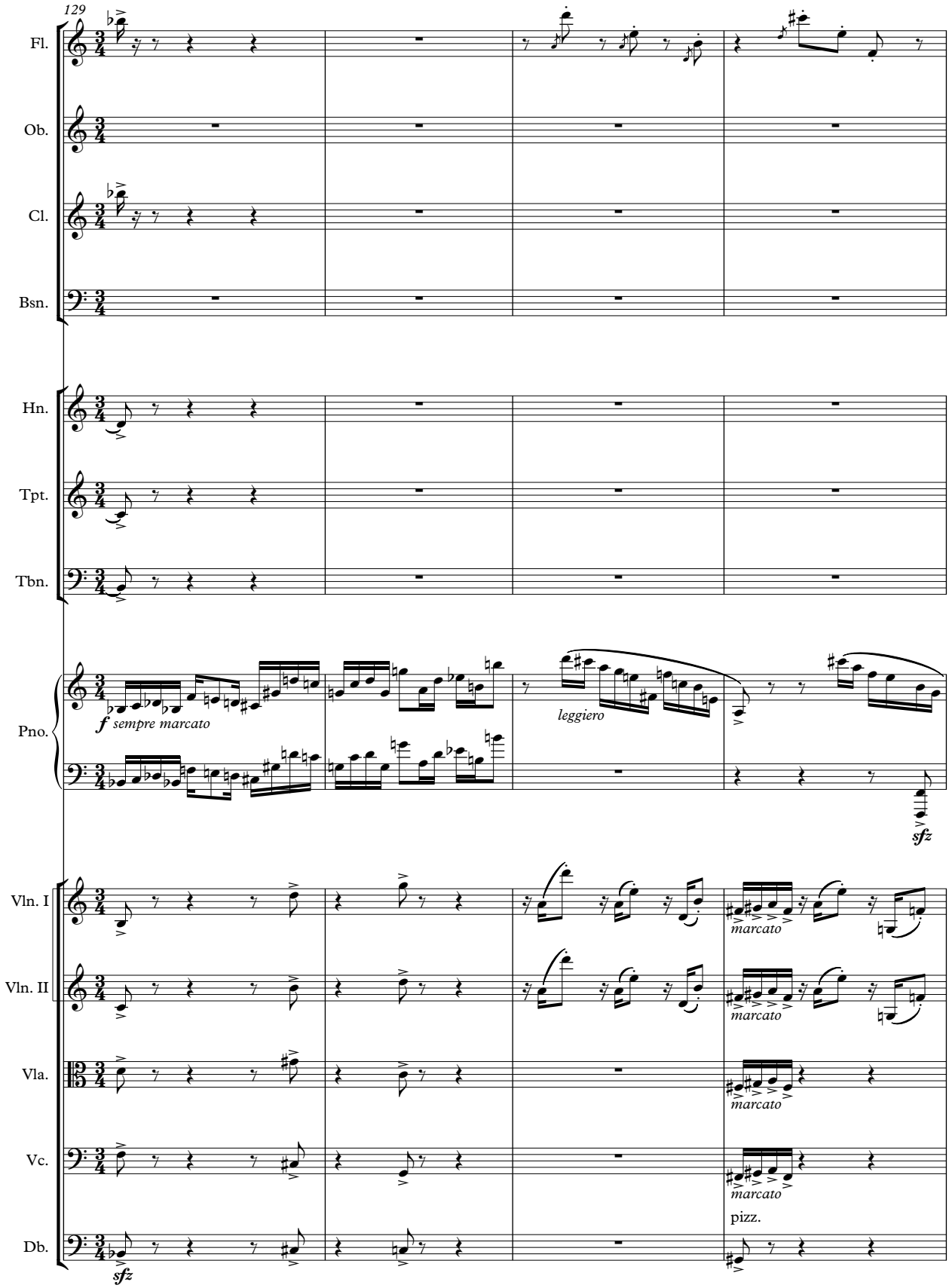

106
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
solo arco
arco
arco
arco
pp

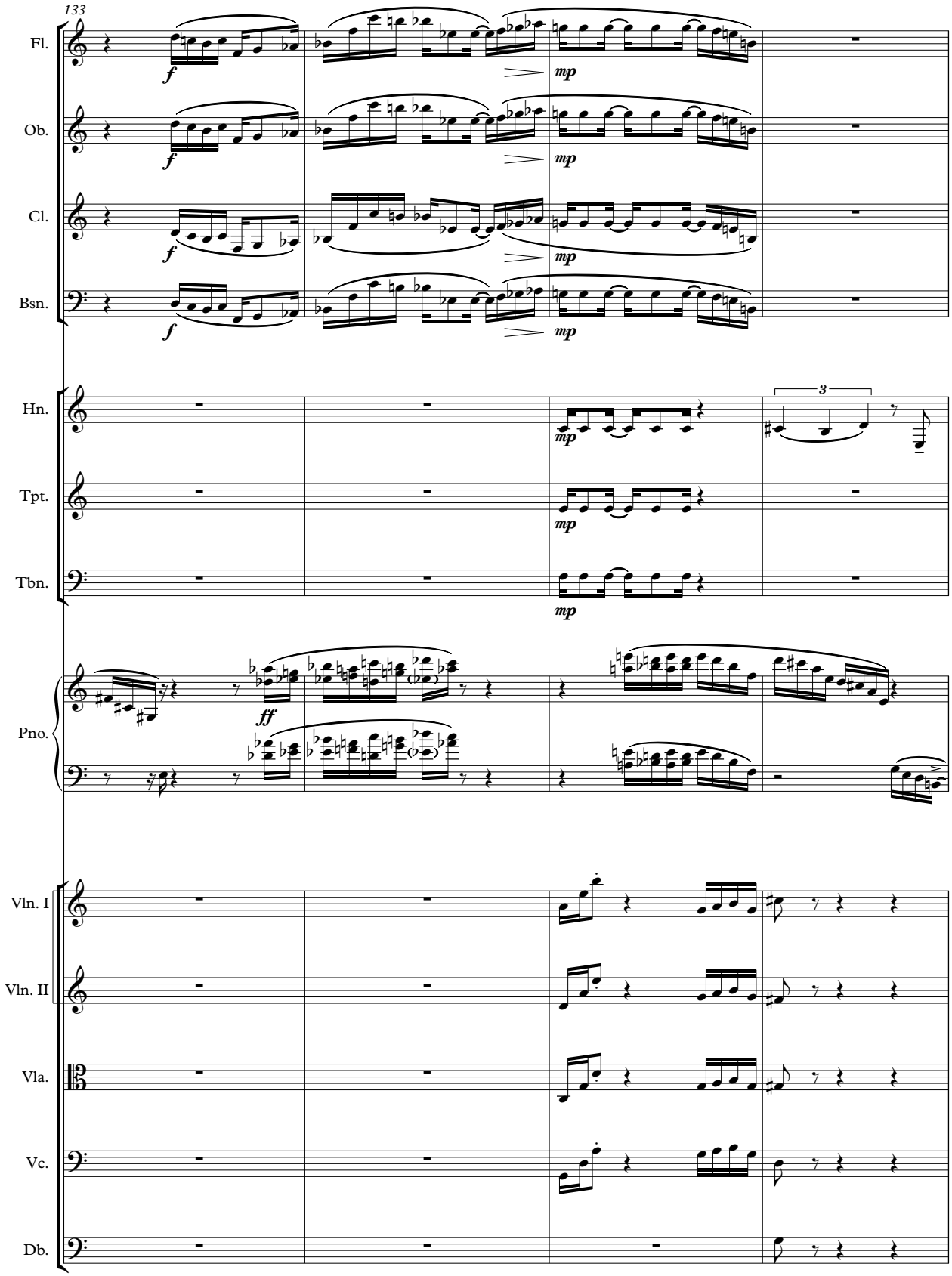

111
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mp
mp
mp
3
3
3
3

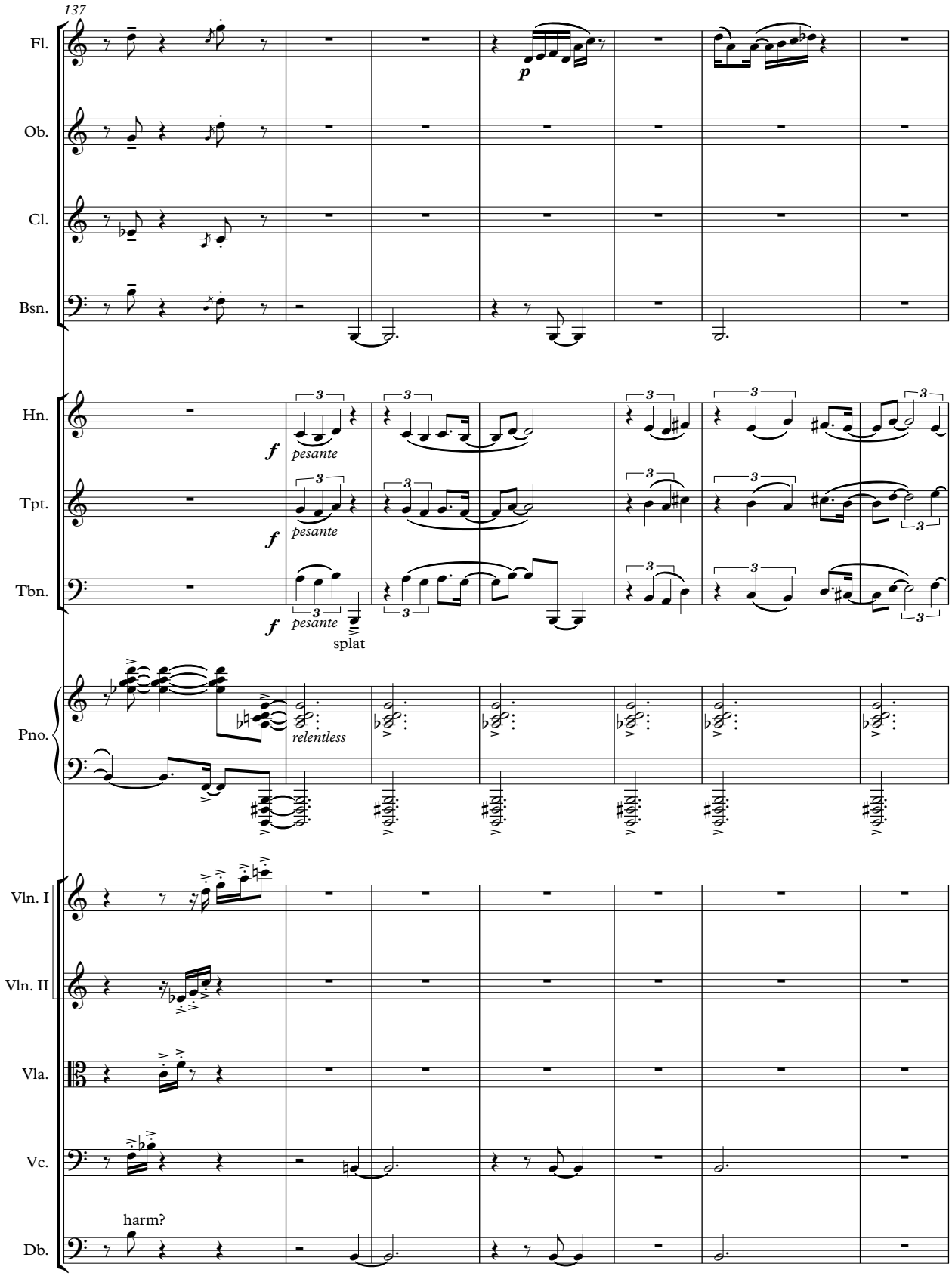

118
sneaky
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco

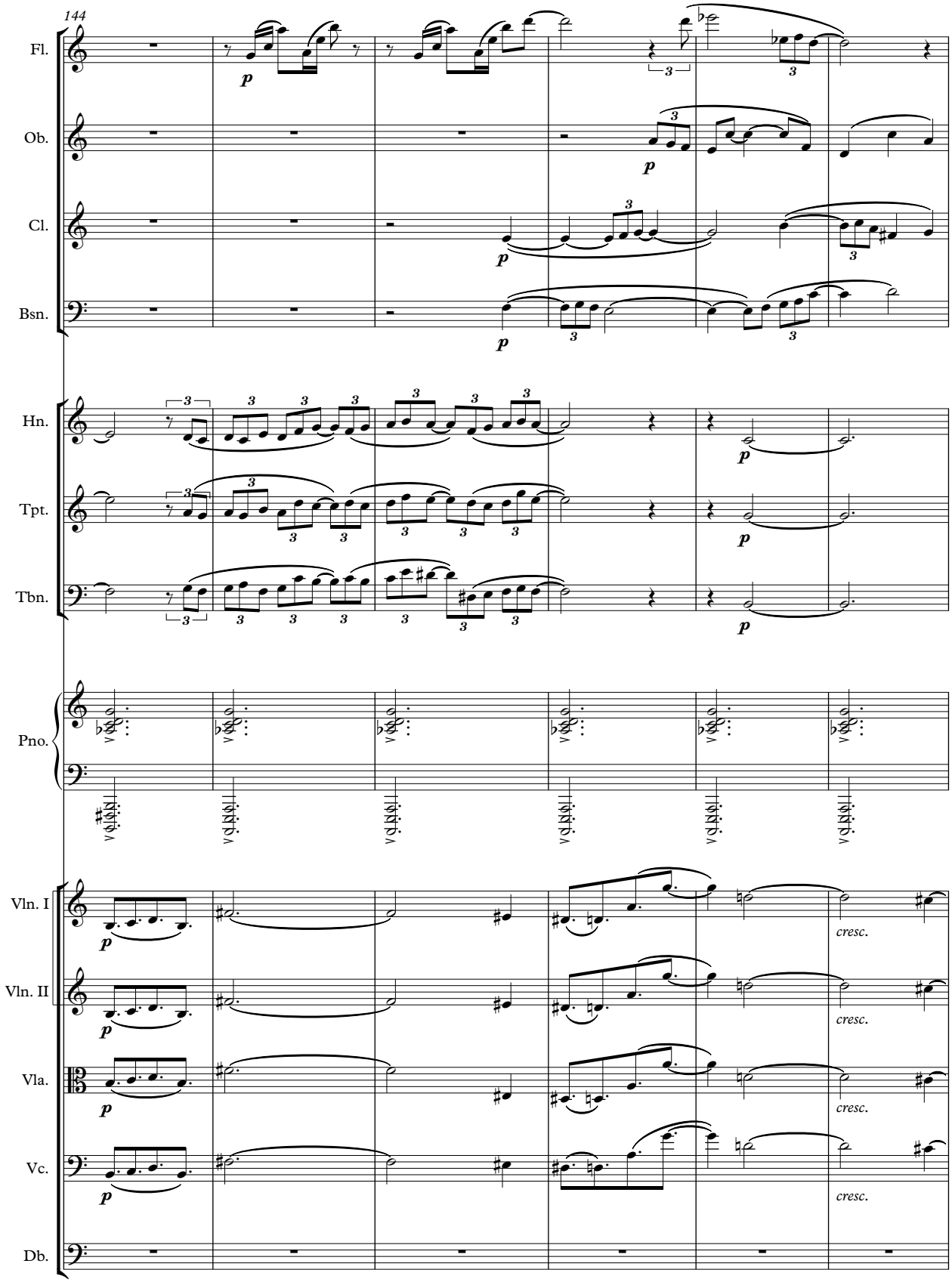

123
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
8va
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.

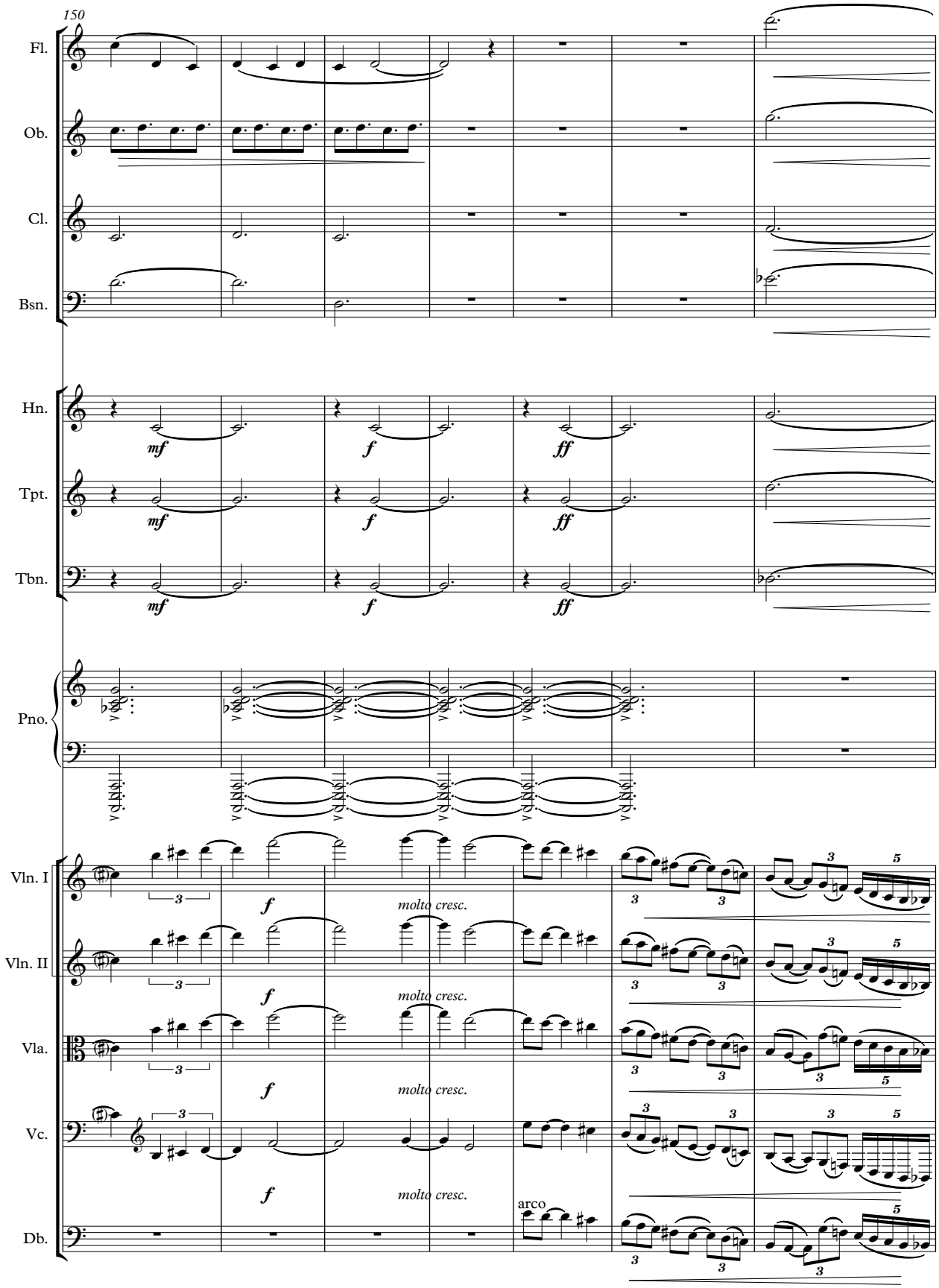

F
126
fluttertongue
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
mp leggiero, poco staccato
ff marcato
F
Vln. I
Vln. II
Vla.
Vc.
Db.

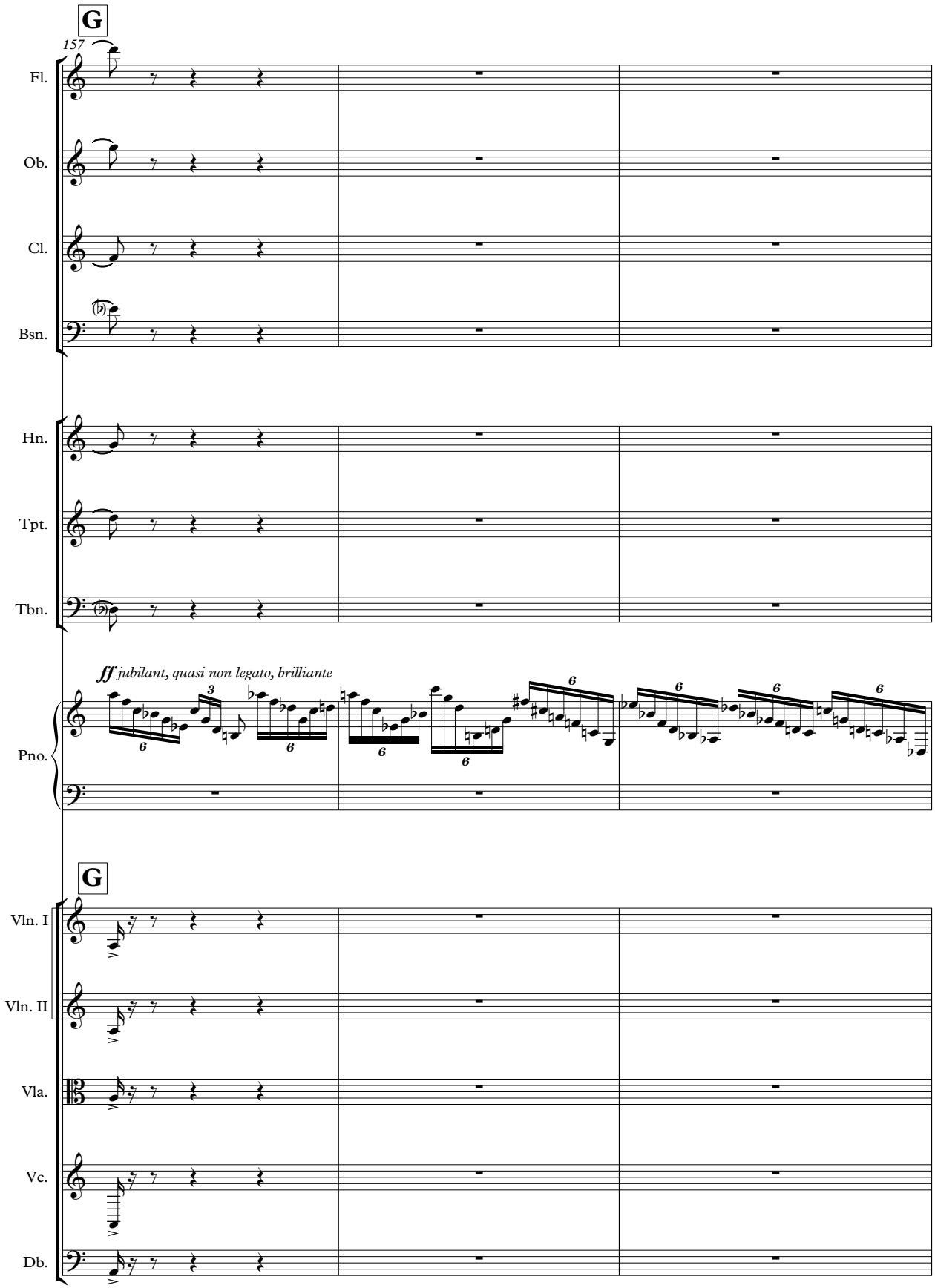

129
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
f sempre marcato
leggiero
sfz
Vln. I
Vln. II
Vla.
Vc.
Db.
marcato
marcato
marcato
marcato
pizz.
sfz

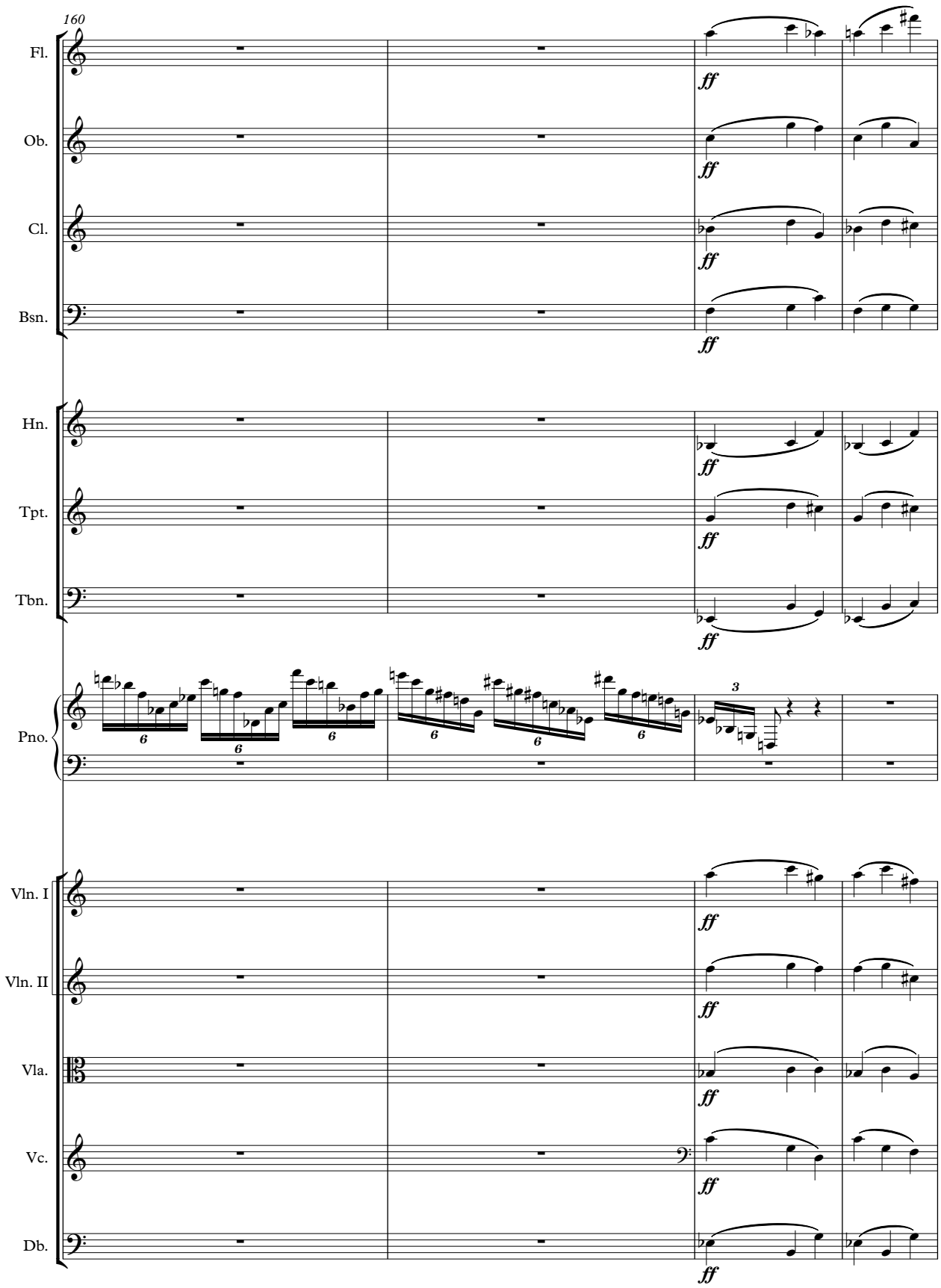

133
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
mp
ff
3

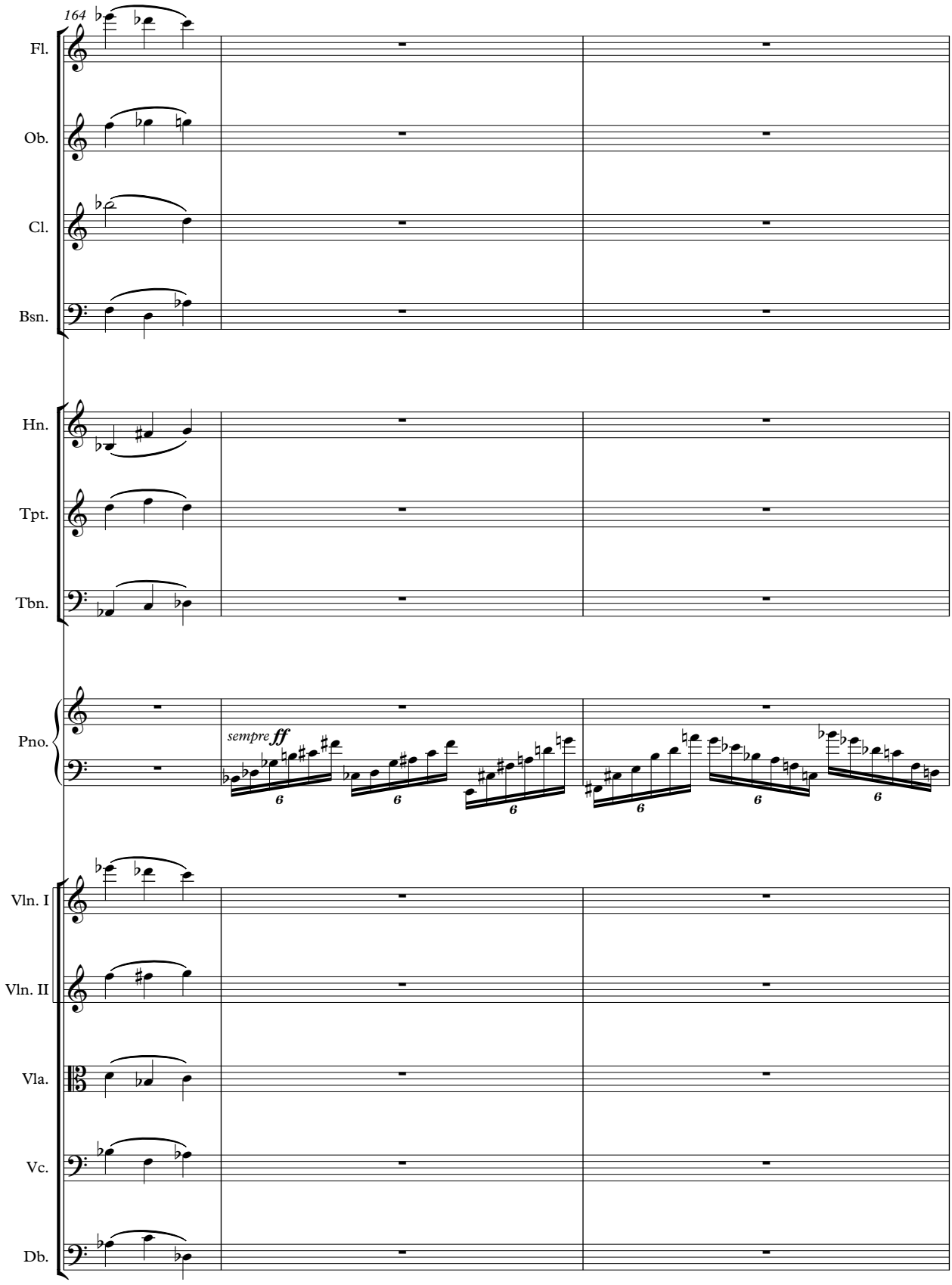

137
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
f
pesante
splat
relentless
harm?

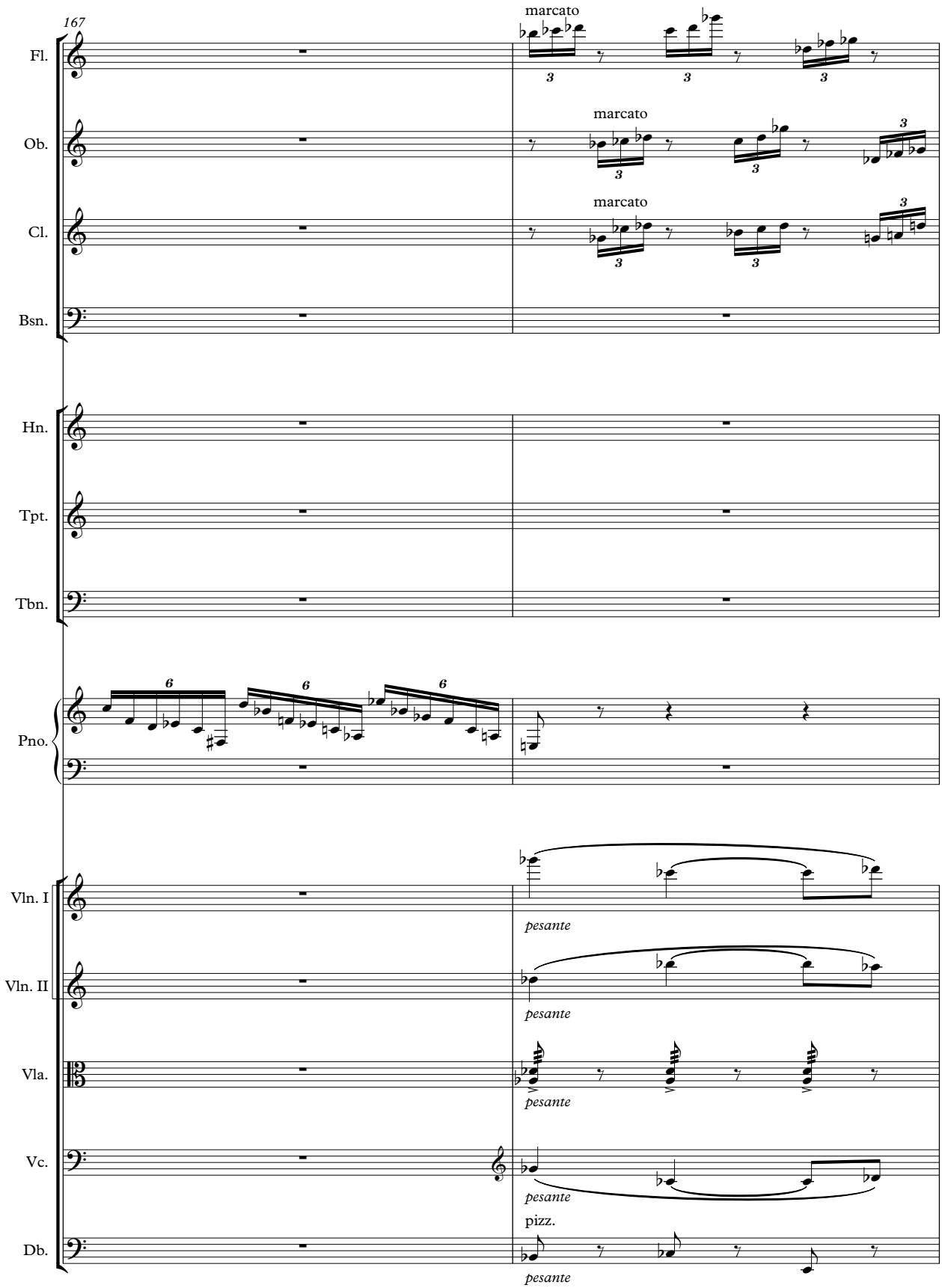

144
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
cresc.

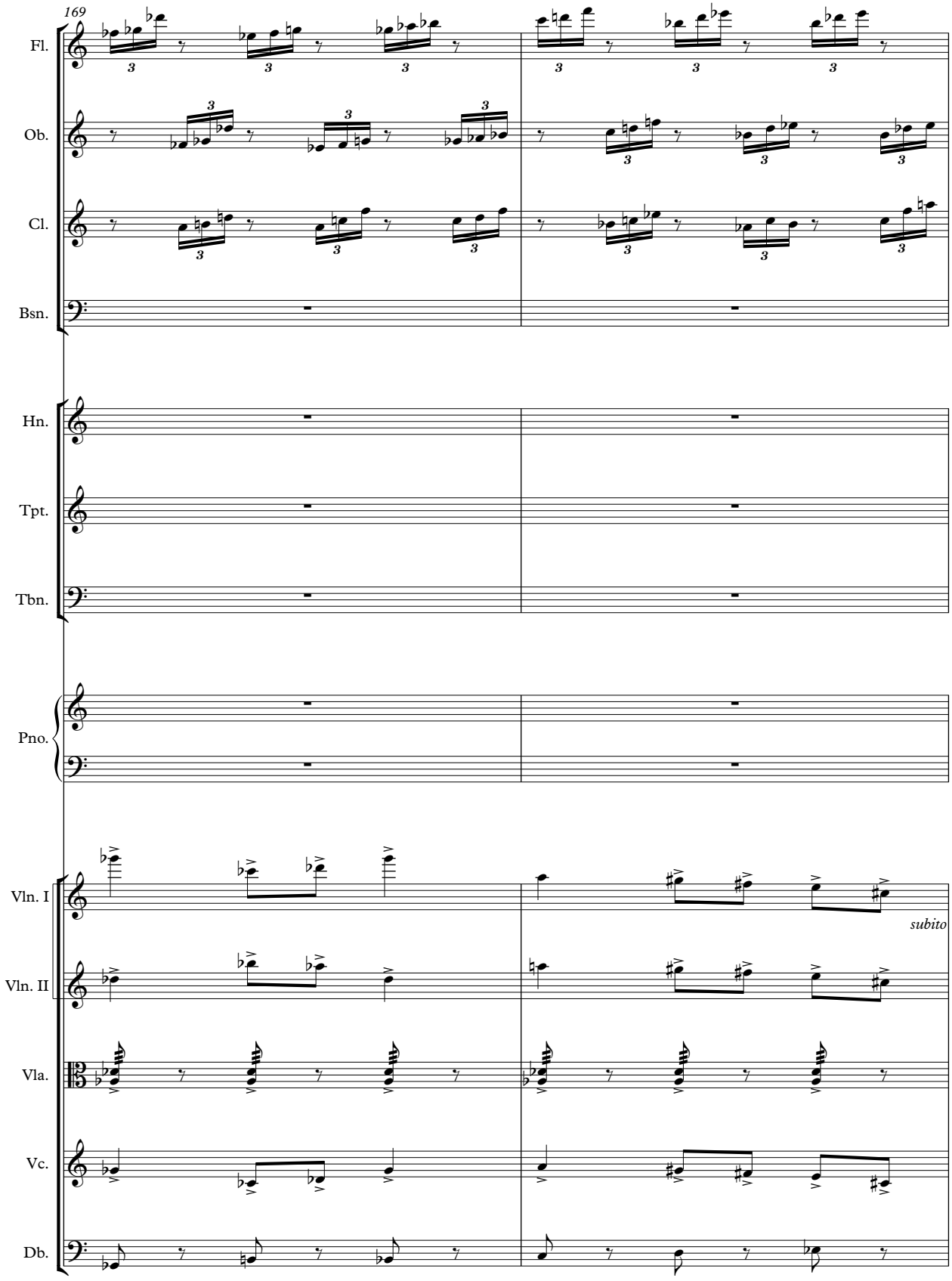

150
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mf
f
ff
molto cresc.
arco

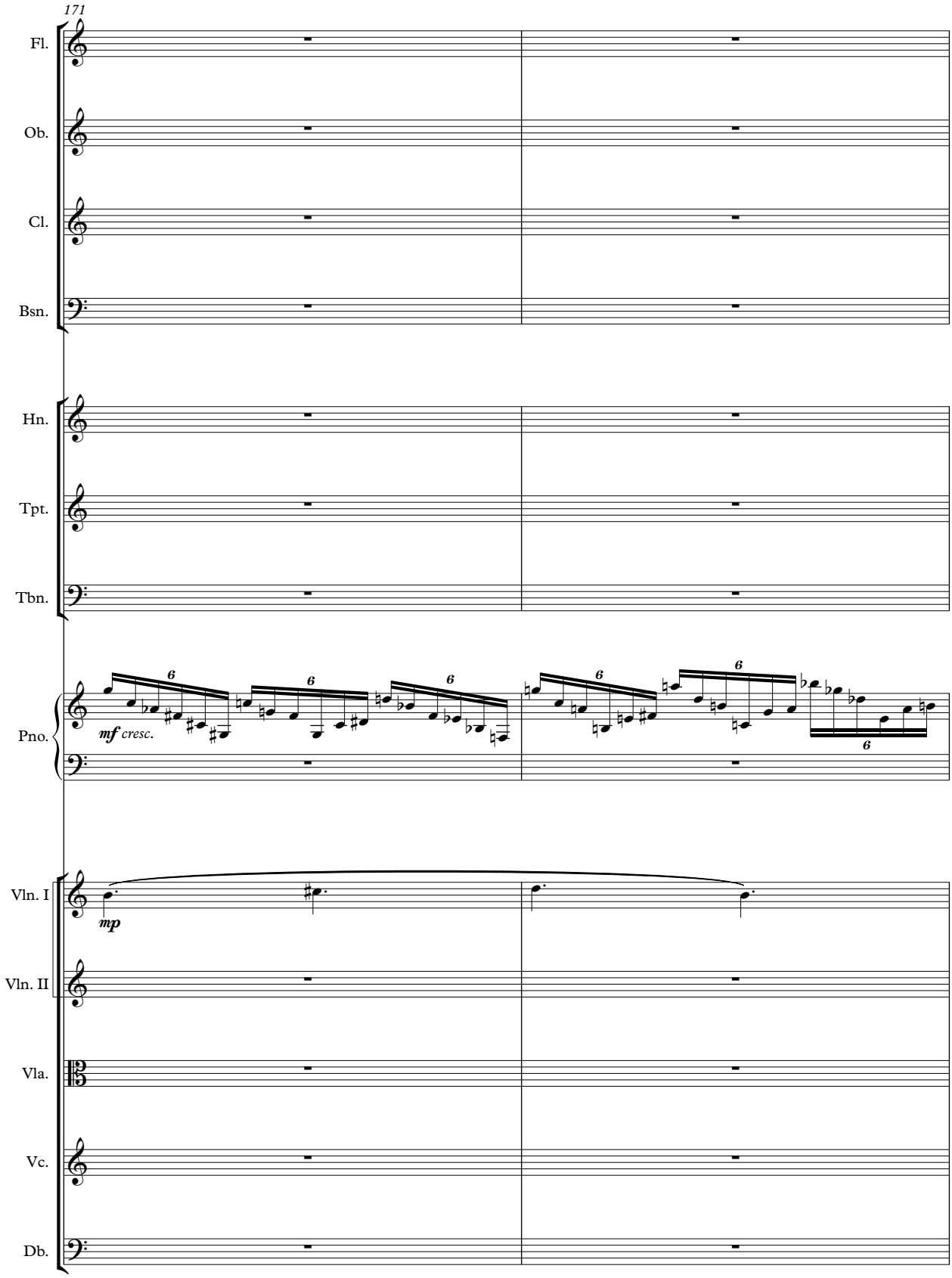

G
157
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
ff jubilant, quasi non legato, brilliante
Pno.
G
Vln. I
Vln. II
Vla.
Vc.
Db.

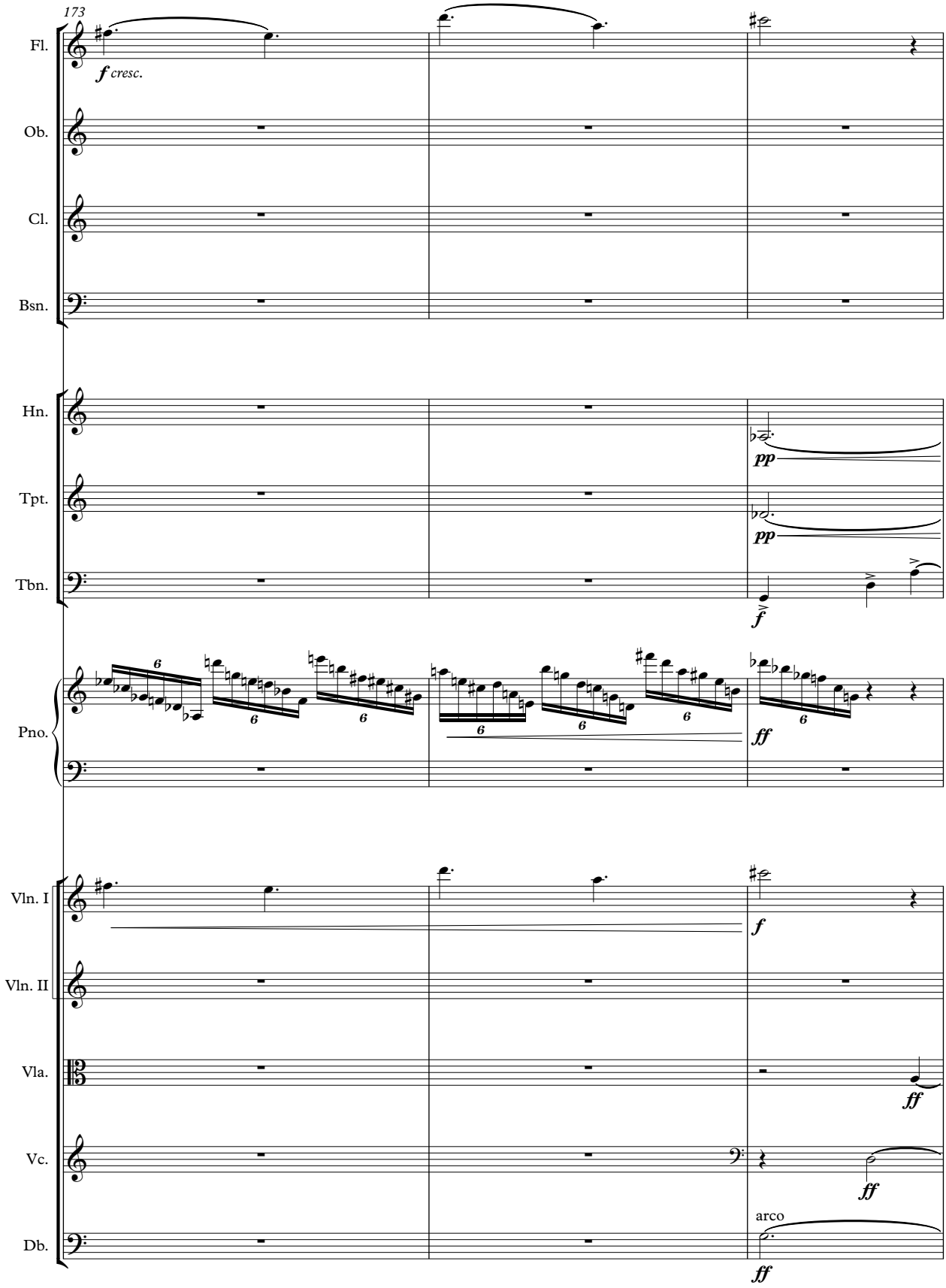

160
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
ff

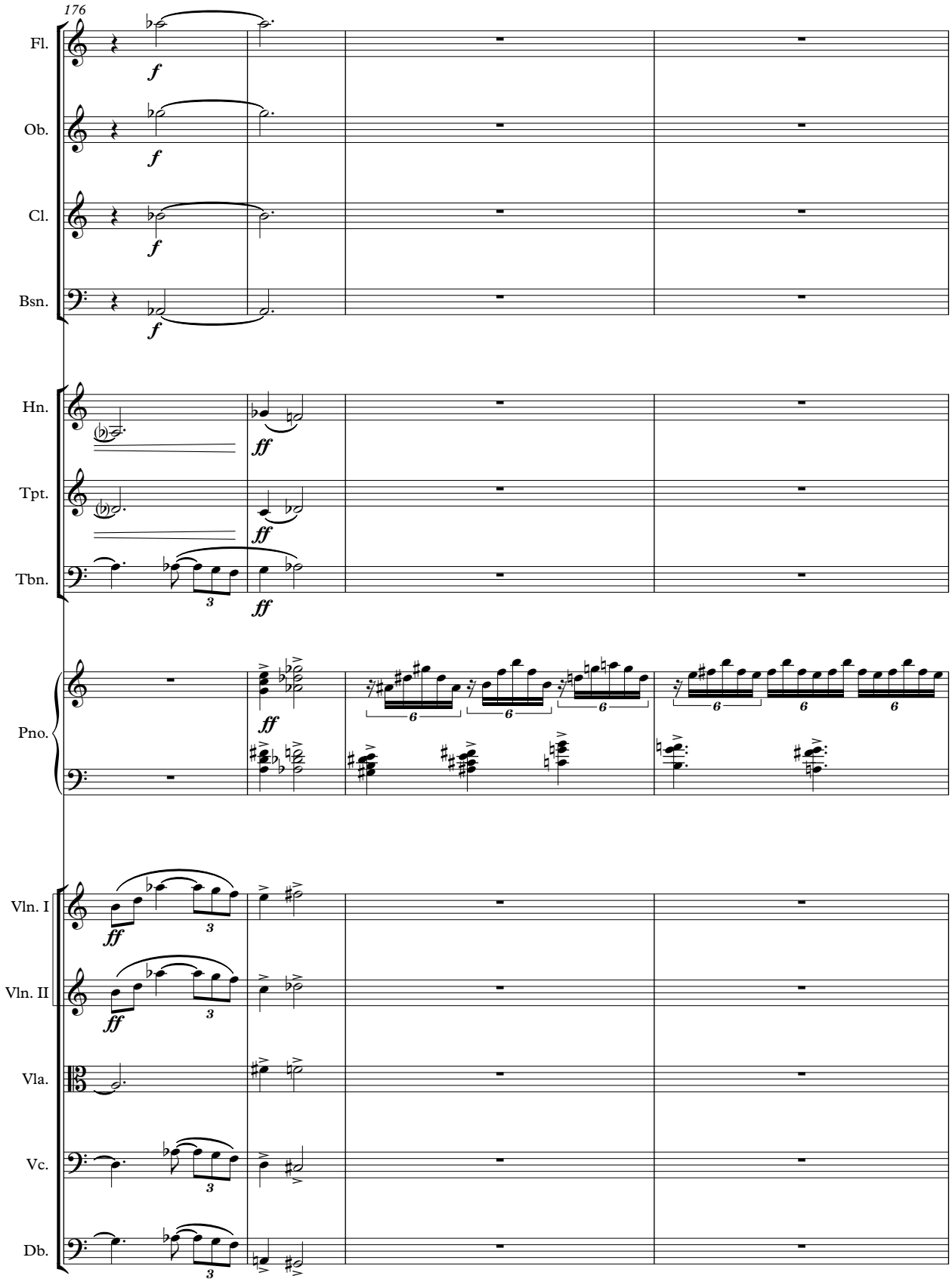

164
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
sempre ff
Vln. I
Vln. II
Vla.
Vc.
Db.

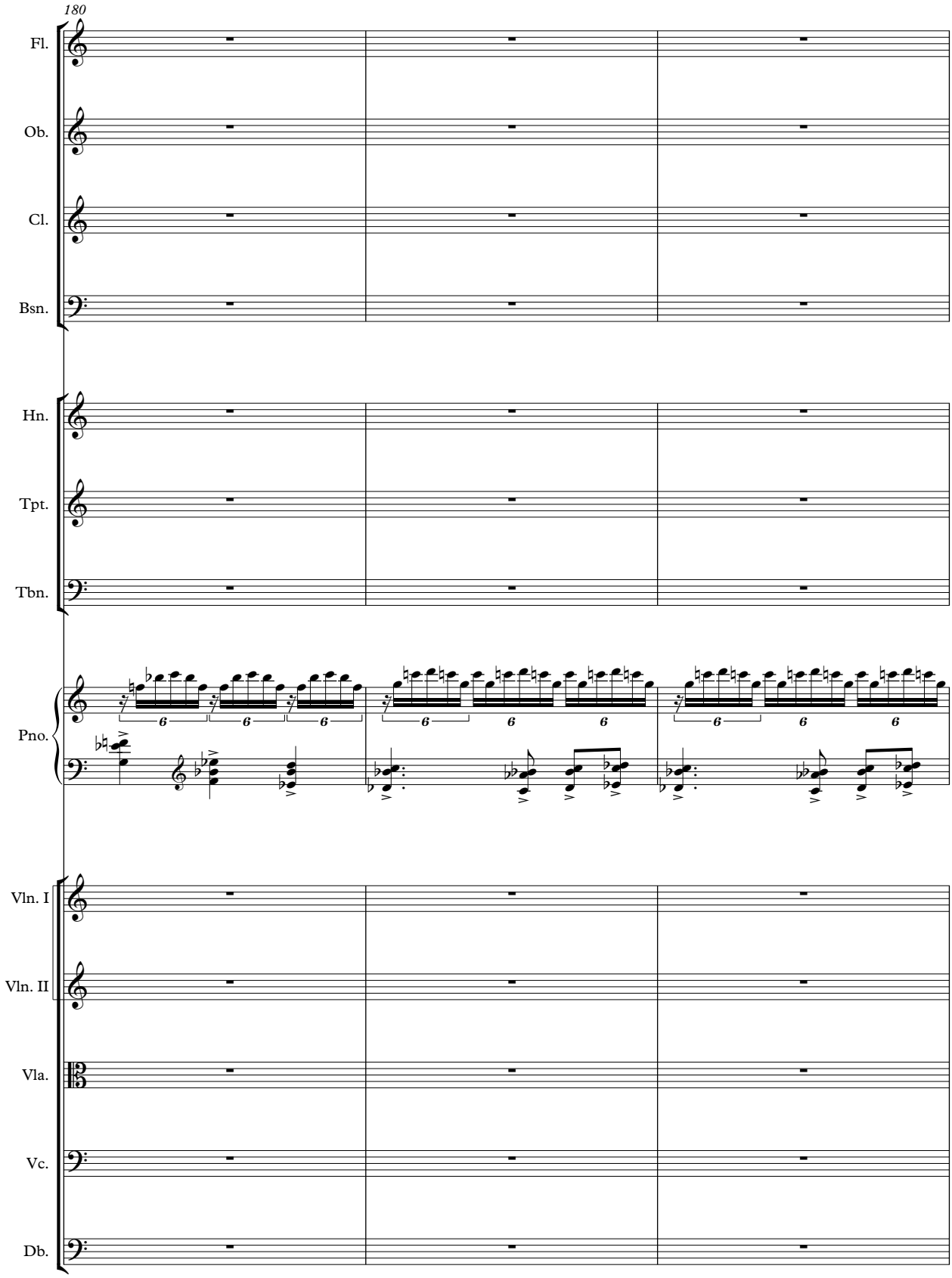

167
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
marcato
marcato
marcato
pesante
pesante
pesante
pesante
pizz.
pesante

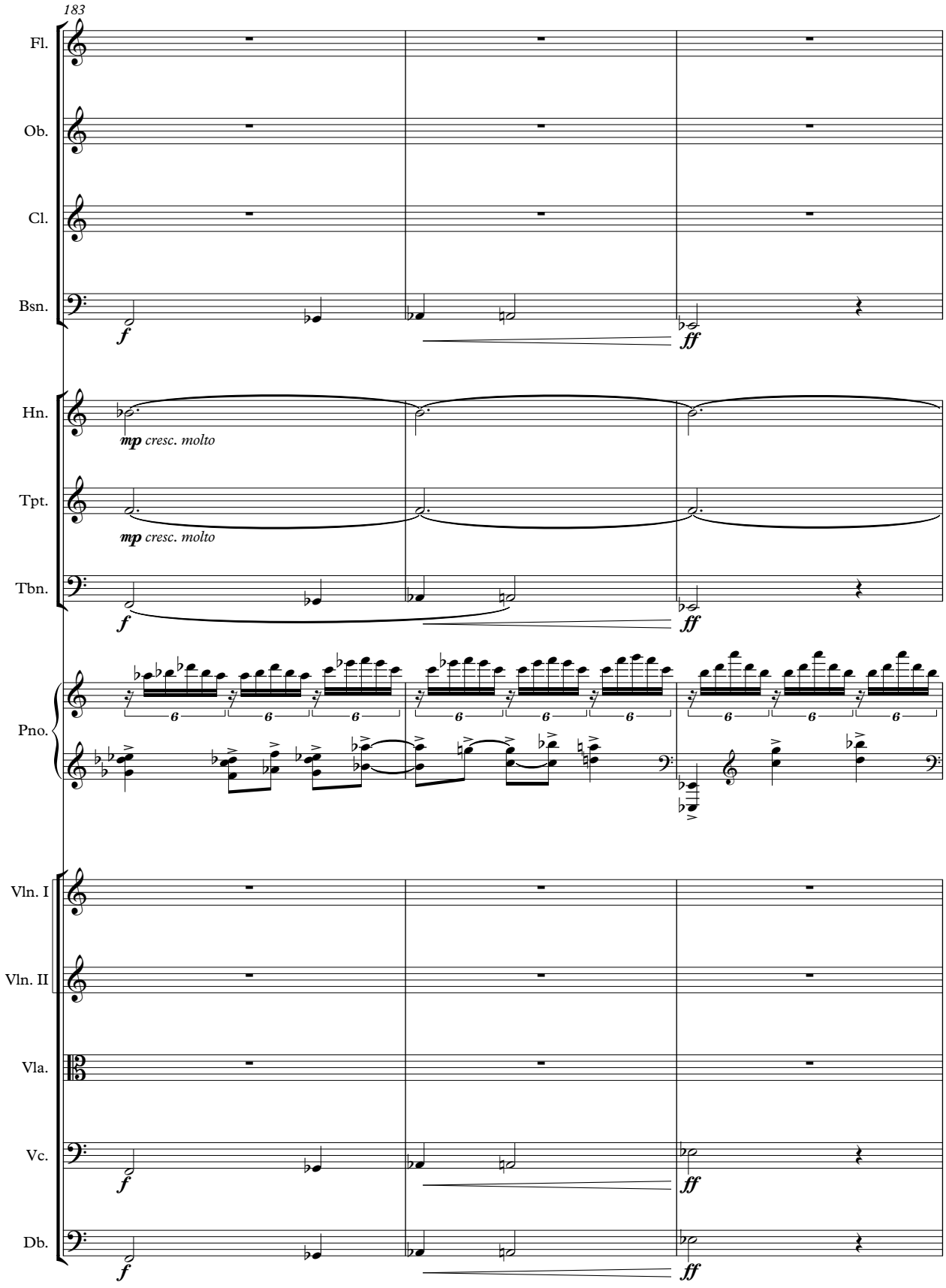

169
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
subito

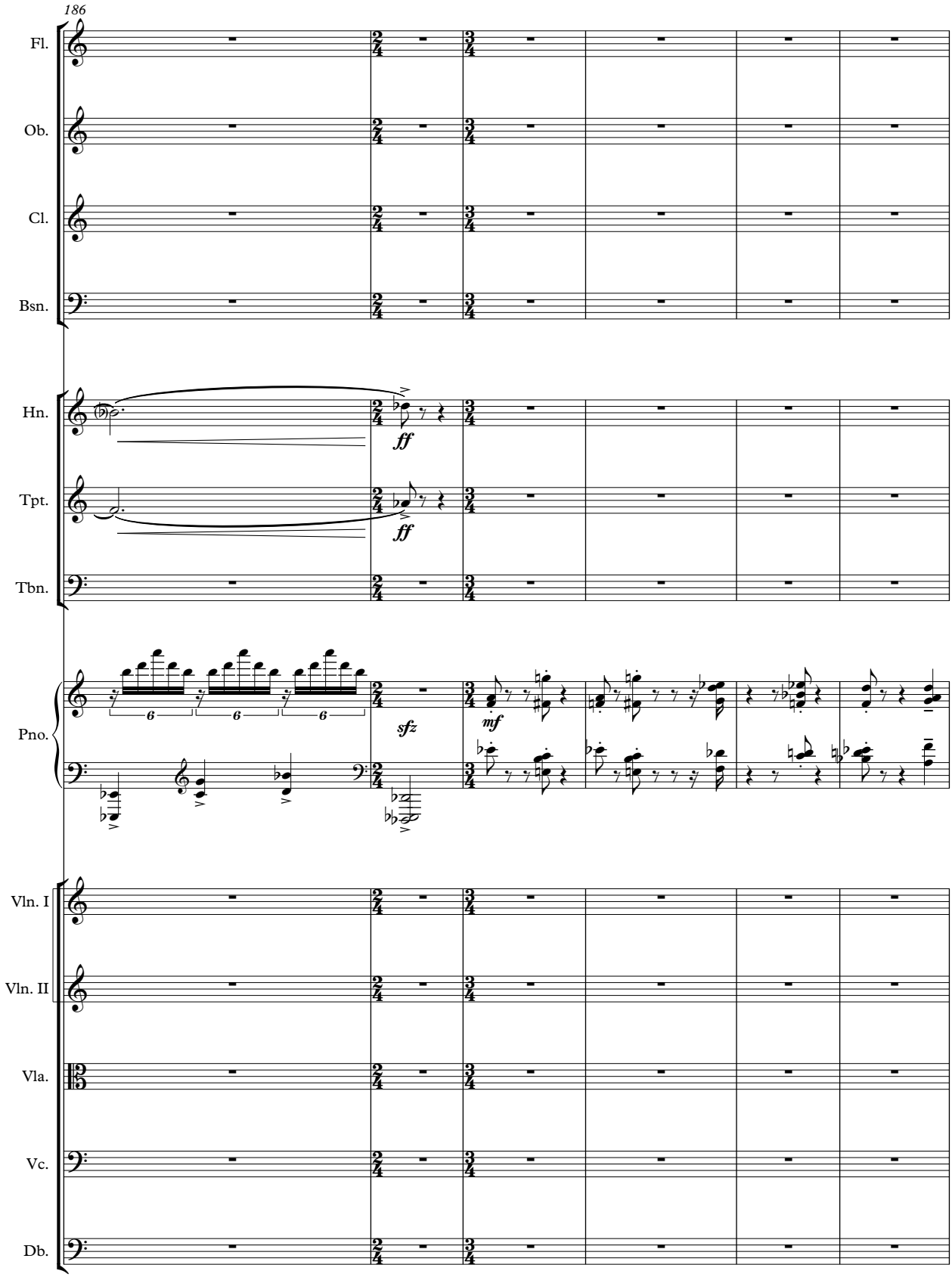

171
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
mf cresc.
Vln. I
mp
Vln. II
Vla.
Vc.
Db.

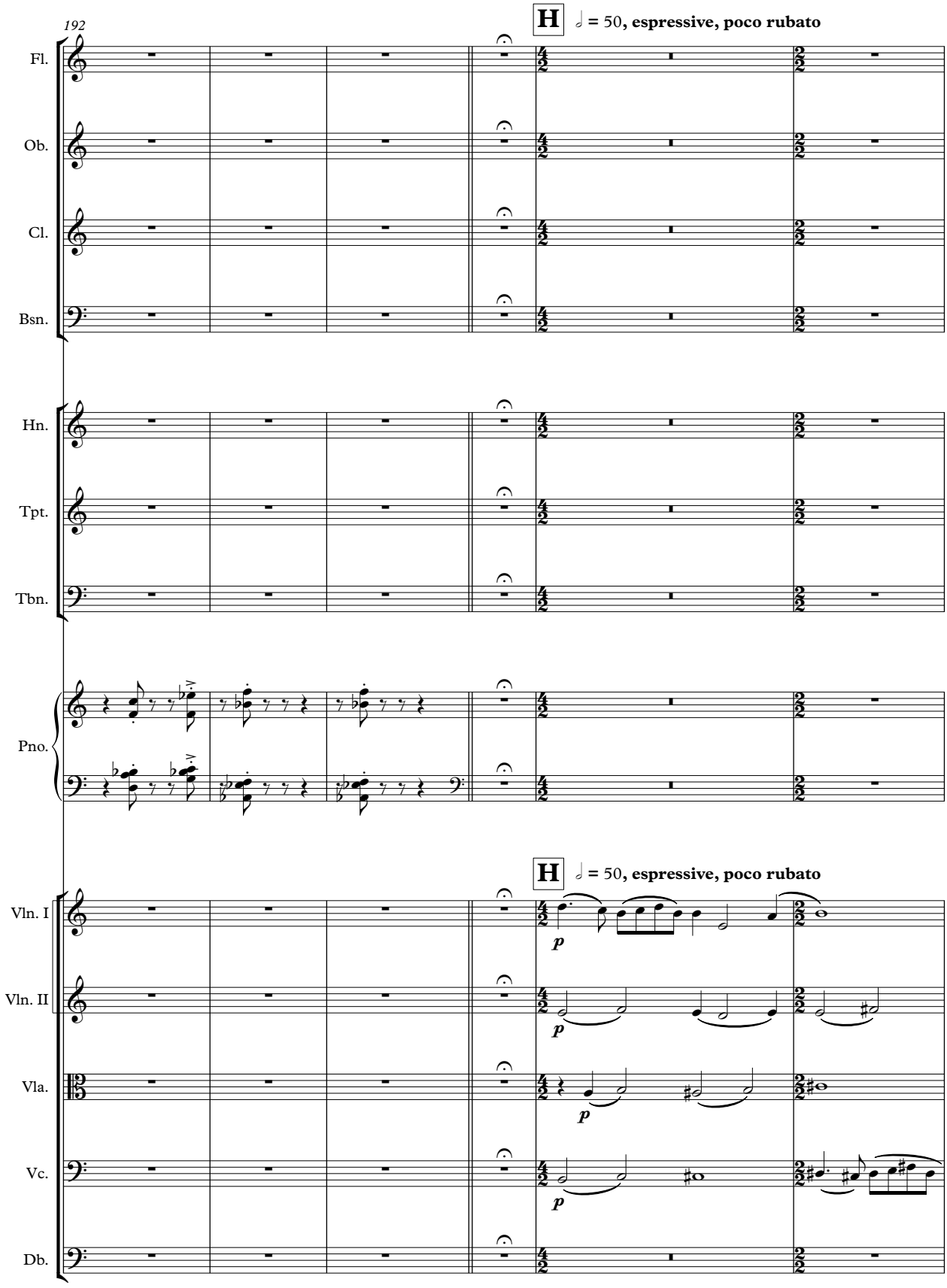

173
Fl.
f cresc.
Ob.
Cl.
Bsn.
Hn.
pp
Tpt.
pp
Tbn.
f
Pno.
ff
Vln. I
f
Vln. II
Vla.
ff
Vc.
ff
arco
Db.
ff

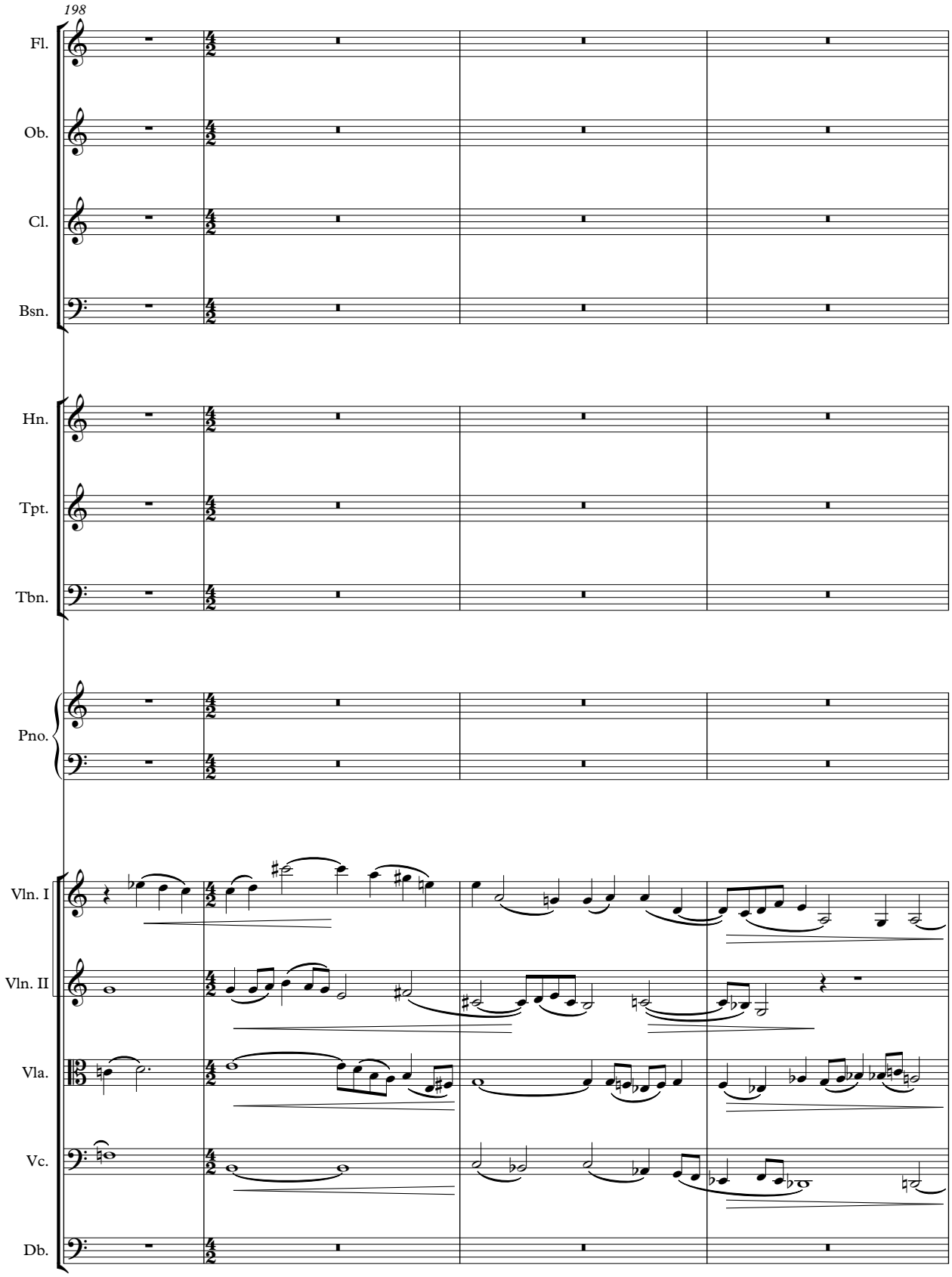

176
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
ff
3
6

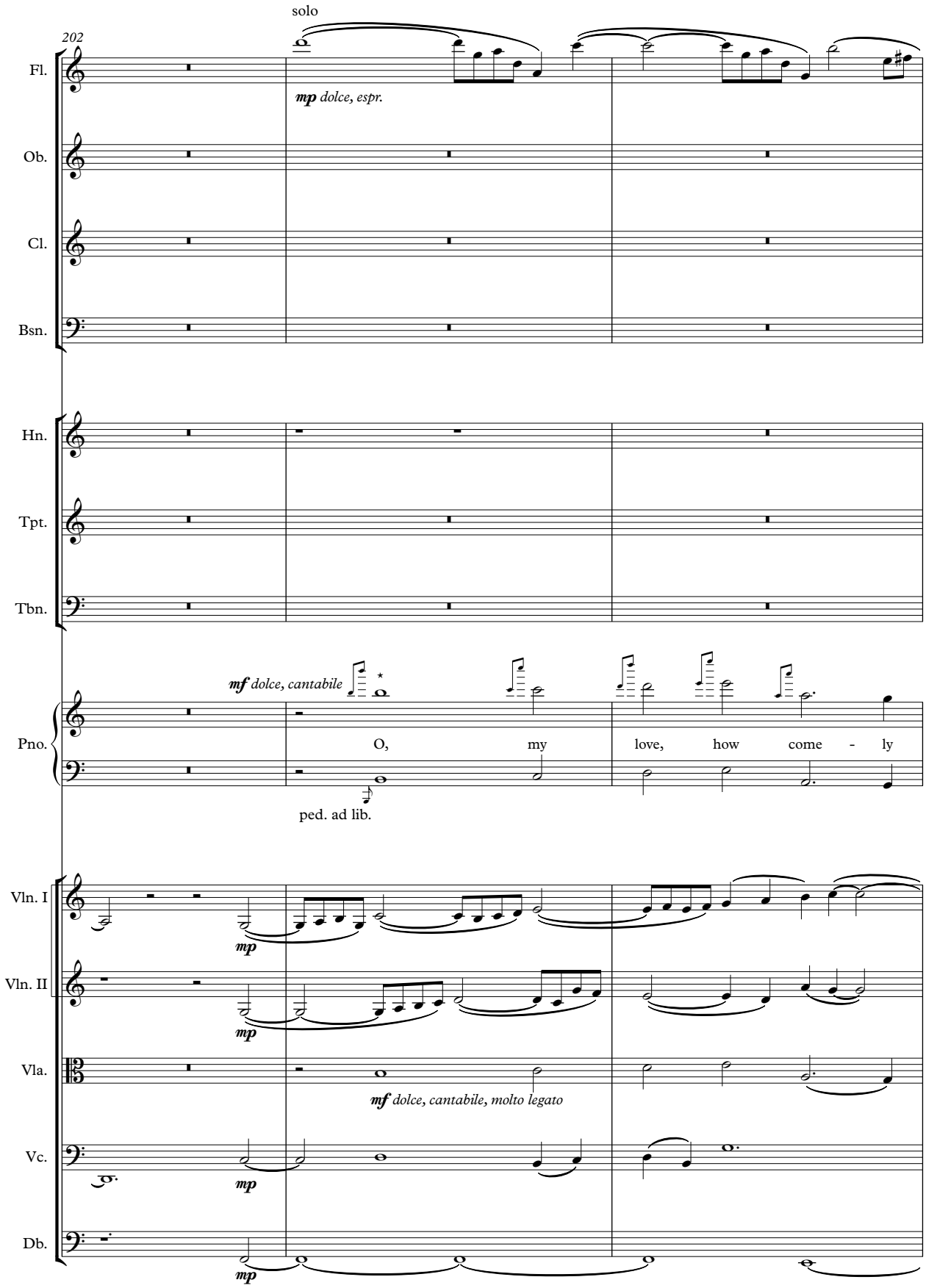

180
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.


183
Fl.
Ob.
Cl.
Bsn.
f
ff
Hn.
mp cresc. molto
Tpt.
mp cresc. molto
Tbn.
f
ff
Pno.
Vln. I
Vln. II
Vla.
Vc.
f
ff
Db.
f
ff

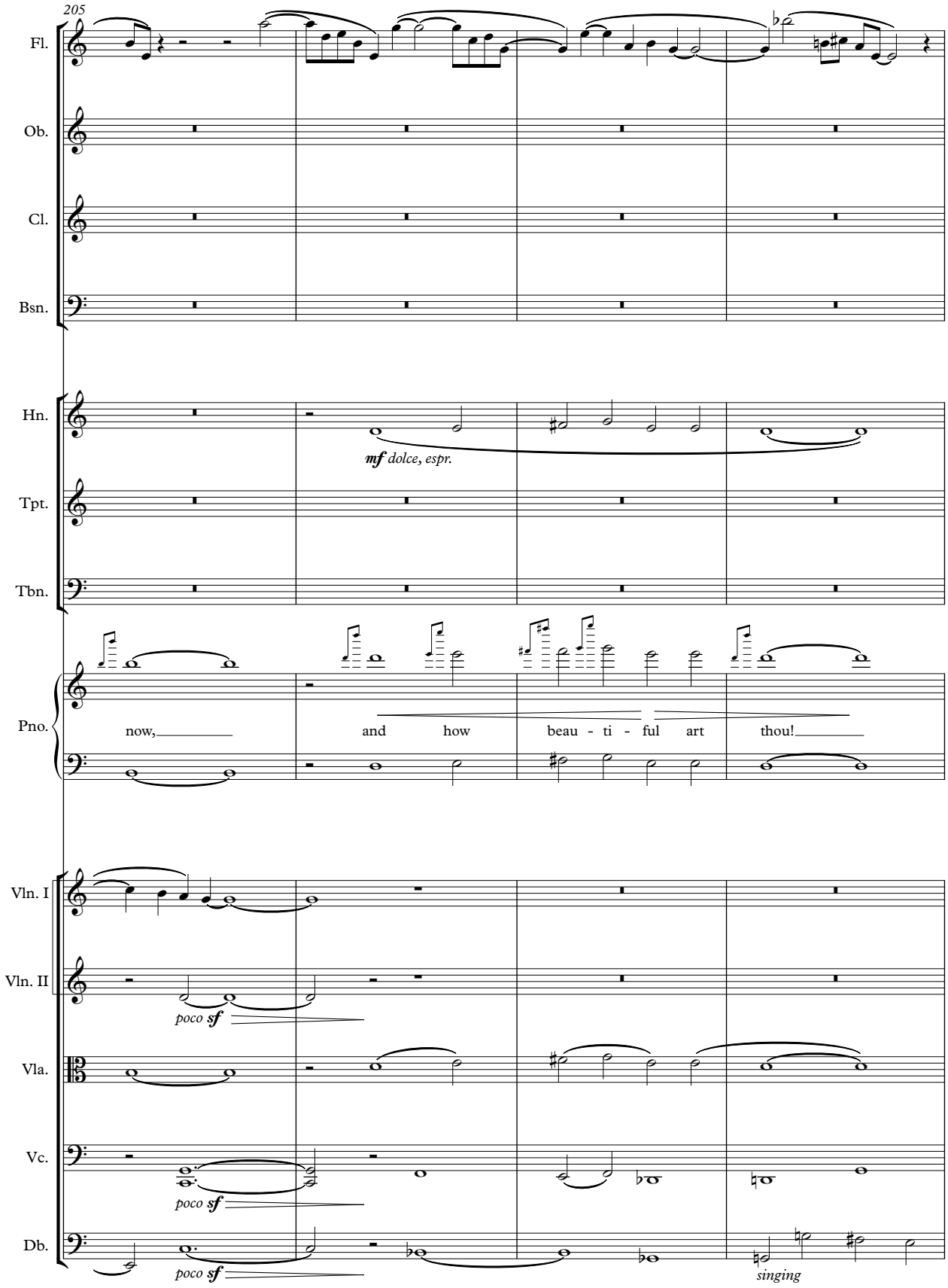

186
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
ff
ff
sfz
mf

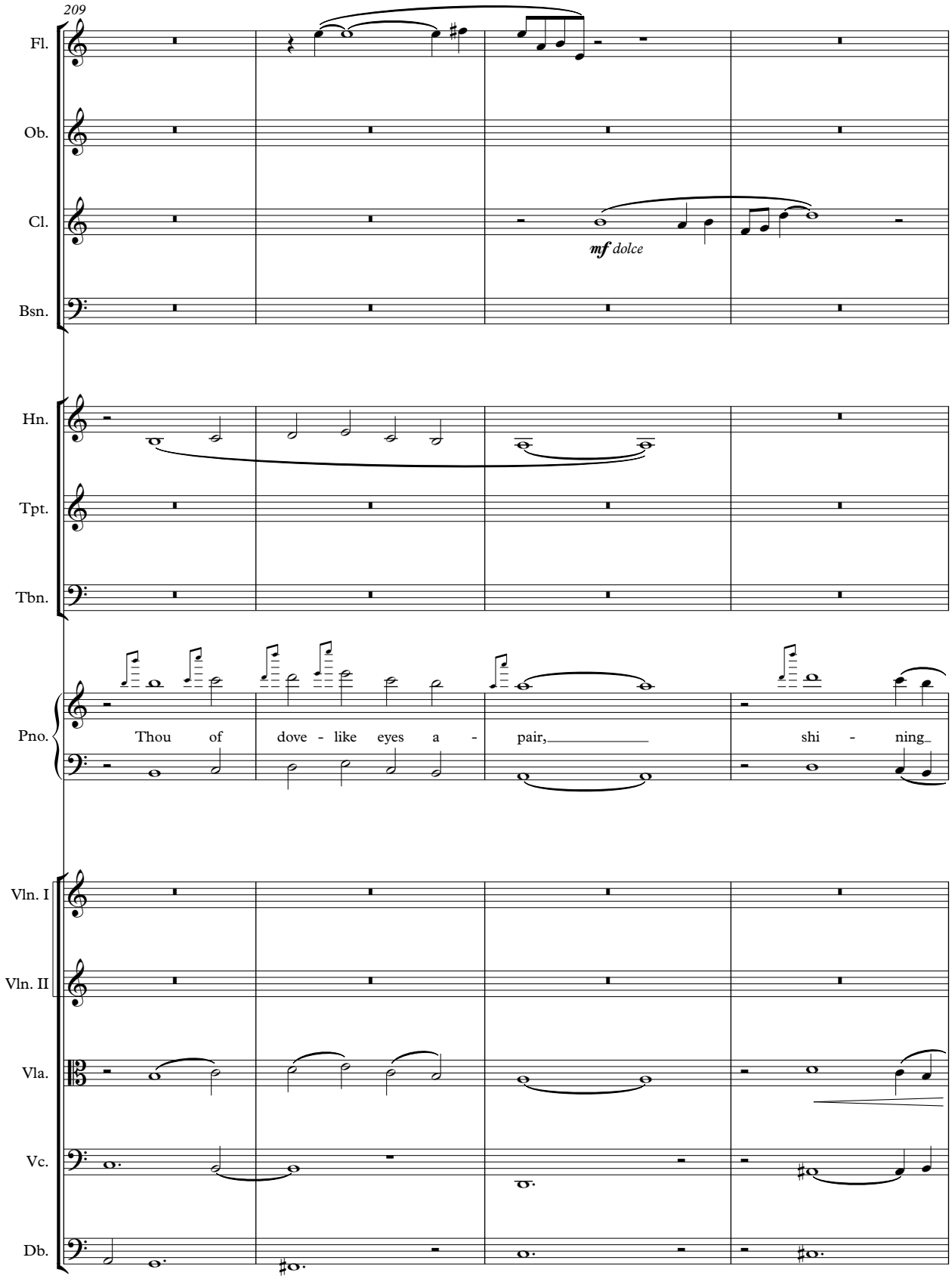

192
H
= 50, espressive, poco rubato
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
H
= 50, espressive, poco rubato
Vln. I
Vln. II
Vla.
Vc.
Db.
p
p
p
p

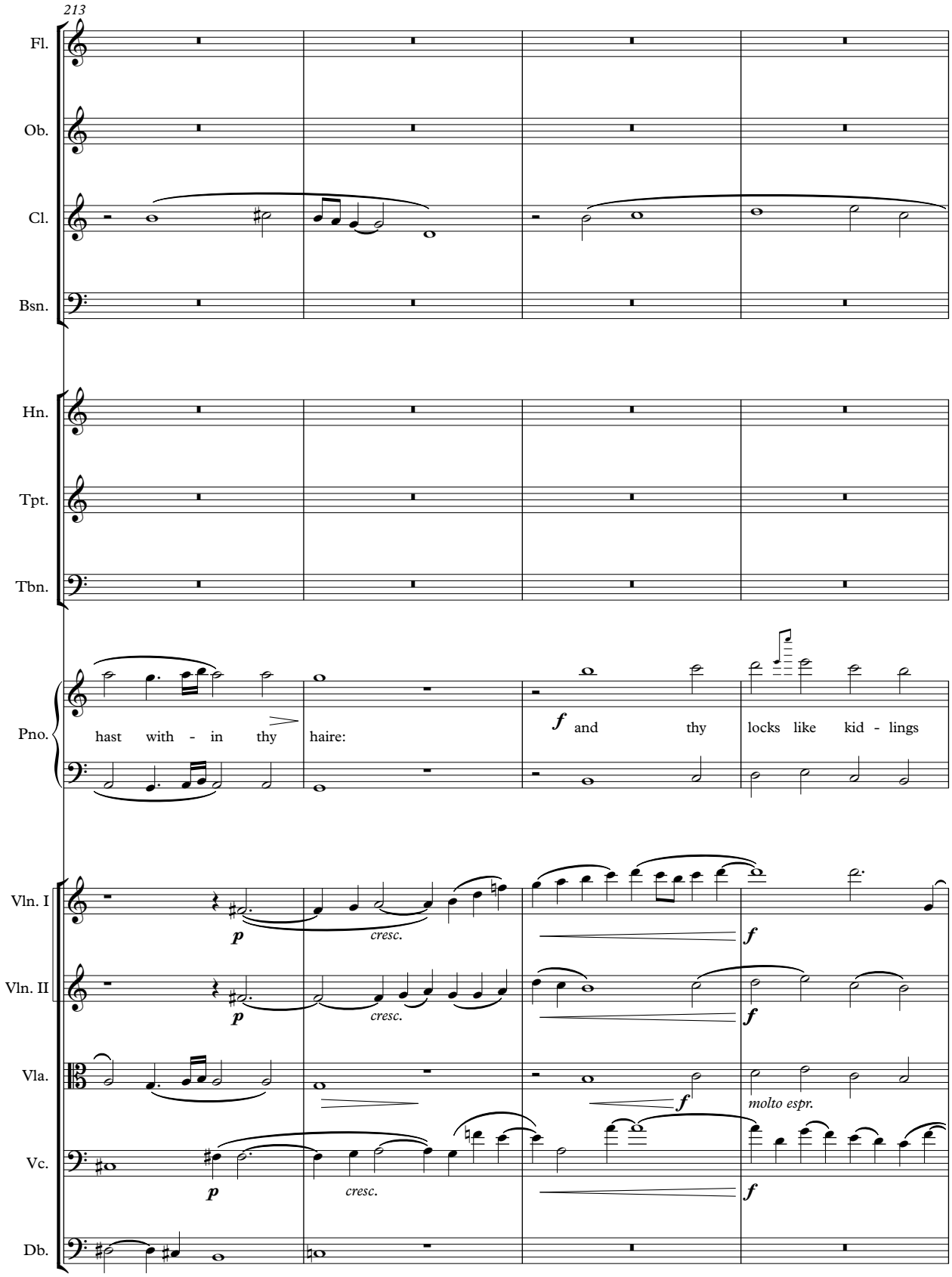

198
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.

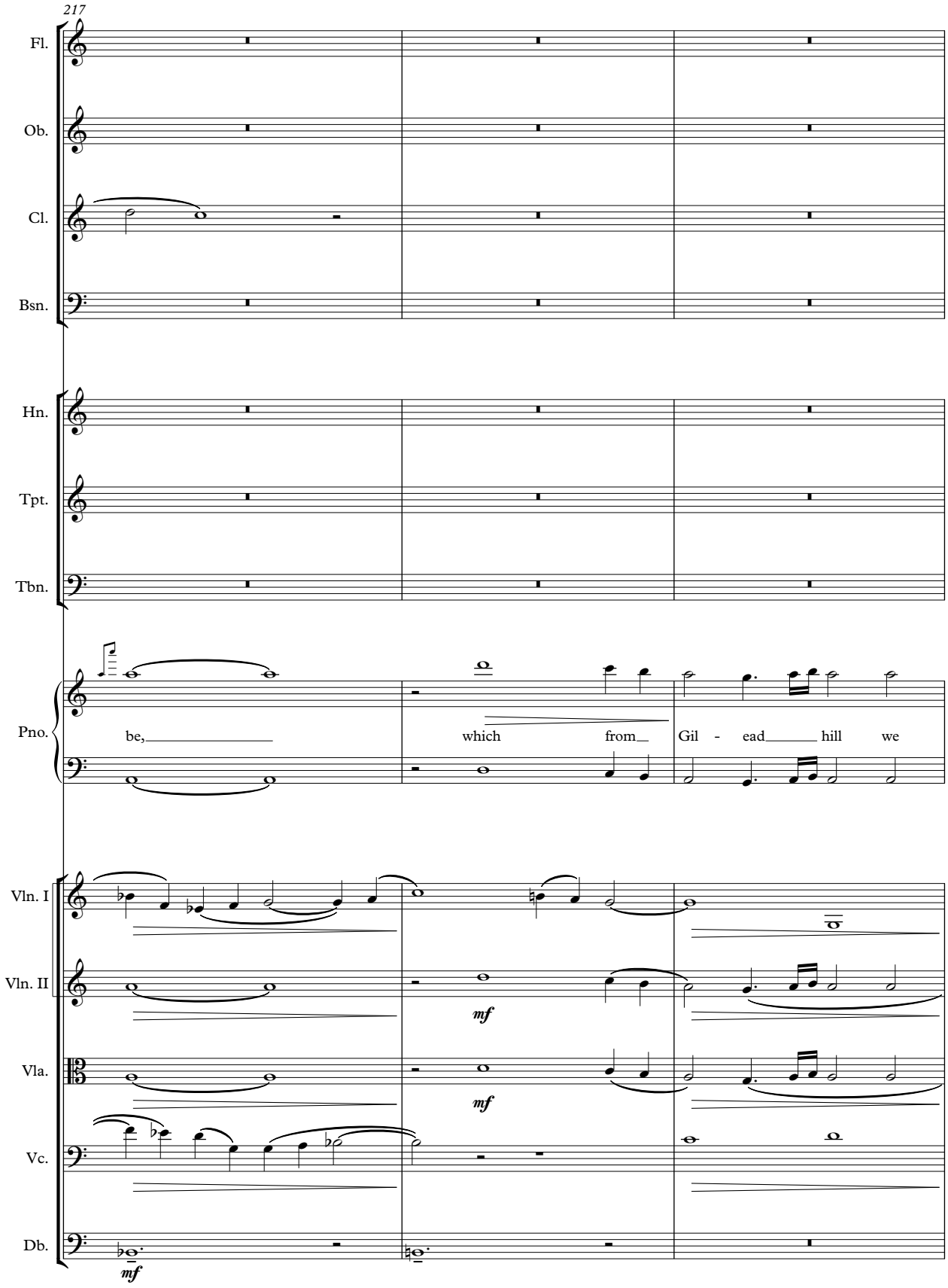


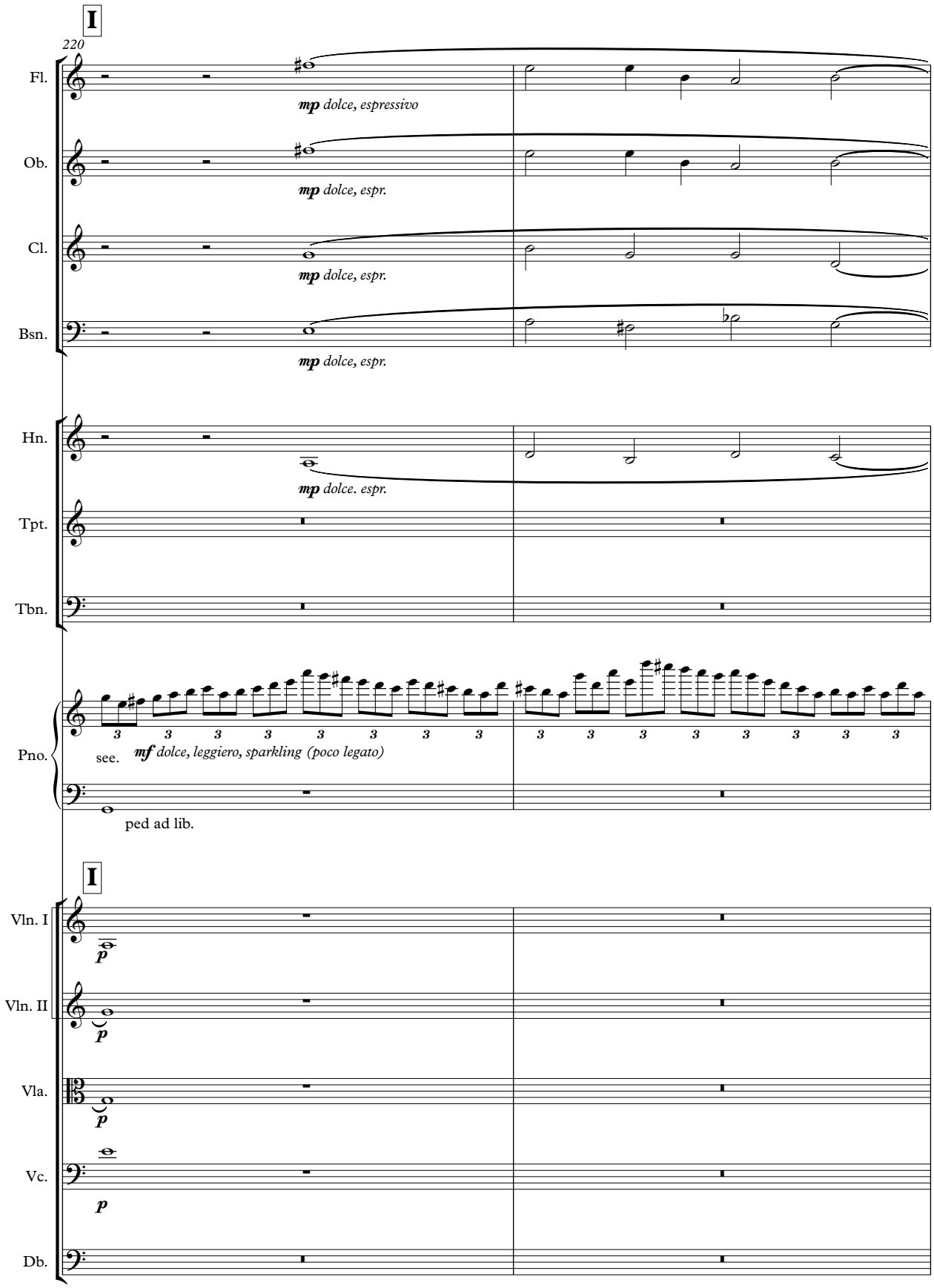
* "Song 13" by Orlando Gibbons, from "Hymns and Songs of the Church"

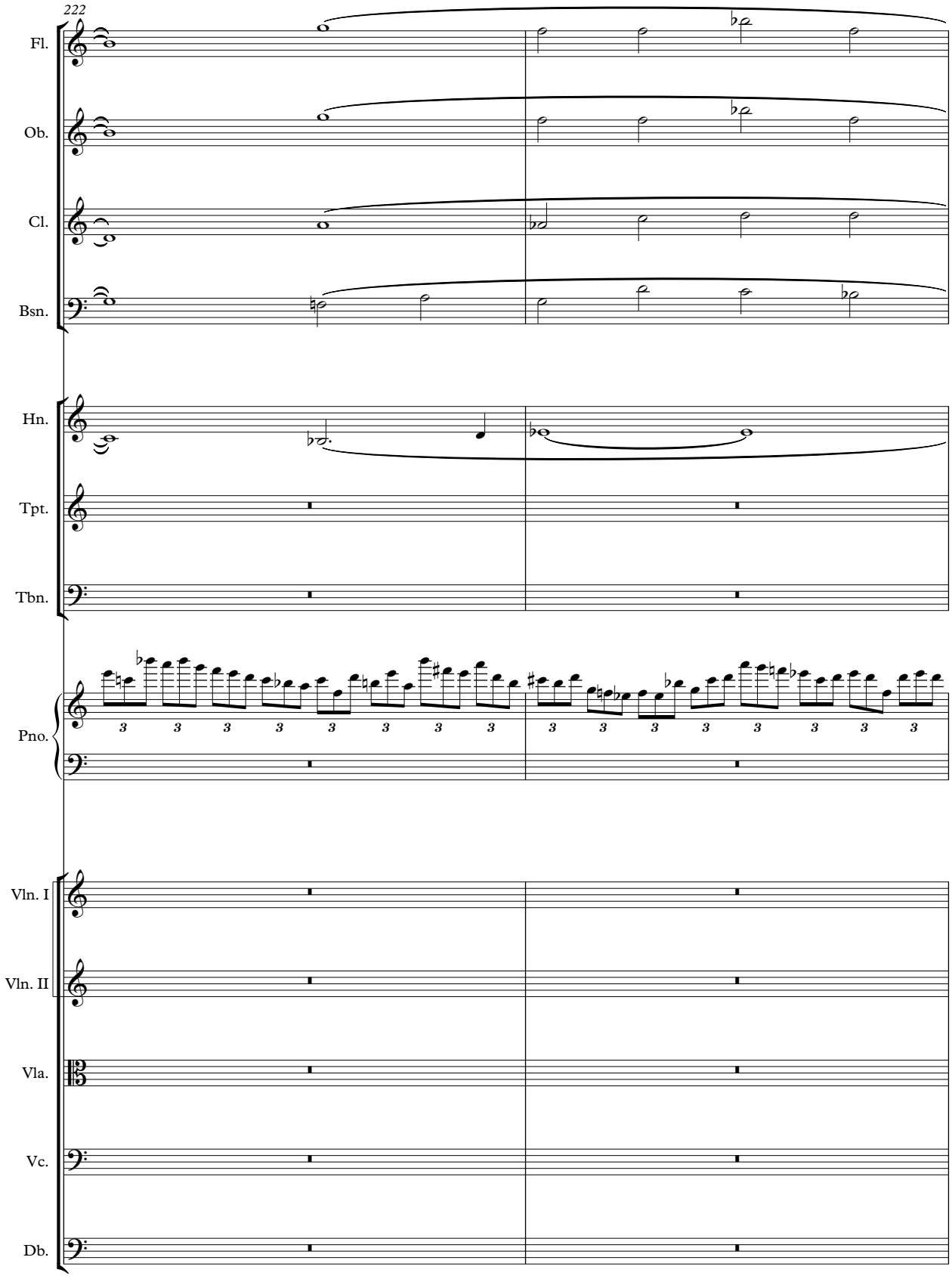

205
Fl.
Ob.
Cl.
Bsn.
Hn.
mf dolce, espr.
Tpt.
Tbn.
Pno.
now,
and how beau - ti - ful art thou!
Vln. I
Vln. II
poco sf
Vla.
Vc.
poco sf
Db.
poco sf
singing

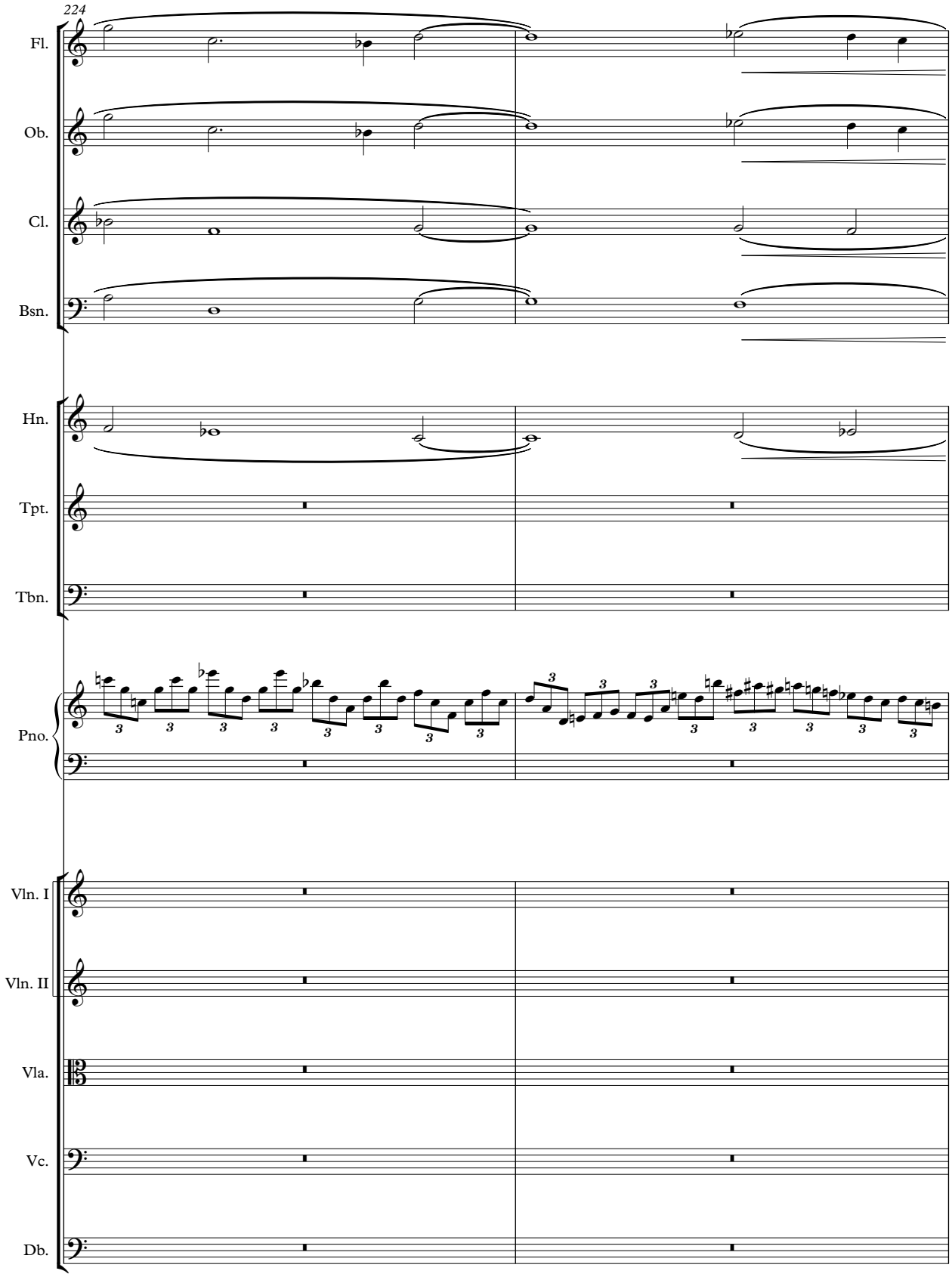

209
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mf dolce
Thou of dove - like eyes a - pair, shi - ning

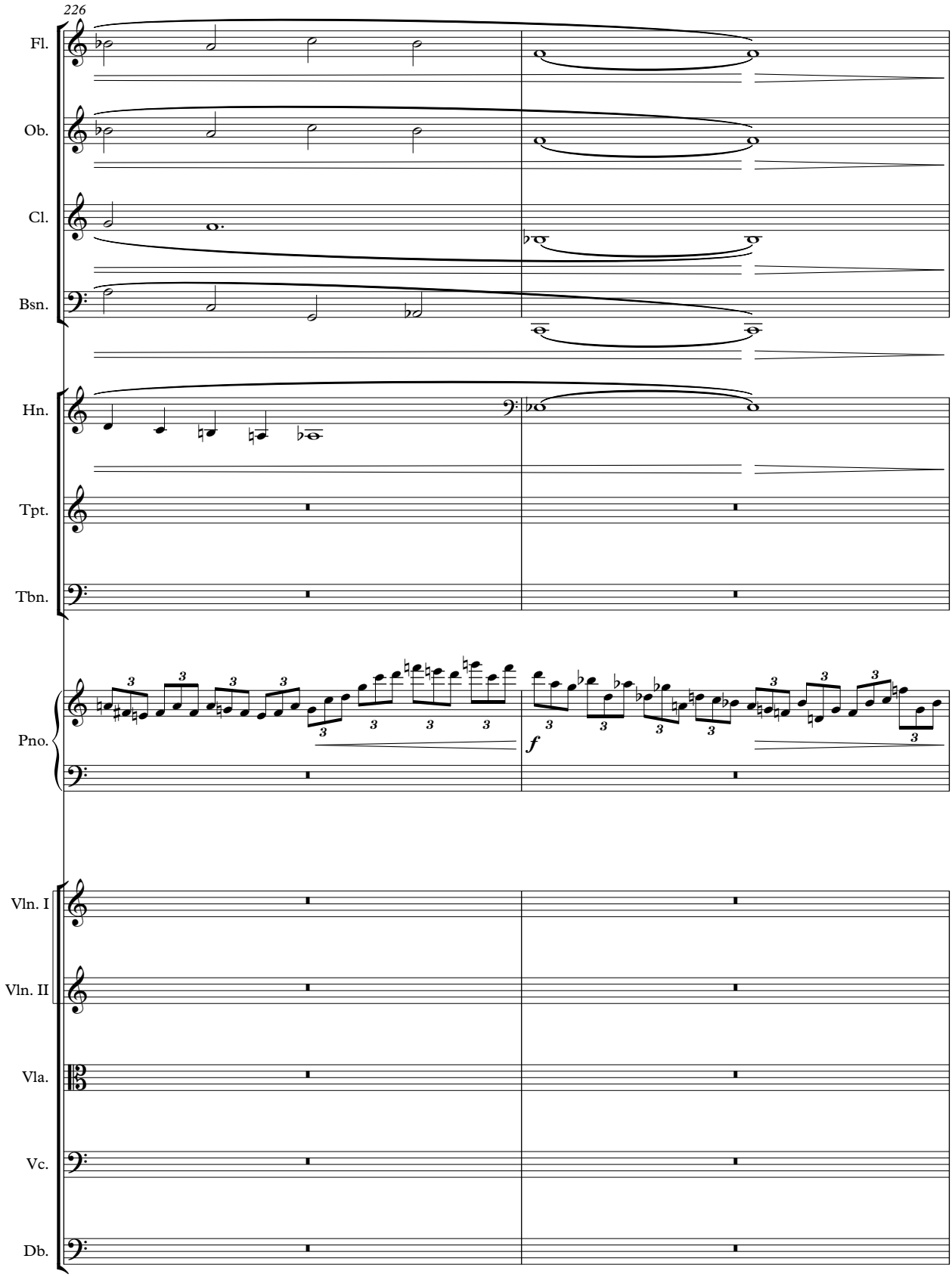

213
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
hast with - in thy
haire:
f and thy
locks like kid - lings
Vln. I
Vln. II
Vla.
Vc.
Db.
p
cresc.
f
molto espr.

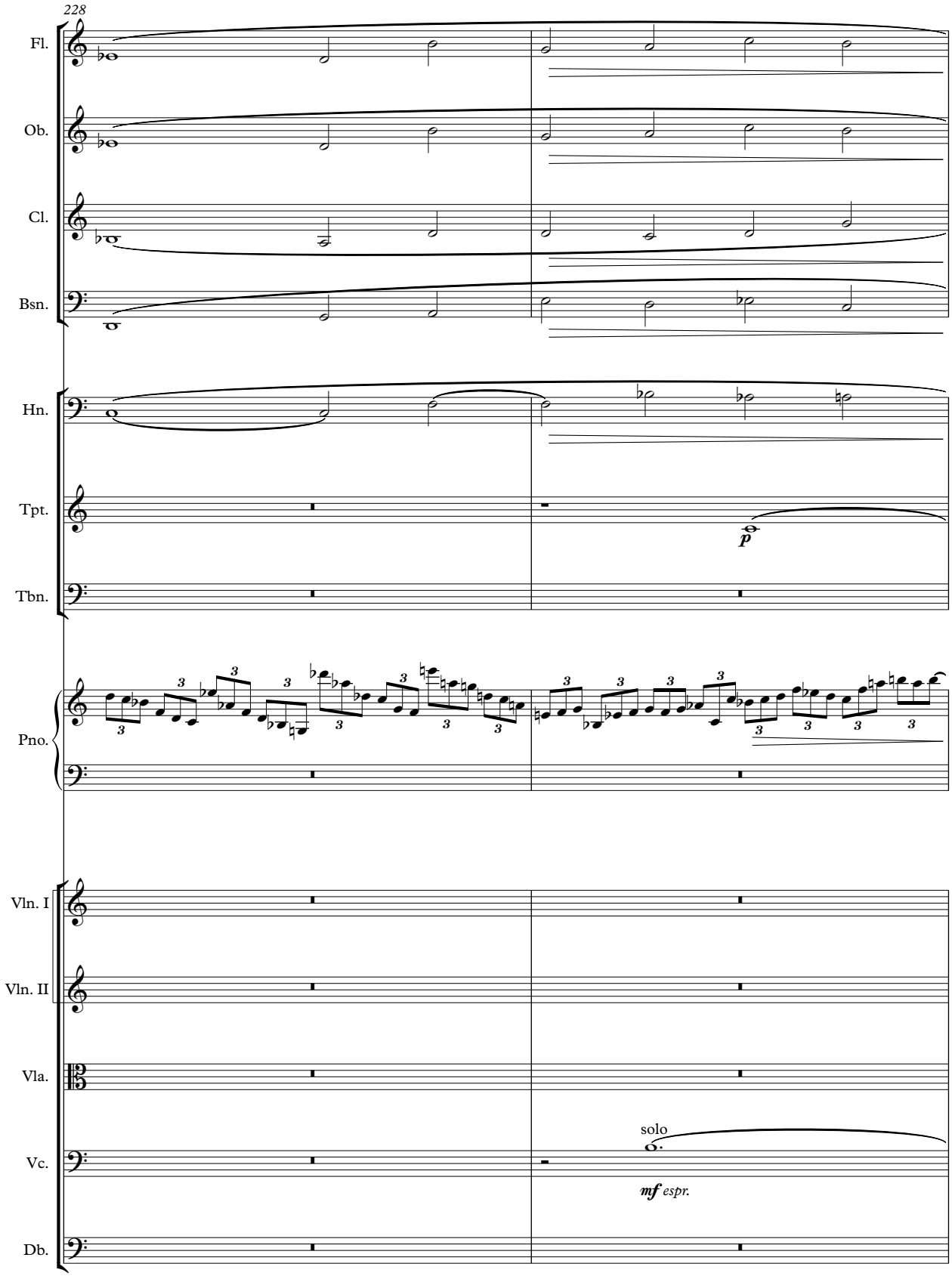

217
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
be,
which
from
Gil - ead
hill
we
Vln. I
Vln. II
Vla.
Vc.
Db.
mf
mf
mf

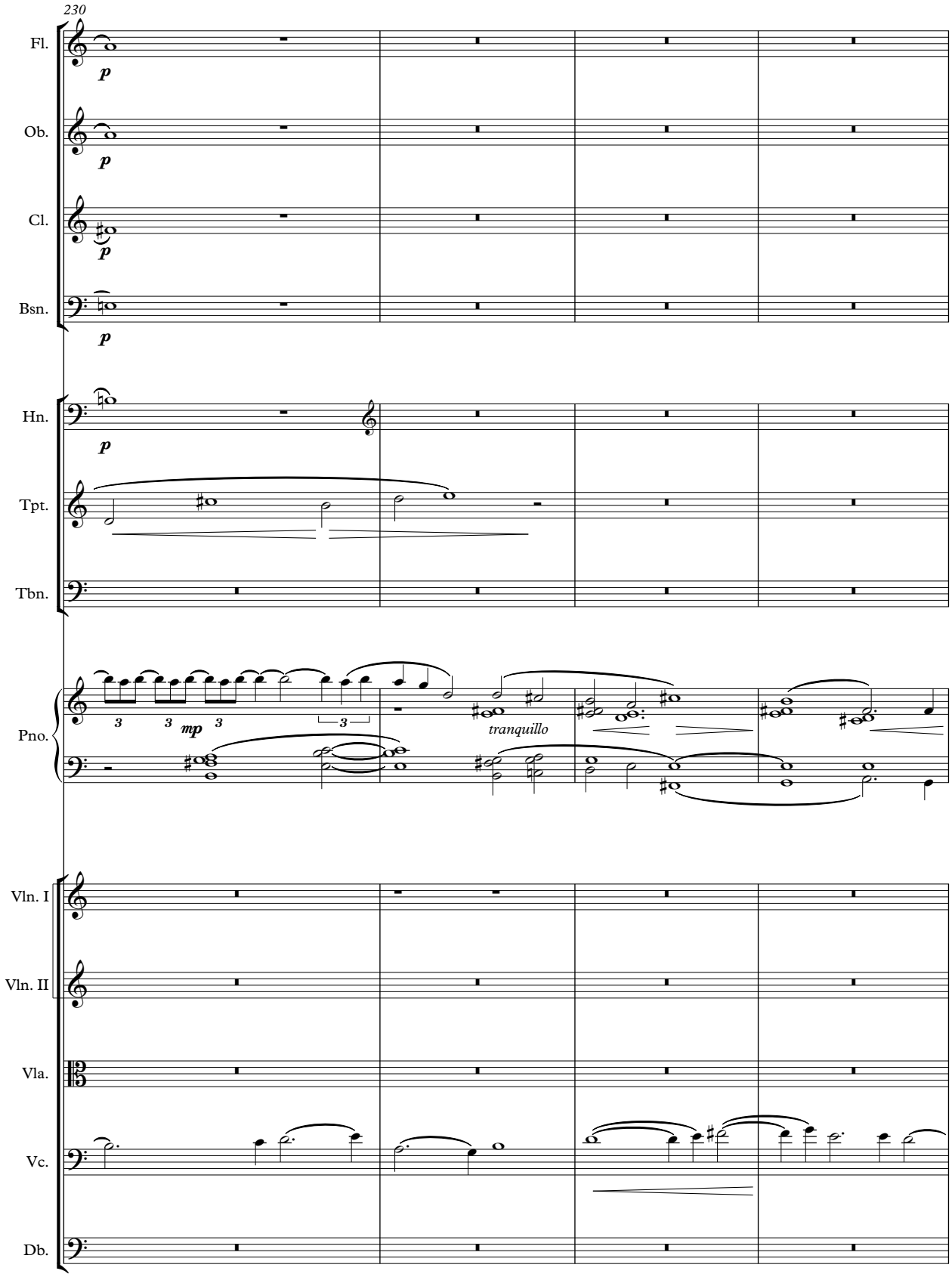

I
220
Fl.
mp dolce, espressivo
Ob.
mp dolce, espr.
Cl.
mp dolce, espr.
Bsn.
mp dolce, espr.
Hn.
mp dolce. espr.
Tpt.
Tbn.
Pno.
see.
mf dolce, leggiero, sparkling (poco legato)
ped ad lib.
I
Vln. I
p
Vln. II
p
Vla.
p
Vc.
p
Db.

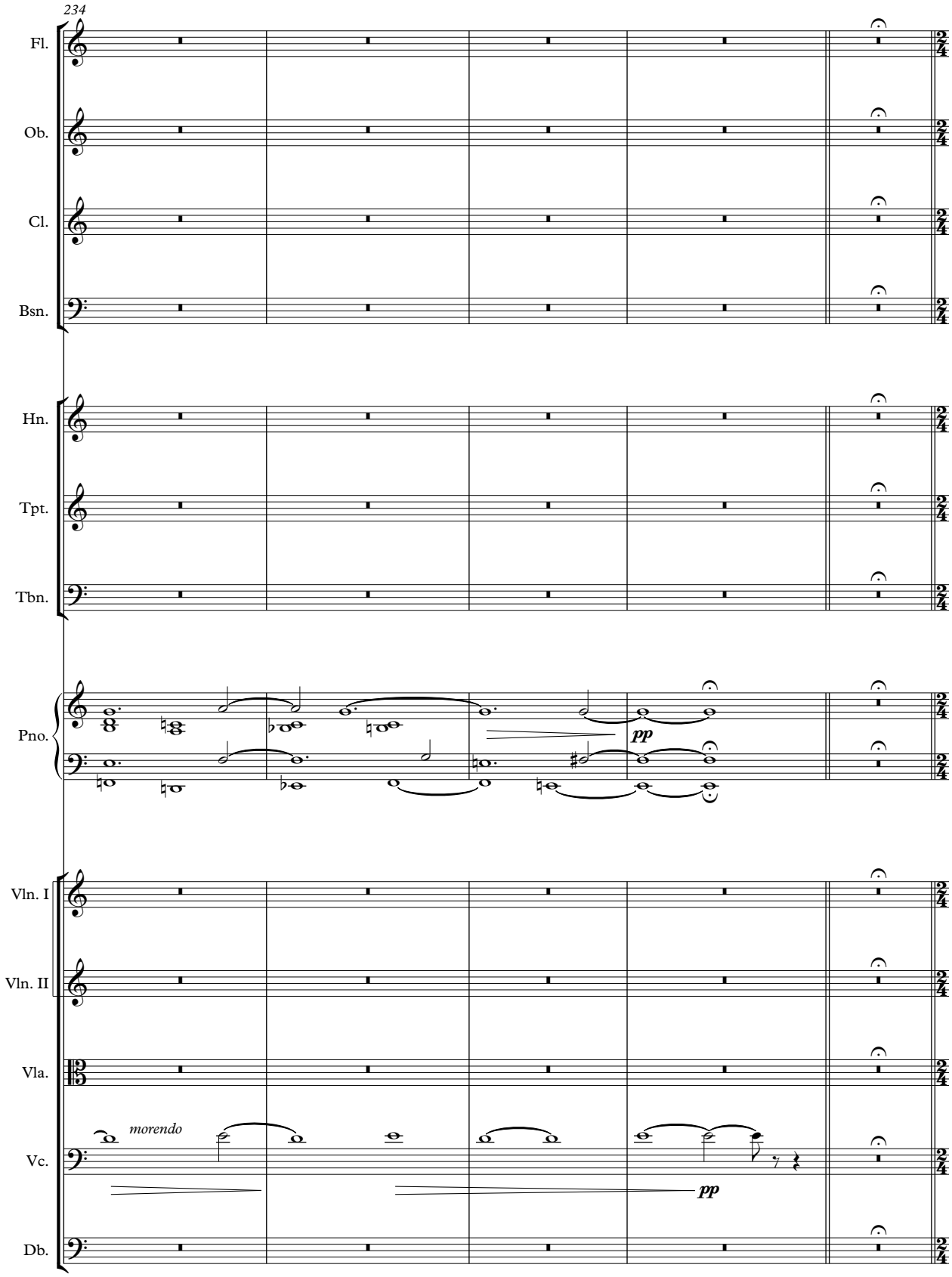

222
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.

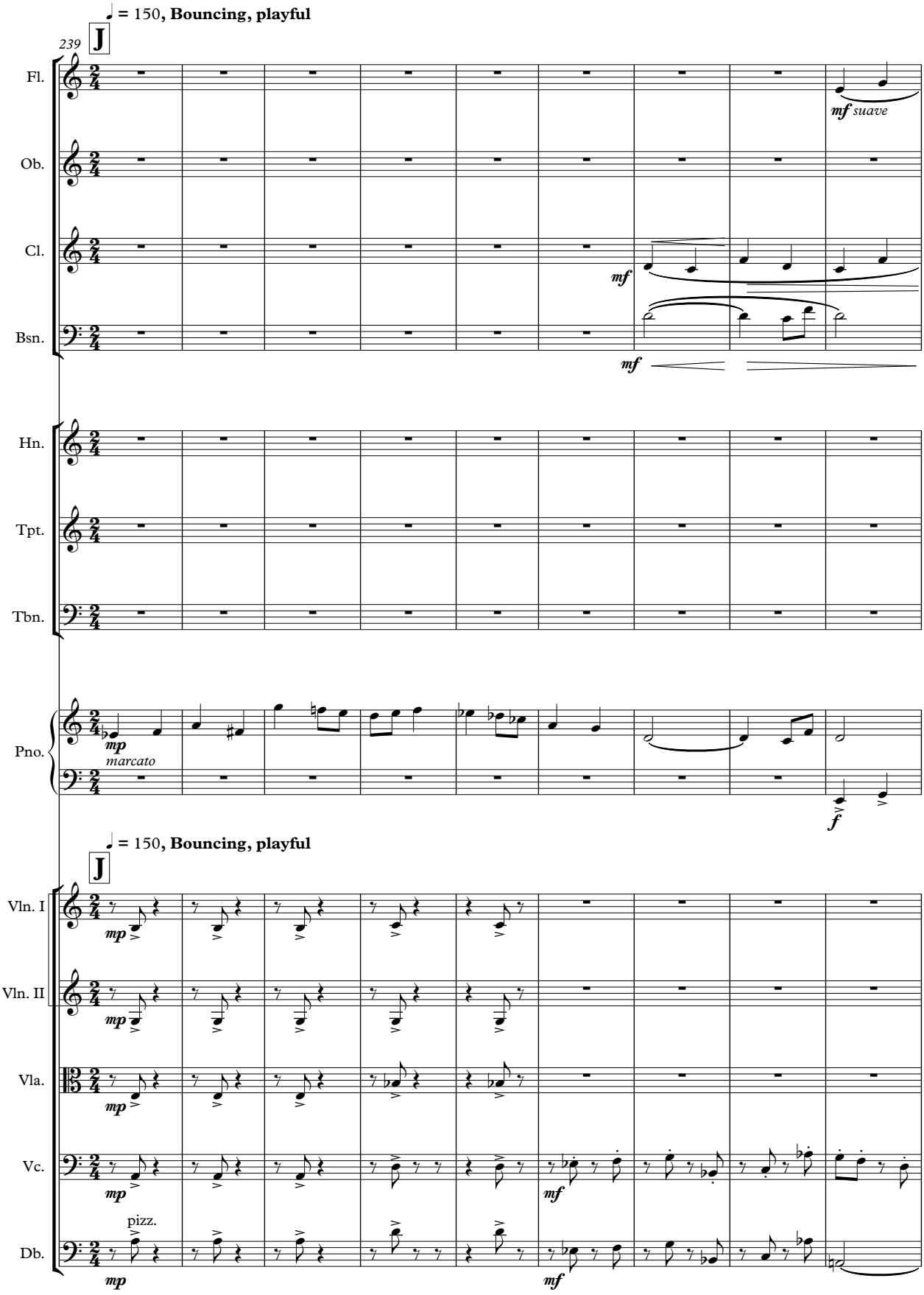

224
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.

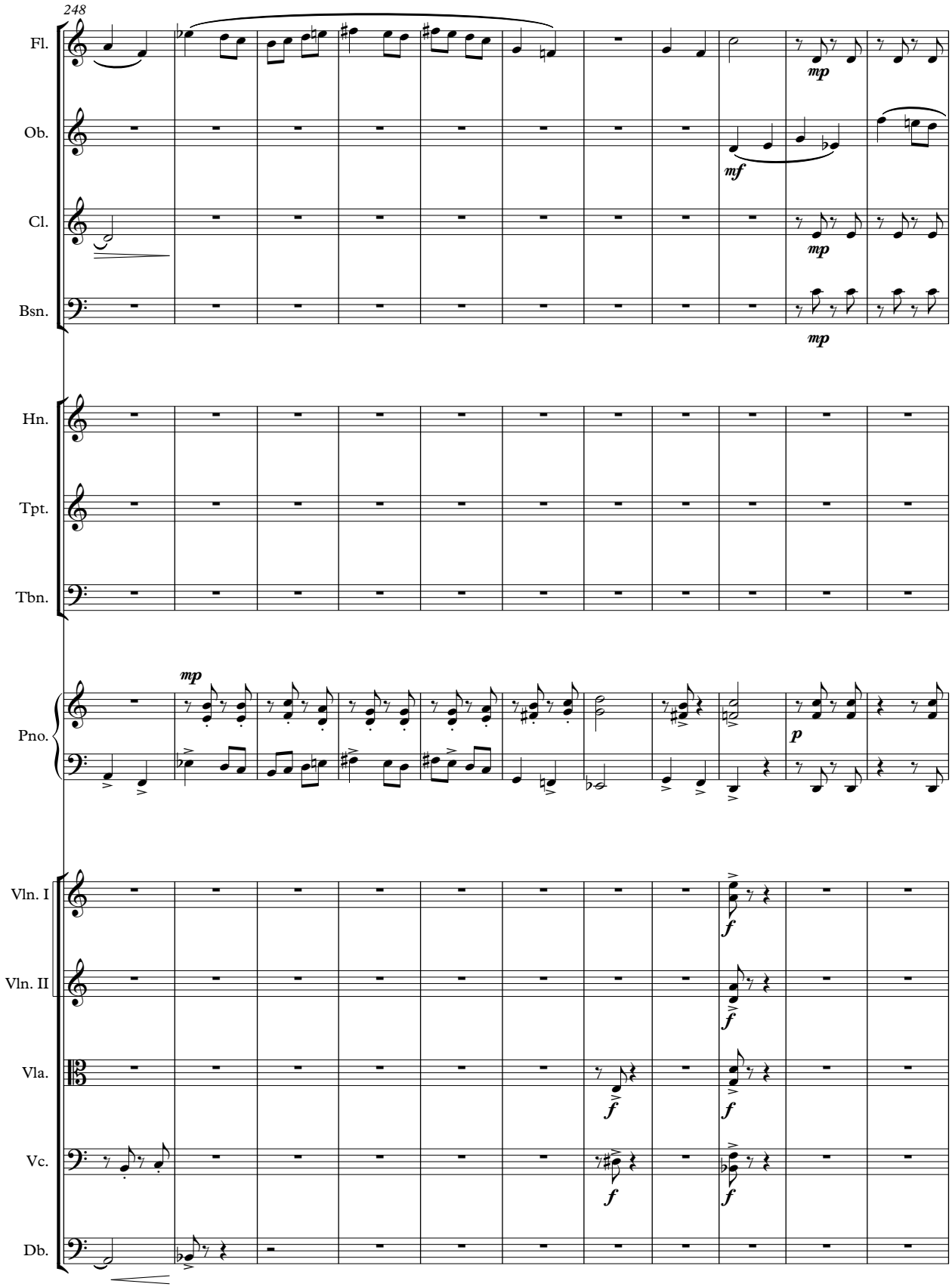

226
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
f
Vln. I
Vln. II
Vla.
Vc.
Db.

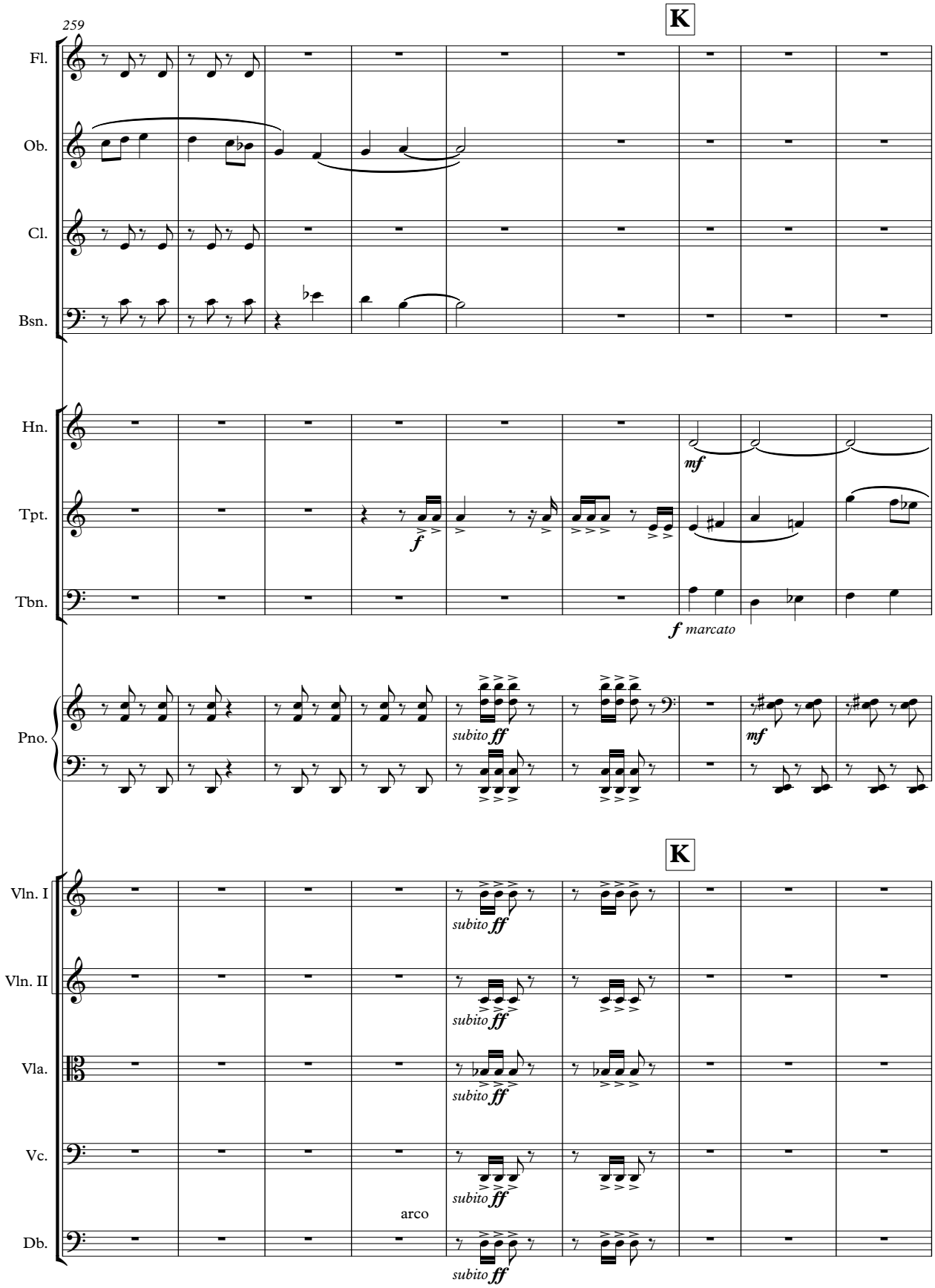

228
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
solo
mf espr.

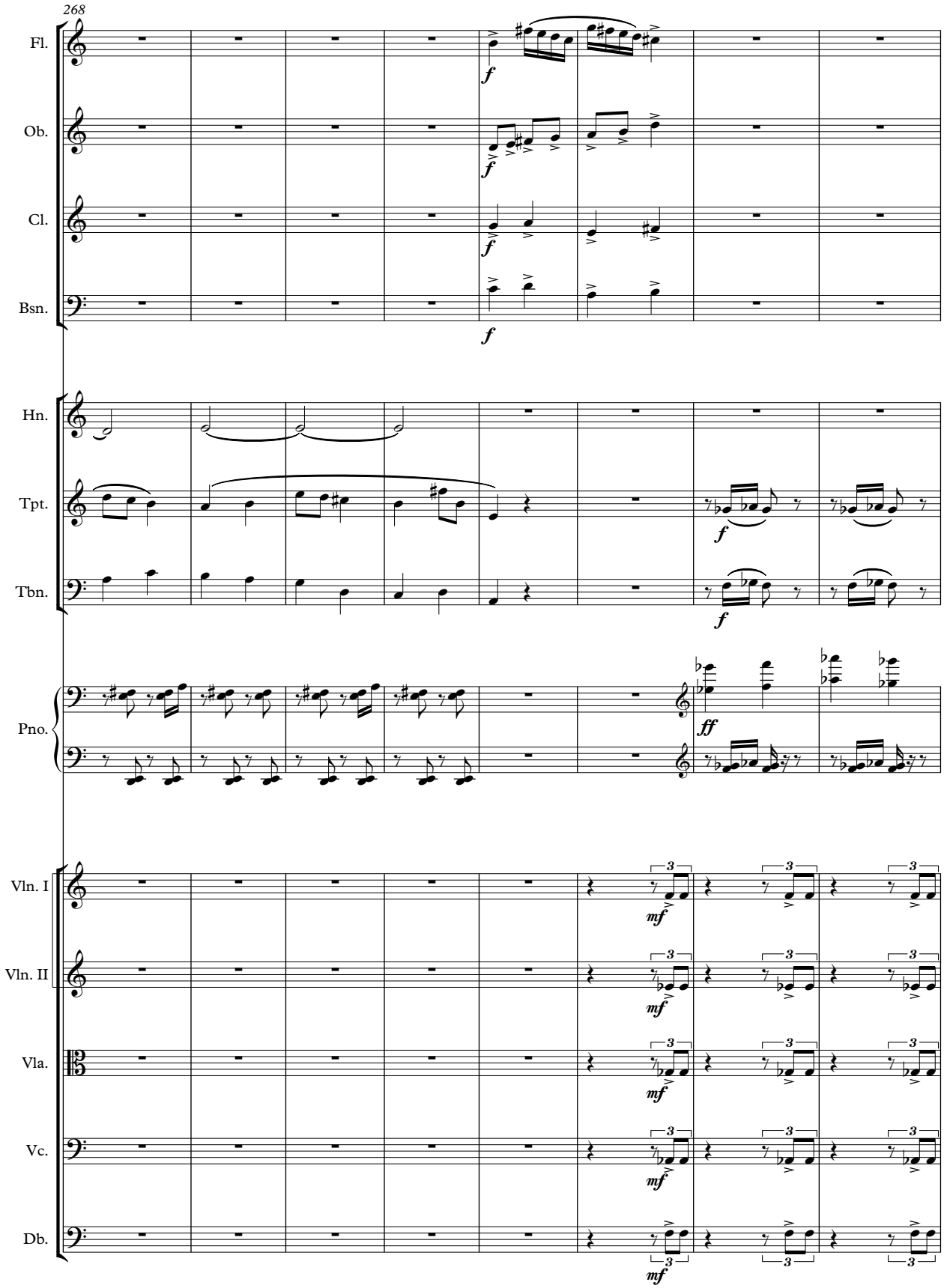

230
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
mp
tranquillo

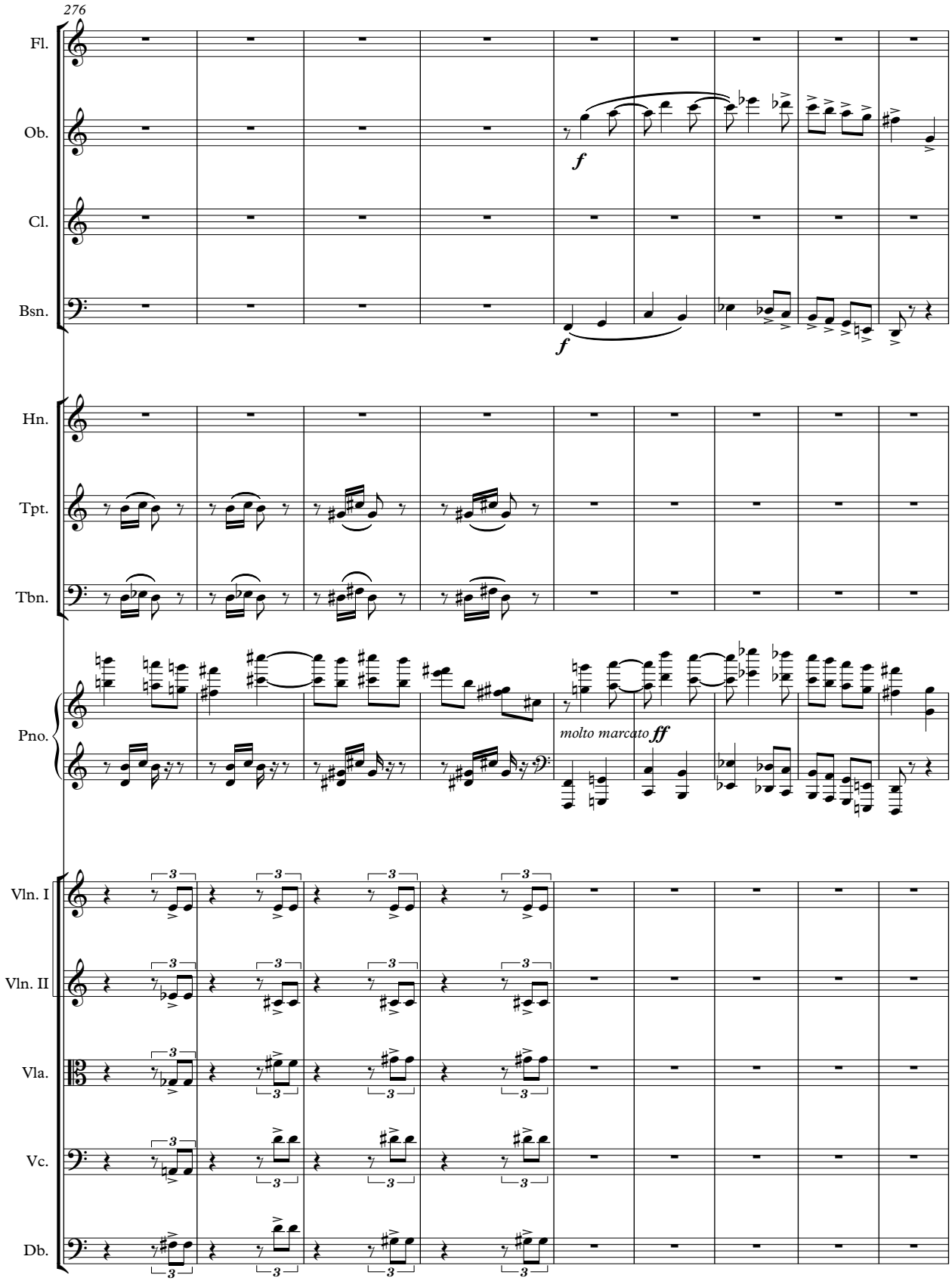

234
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
pp
Vln. I
Vln. II
Vla.
morendo
Vc.
pp
Db.

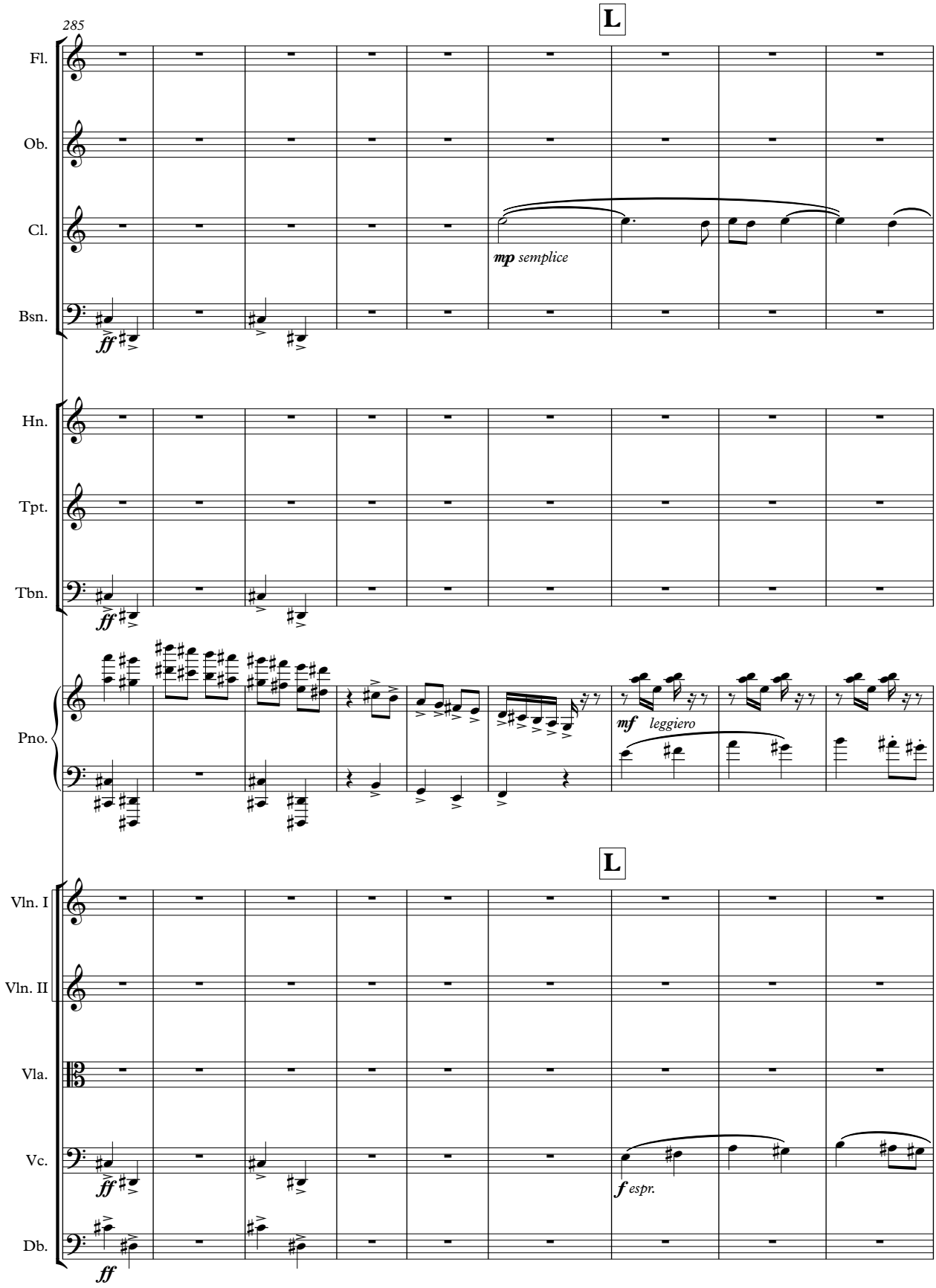

♩ = 150, Bouncing, playful
239
J
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mf suave
mf
mp
marcato
f
pizz.

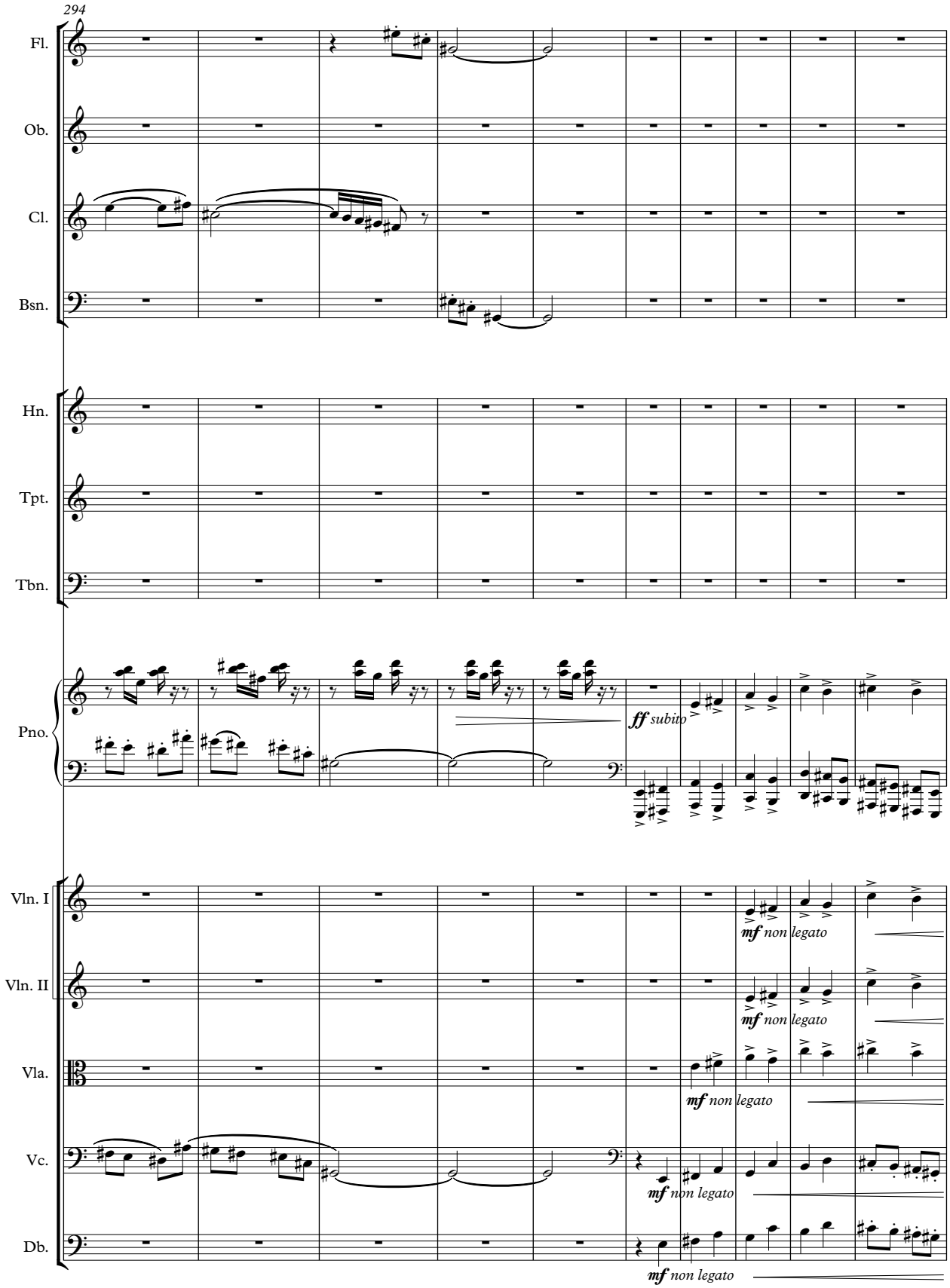

248
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mp
mf
mp
mp
mp
p
f
f
f
f
f

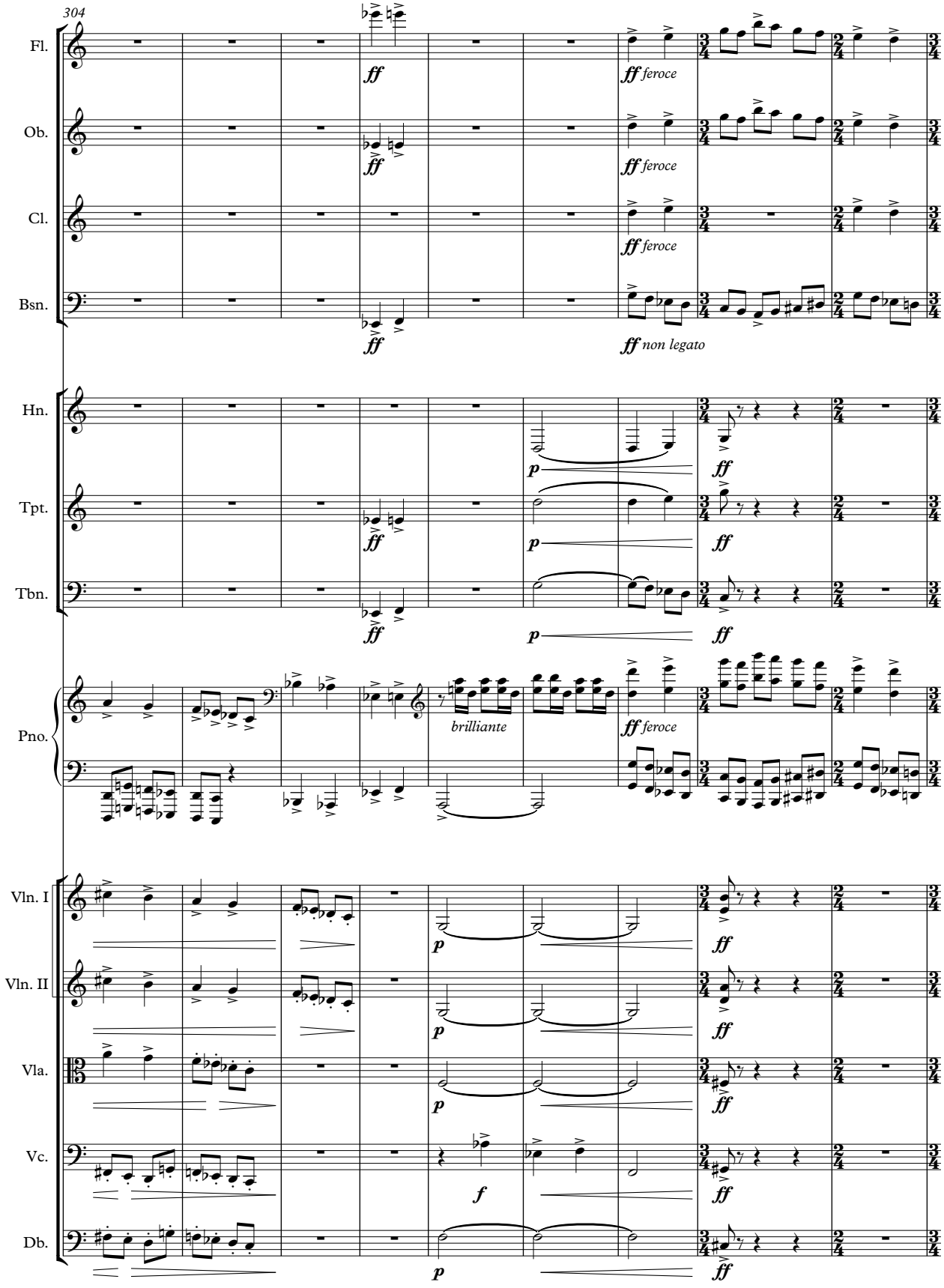

259
K
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mf
f
f marcato
subito ff
arco

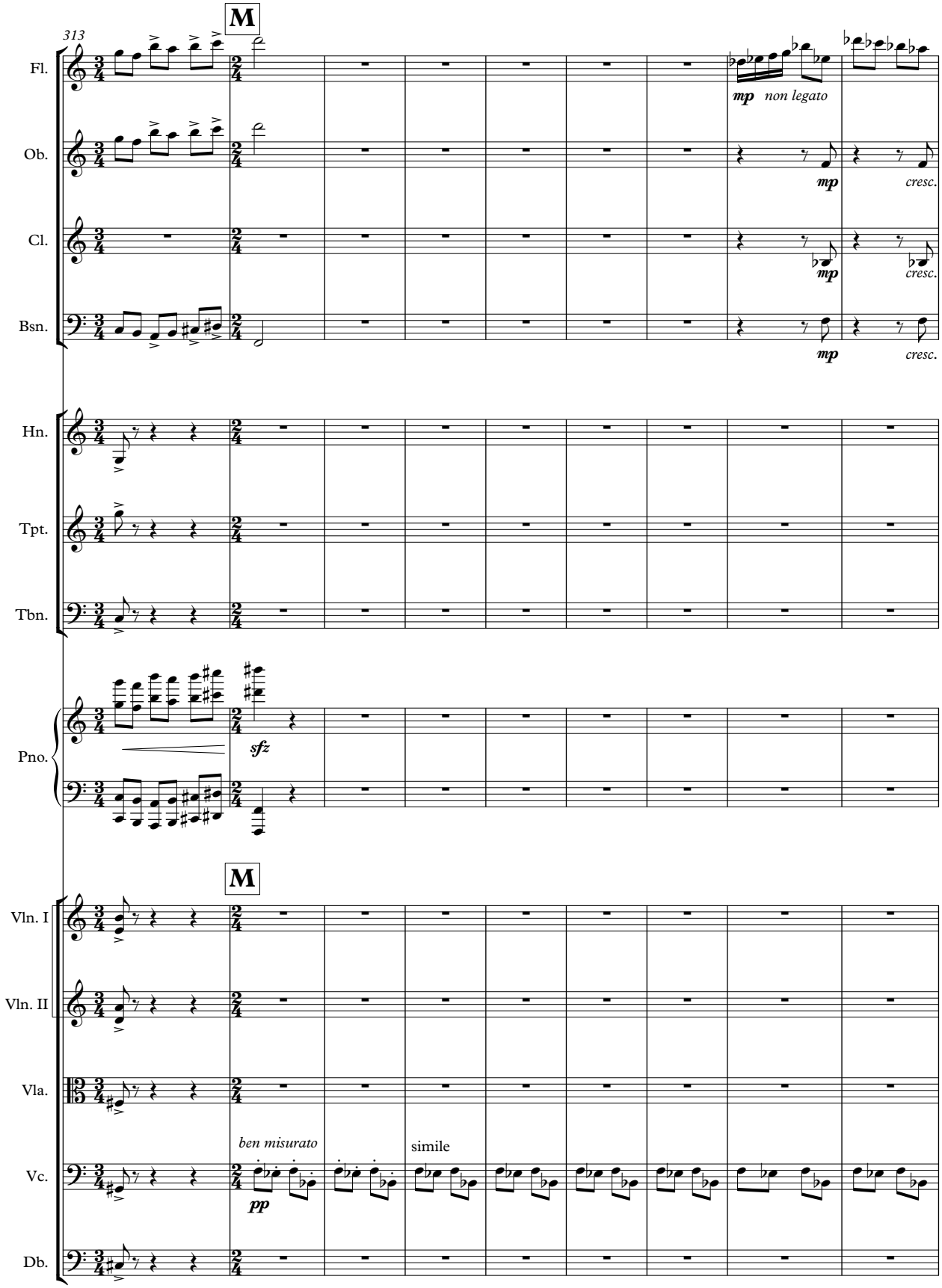

268
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
ff
mf
3

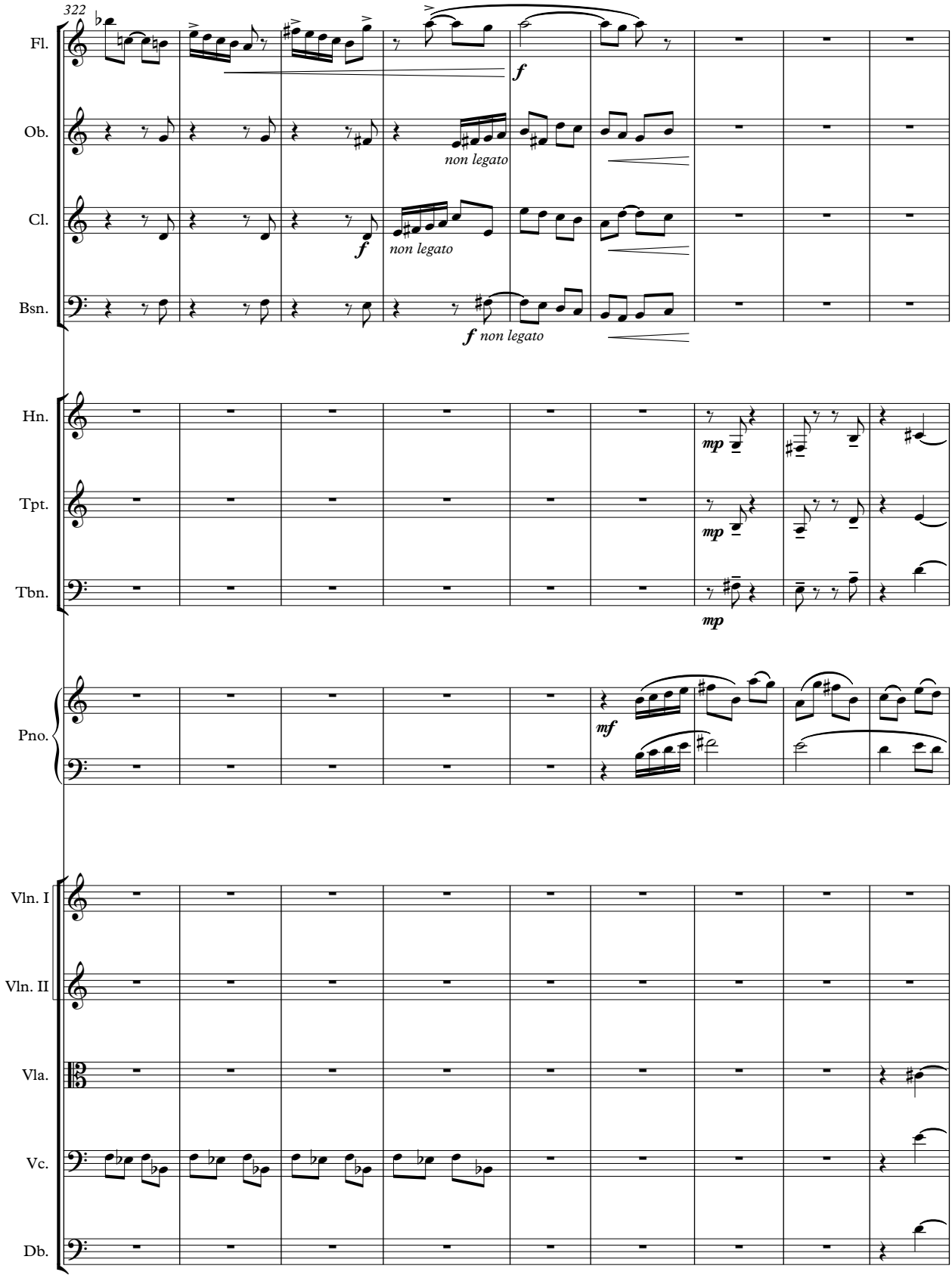

276
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
f
molto marcato ff

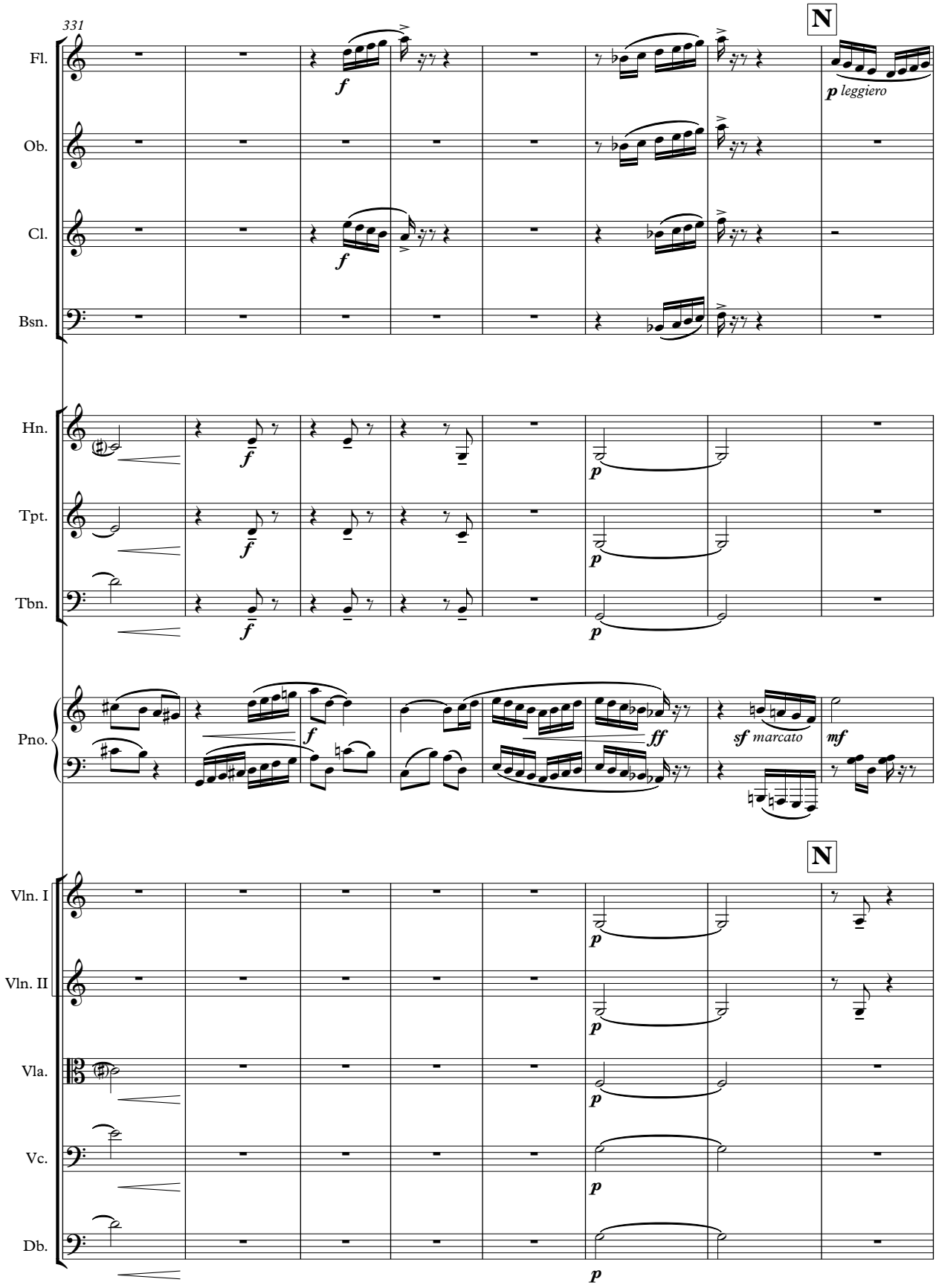

285
L
Fl.
Ob.
Cl.
Bsn.
mp semplice
ff
Hn.
Tpt.
Tbn.
ff
Pno.
mf leggiero
L
Vln. I
Vln. II
Vla.
Vc.
Db.
ff
f espr.
ff

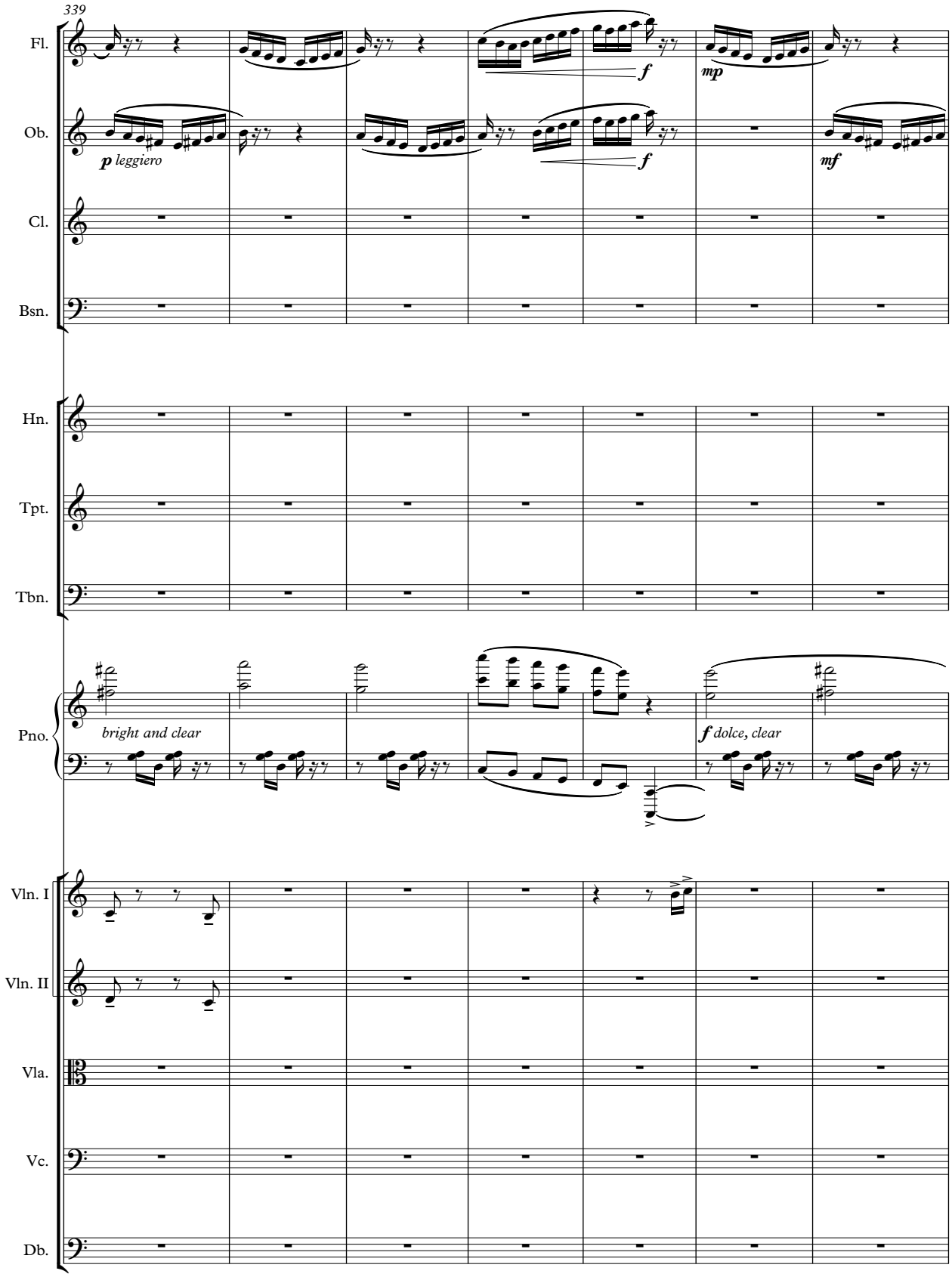

294
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
ff subito
Vln. I
Vln. II
Vla.
Vc.
Db.
mf non legato
mf non legato
mf non legato
mf non legato
mf non legato

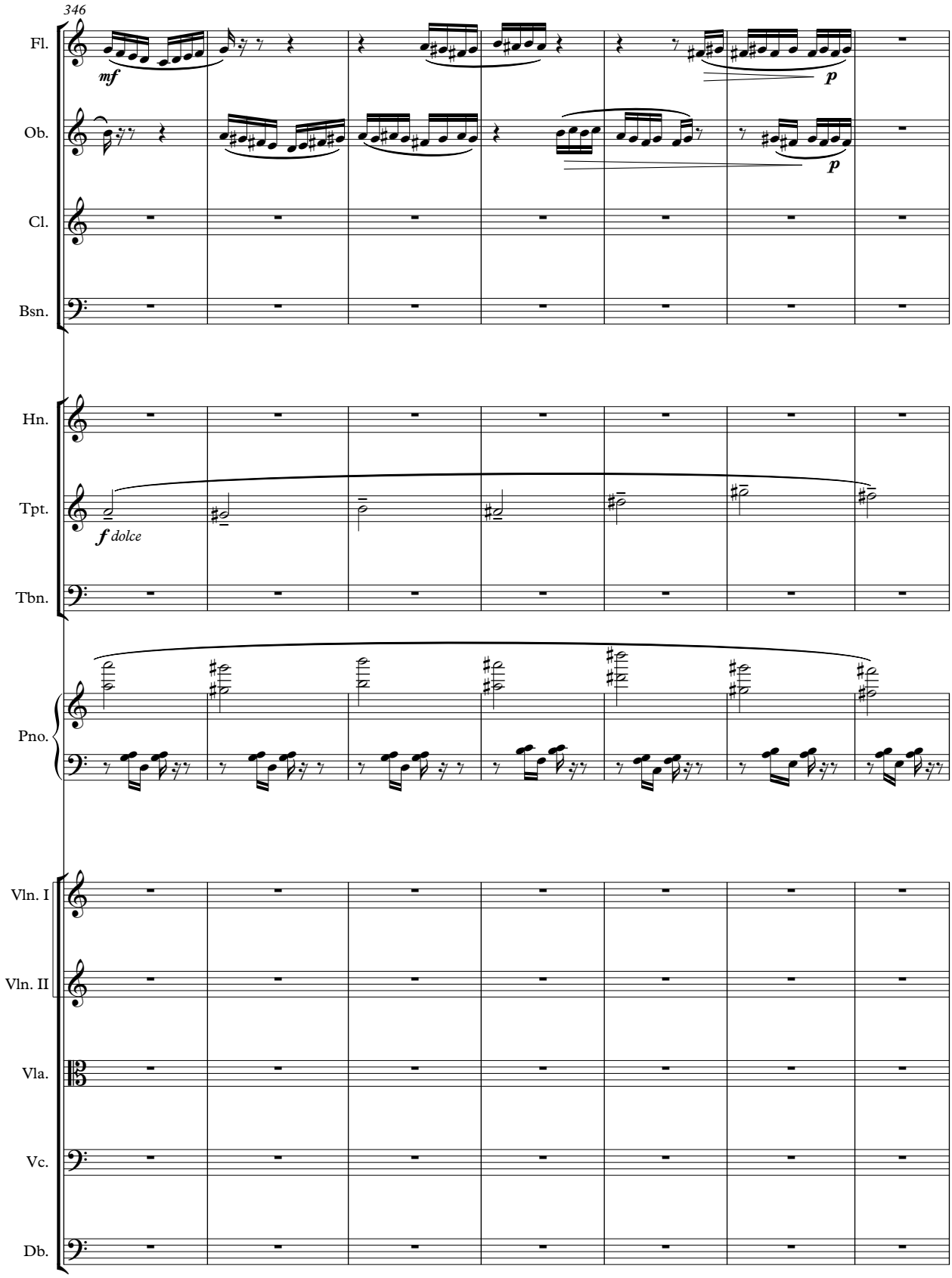

304
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
ff
ff feroce
ff non legato
p
f
brilliante

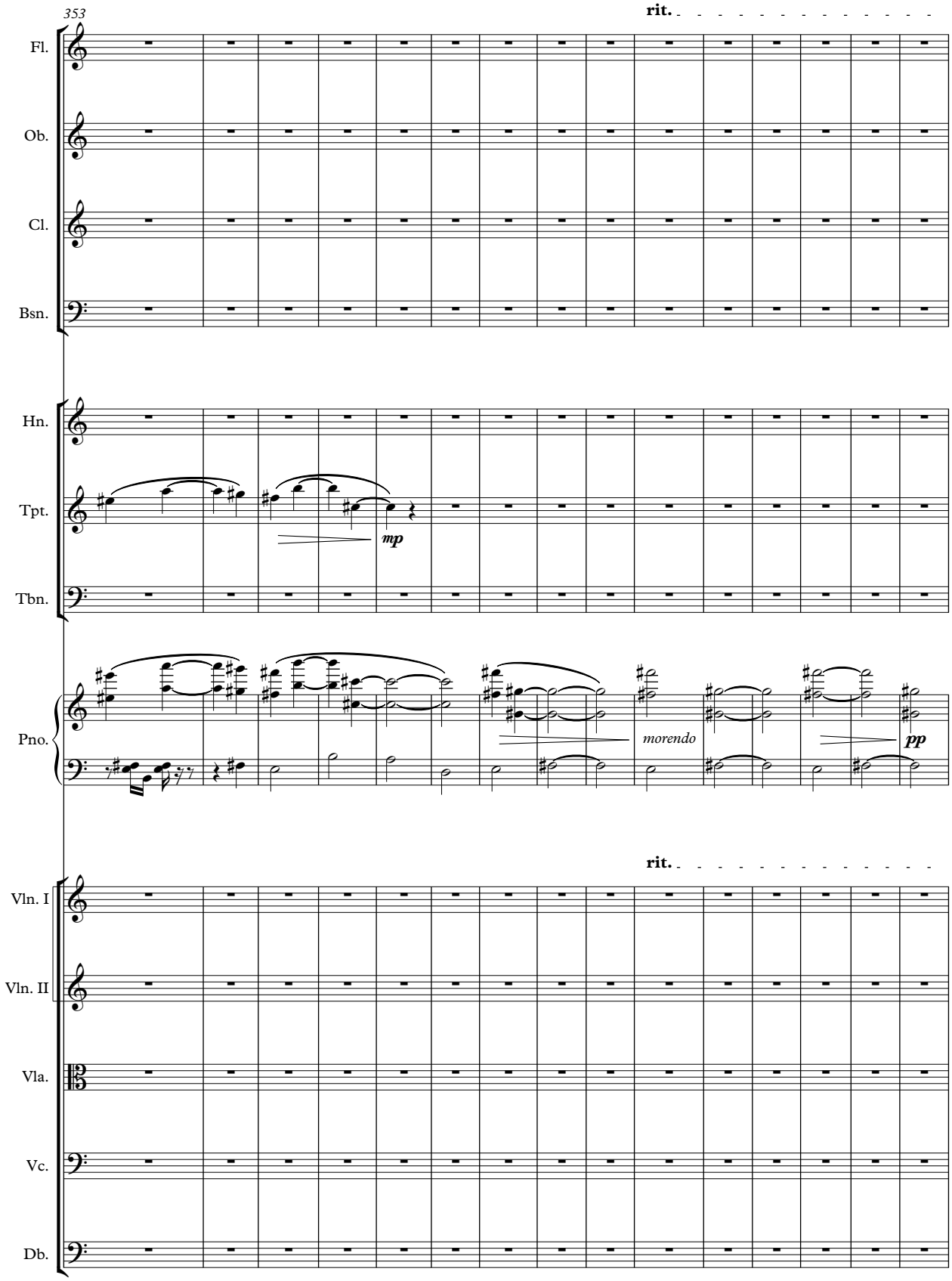

313
M
Fl.
Ob.
Cl.
Bsn.
mp non legato
mp
cresc.
mp
cresc.
mp
cresc.
Hn.
Tpt.
Tbn.
Pno.
sfz
M
Vln. I
Vln. II
Vla.
Vc.
Db.
ben misurato
pp
simile

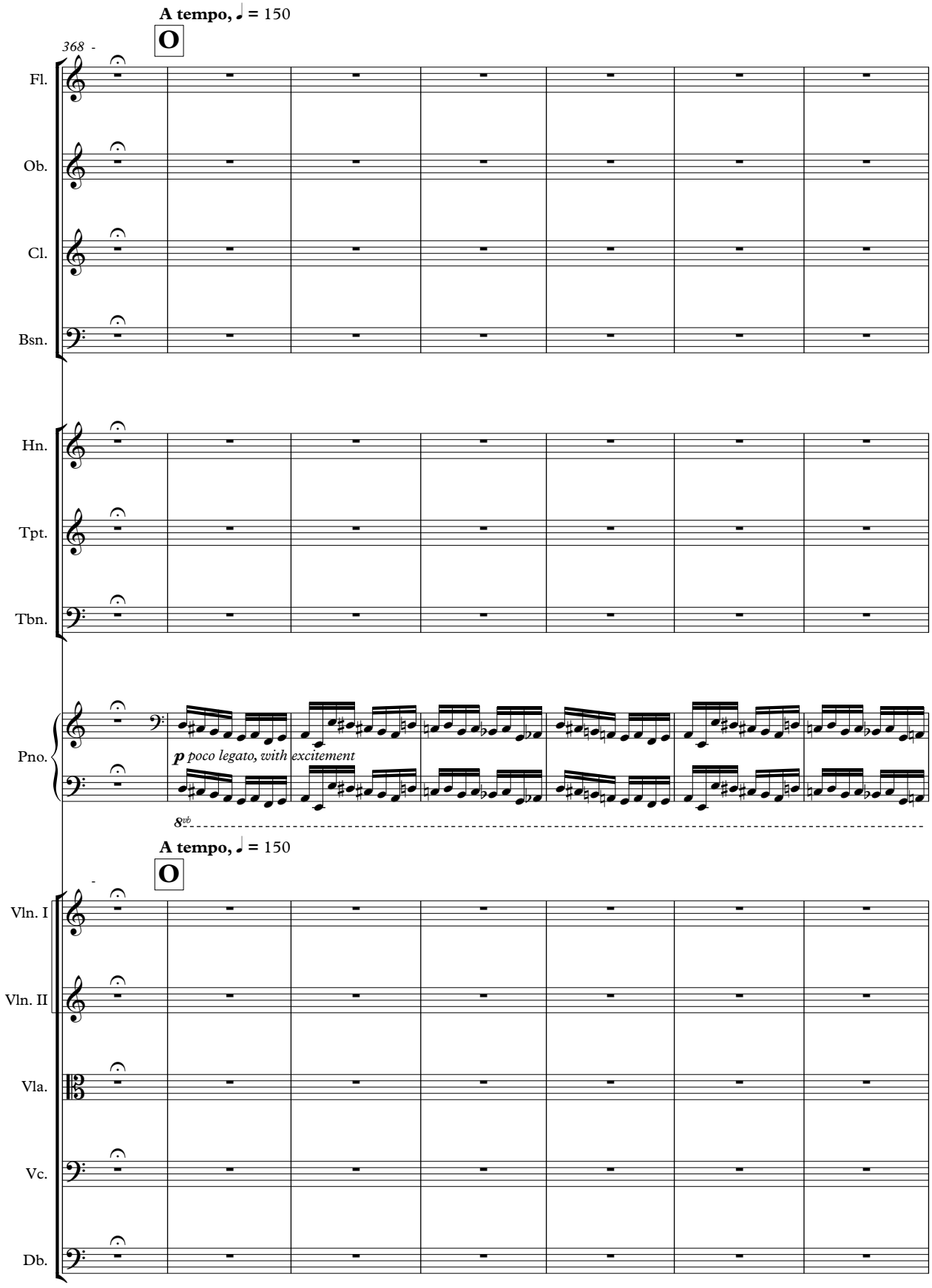

322
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
non legato
f
non legato
f non legato
mp
mp
mp
mf

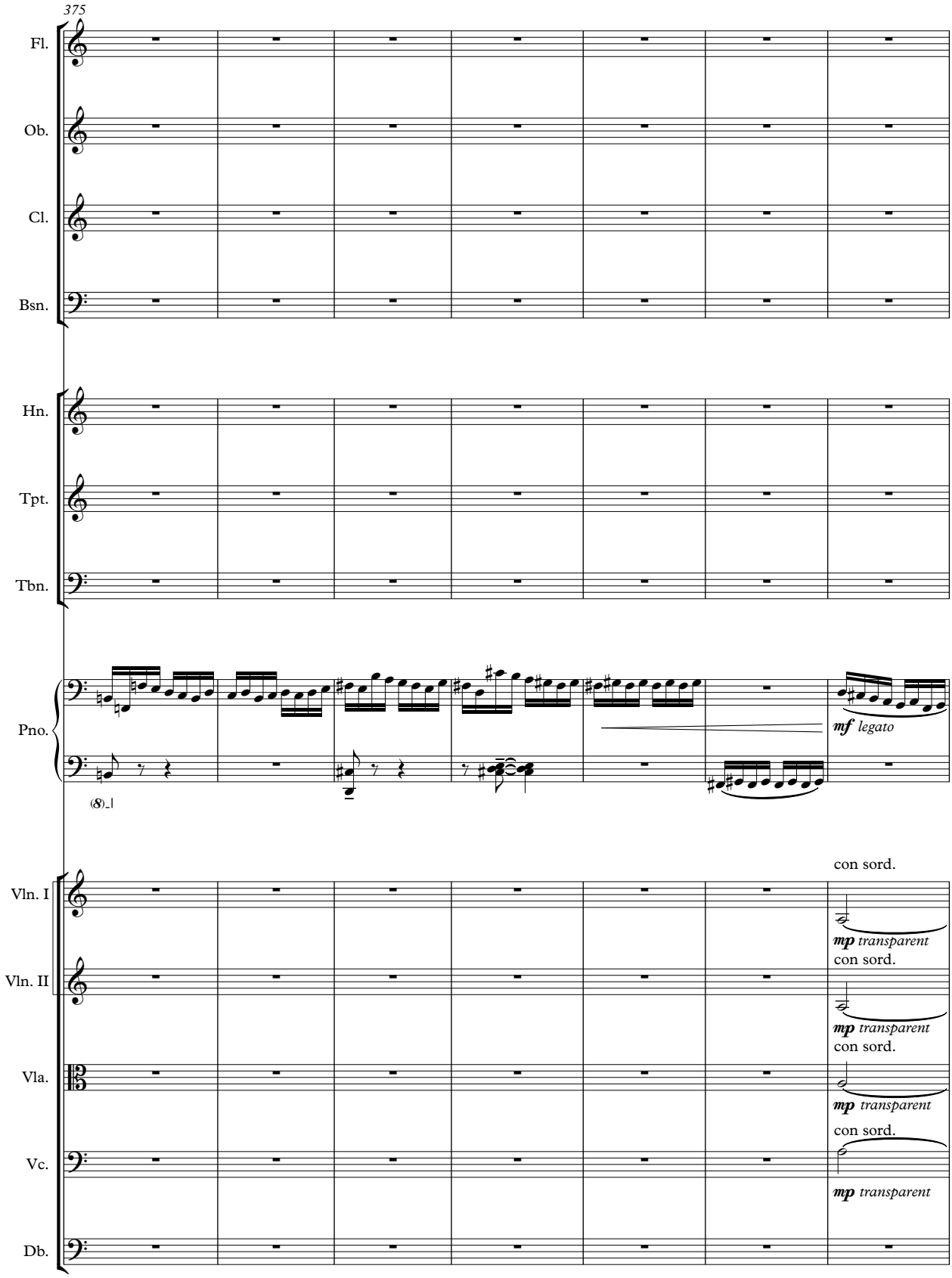

331
N
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
p leggiero
p
ff
sf marcato
mf

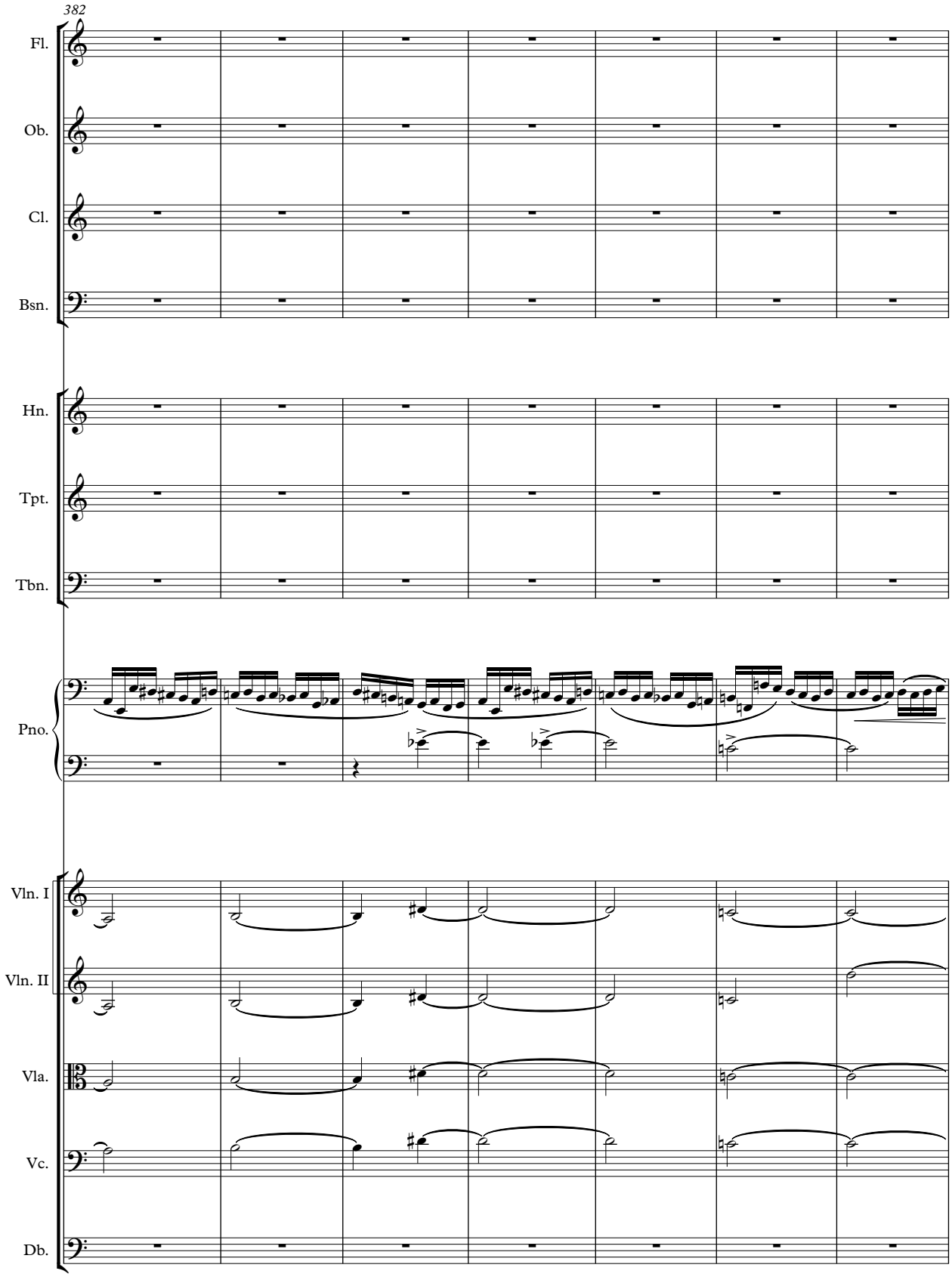

339
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p leggiero
f
mp
f
mf
bright and clear
f dolce, clear

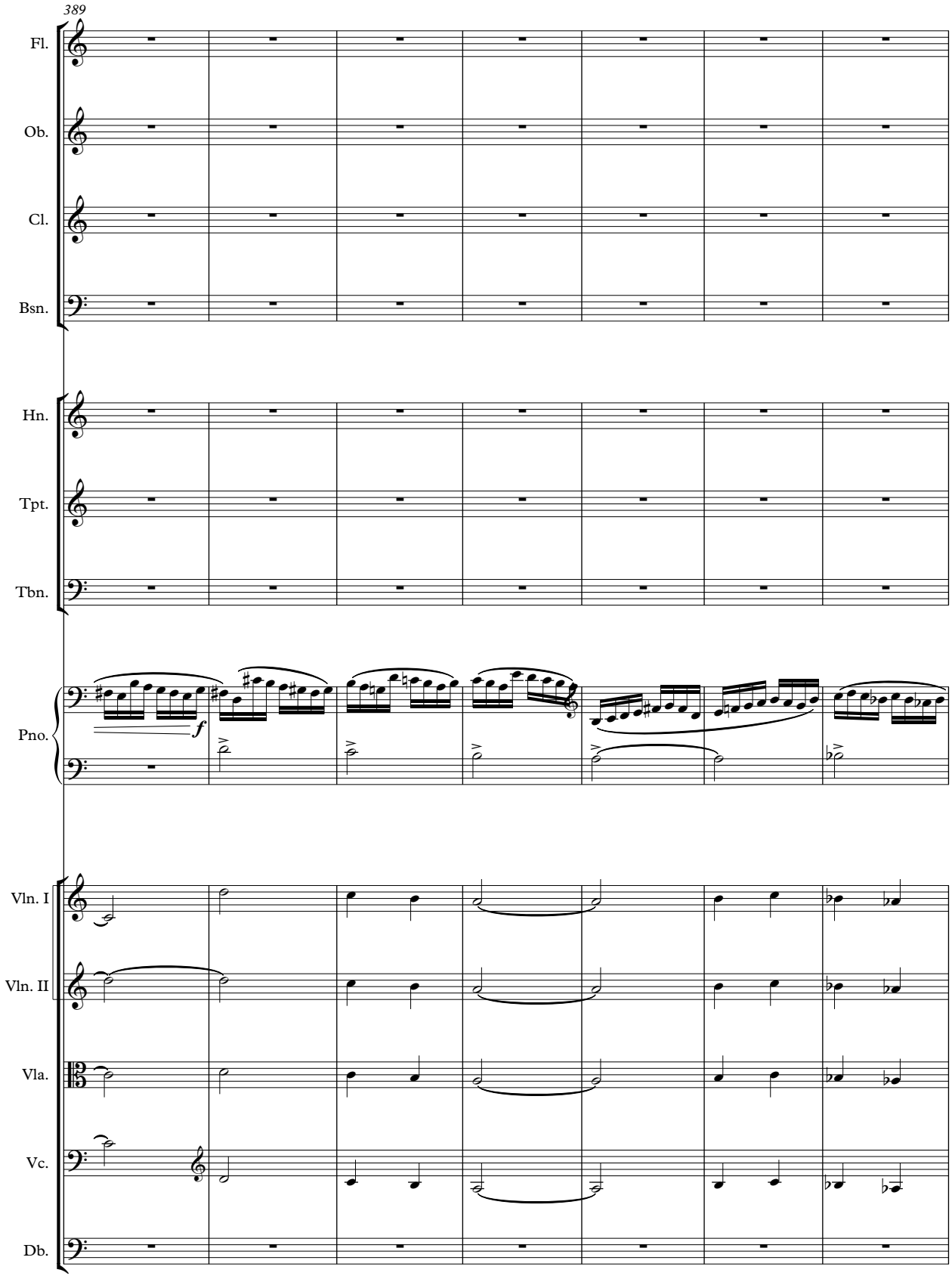

346
Fl.
mf
p
Ob.
p
Cl.
Bsn.
Hn.
Tpt.
f dolce
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.

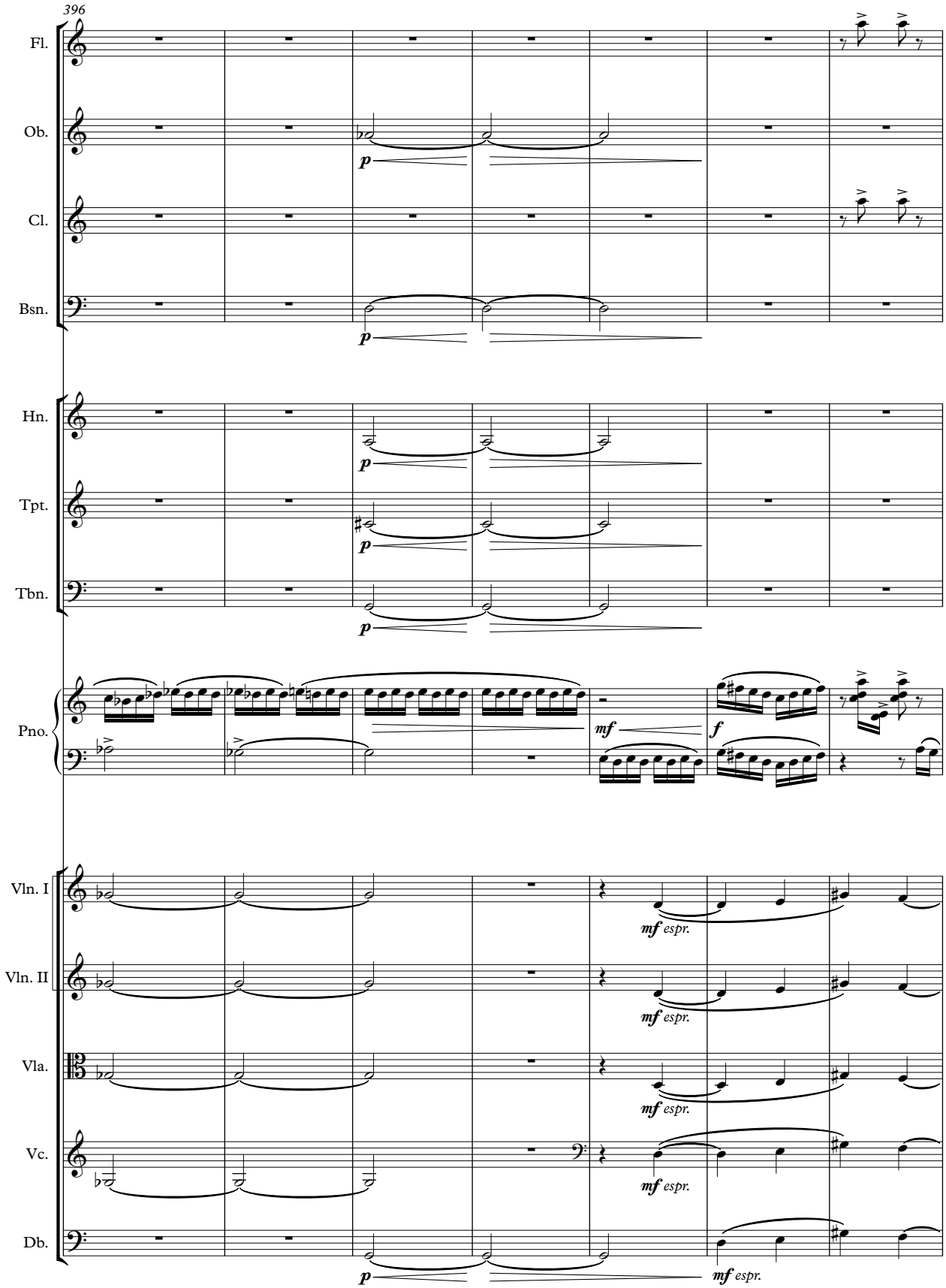

353
rit.
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
mp
Tbn.
Pno.
morendo
pp
rit.
Vln. I
Vln. II
Vla.
Vc.
Db.

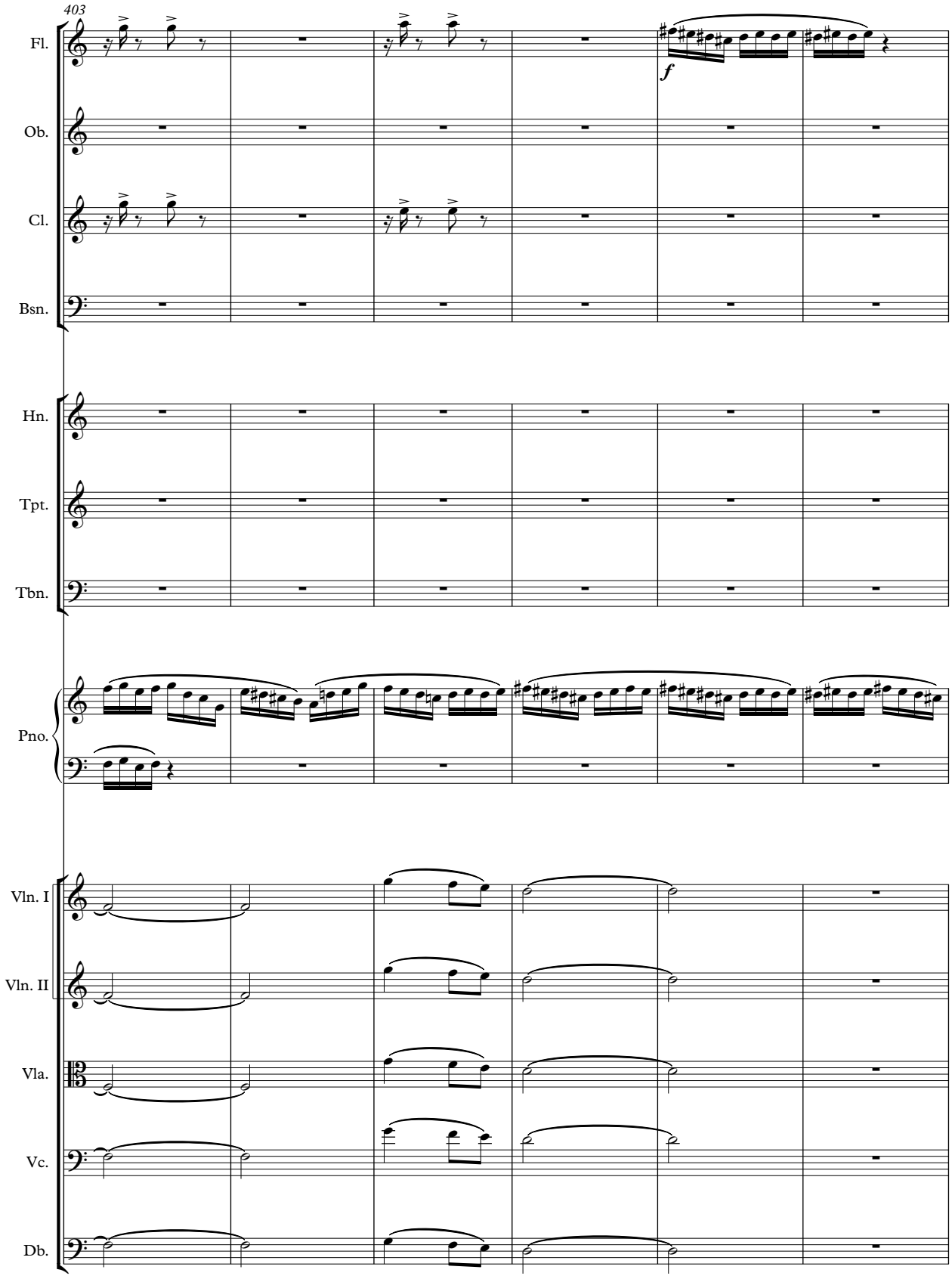

A tempo, ♩ = 150
O
368
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
p poco legato, with excitement
8vb
A tempo, ♩ = 150
O
Vln. I
Vln. II
Vla.
Vc.
Db.

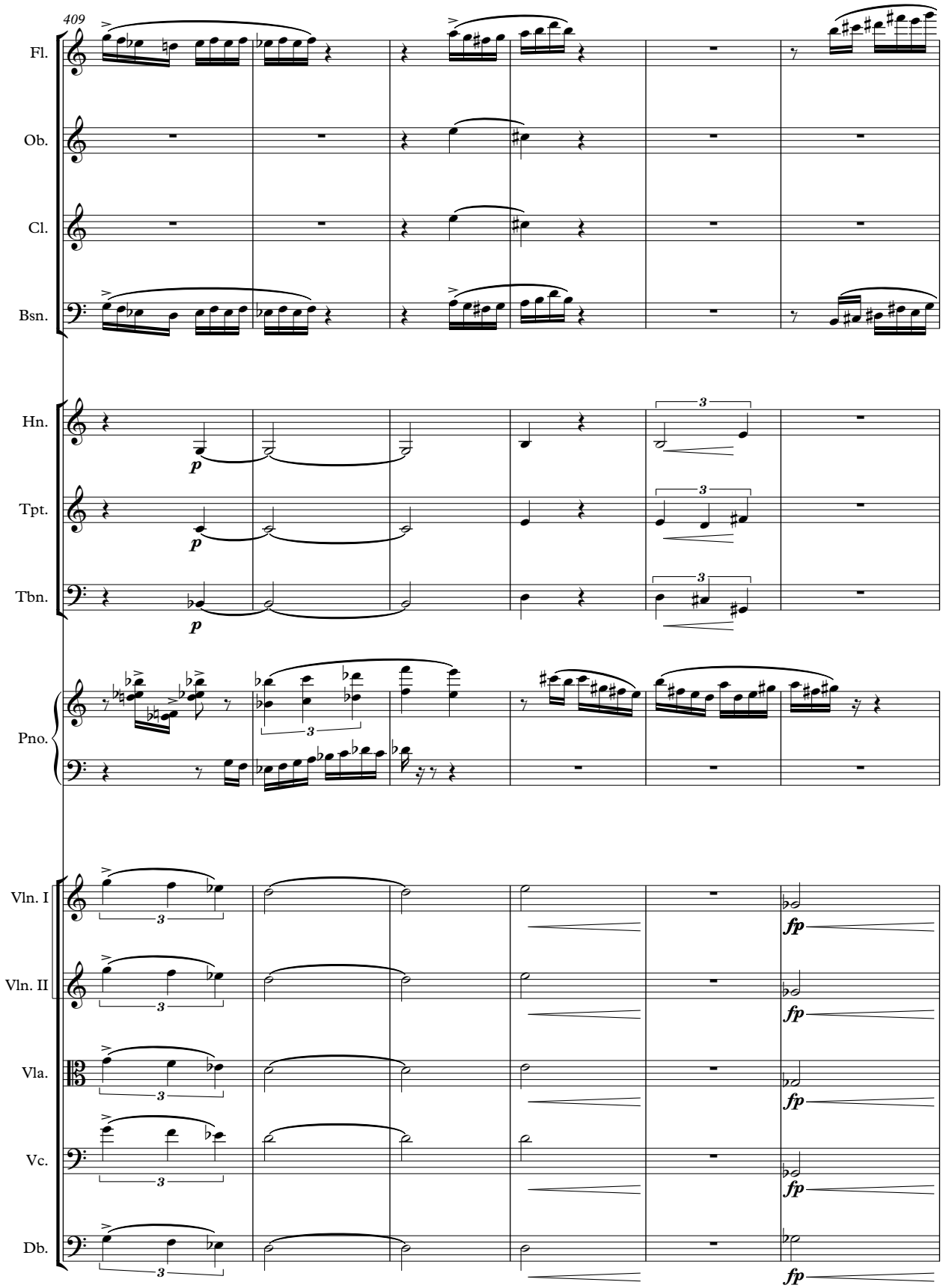

375
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
mf legato
(8)
Vln. I
Vln. II
Vla.
Vc.
Db.
con sord.
mp transparent
con sord.
mp transparent
con sord.
mp transparent
con sord.
mp transparent

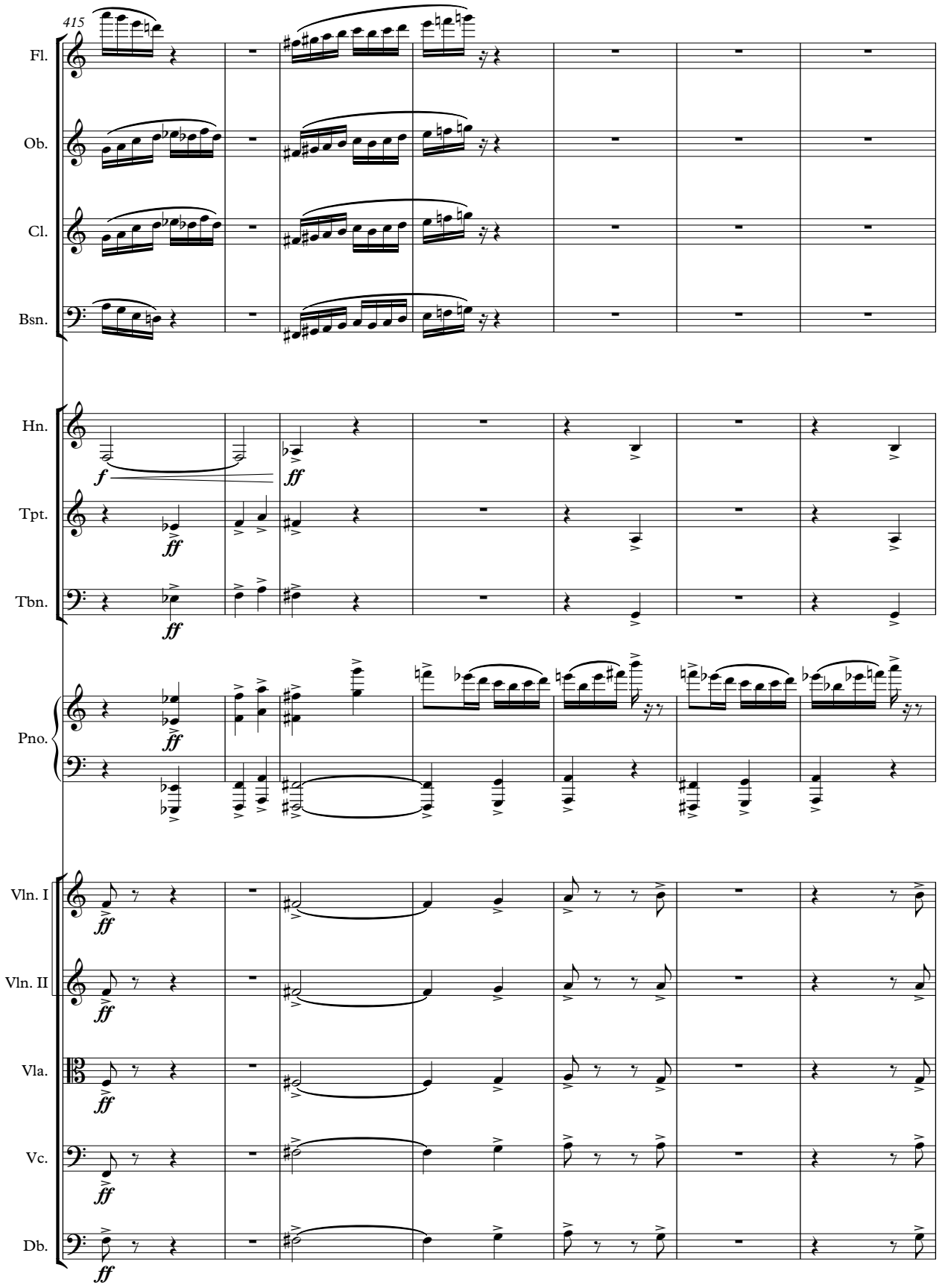

382
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.

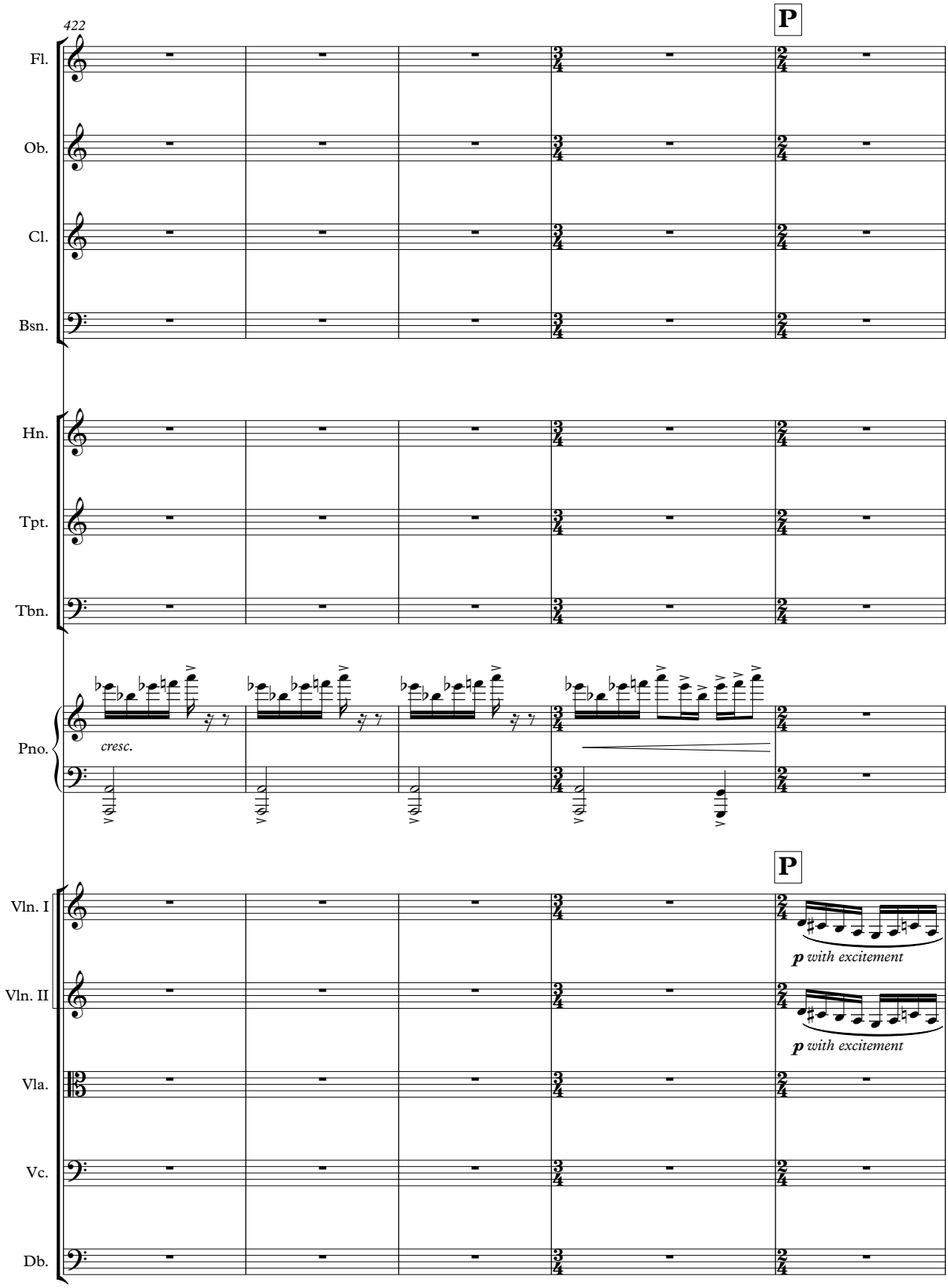

389
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
f
Vln. I
Vln. II
Vla.
Vc.
Db.

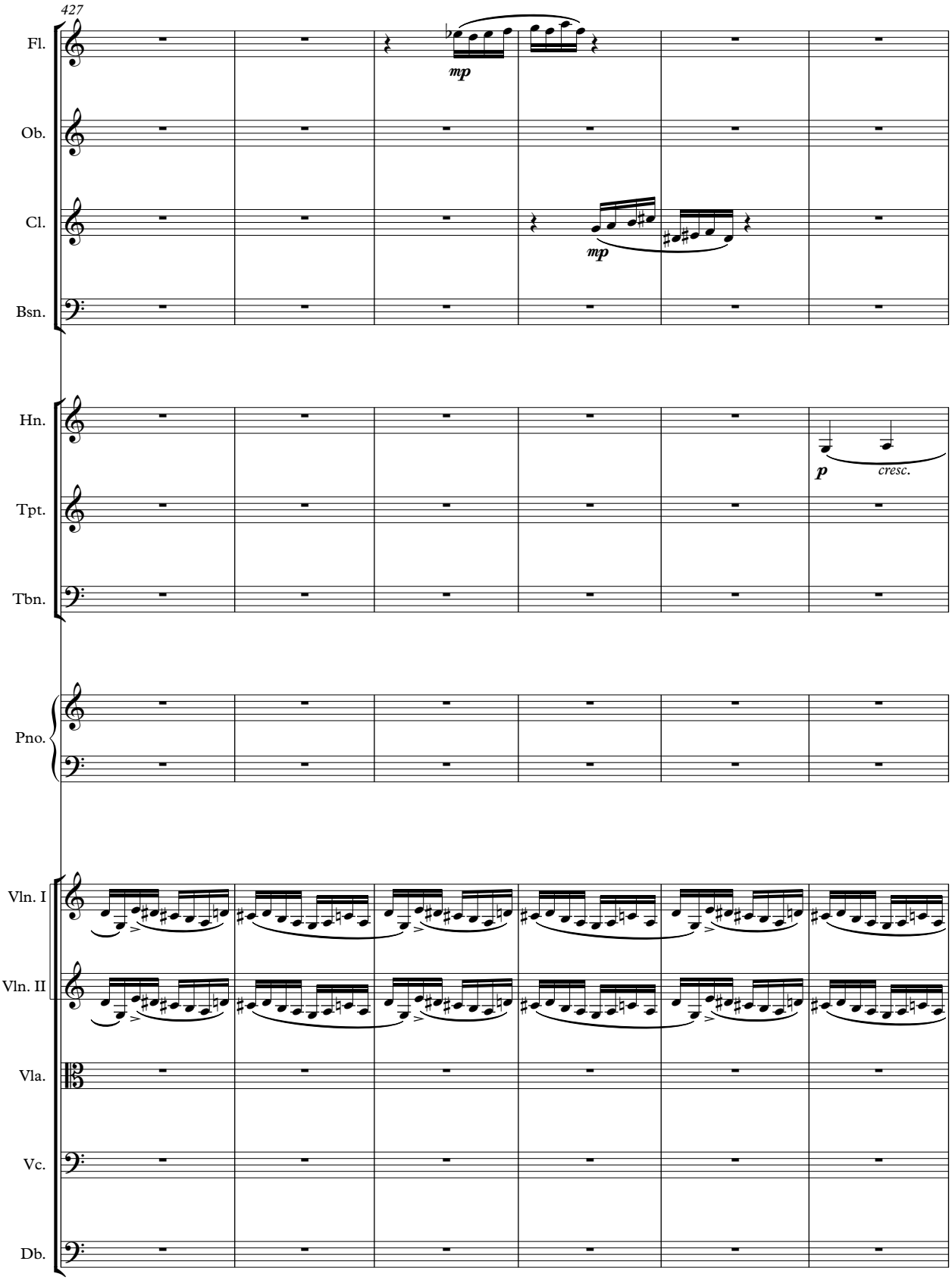

396
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
mf
f
mf espr.

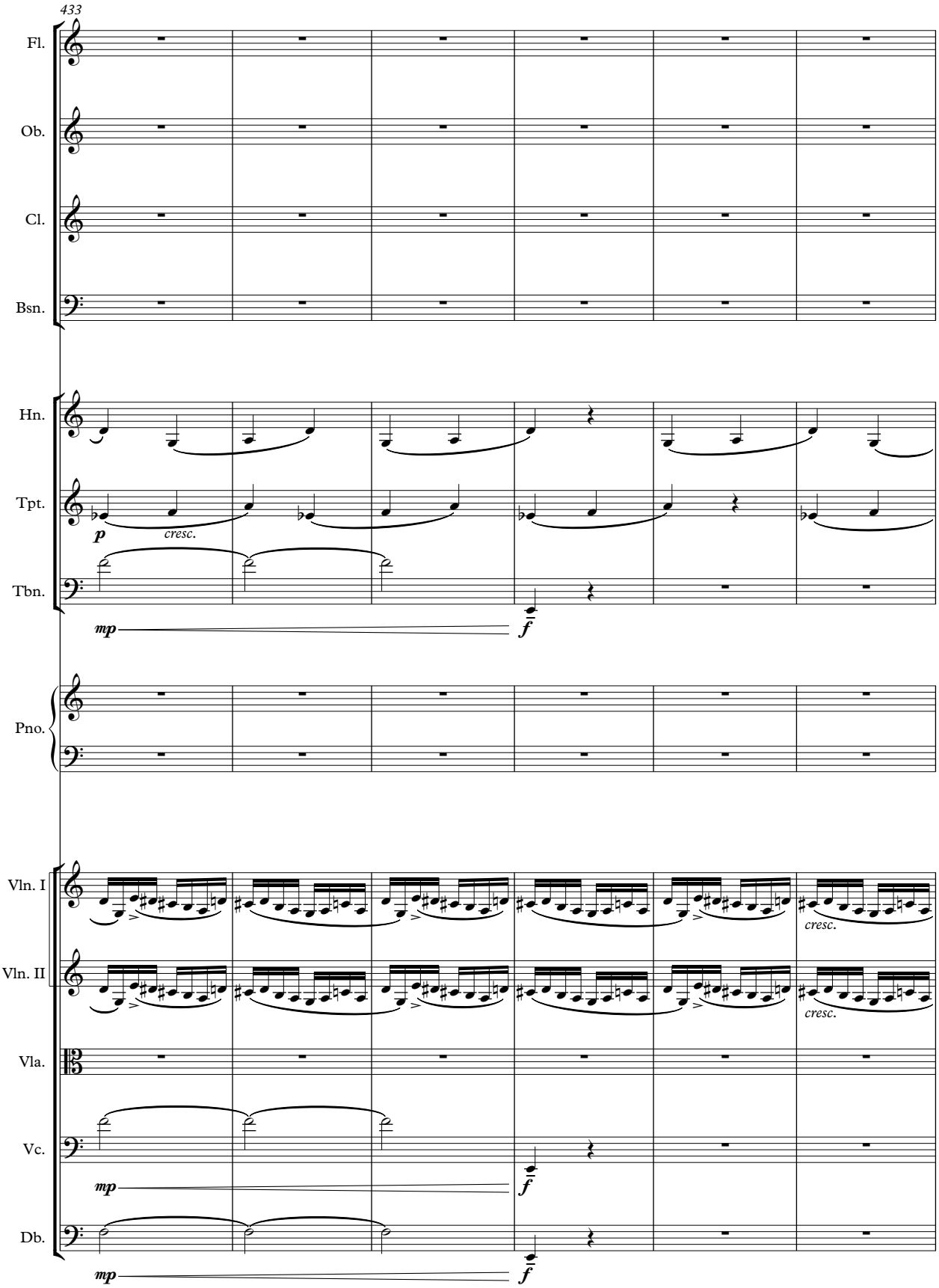

403
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f

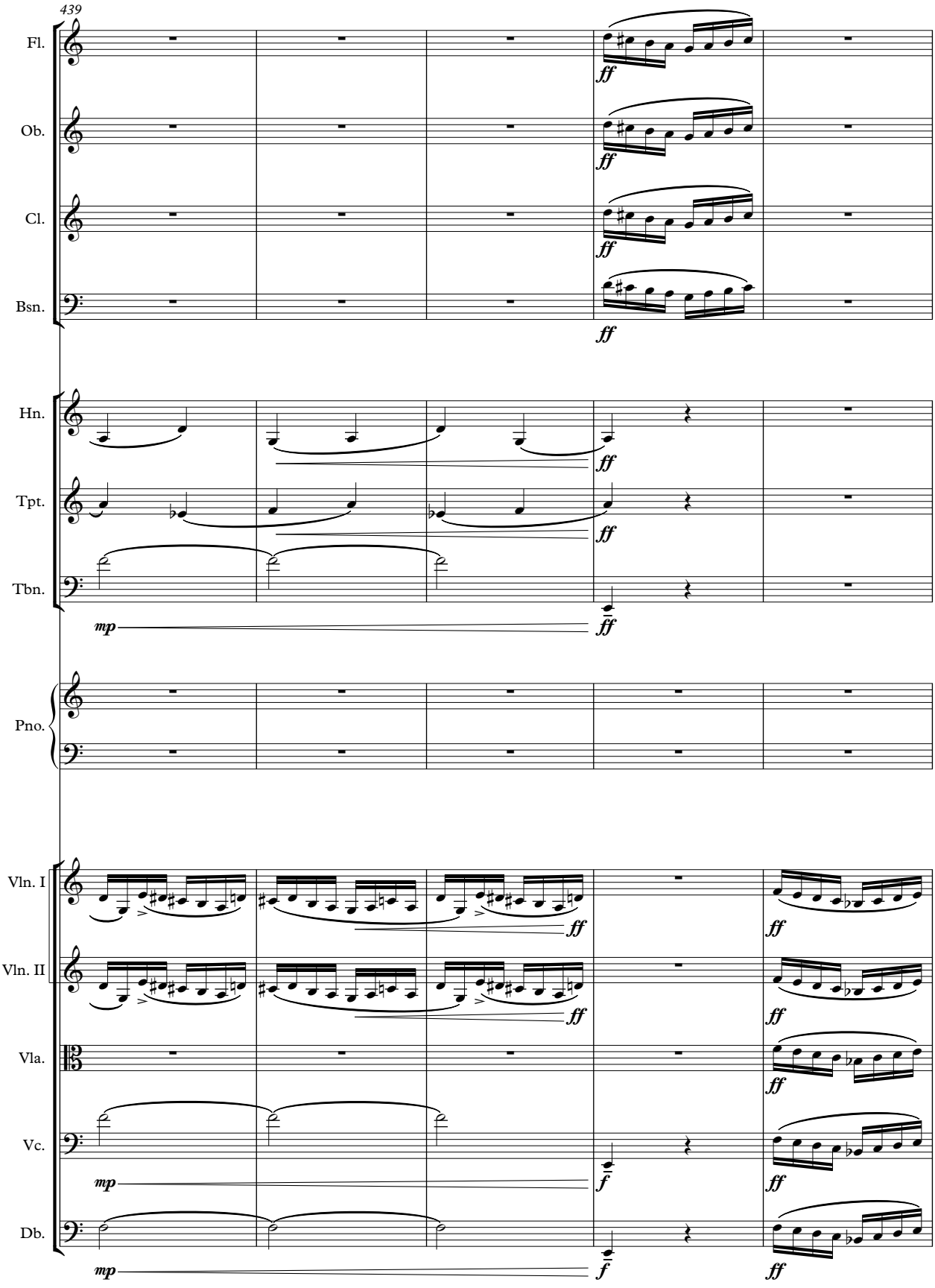

409
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
fp

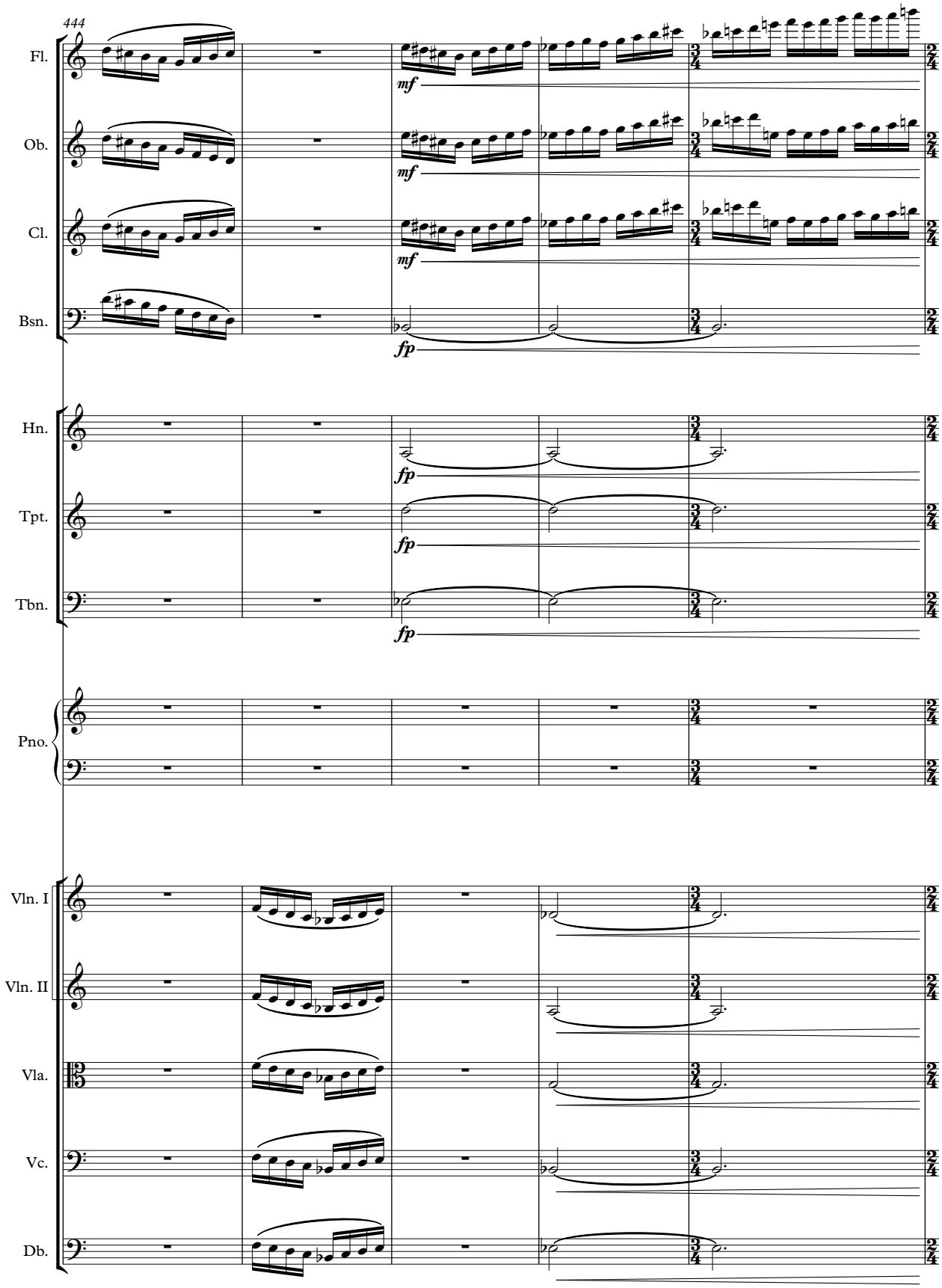

415
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
f
ff

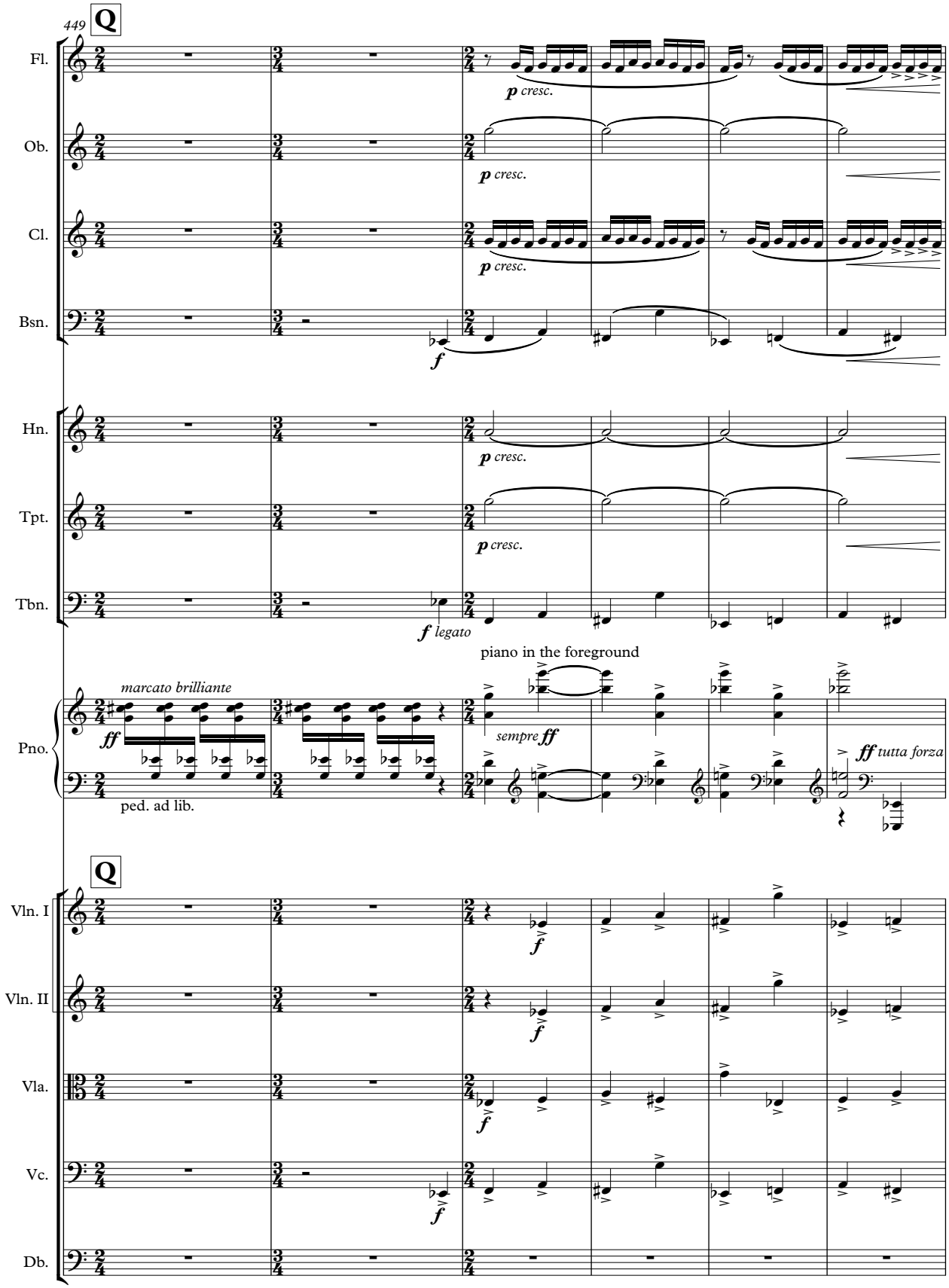

422
P
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
cresc.
P
Vln. I
Vln. II
Vla.
Vc.
Db.
p with excitement
p with excitement

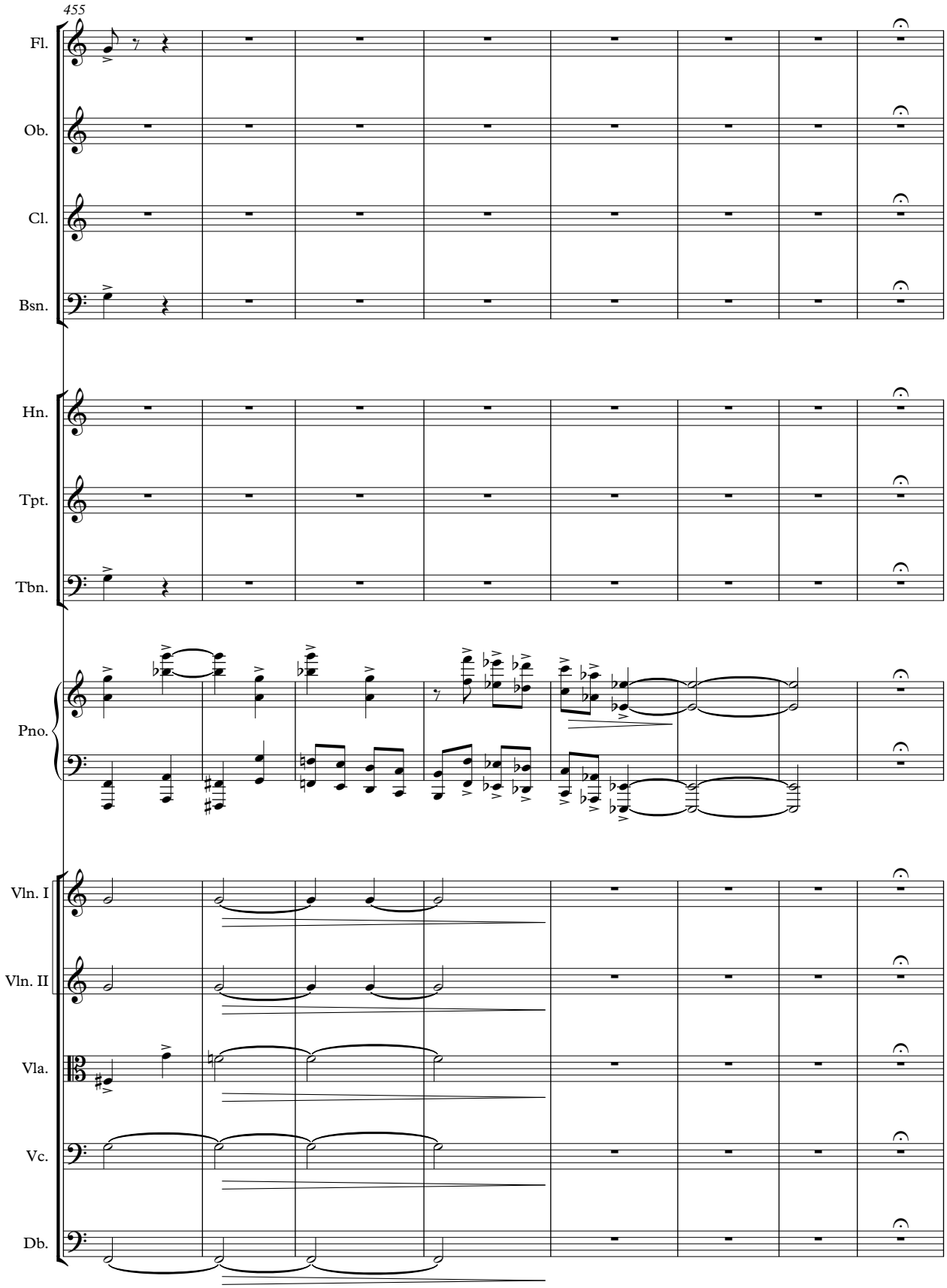

427
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mp
mp
p
cresc.

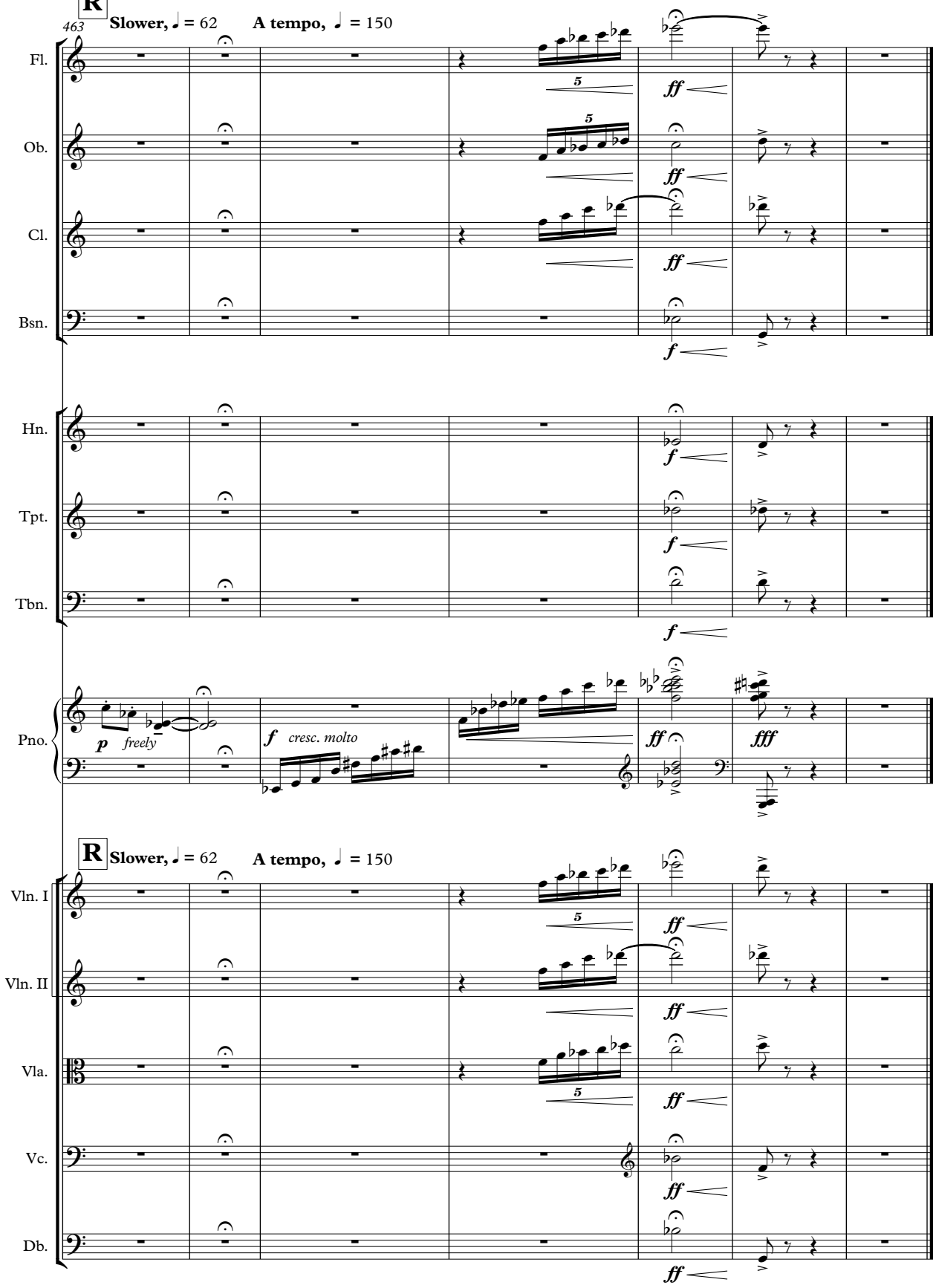

433
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p
cresc.
mp
f
mp
f
cresc.
cresc.
mp
f
mp
f


439
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
ff
mp
f


444
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
mf
fp
3/4
2/4


449
Q
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.
p cresc.
f
f legato
piano in the foreground
marcato brilliante
ff
ped. ad lib.
sempre ff
ff tutta forza


455
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
Vln. I
Vln. II
Vla.
Vc.
Db.


R
463
Slower, ♩ = 62
A tempo, ♩ = 150
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Pno.
p freely
f cresc. molto
ff
fff
R
Slower, ♩ = 62
A tempo, ♩ = 150
Vln. I
Vln. II
Vla.
Vc.
Db.