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The Black Hill

by

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ABSTRACT

The Black Hill is a concerto for tuba and orchestra that musically evokes the subterranean world of the *side*, a people that once inhabited ancient Ireland but who now exist only in Celtic mythology. The piece is approximately fifteen minutes in duration, and scored for an orchestra with the following configuration (2222/4200/Timp, Perc/Strings with soloist). It comprises three movements without break and follows the standard concerto form of fast, slow, fast.

An introductory essay accompanies the score of the *Black Hill* which discusses: the research prior to composing the concerto; the formal, melodic, and harmonic structures of the piece; and the procedures and solutions involved in orchestrating the concerto. The essay also discusses how the poetic characteristics of the *sid* relate to the form, melody, harmony, and orchestration of the concerto.

ACKNOWLEDGEMENTS

I would like to thank my supervisor Allan Bell for his support, encouragement, and patience as well as David Eagle and William Jordan for their insight and guidance during my studies at the University of Calgary. I would also like to thank my parents, Fred and Helen Birney, my brother Kevin Birney, and all of my friends who I have known since childhood. They have always forgiven me the time that I have spent away from them while pursuing a career in music.

And most importantly, I would like to thank my wife Angela Birney who has been my “rock” these past five years and without whose love and support I could not have accomplished all that I have done.

DEDICATION

The Black Hill is dedicated to Jean-François Cotnoir. I am honored to have such a fine friend and musician.

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Behold the *sid* before your eyes,
It is manifest to you that it is a king's mansion
Which was built by the firm Dagda;
It was a wonder, a court, an admirable hill.[1]

1.0 Introduction

According to Irish Celtic mythology, the *sid* are the hills that contained the magical and joyful subterranean palaces of the *side,* who later became known as fairy folk. The *Dagda* was one of the most famous and powerful kings of the *side* and ruled above the land until the *Milesians*, whose descendants are the present day Irish, defeated him and the *side* and forbid them to ever walk upon the land again.

The Black Hill is a musical evocation of this subterranean world whose inhabitants are untamed by the order and rigor of society. As I began to compose, I imagined their world to be both wondrous and forbidding, where beauty and danger exist in every corner. The images conjured by this world brought two words to my mind: dark and wild. These powerful poetic characters in turn influenced my choices regarding to the melodies, harmonies, and the orchestration of the concerto. I chose the tuba as the solo instrument because of the darkness of its timbre and because it can change very quickly from a gentle to a ferocious character. I wanted not only the soloist but the whole orchestra to evoke the darkness and wildness of the *side*.

I wrote this piece for my colleague Jean-François Cotnoir, a professional tuba player living in Calgary. He is a wonderful musician whose virtuoso tuba playing reinforced my desire to compose a concerto for the instrument. I chose the timbres that are featured in the tuba part after listening to Cotnoir perform and discussing the special qualities and limitations of the instrument with him. I dedicated the piece to Cotnoir by naming it *The Black Hill,* which is an English translation of his last name.

---

[1] J.A. MacCulloch: *Celtic Mythology* (J.A. MacCulloch, 1918; Academy Chicago Publishers, 1996), 50, quoting O'Curry [a], i. 505.

2.0 Research

2.1 Brass Concertos

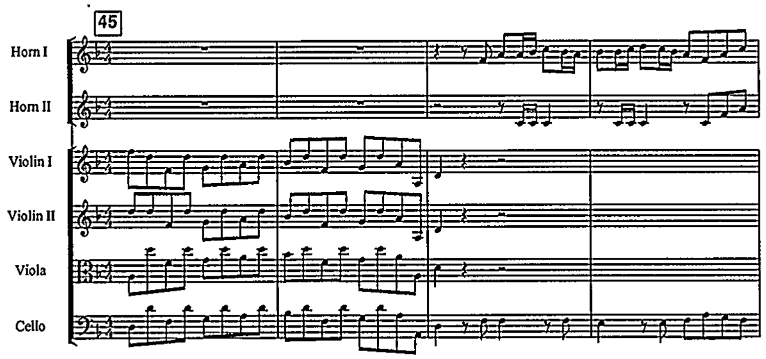
The brass concerto genre can be traced back to the beginning of the eighteenth century. During this time, composers wrote for valveless instruments and were therefore limited to the notes within the overtone series. The orchestral accompaniments of these brass concertos contained a small number of winds, strings, and a continuo. Composers often wrote the solo parts for two like-instruments, an influence derived from a style of instrumental writing found in operas and sonatas.[2] This practice of using two brass instruments in tandem helped to alleviate the problem of fatigue in the players.[3] Vivaldi's *Concerto in Fa Maggiore per 2 corni, Archi e Cembalo* and J.S. Bach's *Brandenburg Concerto No. 1 in F major* are examples of concertos that use two brass instruments. However, there are some differences in how the composers wrote their solo parts and how they scored the soloists against the orchestra. Vivaldi treated the horns as a featured duet and, except for tutti sections, he usually limited the orchestra accompaniment to the continuo during the duet passages (ex. 1). Bach used the two horns as a single entity, scoring them primarily in parallel thirds so that they could be heard more clearly against a larger ensemble (ex. 2).

---

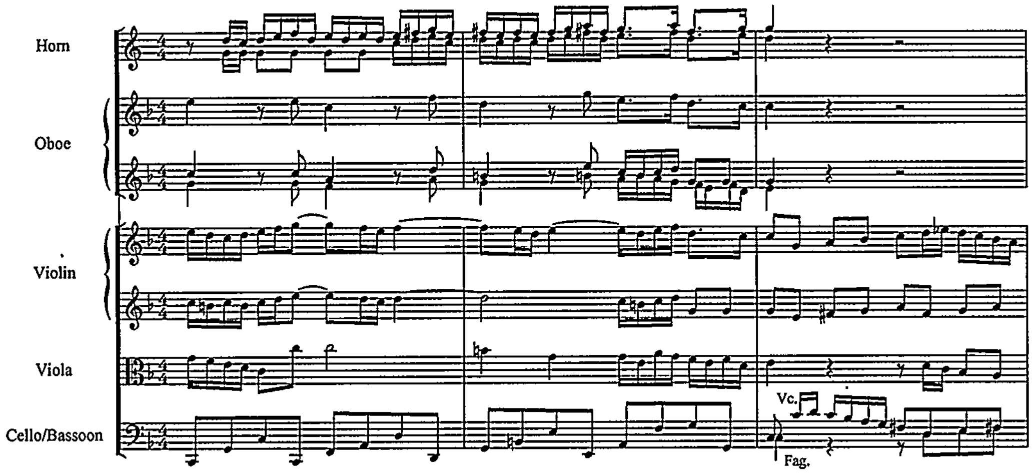
[2] Edward Tarr, *The Trumpet.* Translated by S.E. Plank and Edward Tarr. (Portland, Oregon: Amadeus Press, 1988), 118.

[3] Arthur Hutchings, *The Baroque Concerto* (London: Faber and Faber, 1961), 84.

Example 1: Vivaldi, *Concerto in Fa Maggiore per 2 corni, Archi e Cembalo*, I, mm.45-48.


45
Horn I
Horn II
Violin I
Violin II
Viola
Cello

Example 2: Bach, *Brandenburg Concerto No. 1 in F Major*, I, mm. 16-18.


Horn
Oboe
Violin
Viola
Cello/Bassoon
Vc.
Fag.

By the late eighteenth and early nineteenth century some technical improvements were made to brass instruments. In the case of the trumpet, an inventor named Anton Weidinger added three keys to manipulate its pitches beyond the limits of the overtone series. The keys were designed to raise the lower partials of the overtone series by either a half, a whole, or a whole and a half step, transforming the trumpet into a chromatic instrument.[4]

As for the horn, its design had remained relatively the same until 1750 when Johann Werner constructed a new instrument, the *inventions horn*, that fixed the position of the mouthpiece and added the crooks to the body of the instrument. This improvement led to a significant change in how it was played. With the earlier designs the performer used his right hand to hold up the instrument by grabbing it on the outside coils. After 1750 performers placed their right hand into the bell which continued to support the instrument, but also gave the players the ability to change the pitches of the overtone series into ones adjacent to them. Moving their hand in and out of the bell opening (stopped-horn technique first employed by A.J. Hampel in the mid. eighteenth-century) allowed players to inflect the notes in the overtone series into those that were not a part of that series.[5]

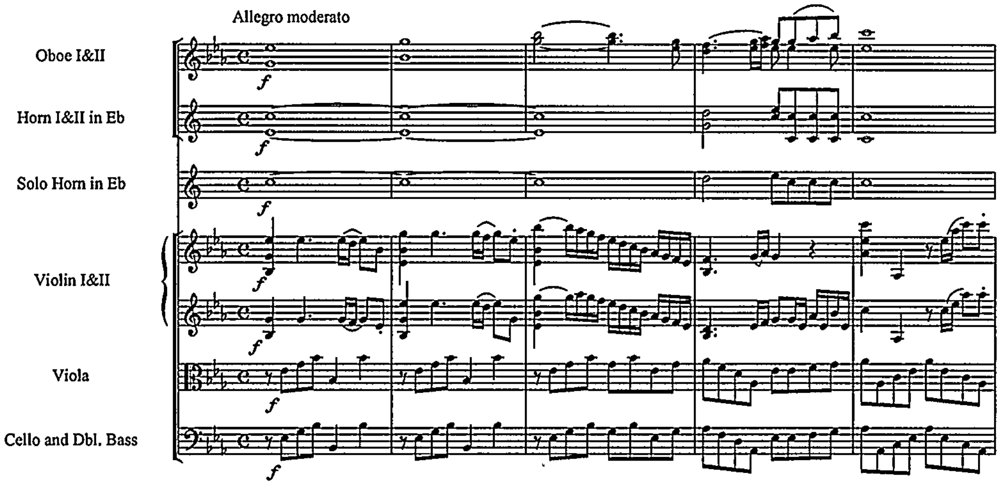
Haydn's *Concerto for Trumpet in E-Flat* and Mozart's *Concerto No.4 in E-Flat, K 495* are perhaps the finest examples of the brass concerto genre from the classical period. Both composers used a small section of the orchestra to accompany the soloists, usually strings only. Because the brass instruments became much louder, the overall size of the orchestra could be expanded. Yet even with larger string sections, Mozart and Haydn still restricted the use of orchestral brass to the tutti sections to avoid timbre conflicts with the soloists. To allow for the softer timbre of the horn, Mozart limited the size of his orchestral wind and brass sections to only two oboes and two horns (ex. 3). Because of the bright timbre of the trumpet, Haydn could increase the size of his orchestra to include a larger wind and brass section with timpani (ex. 4).

---

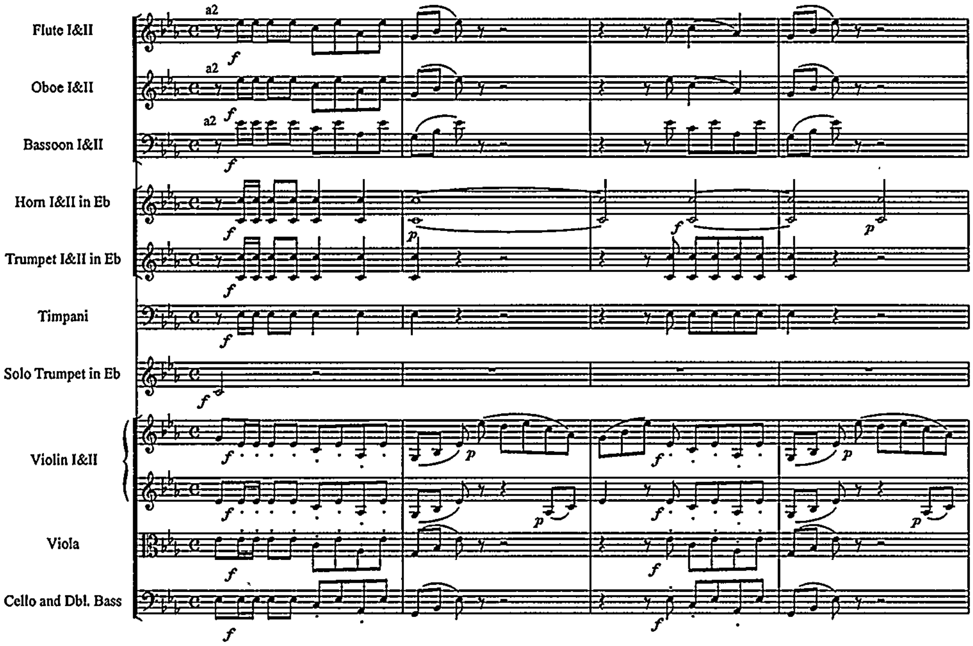
[4] Edward Tarr, *The Trumpet.* Translated by S.E. Plank and Edward Tarr. (Portland, Oregon: Amadeus Press, 1988), 150.

[5] Michael Thomas Roeder, *A History of the Concerto.* (Portland, Oregon: Amadeus Press, 1994), 151.

Example 3: Mozart, *Concerto No. 4 in E-Flat, K 495*, I, mm. 1-5.


Allegro moderato
Oboe I&II
Horn I&II in Eb
Solo Horn in Eb
Violin I&II
Viola
Cello and Dbl. Bass
f

Example 4: Haydn, *Concerto for Trumpet in E-Flat*, I, mm. 8-11.


a2
Flute I&II
Oboe I&II
Bassoon I&II
Horn I&II in Eb
Trumpet I&II in Eb
Timpani
Solo Trumpet in Eb
Violin I&II
Viola
Cello and Dbl. Bass
f
p

During the nineteenth century brass instruments went through many more technological improvements. The instruments became larger, louder, and sturdier. New smelting and manufacturing techniques available in the early part of the nineteenth century made it possible to build instruments large enough to play in the bottom register of the orchestra. The first of these was the ophicleide built by Halary of Paris in 1817.[6] The first tuba was built by Wilhelm Weiprecht in 1835.[7] But, the most important improvement made to all brass instruments was the invention of valves (c. 1815).[8] With these, brass instruments were now fully chromatic without the necessity for hand or significant embouchure adjustments. Because of these improvements, composers such as Berlioz, Wagner, Mahler, and Bruckner wrote increasingly more difficult parts in their orchestral works but did not write any concertos.

Two significant exceptions to this trend are the horn concertos of Richard Strauss. In these, Strauss wrote solo passages for players of exceptional technical abilities and endurance. Given that the horn had become a much louder instrument and fully chromatic, Strauss increased the size of his orchestral accompaniment and modified its role during the concerto. It continued to interact with the soloist as a tutti, but Strauss singled out individual instruments such as the clarinet to perform solo passages as a way of transforming the dialogue between the orchestra and the soloist (ex. 5).

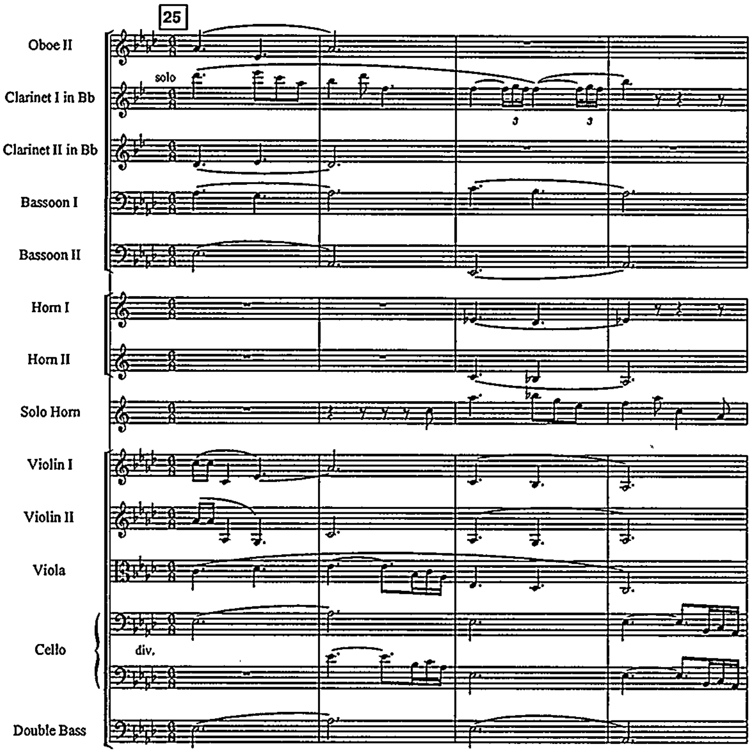
---

[6] Clifford Bevan, "A Brief History of the Tuba," in *The Tuba Source Book*, ed. R. Winston Morris and Edward R. Goldstein. (Bloomington, Indianapolis: University Press, 1996), 2.

[7] Ibid., 2.

[8] Ibid., 3.

Example 5: Strauss, *Second Horn Concerto*, II, reh. 25.


25
Oboe II
Clarinet I in Bb
solo
Clarinet II in Bb
Bassoon I
Bassoon II
Horn I
Horn II
Solo Horn
Violin I
Violin II
Viola
Cello
div.
Double Bass

Because of the late arrival of the tuba, the technical development of the performers of this instrument was delayed until the early part of the twentieth century. Consequently works for the tuba and orchestra were not composed until the middle of the twentieth century. The first such work, *Tubby the Tuba,* was composed in 1945 by George Kleinsinger and the first tuba concerto was composed by Ralph Vaughan Williams in 1954.

2.2 Tuba Concertos

After a general overview of the brass concerto, the research focused upon the following four tuba concertos: Ralph Vaughan Williams' *Concerto for Tuba in F Minor*, Jan Koetsier's *Concertino für Tuba und Streichorchester, Op. 77*, Trygve

Madsen's *Concerto for Tuba (F) and Orchestra*, and Alexander Arutiunian's *Concerto for Tuba and Orchestra.* This portion of the research was concerned with two compositional issues: scoring and virtuosity.

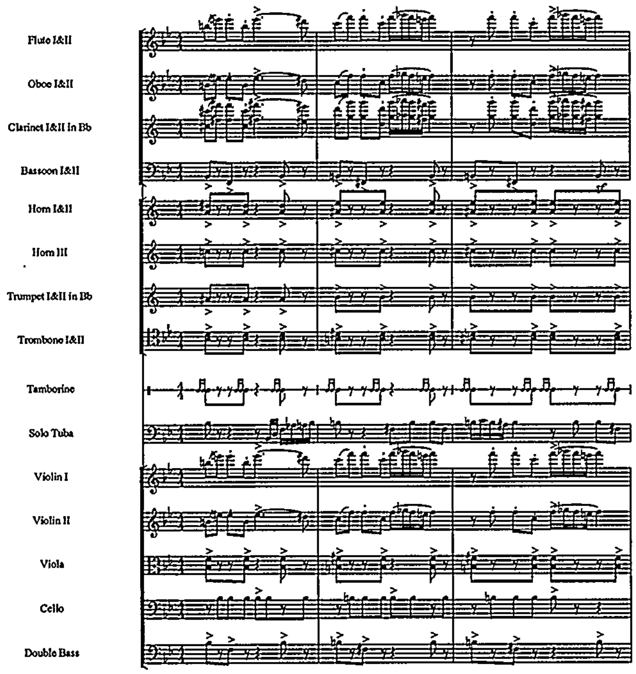
2.3 Scoring

The timbre and audibility of the tuba is dependent upon its register. The timbre of the instrument in its high register is bright and easily heard against the orchestra. However, careful consideration must be taken when the tuba is in its middle and low register. There were three solutions that each composer used to solve the problems associated with scoring the tuba against the orchestra: formal devices, register placement of the soloist, and the size and the instrumentation of the orchestra.

The first one is not necessarily a scoring solution but a formal one. In all of the early brass concertos that I researched, a solo-ritornello form was used by each composer to clearly show the relationship between the soloist and the orchestra. This approach was also employed by Vaughan Williams, Koetsier, Madsen, and Arutiunian in order to provide the aural space needed for an instrument with a broad and dark timbre such as the tuba's. The solo-ritornello formal solution works well to allow the tuba to be heard in its low and middle register, because of the reduction of the instrumentation during that section.

Secondly, if the soloist happens to be playing with the entire orchestra, the high register of the tuba must be used. In this register, the soloist can be heard because the timbre is bright (ex. 6). Although this solution works well, extended use of the high register quickly tires the performer. If the tuba is written in its low and middle register it will be heard more clearly against a portion of the orchestra scored predominately in a high register.

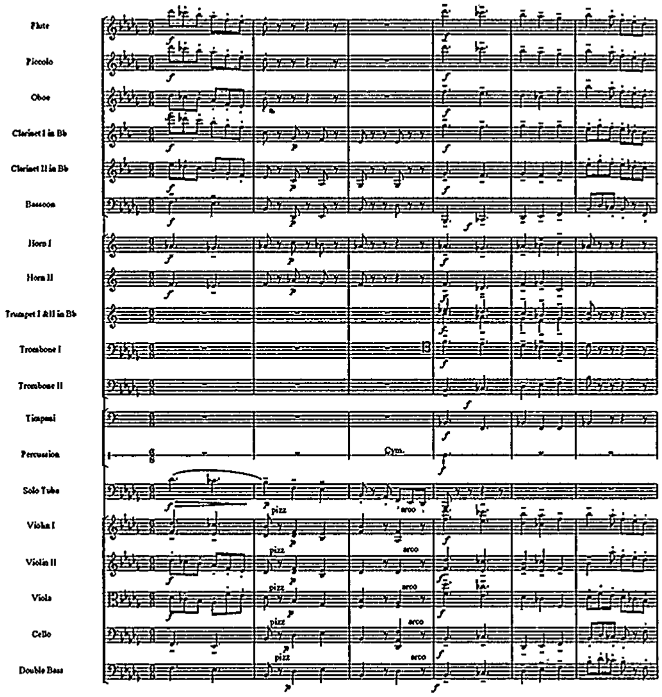
Example 6: Arutiunian, *Concerto for Tuba and Orchestra*, I, mm. 65-67.


Fluto I&II
Oboe I&II
Clarinet I&II in Bb
Bassoon I&II
Horn I&II
Horn III
Trumpet I&II in Bb
Trombone I&II
Tamborine
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass

I also noted that the low register of the tuba was not used at any length in these four concertos. The timbre is dark and in this register the soloist can be easily masked by the orchestra. Because this dark timbre was essential to the poetic character of my concerto, I had to find my own scoring solution in regards to the low register of the tuba.

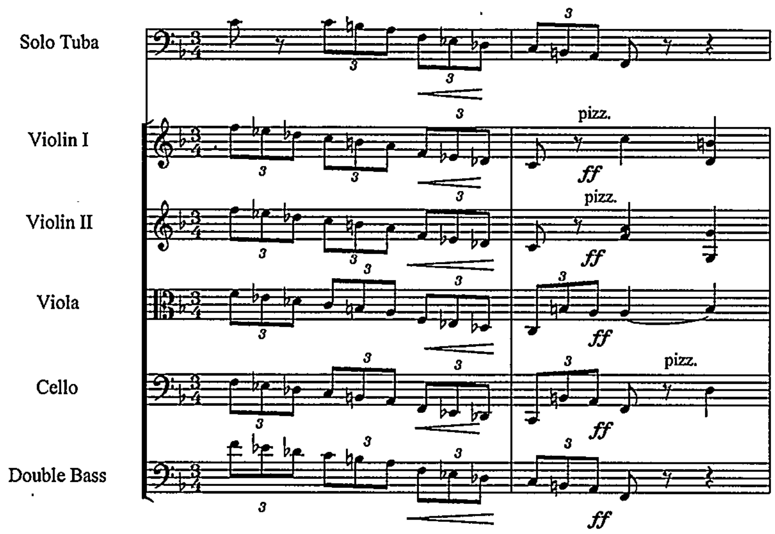
Each composer used different instrumentations in their orchestras. Vaughan Williams, Madsen, and Arutiunian used both winds and brass in their orchestral accompaniments, but they used brass mainly in tutti sections which eliminated potential timbre conflicts with the soloist (ex. 7). Koetsier used only a string orchestra as the accompaniment so that there were no woodwind or brass timbres to compete with the tuba.

Example 7: Vaughan Williams, *Tuba Concerto,* I, mm. 67-72.


Flute
Piccolo
Oboe
Clarinet I in Bb
Clarinet II in Bb
Bassoon
Horn I
Horn II
Trumpet I & II in Bb
Trombone I
Trombone II
Timpani
Percussion
Cym.
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass
pizz
arco

However, I discovered passages in which the tuba's sound was masked by the orchestra. For example, in the third movement of the Vaughan Williams, the violas and the cellos play a descending unison line with the tuba (ex. 8). Because the octave unison line of the strings is melodically and rhythmically identical to that of the tuba, the strings completely cover its line. The rhythm as well as the register of the tuba must differ from those of the orchestra in order to be heard.

Example 8: Vaughan Williams, *Tuba Concerto*, III, mm. 9-10.



2.4 Virtuosity

In the next portion of my research I explored the issue of tuba virtuosity through discussions with Jean-François Cotnoir. I began by discussing with him the relative difficulty of various musical passages from the tuba repertoire. My assumptions of what constituted tuba virtuosity centered around how high or fast a passage was. However, Cotnoir informed me that the difficulty of a musical idea for an accomplished performer on the tuba had very little to do with those issues. Because of the limited repertoire available for the instrument, performers often transcribe pieces from the repertoire of other instruments. For example, if Cotnoir wanted to play a baroque piece he might choose a transcription of J.S. Bach's *Six Unaccompanied Cello Suites*. From the classical era, he may choose to play a concerto for horn or flute by Mozart. For him, the difficulty of a musical passage was dependent upon two issues: the duration of the melodic phrases and how many measures of rest are given to the performer between solo passages. If a particular passage was long then the amount of rest given before the next was longer that it would be between two short phrases. Because I am a brass player, when writing the solo part for my concerto I used my own judgment and intuition to decide how long each solo passage was and how much rest was given between each one.

3.0 Analysis of *The Black Hill*

3.1 Form

Comprising three movements, the concerto examines light, darkness, and wildness, the poetic characters suggested by the quotation at the beginning of this paper. Each movement contains all three but explores one in greater detail than the others. Each movement has a recognizable structure. The first movement is a ternary form defined by the contrasting characters of light and dark (Appendix 1). The second movement explores darkness through a passacaglia that incorporates thematic variation and canon (Appendix 2). The last movement is a rondeau that uses the evocation of wildness as the returning thematic material (Appendix 3).

Each character is associated with a specific rhythmic idea. A section with a rhythm that lacks a clear pulse through the use of polyrhythm or unmeasured tremolo embodies light. Long phrases with slow tempos and clear pulses evoke darkness. A fast tempo, short phrases, and multiple time signatures that change quickly suggest wildness.

Harmony performs a secondary role in shaping these three characters. Open harmonies, like those at the beginning of the concerto, are associated with light. Darkness and wildness use dense harmonies like those found at the beginning of the second and third movements. Timbre plays a significant role only in the evocation of light. Metallic percussion (vibraphones, crotales), strings in their high registers, and muted horns and strings help to project this character.

3.2 Melody

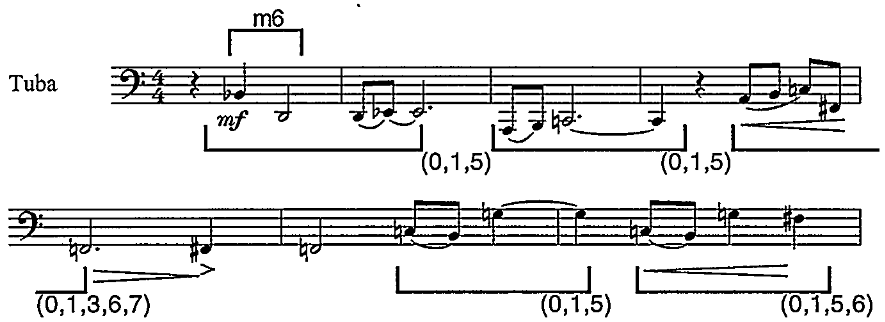
The principal themes of all three movements are derived from two cells [(0,1,5) and (0,1,3,6)] that, through a process of systematic transformation, generate all of the melodic materials: The diagram below shows more clearly this process (fig. 1).

Figure 1: Transformation of melodic materials.

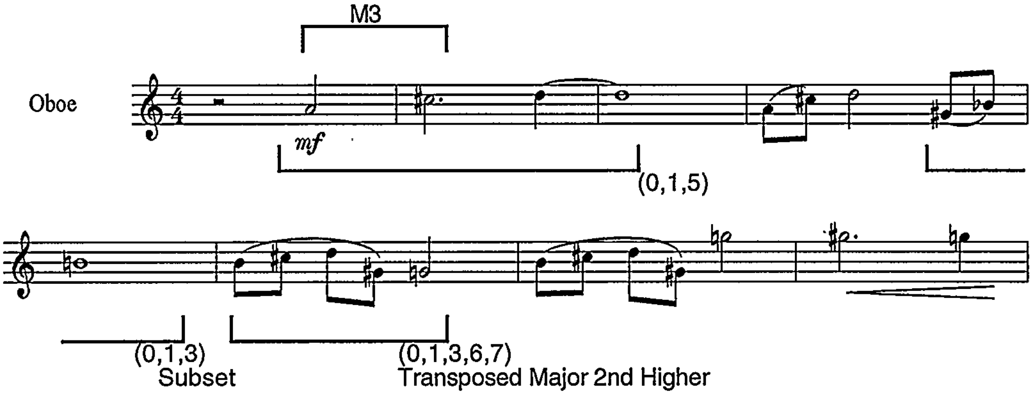
$$\begin{tikzcd}
(0,1,5) \arrow[d] & (0,1,3,6) \arrow[d] & \\
(0,1,2,5) \arrow[dd] & (0,1,3,6,7) \arrow[d] \arrow[r] & (01,2,6,7) \arrow[dd] \\
 & (0,1,3,6,9) \arrow[d] & \\
(0,1,5,6) & (0,1,3) & (0,2,6)
\end{tikzcd}$$

In the first movement, the sets (0,1,5) and (0,1,3,6,7) are present in the tuba theme and the oboe response (ex. 9 and 10). However, the actual intervalic presentation is different. The oboe line replaces the tuba's opening minor sixth with its complement (major third), introduces a subset (0,1,3), and then presents a transposed version of the second set (0,1,3,6,7).

Example 9: *The Black Hill,* I, mm.3-9.

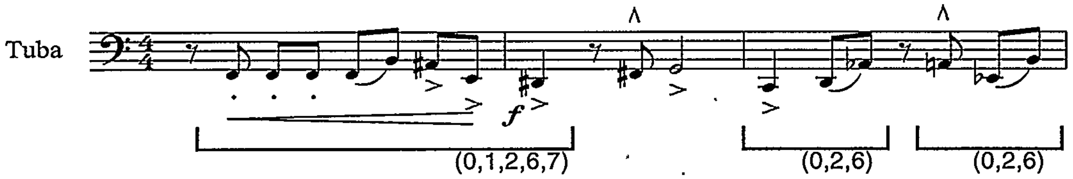

m6
Tuba
mf
(0,1,5)
(0,1,5)
(0,1,3,6,7)
(0,1,5)
(0,1,5,6)

Example 10: *The Black Hill,* I, mm. 17-24.


M3
Oboe
mf
(0,1,5)
(0,1,3)
Subset
(0,1,3,6,7)
Transposed Major 2nd Higher

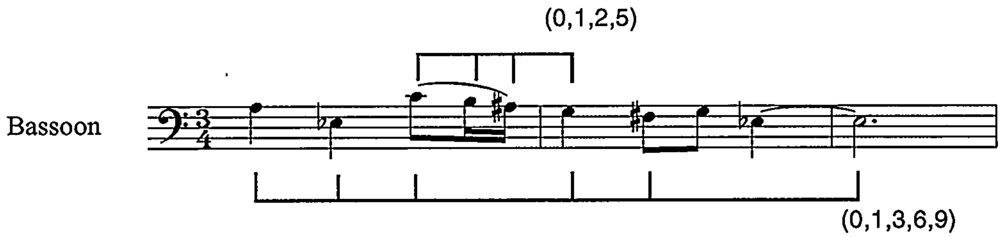
Melodies from other movements also include these two sets, but their intervalic content is changed. In example 11, a small change to the set (0,1,3,6,7), reducing the second interval to a major second, produces the set (0,1,2,6,7). Extracting the subset (0,2,6) from the new set completes the excerpt.

Example 11: *The Black Hill*, III, mm. 217-219.


Tuba
f
(0,1,2,6,7)
(0,2,6)
(0,2,6)

The set (0,1,3,6,9) is derived from the set (0,1,3,6,7) by expanding the outer interval to a major sixth instead of a perfect fifth (ex. 12). The basic structure of the melody contains (0,1,3,6,9), however it also includes an interpolation of (0,1,2,5).

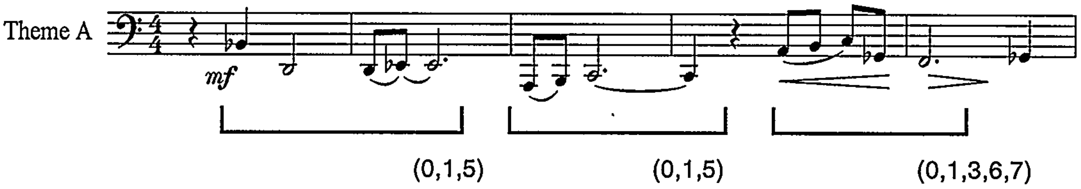
Example 12: *The Black Hill*, II, mm. 111-113.


(0,1,2,5)
Bassoon
(0,1,3,6,9)

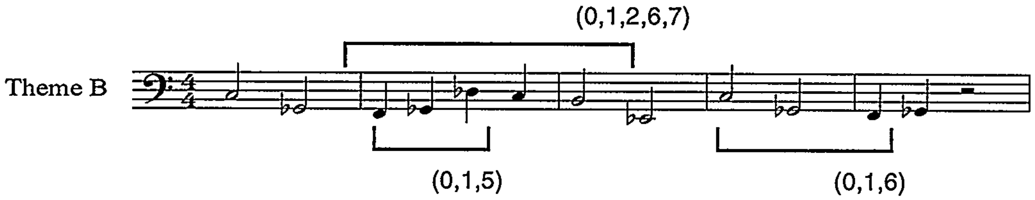
3.3 Counterpoint

The third movement of the concerto ends with a three-part invertible counterpoint containing a melody from each of the three movements. Each melody has the intervals of the minor second, perfect fourth, and tri tone. Because they are harmonically similar, they can be satisfactorily combined.

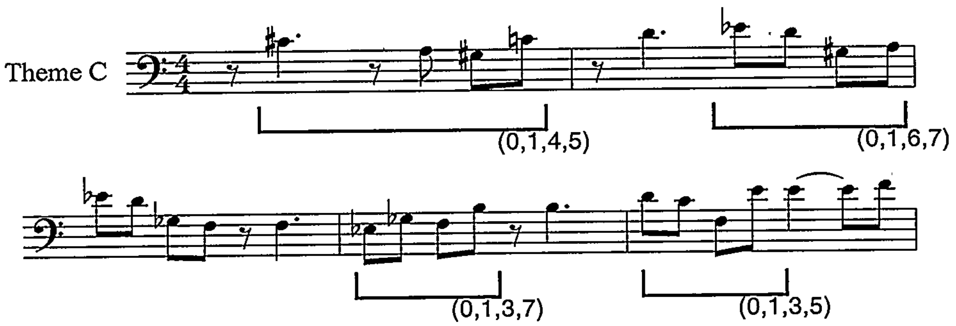
Example 13: *The Black Hill*, I, Theme A.



Example 14: *The Black Hill*, II, Passacaglia, Theme B.



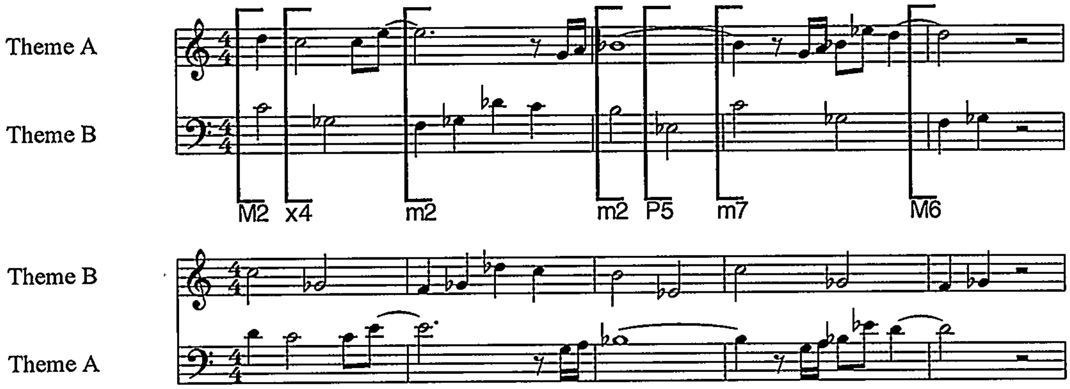
Example 15: *The Black Hill*, III, Theme C.



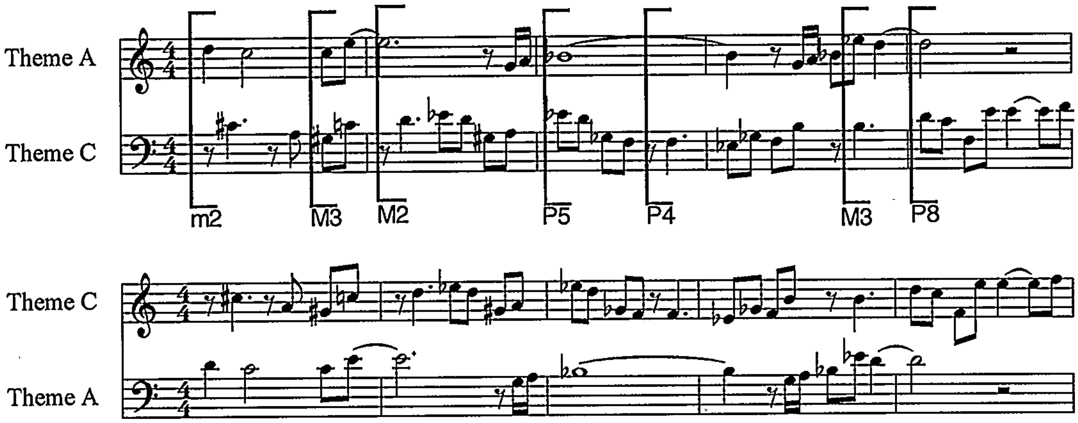
In the finale, the melodies first appear in two-part invertible textures (ex. 16, 17, 18). They have similar melodic structures and they retain the tension of their harmonic progressions when the voices are exchanged. Independence is achieved through the rhythmic differences of each theme: the sixteenth-note figure in theme A, the simple half-note and quarter-note construction of theme B, and the syncopation in theme C.

The harmonic analysis of examples 16, 17, and 18 shows that the harmony of each two-part texture contains predominately dissonant intervals with some use of intermediate consonances. Major and minor seconds, diminished fifths, and their complements make up the majority of the harmonic intervals. Perfect consonances such as the perfect fifth, fourth, and octave are present in each example but, because they occur mainly on weak beats, their role in the harmonic progression is that of a non-chord tone. These perfect intervals are not treated in the same way as they would be in a common-practice tonal vocabulary. The harmonic vocabulary of the concerto allows the perfect fourth and fifth to be interchangeable. Therefore, the flow of the counterpoint is not disrupted when they are exchanged.

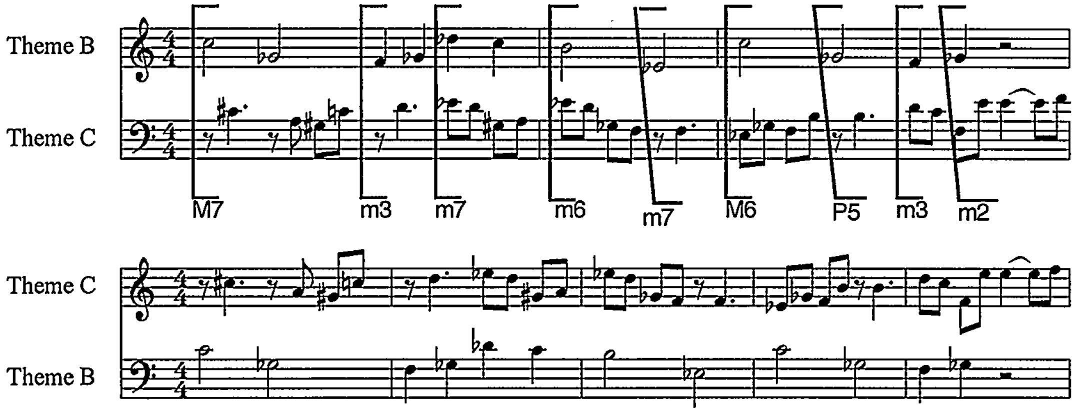
Example 16: Two-part invertible counterpoint for Theme A and B.


Theme A
Theme B
M2
x4
m2
m2
P5
m7
M6
Theme B
Theme A

Example 17: Two-part invertible counterpoint for Theme A and C.

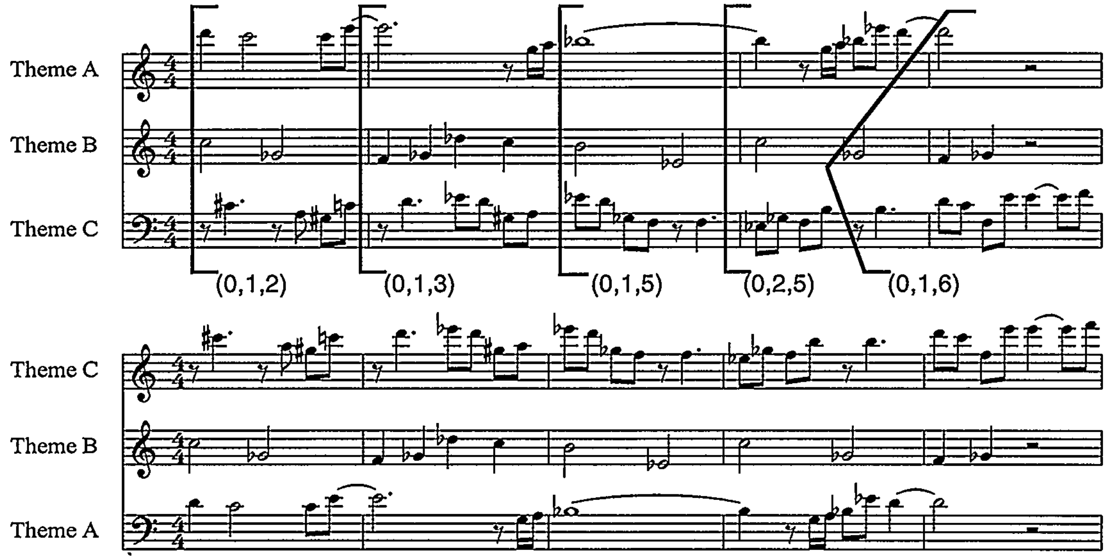

Theme A
Theme C
m2
M3
M2
P5
P4
M3
P8
Theme C
Theme A

Example 18: Two-part invertible counterpoint for Theme B and C.


Theme B
Theme C
M7
m3
m7
m6
m7
M6
P5
m3
m2
Theme C
Theme B

Finally, example 19 shows the themes as a three-part contrapuntal texture. The essential trichords are all subsets derived from the principal harmonic structures.

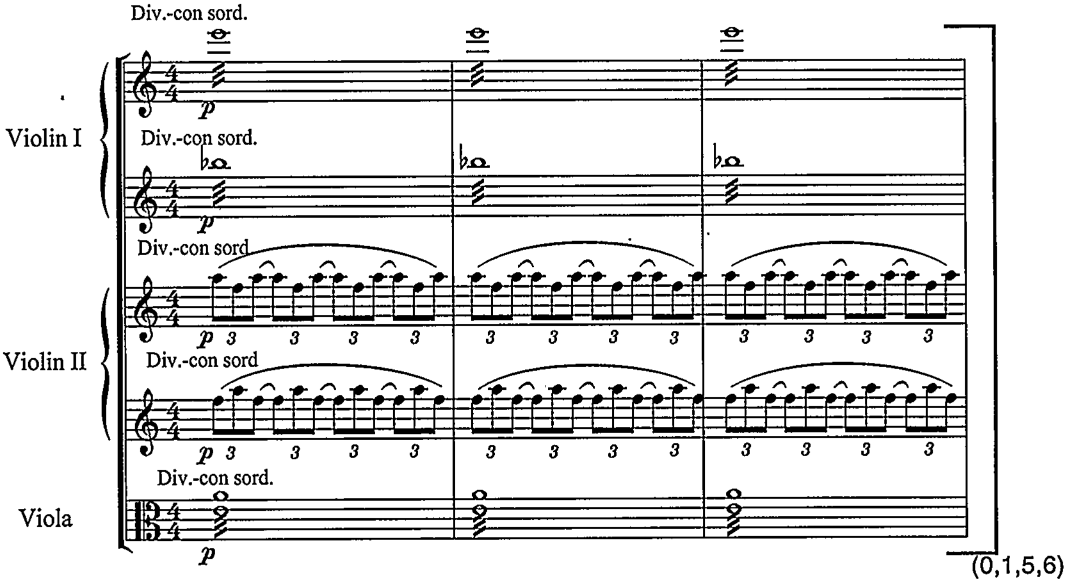
Example 19: Three-part invertible counterpoint for themes A, B, and C.


Theme A
Theme B
Theme C
(0,1,2)
(0,1,3)
(0,1,5)
(0,2,5)
(0,1,6)
Theme C
Theme B
Theme A

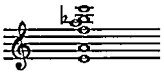
3.4 Harmony

Large sections of the concerto are derived from a single harmonic structure, the set (0,1,5,6). Each different voicing of this set evokes the character of that movement: in the first, the open voicing suggests light (ex. 20); and in the second, the close voicing and low register sonorities suggest darkness (ex. 21).

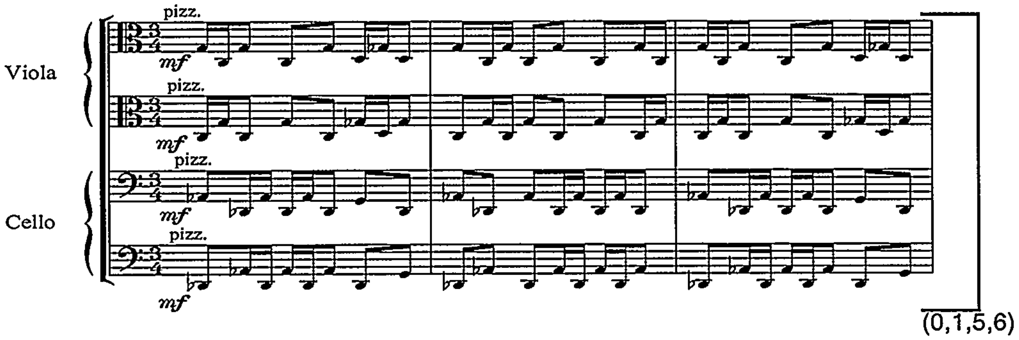
Example 20: *The Black Hill*, I, mm. 1-3.


Div.-con sord.
Violin I
Div.-con sord.
Div.-con sord.
Violin II
Div.-con sord
Div.-con sord.
Viola
p
3
(0,1,5,6)

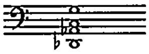
Example 20a: Voicing of Ex. 20.



Example 21: *The Black Hill*, II, mm. 109-111.



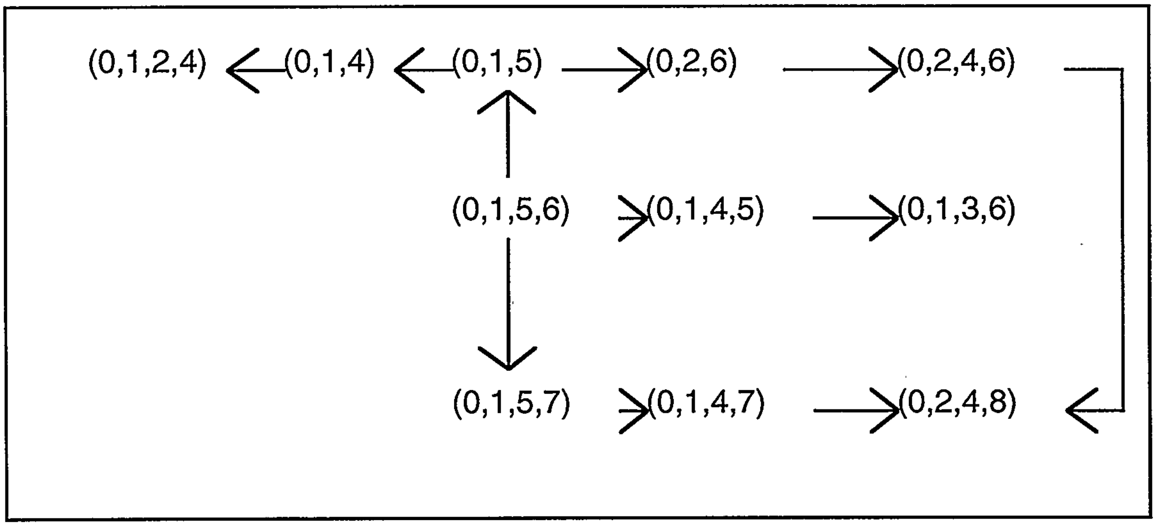
Example 21a: Voicing of Ex. 21.



The interval between the outer notes of the harmony influences the character of the chord. In example 21, the interval between the bass and soprano notes is an octave, and the interval between the bass and soprano notes of example 22 is a diminished fifth. The perfect consonance of the octave in the former evokes light, while the dissonance of the diminished fifth in the latter evokes darkness.

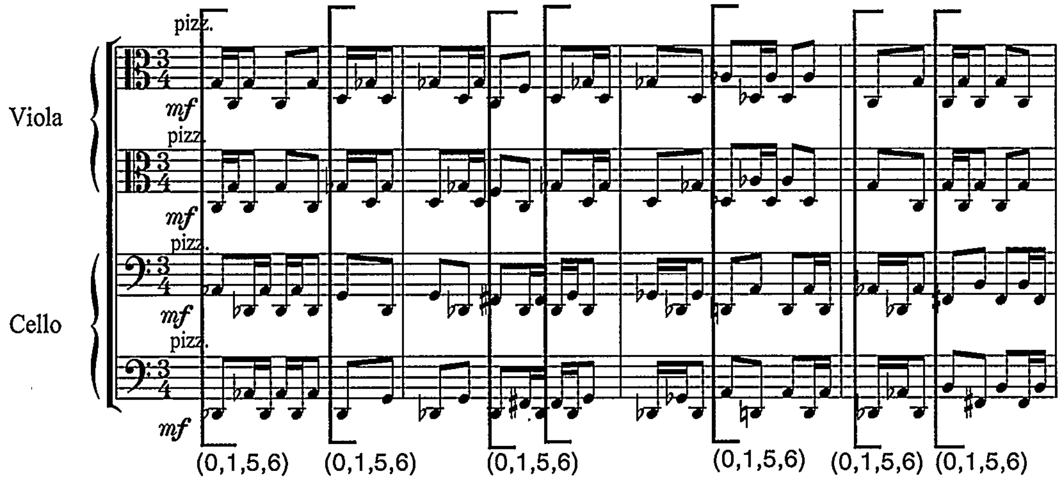
The set (0,1,5,6) is not the only harmonic structure in this concerto. Other harmonic structures are derived from this set by systematically expanding or contracting an interval or by adding or subtracting a pitch-class (fig. 2).

Figure 2: Transformation of harmonic materials.

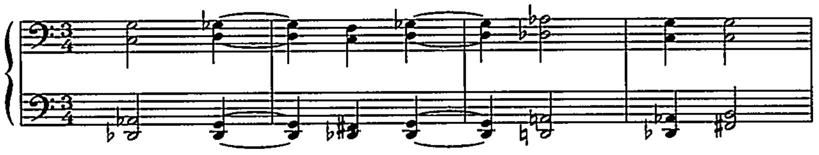

(0,1,2,4)
(0,1,4)
(0,1,5)
(0,2,6)
(0,2,4,6)
(0,1,5,6)
(0,1,4,5)
(0,1,3,6)
(0,1,5,7)
(0,1,4,7)
(0,2,4,8)

There are essentially three different types of harmonic progressions in this piece that are generated by: using various transpositions of the set (0,1,5,6) (ex. 22); moving away from and returning back to the set (0,1,5,6) (ex. 23); and beginning with the set (0,1,5,6) but arriving at a formal destination other than (0,1,5,6), which then returns at the start of a new formal section (ex. 24).

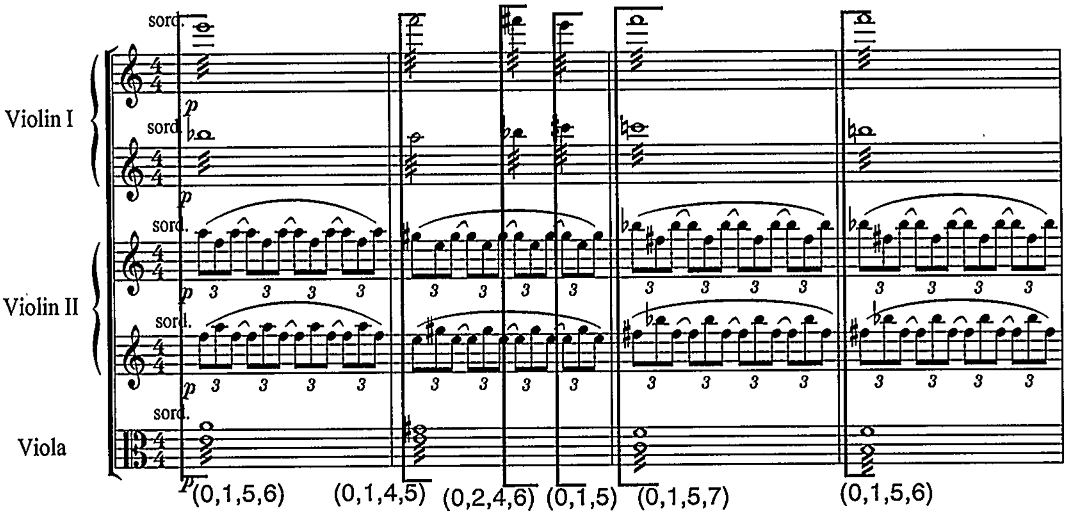
Example 22: *The Black Hill*, II, mm. 111-114.


Viola
Cello
pizz.
mf
(0,1,5,6)
(0,1,5,6)
(0,1,5,6)
(0,1,5,6)
(0,1,5,6)
(0,1,5,6)

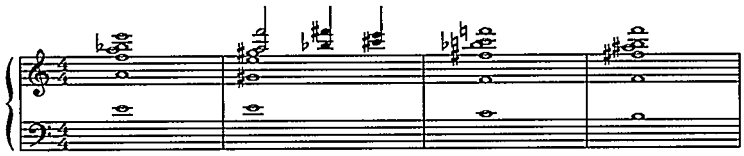
Example 22a: Voicing of Ex. 22.



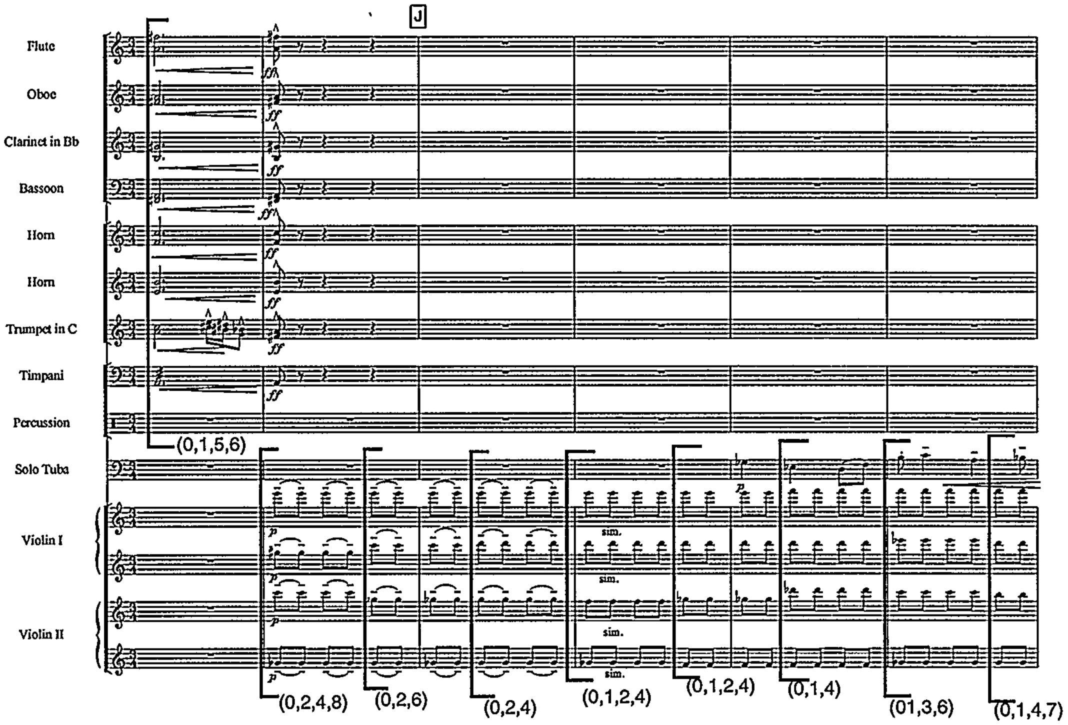
Example 23: *The Black Hill*, I, mm. 3-6.


Violin I
Violin II
Viola
sord.
p
3
(0,1,5,6)
(0,1,4,5)
(0,2,4,6)
(0,1,5)
(0,1,5,7)
(0,1,5,6)

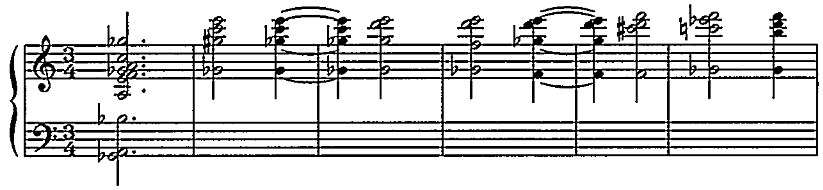
Example 23a: Voicing of Ex. 23.



Example 24: *The Black Hill*, II, mm. 125-130.


J
Flute
Oboe
Clarinet in Bb
Bassoon
Horn
Horn
Trumpet in C
Timpani
Percussion
Solo Tuba
Violin I
Violin II
ff
p
sim.
(0,1,5,6)
(0,2,4,8)
(0,2,6)
(0,2,4)
(0,1,2,4)
(0,1,2,4)
(0,1,4)
(01,3,6)
(0,1,4,7)

Example 24a: Voicing of Ex. 24.



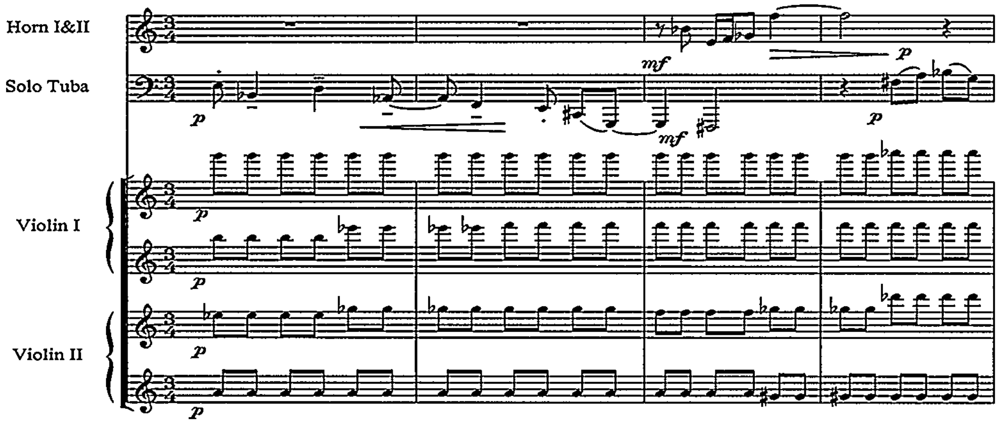
The extracted voicings from each example show clearly how the principal poetic characters are portrayed within a harmonic progression. The open voicings in examples 23 and 24 suggest light, while the closed voicings of example 22 suggest darkness.

Harmonic rhythm affects how the musical or formal characteristics of introduction and conclusion, narration, and transition are portrayed in this concerto. Introductory and closing sections are dependent upon static harmonies and static harmonic rhythm (ex. 20 and 21). In both examples, the set (0,1,5,6) is left unchanged for up to three measures before the introduction of the melody. A musical narrative is enhanced by using the harmonic rhythm of the accompaniment to reinforce the pulse and the phrase structure of the melody (ex. 23). A transitional moment is dependent upon an abrupt change from a static harmonic rhythm to a one that has a clear and regular pulse (ex. 24).

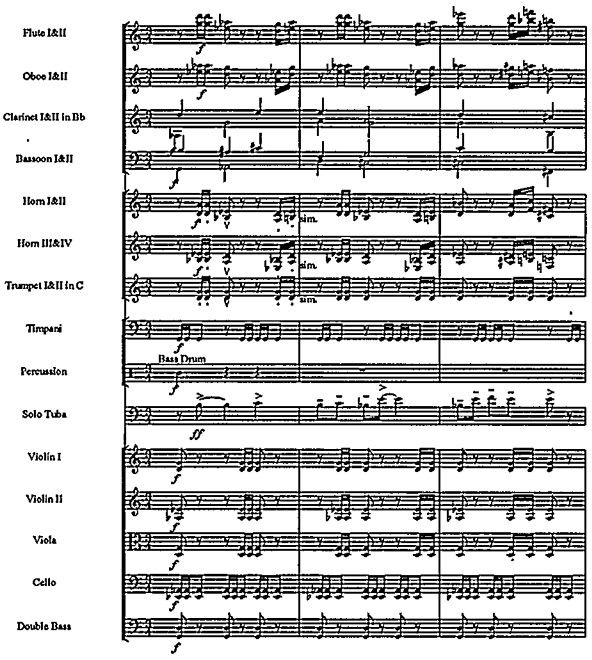
3.5 Orchestration

In order to reduce the possibility of timbre conflicts with the tuba, I chose an orchestra that did not include the low brass: (2222/4200/Timp, Perc/ Strings). Because the timbre of the low strings might mask the tuba, I devised three strategies based fundamentally upon my research of the tuba concerto repertoire. I separated by register the material of the accompaniment and the soloist (ex. 25), scored the tuba in its highest register (ex. 26), or made the rhythm of the accompaniment and soloist different (ex. 27).

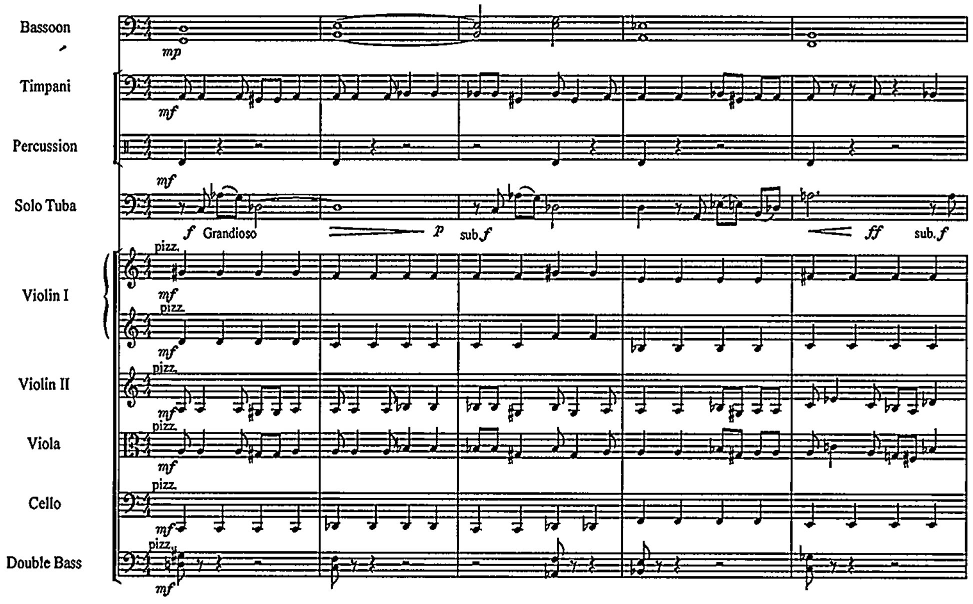
Example 25: *The Black Hill*, II, mm. 26-29.



Example 26: *The Black Hill*, II, mm. 52-54.


Flute I&II
Oboe I&II
Clarinet I&II in Bb
Bassoon I&II
Horn I&II
Horn III&IV
Trumpet I&II in C
Timpani
Percussion
Bass Drum
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass
f
ff
sim.

Example 27: *The Black Hill*, I, mm. 42-45.

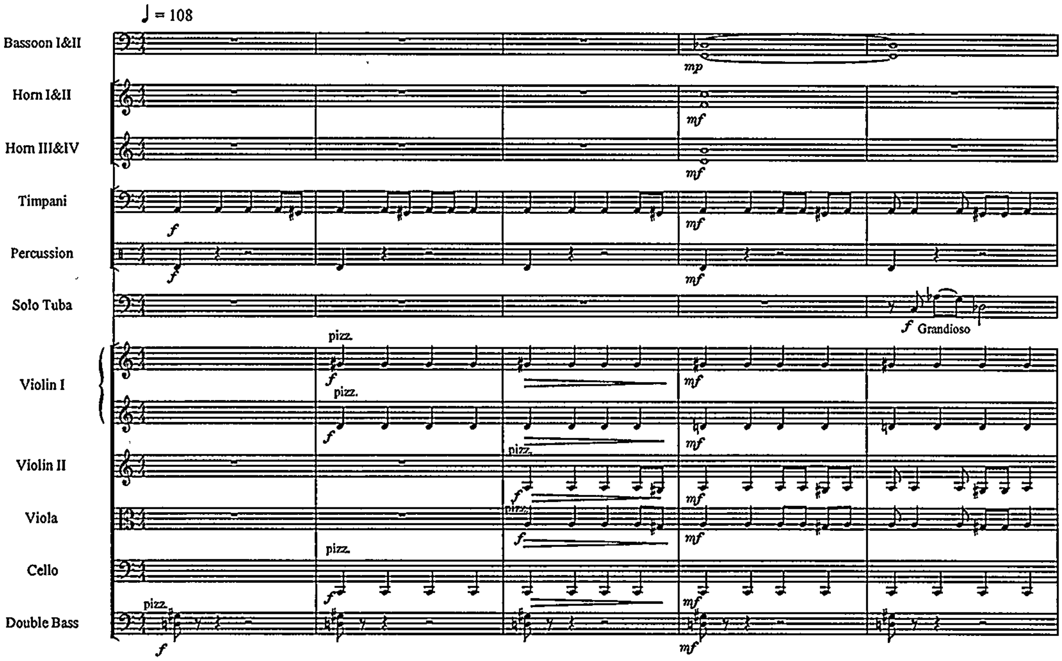

Bassoon
Timpani
Percussion
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass
mp
mf
f Grandioso
p
sub.f
ff
sub.f
pizz.

In example 25, the tuba is easily heard because of the large separation between its register and that of the accompaniment despite its initial dynamic indication and its movement toward the low register. Scoring the tuba so that it can be heard against an orchestral *tutti* is a challenge. In example 26, with exception of the flutes and oboes, most of the accompaniment is placed in a low register while the tuba is placed in its high register. The tuba's melody penetrates because its timbre is much brighter than the strings, brass and percussion. The flutes and oboes are placed in their upper registers so that the tuba does not mask them. The difference between the rhythm of the accompaniment and the soloist further helps the tuba to penetrate this dense texture. In example 27, the register of the accompaniment is the same as the soloist, but the decay of the pizzicato strings, timpani, and bass drum help to create an aural space for the tuba's melody.

The same care and attention to the evocation of the poetic characters that was given to the melodies and harmonies of this concerto were also applied to its orchestration. Light is presented at the beginning of the concerto as a character that shimmers and is rhythmically static (ex. 23). This character is the one that is most dependent upon timbre. These same qualities of timbre return at the end of the first movement (mm. 95-108). At the end of the second movement (mm. 183-191) the crotales embody the same shimmering and rhythmically static character of light that the woodwinds and strings do in the first example.

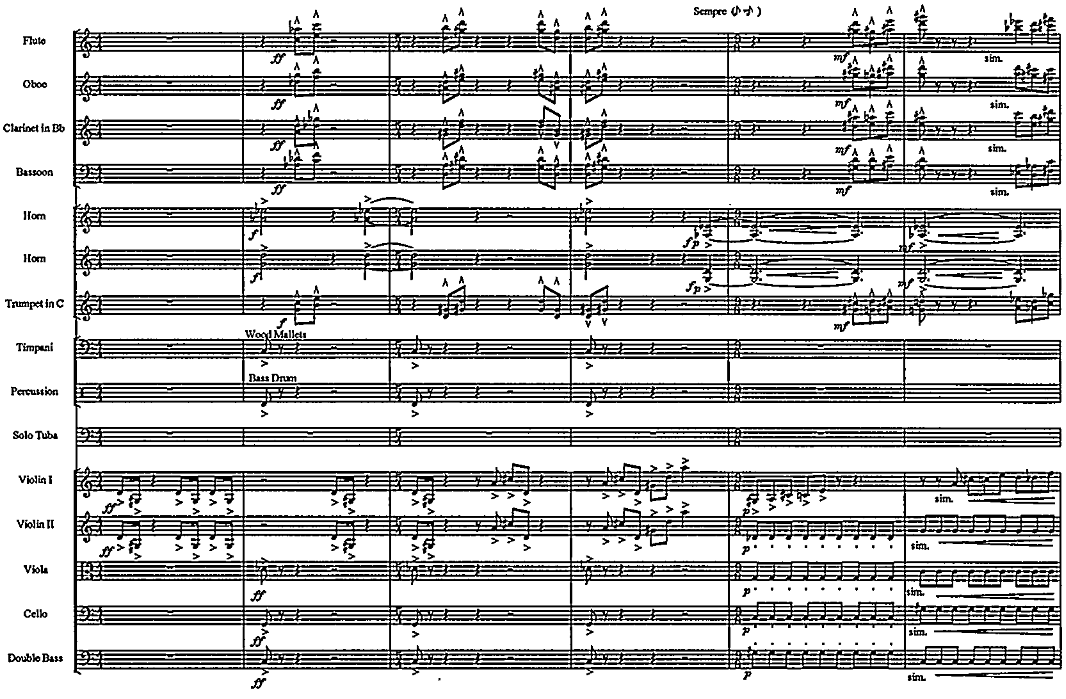
Timbre also reinforces the principal features of darkness (closed voiced chords). In example 28, the string accompaniment is scored in its low register with pizzicato articulations that mimic the percussion's natural decay. The bassoons and horns punctuate the harmony and provide orchestral resonance.

Example 28: *The Black Hill*, I, mm. 38-42.


♩ = 108
Bassoon I&II
Horn I&II
Horn III&IV
Timpani
Percussion
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass
pizz.
f
mp
mf
f Grandioso

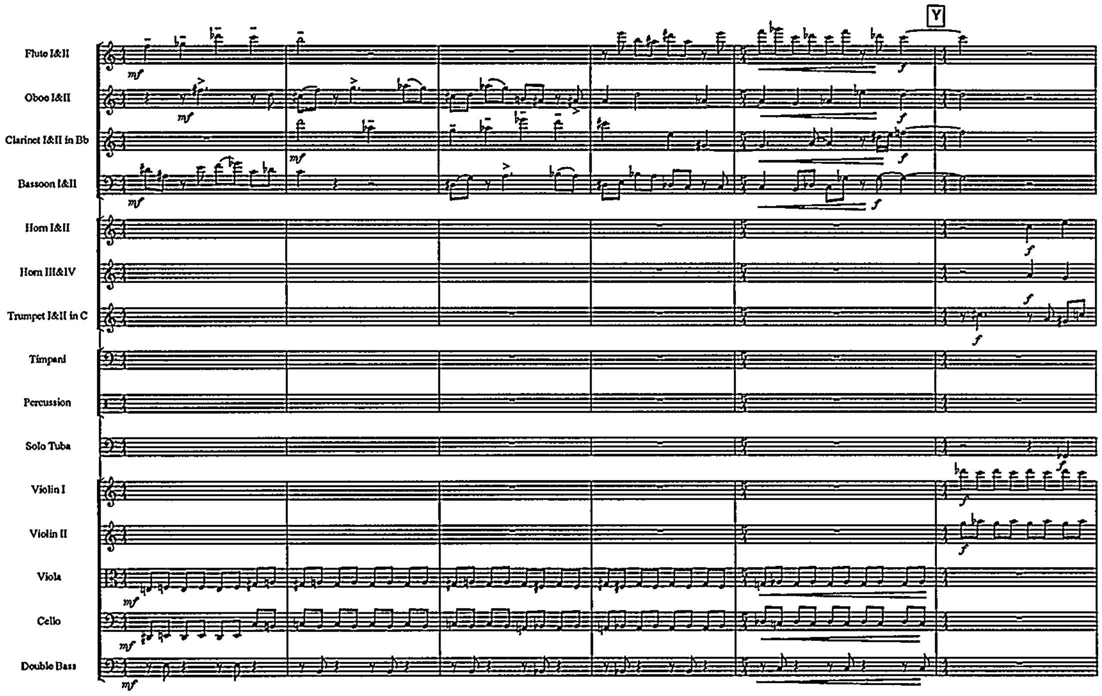
Wildness relies upon rhythmic complexity. In order to make this clearly audible, components of the rhythmic layering are scored by choir. One example of this approach occurs at the beginning of the third movement (ex. 29, mm. 193-195). The duple metre of the strings, woodwinds, trumpets, and percussion is countered by the implied triple metre in the horns. A second layer of rhythmic complexity is presented by the percussion and low strings. Together they provide a punctuation of the downbeat that shows the changes in metre (4/4, 5/4, 9/8) that take place from measures 192-197. In addition, the augmentation of the violin's and woodwind's melodic cells is a third layer of rhythmic complexity. The beginning two-note violin motive is augmented by one note then by two additional notes. This transformation continues into the 9/8 section where the perceived accent is changed on the arrival at the second 9/8 measure. Finally the method of transformation of the woodwind's motive is different. The two-note fragments in measures 193 and 194 are combined to create a four-note motive with a shift in accentuation from the third note (m. 195) to the fourth note (m. 197) created by the arrival of the new downbeat.

Example 29: *The Black Hill*, III, mm. 192-197.


Sempre (♪·♪)
Fluto
Oboe
Clarinet in Bb
Bassoon
Horn
Horn
Trumpet in C
Timpani
Wood Mallets
Percussion
Bass Drum
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass
ff
mf
f
fp
p
sim.

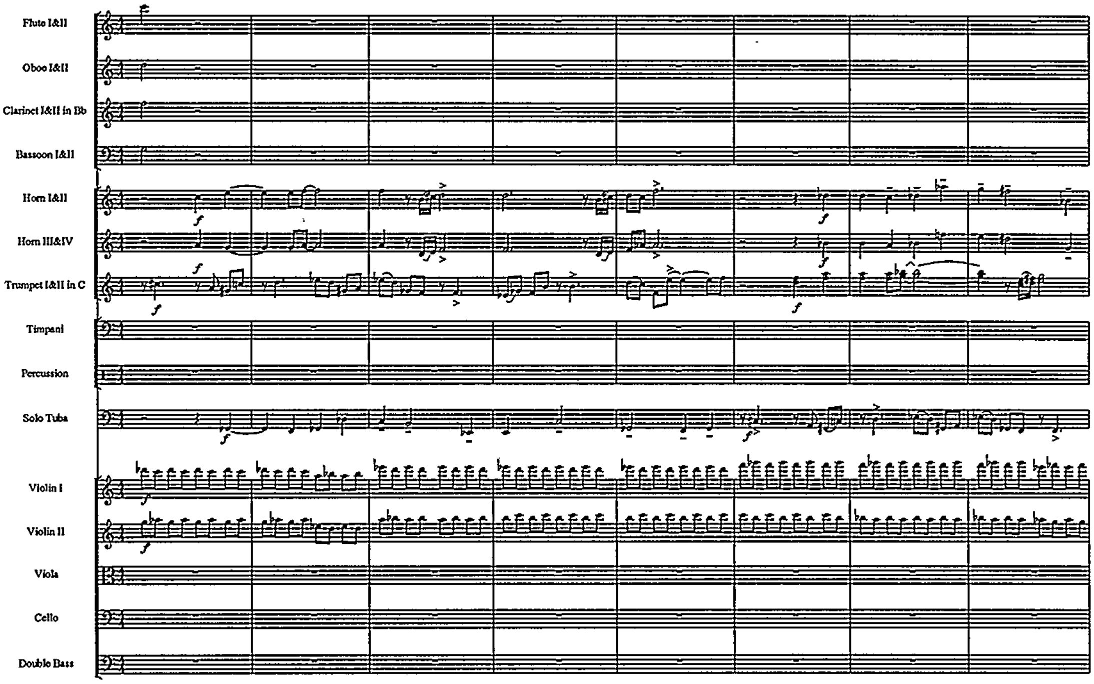
The three-part invertible counterpoint section at the end of the third movement contains two layers of compositional thinking: the superimposition of contrapuntal and homophonic textures that are clarified by timbre; and the weaving into these textures of the poetic characters.

Example 30: *The Black Hill*, III, mm. 292-297.


Y
Flute I&II
Oboe I&II
Clarinet I&II in Bb
Bassoon I&II
Horn I&II
Horn III&IV
Trumpet I&II in C
Timpani
Percussion
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass
mf
f

The concerto moves towards its climax by the gradual introduction of the three contrapuntal themes (mm. 283-291). The themes then occur in stretto, preparing the approach to the climax (ex. 30). Each entrance of a theme is clearly heard because of the striking timbre differences among the woodwind instruments. Placing the violas, cellos, and double basses in their low register and contrasting their homophonic texture against the contrapuntal texture of the woodwinds solves the possible problem of the string's combined sonority masking the woodwind's entrances. The rhythmic energy that is created through the staggered entries of the woodwind themes evokes wildness. The bright timbre of the woodwinds during this section suggests the character of light, and the combination of the steadiness of the low string's rhythm and their register evokes darkness.

Example 31: *The Black Hill*, III, mm. 297-304.


Fluto I&II
Oboe I&II
Clarinet I&II in Bb
Bassoon I&II
Horn I&II
Horn III&IV
Trumpet I&II in C
Timpani
Percussion
Solo Tuba
Violin I
Violin II
Viola
Cello
Double Bass

The climax of the concerto occurs in the third movement at measures 297-305 where the brass play the three-part invertible counterpoint (ex. 31). The difference in timbre among the brass is not as obvious as it is among the woodwinds. Therefore each theme was placed in a different register, its entrance was staggered, and, in the case of the second theme's entrance, it was doubled in thirds or sixths to allow it to penetrate the contrapuntal texture more effectively. The accompaniment for this section was transferred to the high register of the violins in order to not mask the invertible counterpoint. The change in register from low to high strings corresponds with a lift in character form dark to light. However all three characters still remain because the timbre of the tuba evokes darkness and the rhythmic complexity of the invertible counterpoint evokes wildness.

4.0 Conclusion

Composing *The Black Hill* was a journey of discovery for me as a composer. I never thought that there would be so much involved in writing a piece of this size. I had simply wanted to write a tuba concerto because I had in mind a soloist of considerable skill. I began by listening to and studying many tuba concertos, formulating opinions about their scoring and structure, and then choosing aspects that I would implement in my own concerto. When I began, I had only one aspiration for the piece: I wanted it to end with a section that contrapuntally combined three melodies from different parts of the concerto.

Because I had written mainly for smaller ensembles, I had to develop a new compositional process to approach writing for a larger one. I was concerned mainly with making the musical ideas clear. I began by organizing my musical ideas into a short score which made it easier to map out the form of the concerto and the pacing in each movement.

I discovered that my own personal reading interests had an influence upon the emotional quality of the piece. At the time I was reading materials pertaining to Celtic mythology. Subconsciously, they gave rise to the poetic characteristics of the concerto that are associated with the subterranean world of the *side*.

I initially wanted the solo part to be very difficult. However, I composed it so that it is accessible to a wider range of musician than just a virtuoso.This does not mean that I wrote an easy part. There are many rhythmic, melodic, and other technical challenges in the part that would interest a virtuoso musician. But it is does not contain those extreme challenges that would exclude university students and accomplished amateurs from performing the piece.

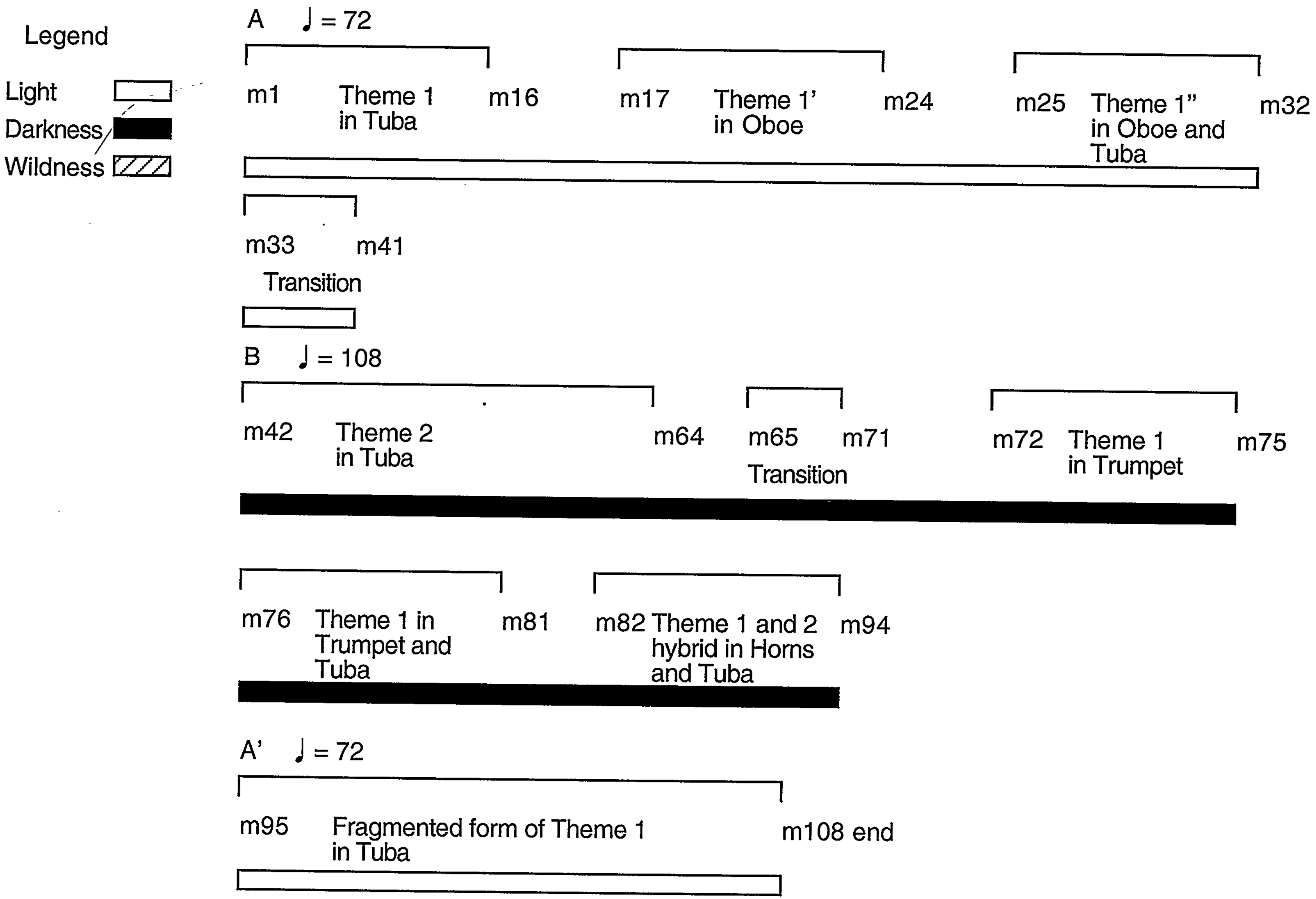
I learned a great deal about orchestration by composing *The Black Hill.* Experimenting with different instrumentations of the same material while orchestrating the short score became a process of clarifying the principal ideas, the form of the concerto and the pacing in each movement.

Fortunately, portions of the concerto were performed by the Calgary

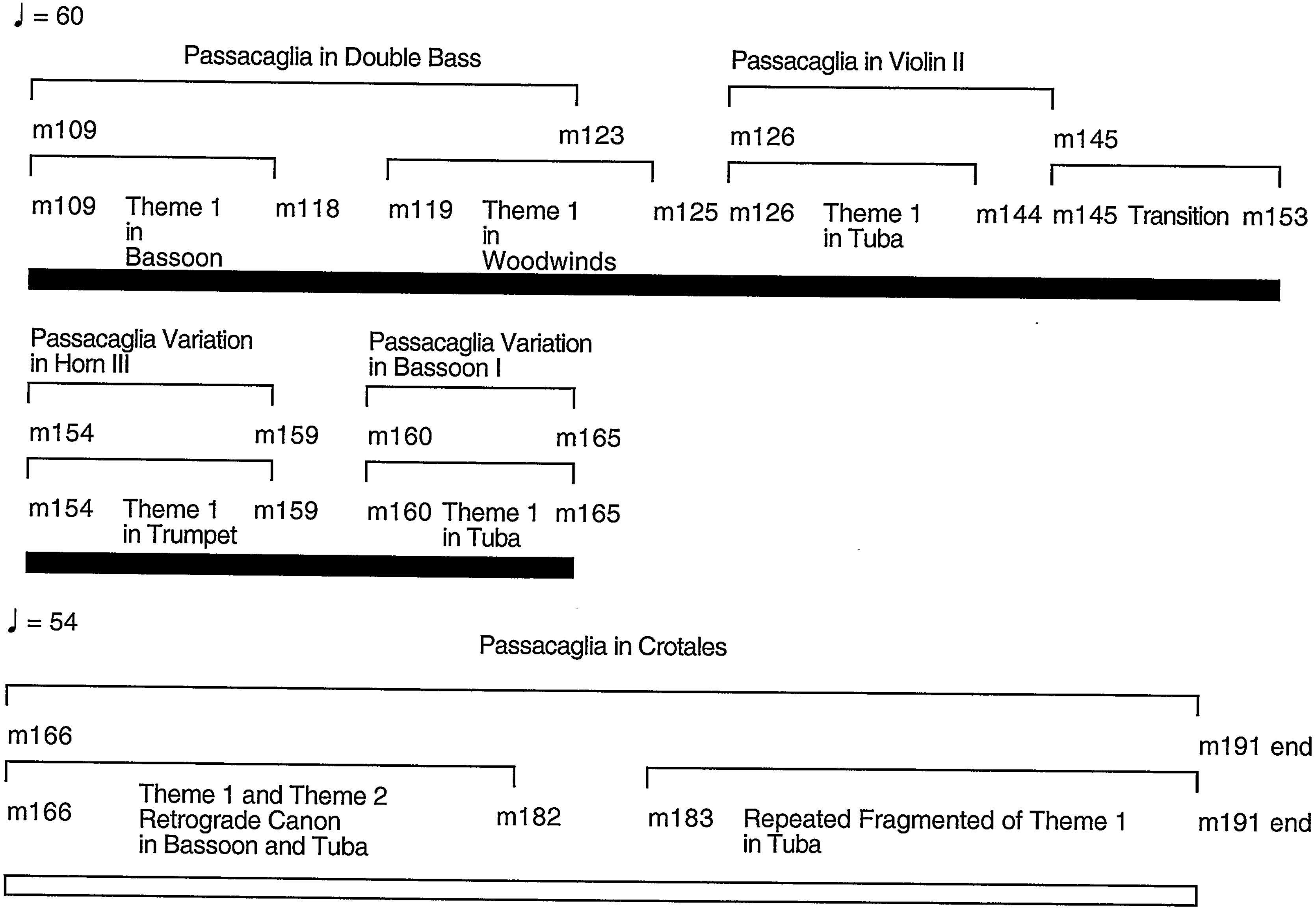
Philharmonic Orchestra. Having professional musicians perform this piece gave me immediate feed back regarding the orchestration. I was able to hear what worked and what did not work, and then to make different choices in the scoring so that my ideas could be heard more clearly. The primary problem that I encountered in my scoring was timbre masking. In most cases this problem was solved by transposing one of the choirs, most often the strings, either up or down an octave.

The work involved in composing large ensemble pieces is enormous, but the growth that I experienced as a composer made it all worthwhile. Because of the success of this piece, I am eagerly awaiting the chance to compose for a large ensemble in the future.

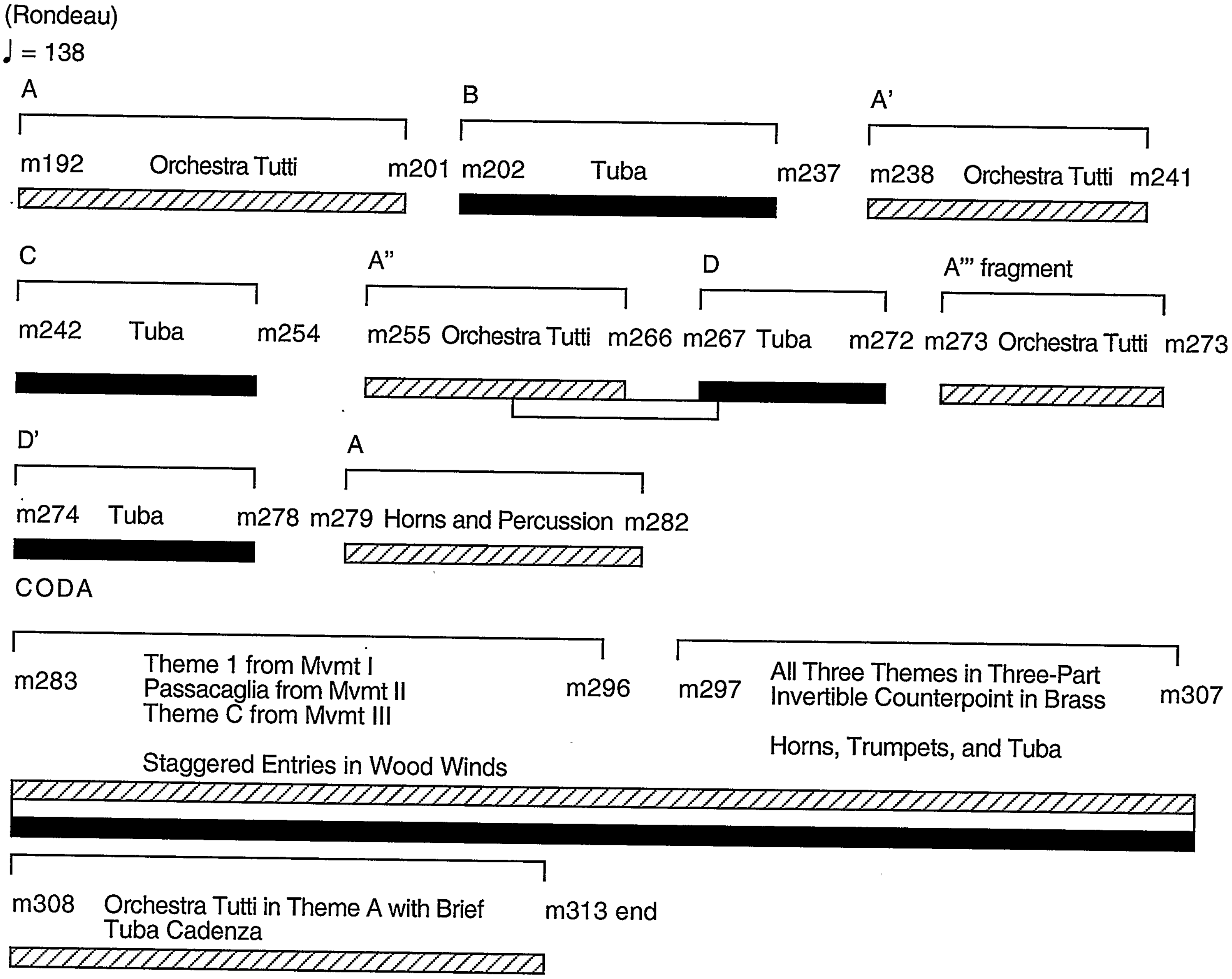
Appendix 1: Formal Structure, Movement I


Legend
Light ☐
Darkness ■
Wildness ▨
A ♩ = 72
m1 Theme 1 in Tuba m16
m17 Theme 1' in Oboe m24
m25 Theme 1" in Oboe and Tuba m32
m33 m41
Transition
B ♩ = 108
m42 Theme 2 in Tuba m64
m65 m71
Transition
m72 Theme 1 in Trumpet m75
m76 Theme 1 in Trumpet and Tuba m81
m82 Theme 1 and 2 hybrid in Horns and Tuba m94
A' ♩ = 72
m95 Fragmented form of Theme 1 in Tuba m108 end

Appendix 2: Formal Structure, Movement II


♩ = 60
Passacaglia in Double Bass
m109
m123
Passacaglia in Violin II
m126
m145
m109 Theme 1 in Bassoon m118
m119 Theme 1 in Woodwinds m125
m126 Theme 1 in Tuba m144
m145 Transition m153
Passacaglia Variation in Horn III
m154
m159
Passacaglia Variation in Bassoon I
m160
m165
m154 Theme 1 in Trumpet m159
m160 Theme 1 in Tuba m165
♩ = 54
Passacaglia in Crotales
m166
m191 end
m166 Theme 1 and Theme 2 Retrograde Canon in Bassoon and Tuba m182
m183 Repeated Fragmented of Theme 1 in Tuba
m191 end

Appendix 3: Formal Structure, Movement III


(Rondeau)
♩ = 138
A
m192 Orchestra Tutti m201
B
m202 Tuba m237
A'
m238 Orchestra Tutti m241
C
m242 Tuba m254
A"
m255 Orchestra Tutti m266
D
m267 Tuba m272
A"' fragment
m273 Orchestra Tutti m273
D'
m274 Tuba m278
A
m279 Horns and Percussion m282
CODA
m283
Theme 1 from Mvmt I
Passacaglia from Mvmt II
Theme C from Mvmt III
m296
m297
All Three Themes in Three-Part
Invertible Counterpoint in Brass
m307
Staggered Entries in Wood Winds
Horns, Trumpets, and Tuba
m308
Orchestra Tutti in Theme A with Brief
Tuba Cadenza
m313 end

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SCORE

The Black Hill: A Concerto for Tuba and Orchestra.

Instrumentation:

- 2 Flutes
- 2 Oboes
- 2 Clarinets in Bb
- 2 Bassoons
- 4 Horns in F
- 2 Trumpets in C
- Timpani
- Percussion
  - Vibraphone, Cymbals, Crotales, 2 Tom-Toms, Bass Drum
- Solo Tuba
- Strings

Duration:

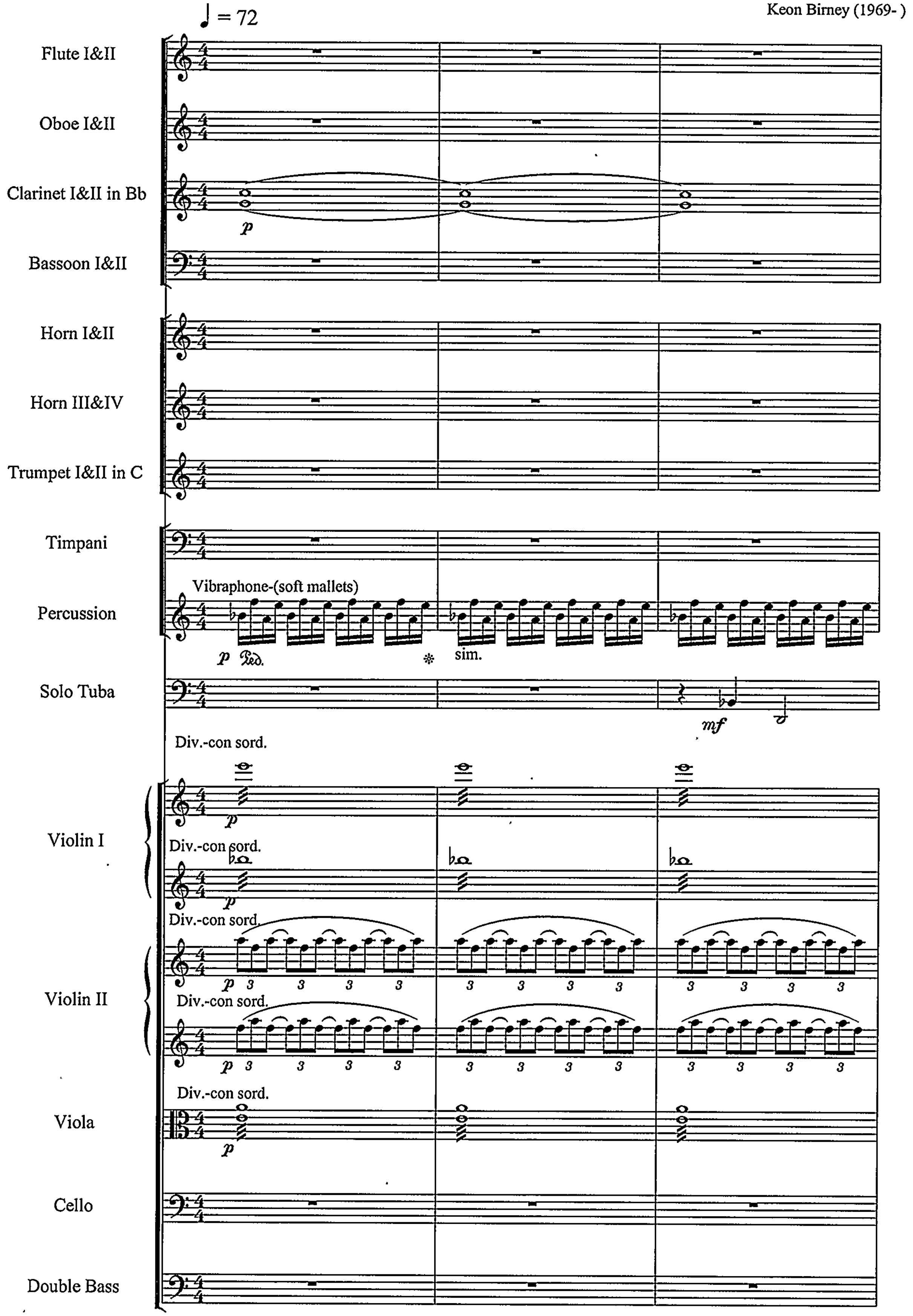
Movement I:	5 Minutes
Movement II:	4 Minutes
Movement III:	3.5 Minutes
Total:	12.5 Minutes

The score has been transposed.

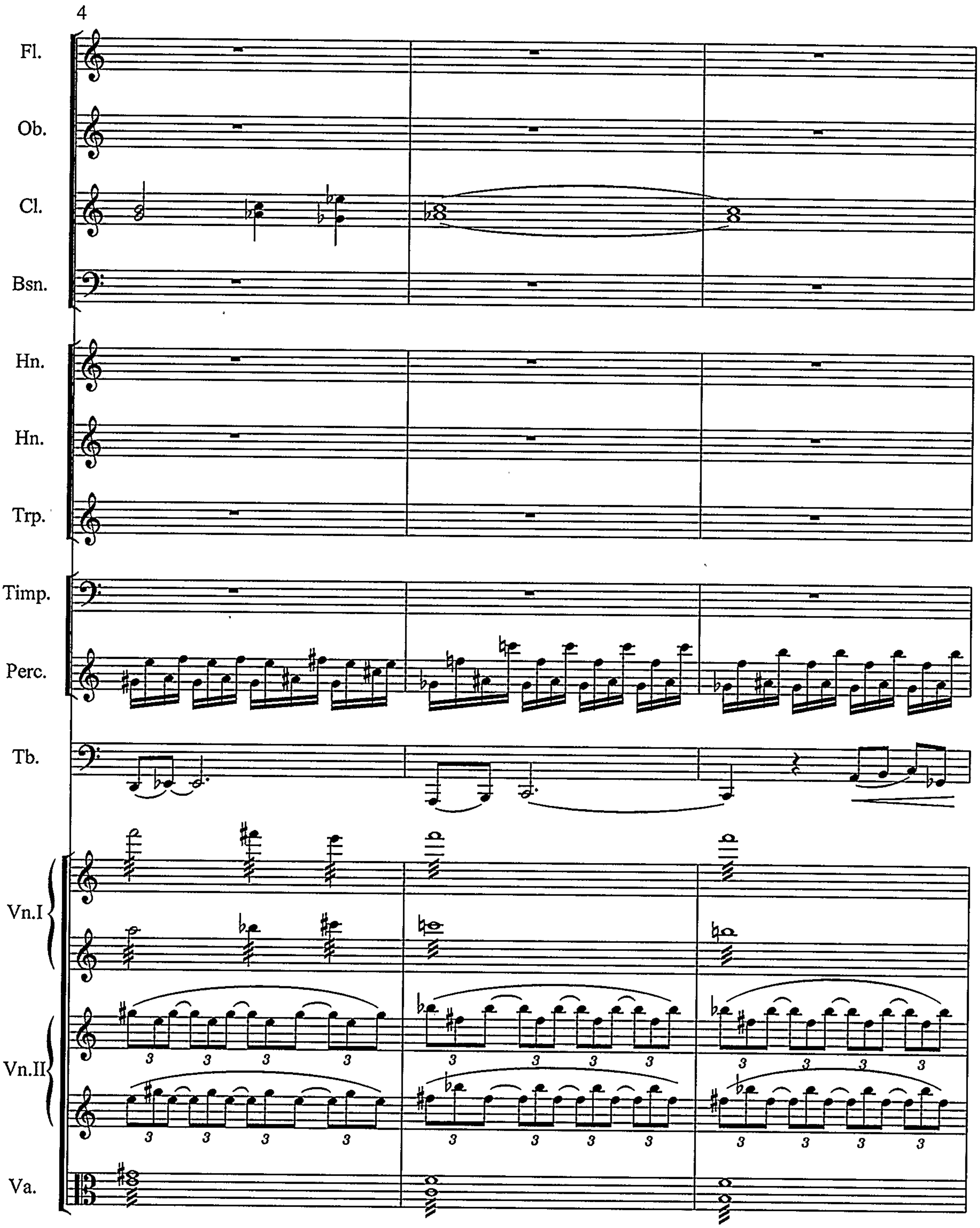
The Black Hill

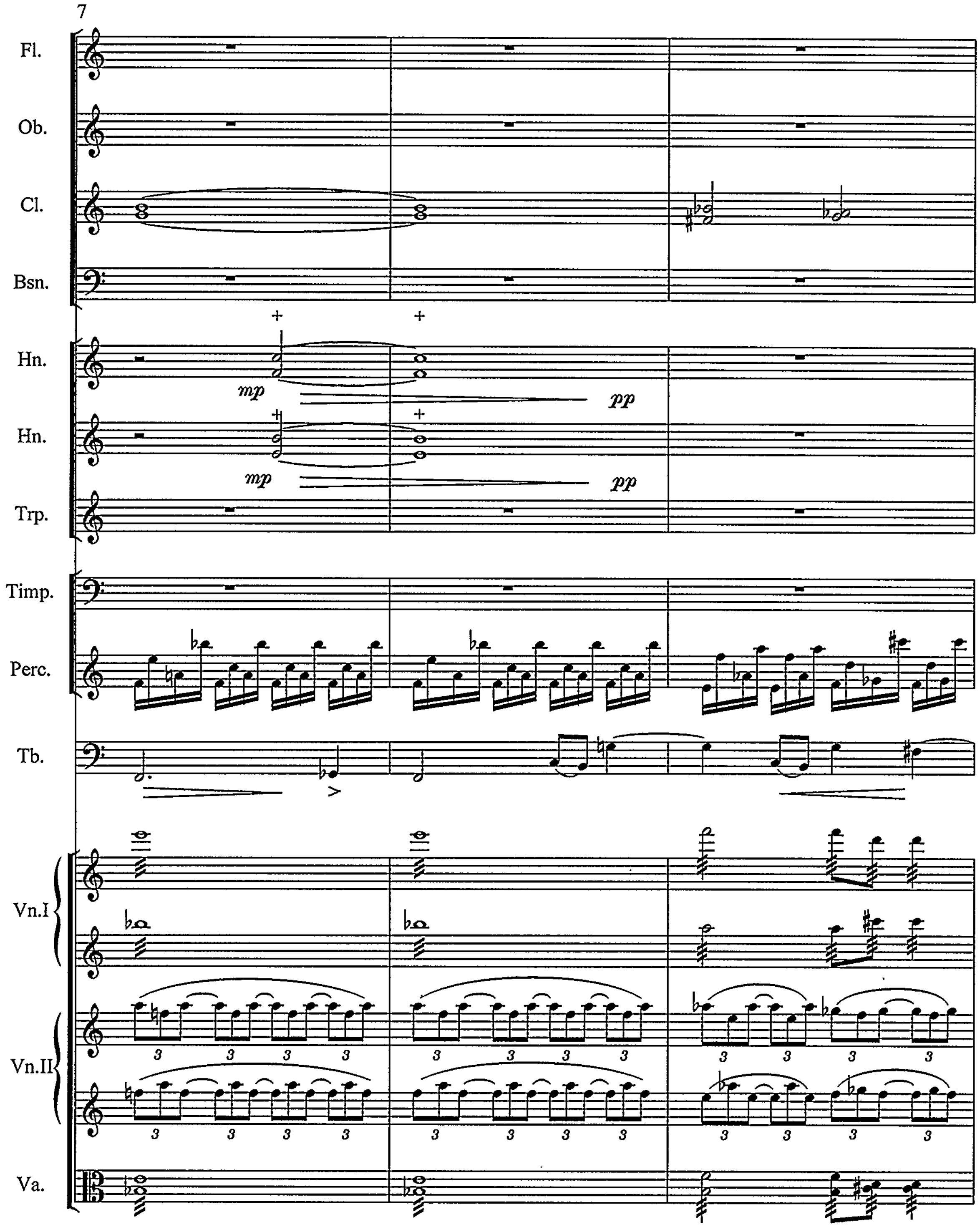
I

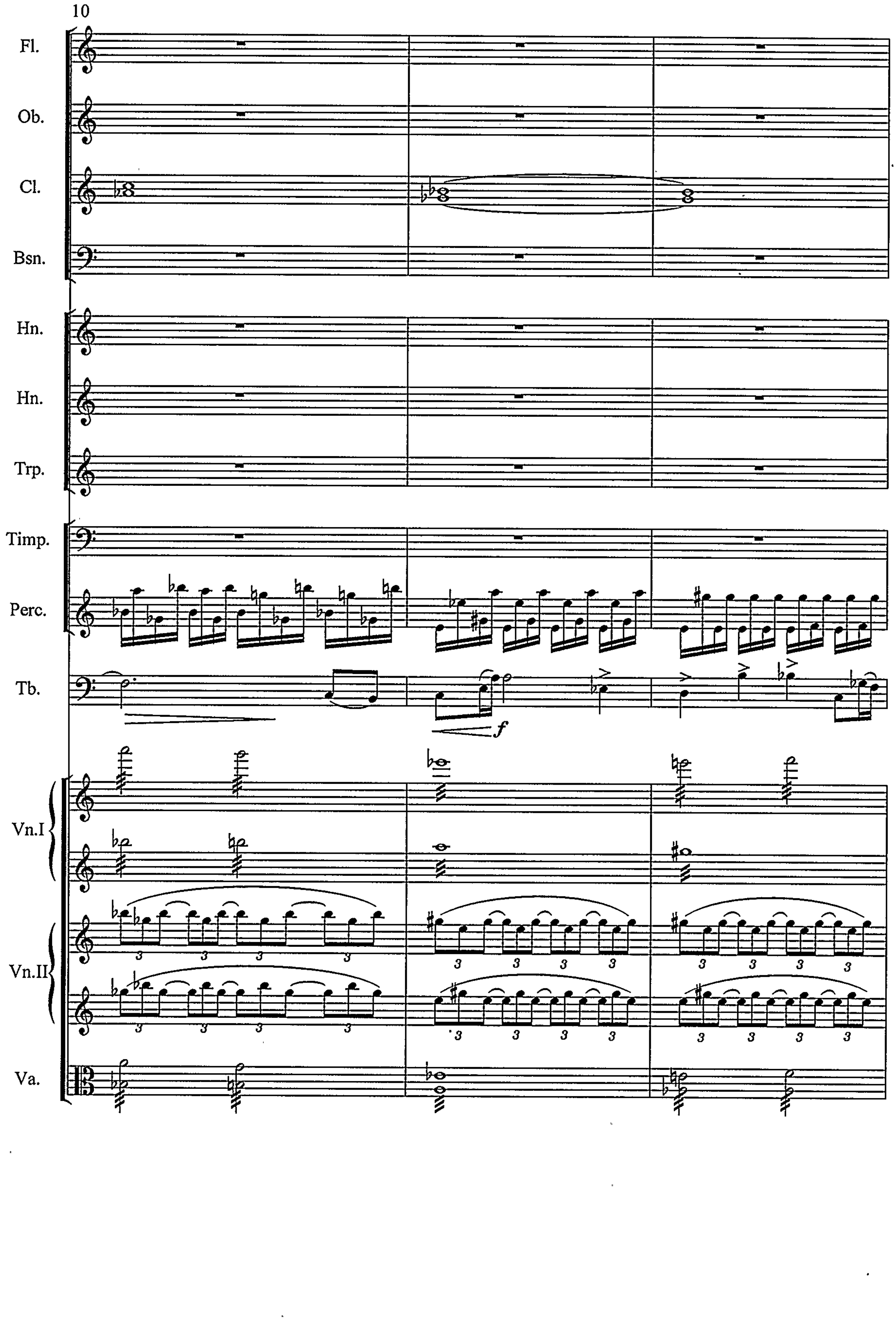
Keon Birney (1969-)

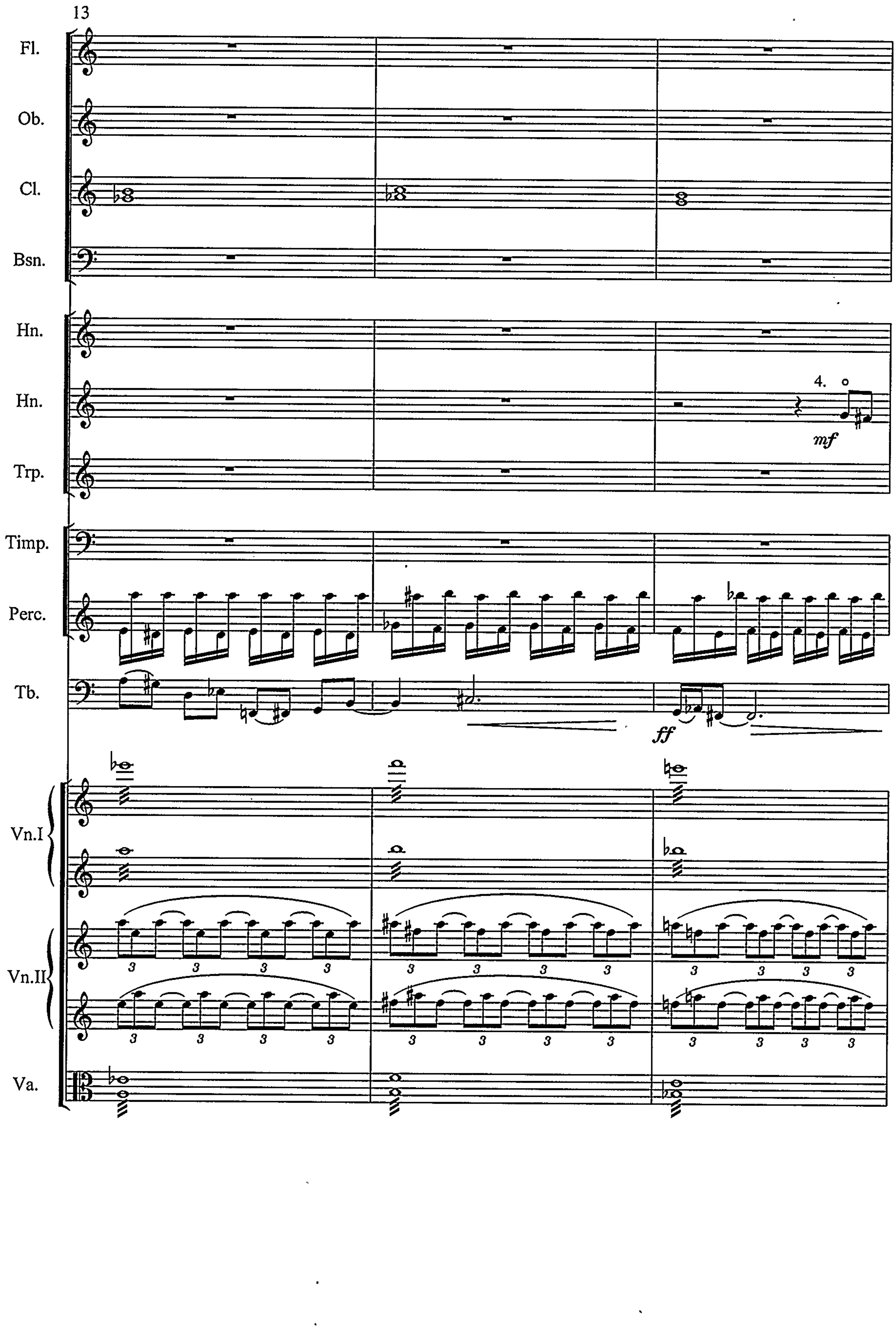

♩ = 72
Flute I&II
Oboe I&II
Clarinet I&II in Bb
p
Bassoon I&II
Horn I&II
Horn III&IV
Trumpet I&II in C
Timpani
Percussion
Vibraphone-(soft mallets)
p 𝆮
✻
sim.
Solo Tuba
mf
Div.-con sord.
p
Violin I
Div.-con sord.
p
Div.-con sord.
p
3
Violin II
Div.-con sord.
p
3
Div.-con sord.
Viola
p
Cello
Double Bass

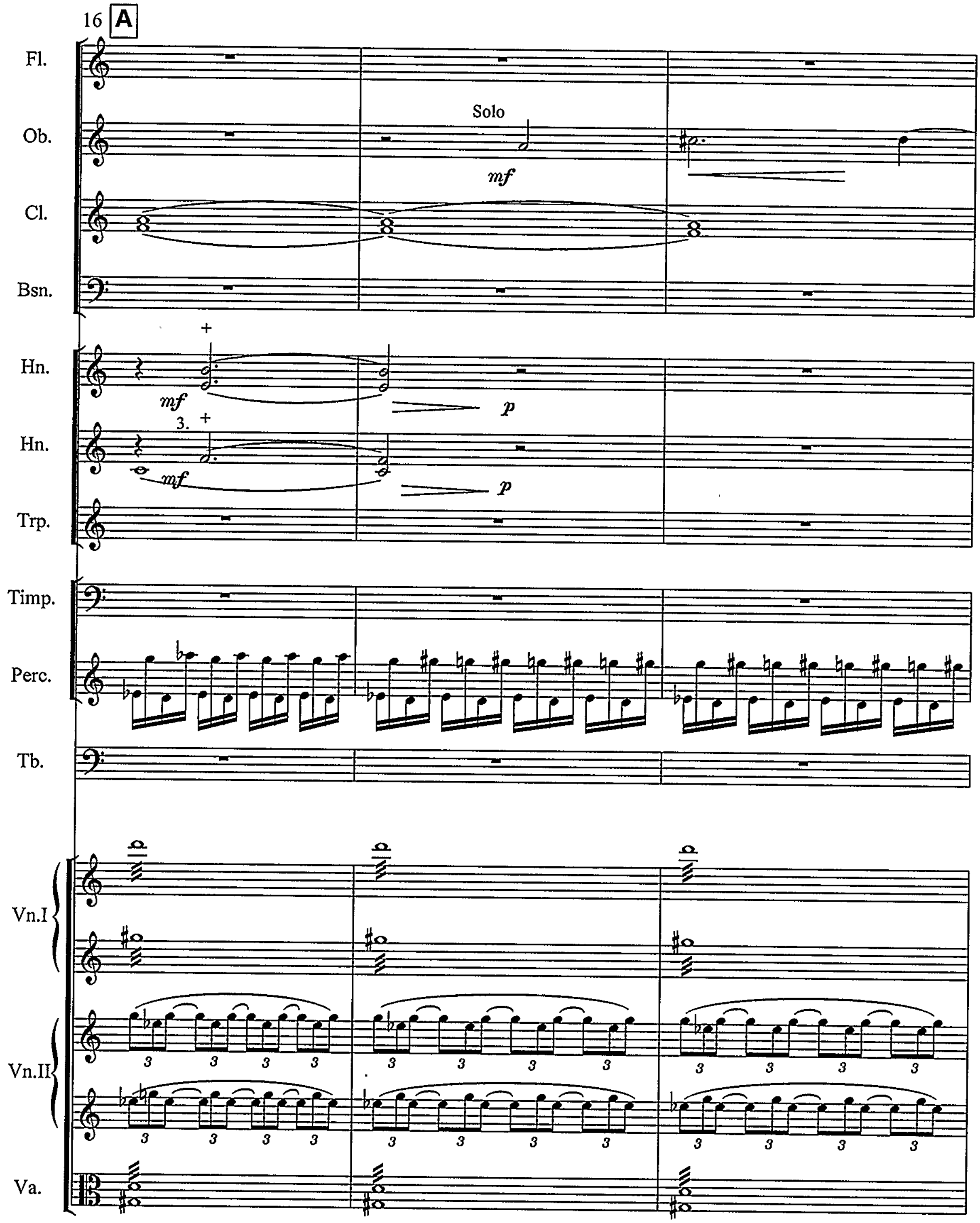
© 2003 Keon Birney

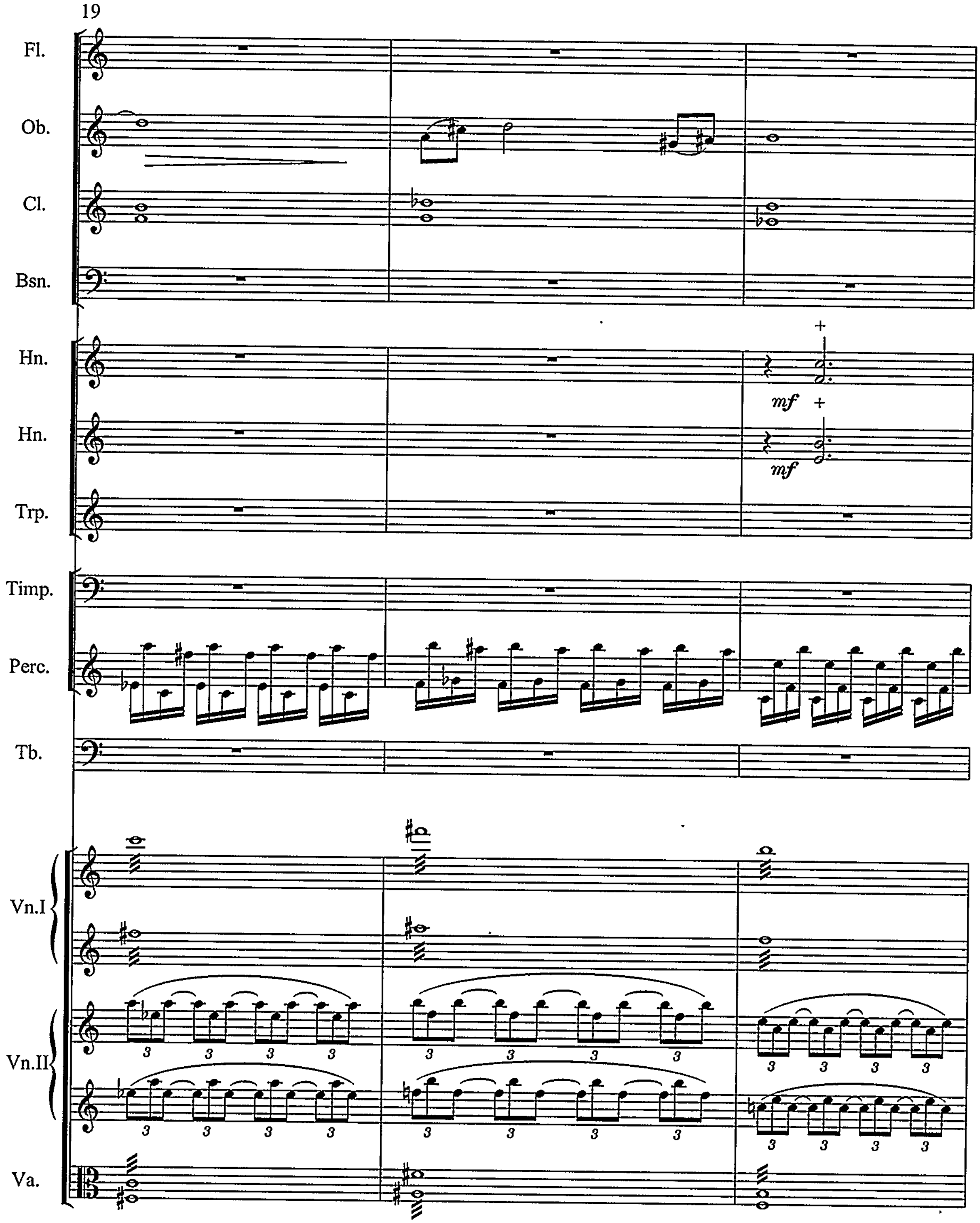

4
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
3

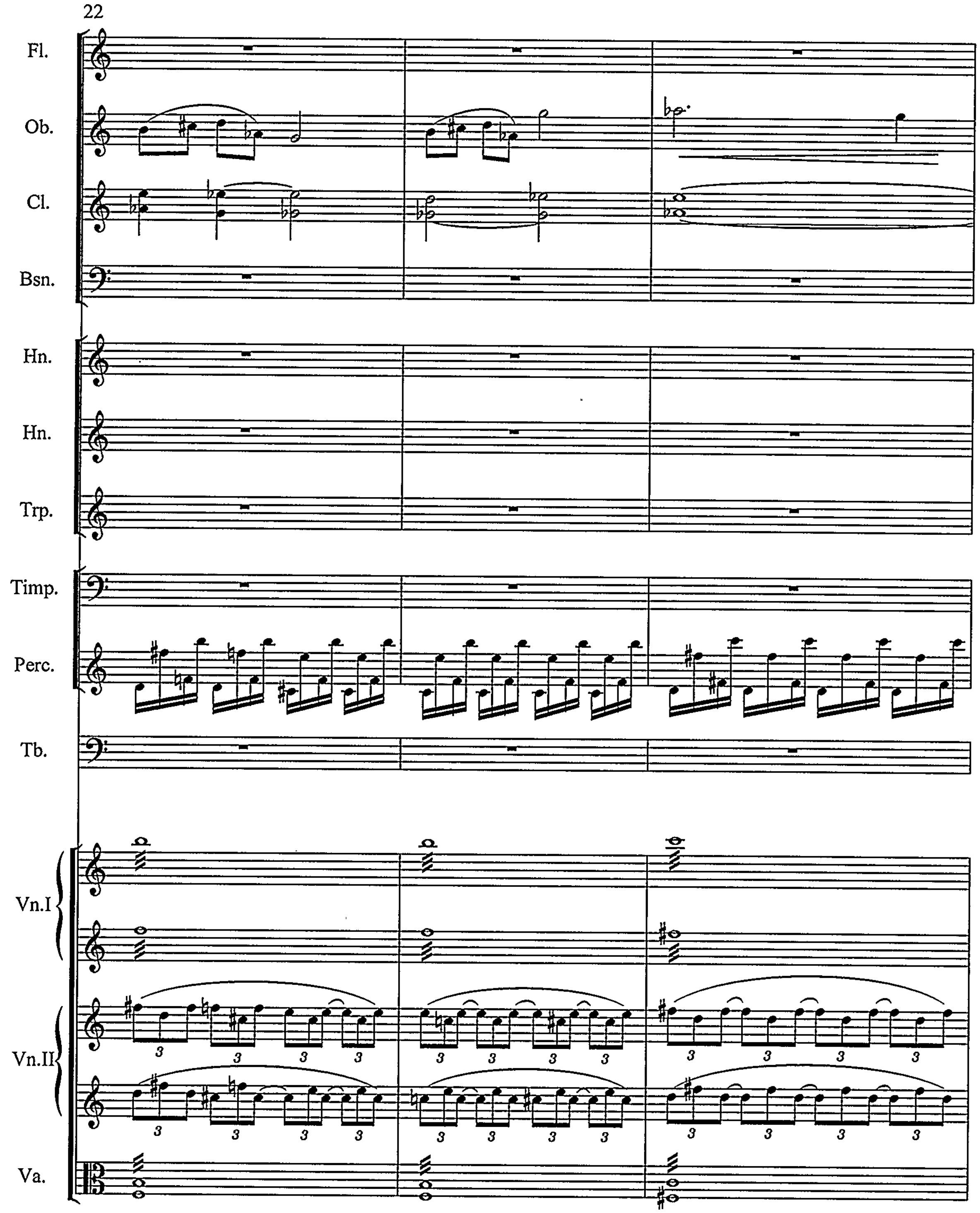

7
Fl.
Ob.
Cl.
Bsn.
Hn.
mp
pp
Hn.
mp
pp
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
3

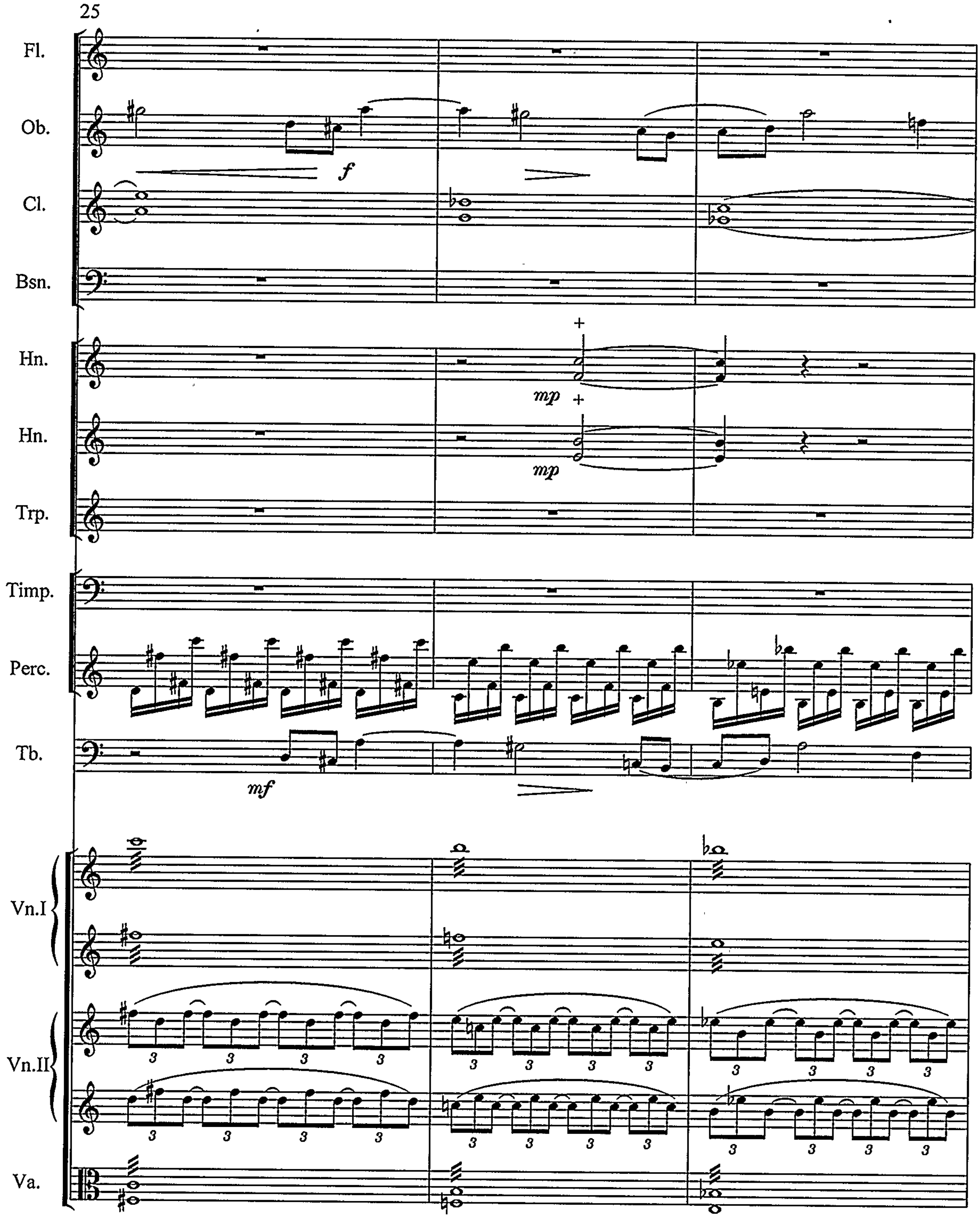

10
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
f
Vn.I
Vn.II
Va.

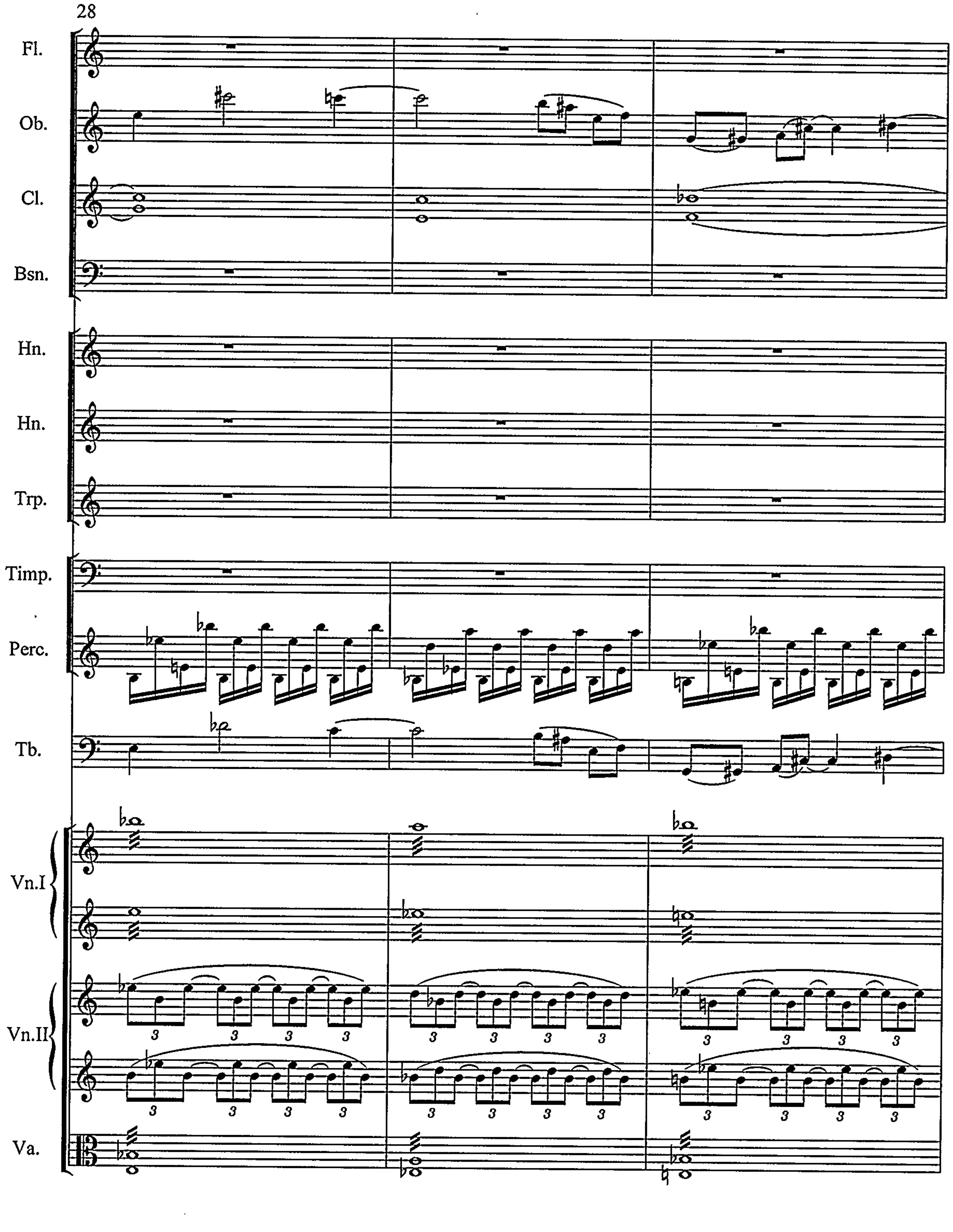

13
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
4.
mf
ff
3

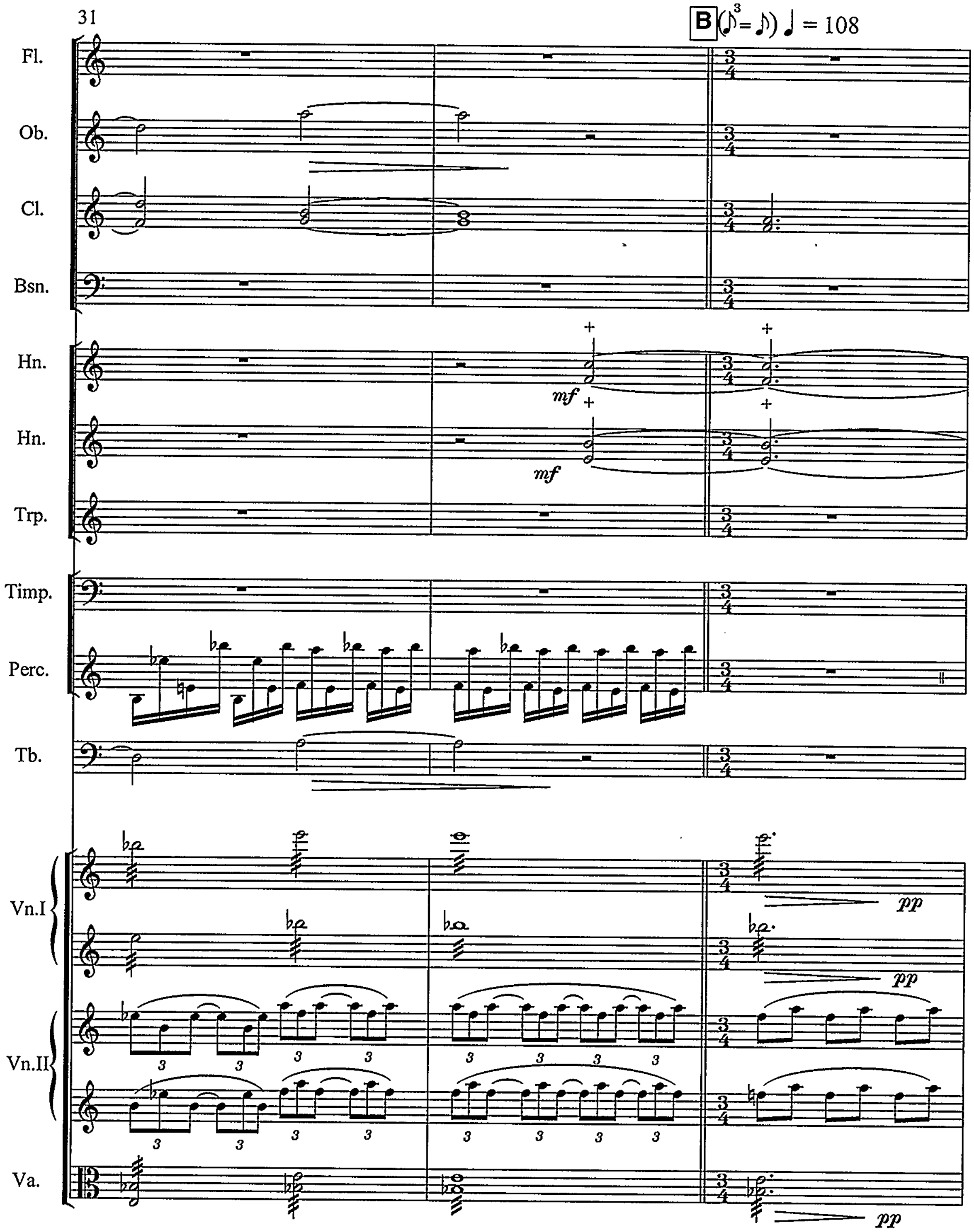

16
A
Fl.
Ob.
Solo
mf
Cl.
Bsn.
Hn.
+
mf
p
Hn.
3.
+
mf
p
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
3
Va.

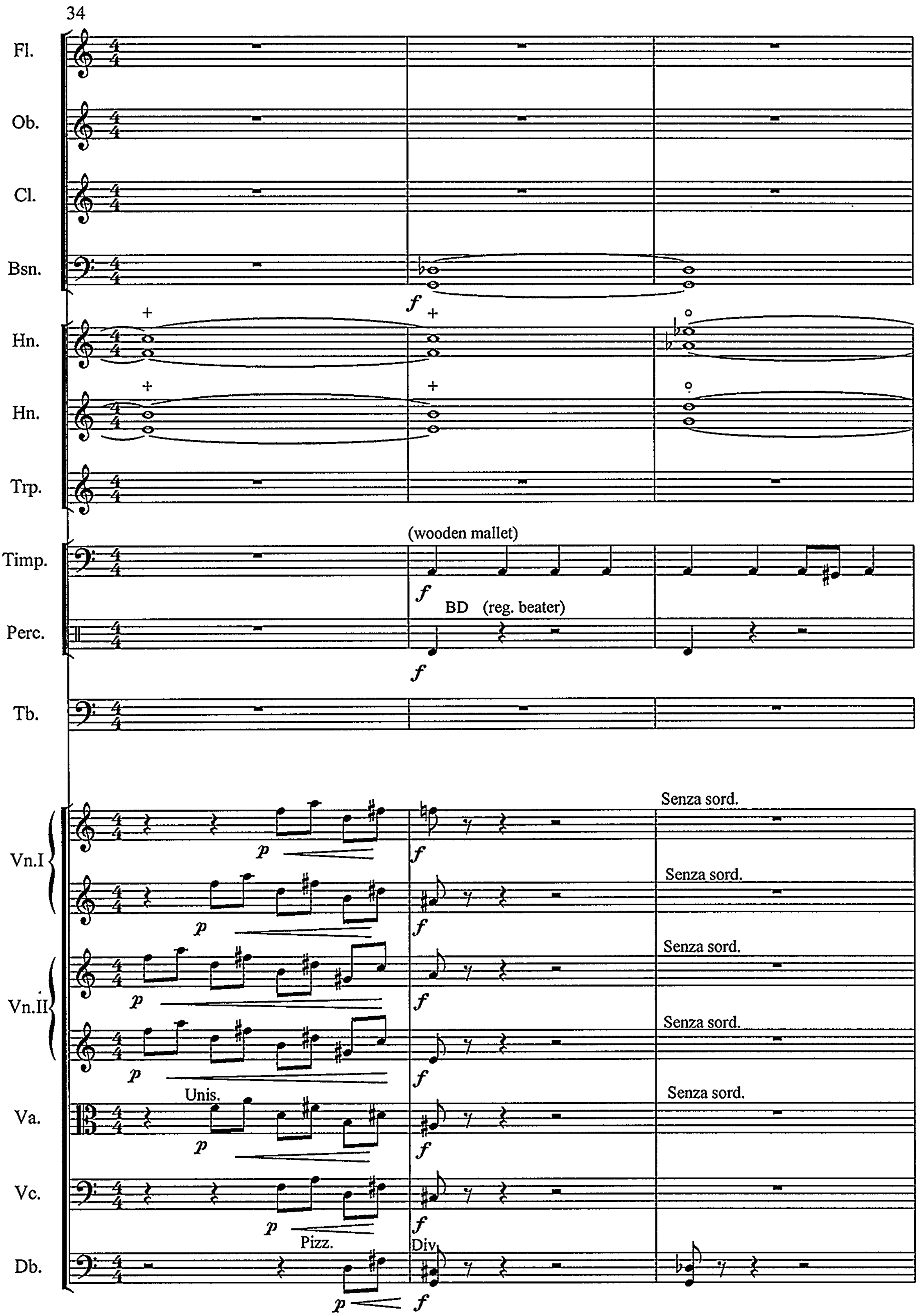

19
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
mf
mf
+
+
3

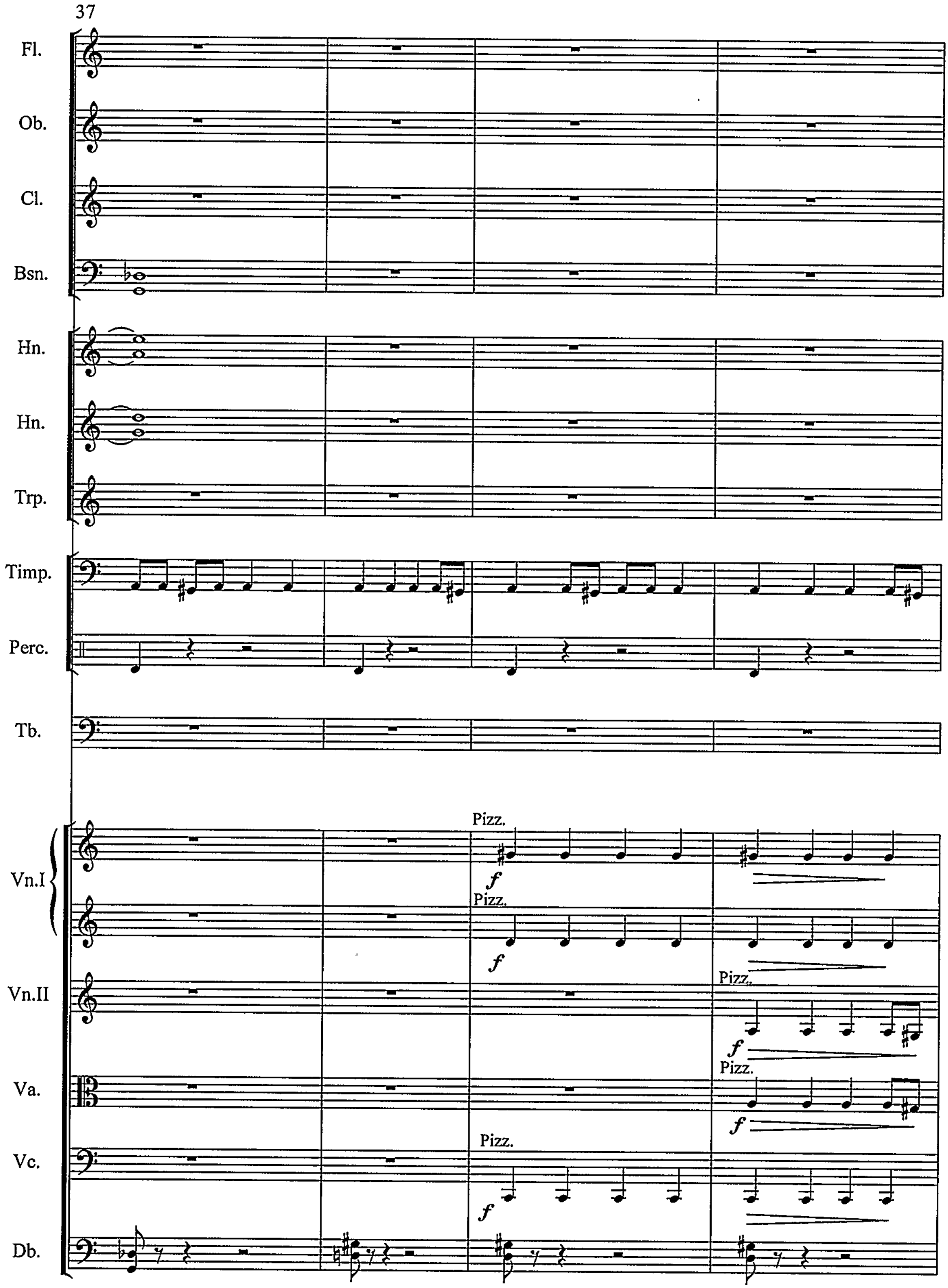

22
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.

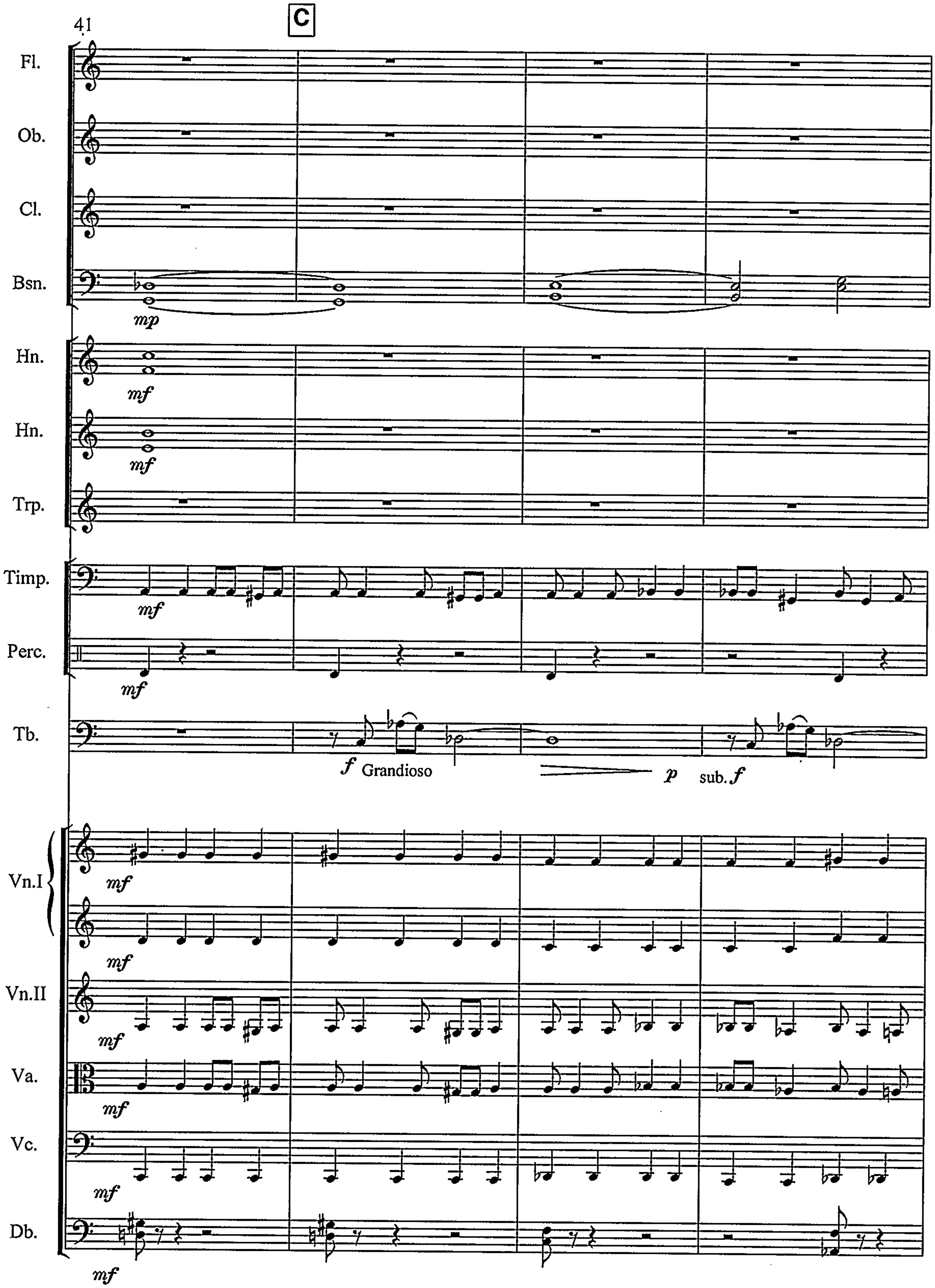

25
Fl.
Ob.
f
Cl.
Bsn.
Hn.
+
mp
Hn.
+
mp
Trp.
Timp.
Perc.
Tb.
mf
Vn.I
Vn.II
3
Va.

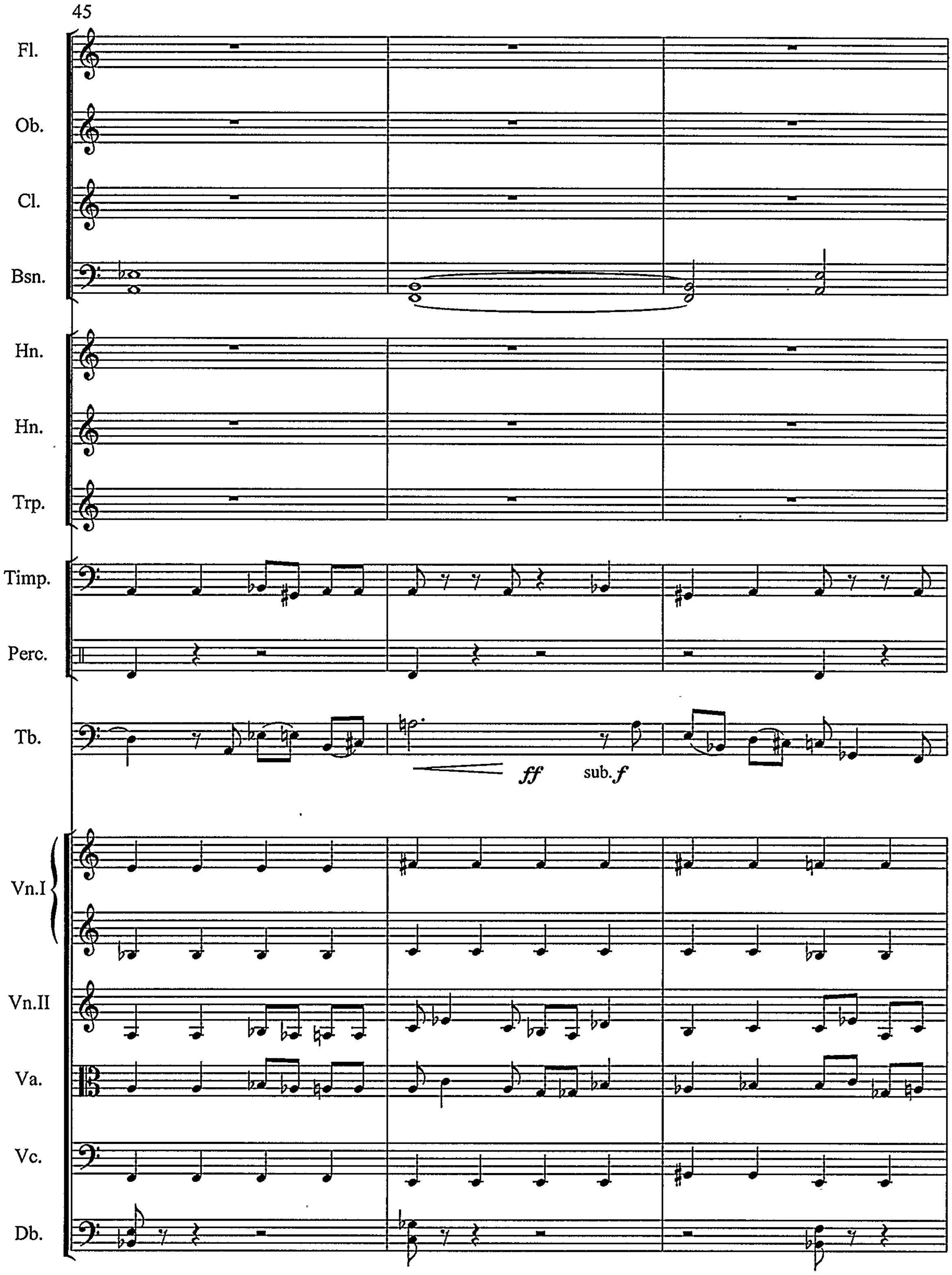

28
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
3

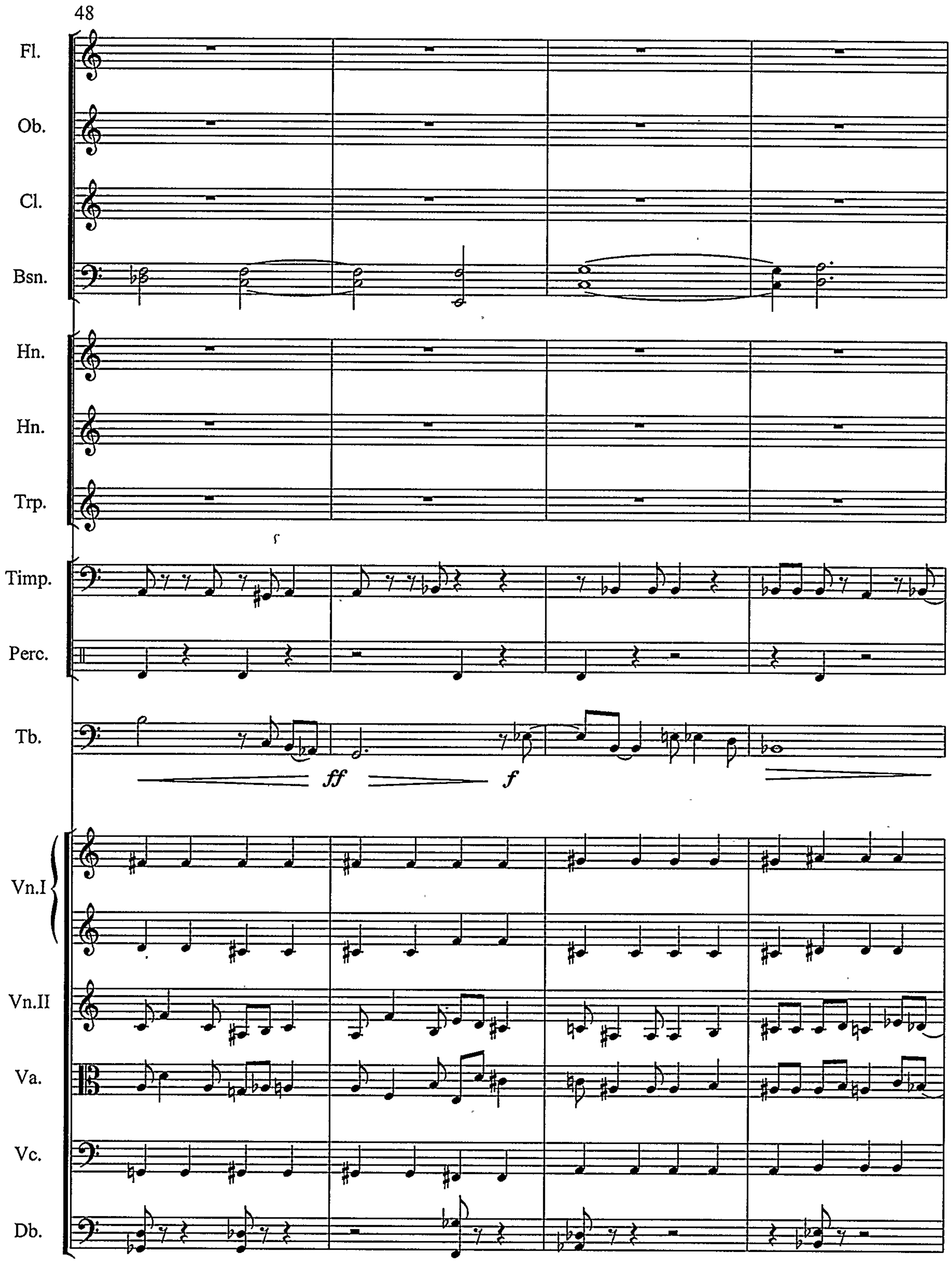

31
B
(♪³= ♪) ♩ = 108
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
mf
mf
pp
pp
pp
3
4

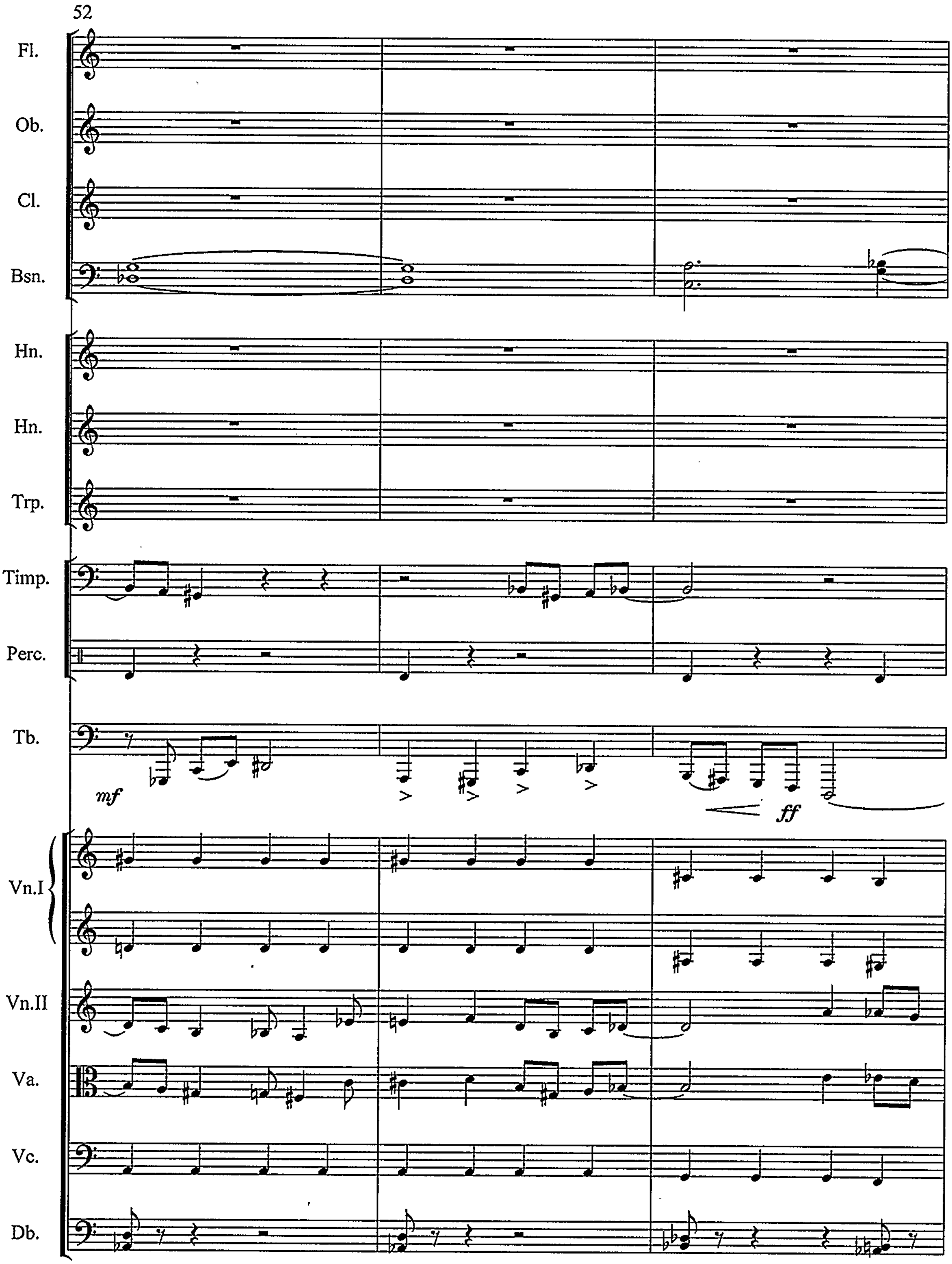

34
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
p
(wooden mallet)
BD (reg. beater)
Senza sord.
Unis.
Pizz.
Div.

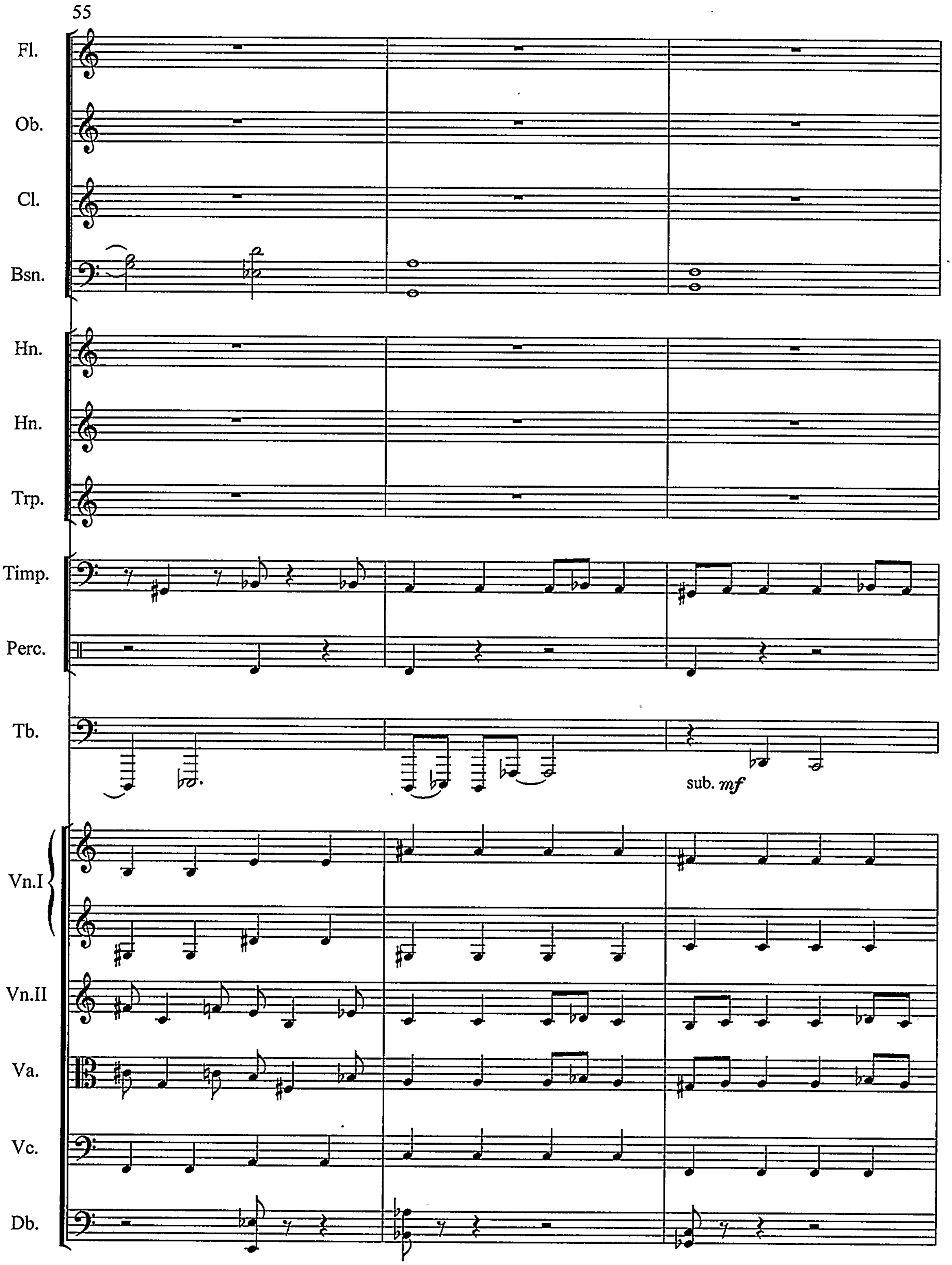

37
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
Pizz.
f
Pizz.
f
Pizz.
f
Pizz.
f
Pizz.
f

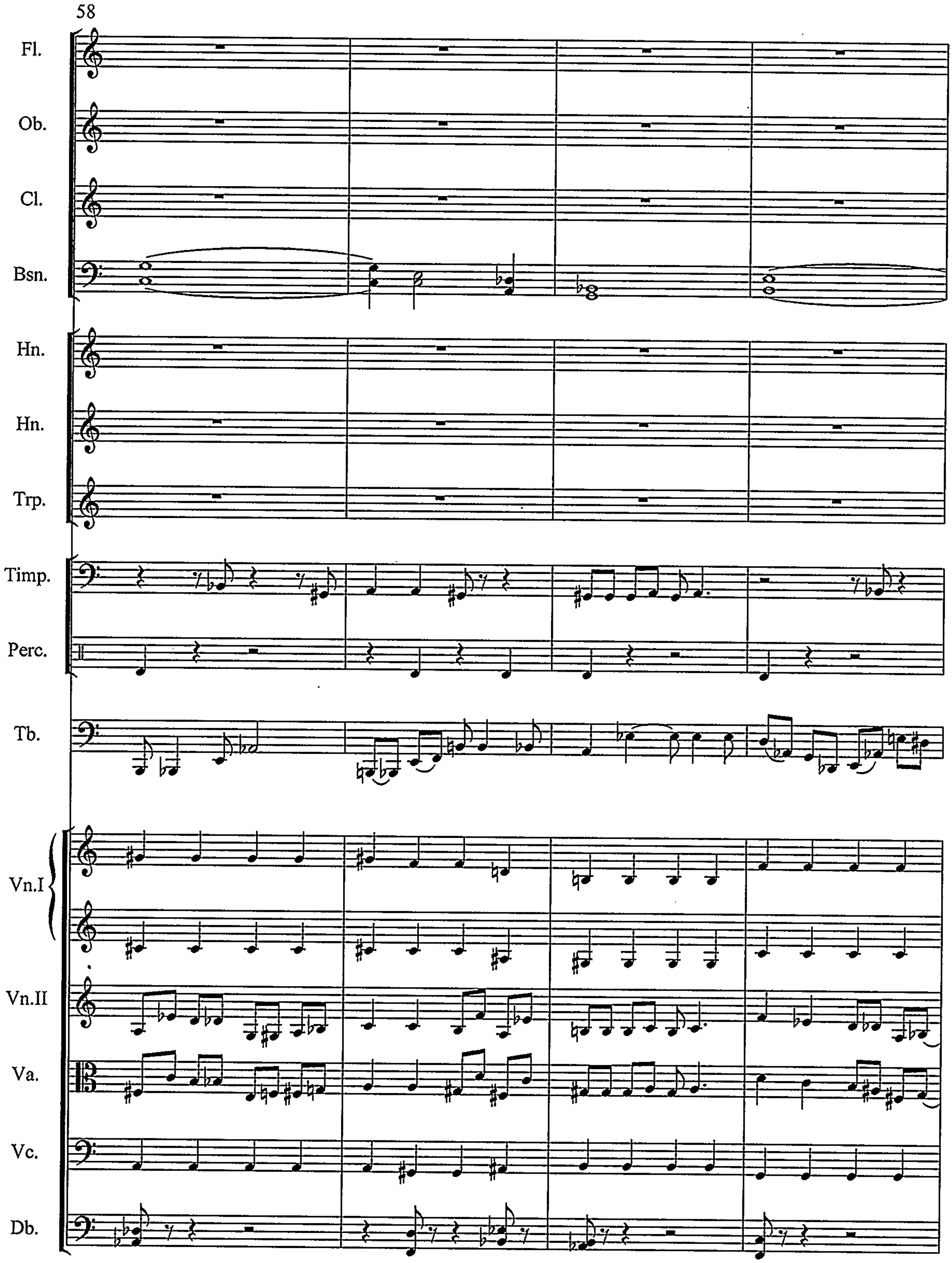

41
C
Fl.
Ob.
Cl.
Bsn.
mp
Hn.
mf
Hn.
mf
Trp.
Timp.
mf
Perc.
mf
Tb.
f Grandioso
p
sub. f
Vn.I
mf
mf
Vn.II
mf
Va.
mf
Vc.
mf
Db.
mf

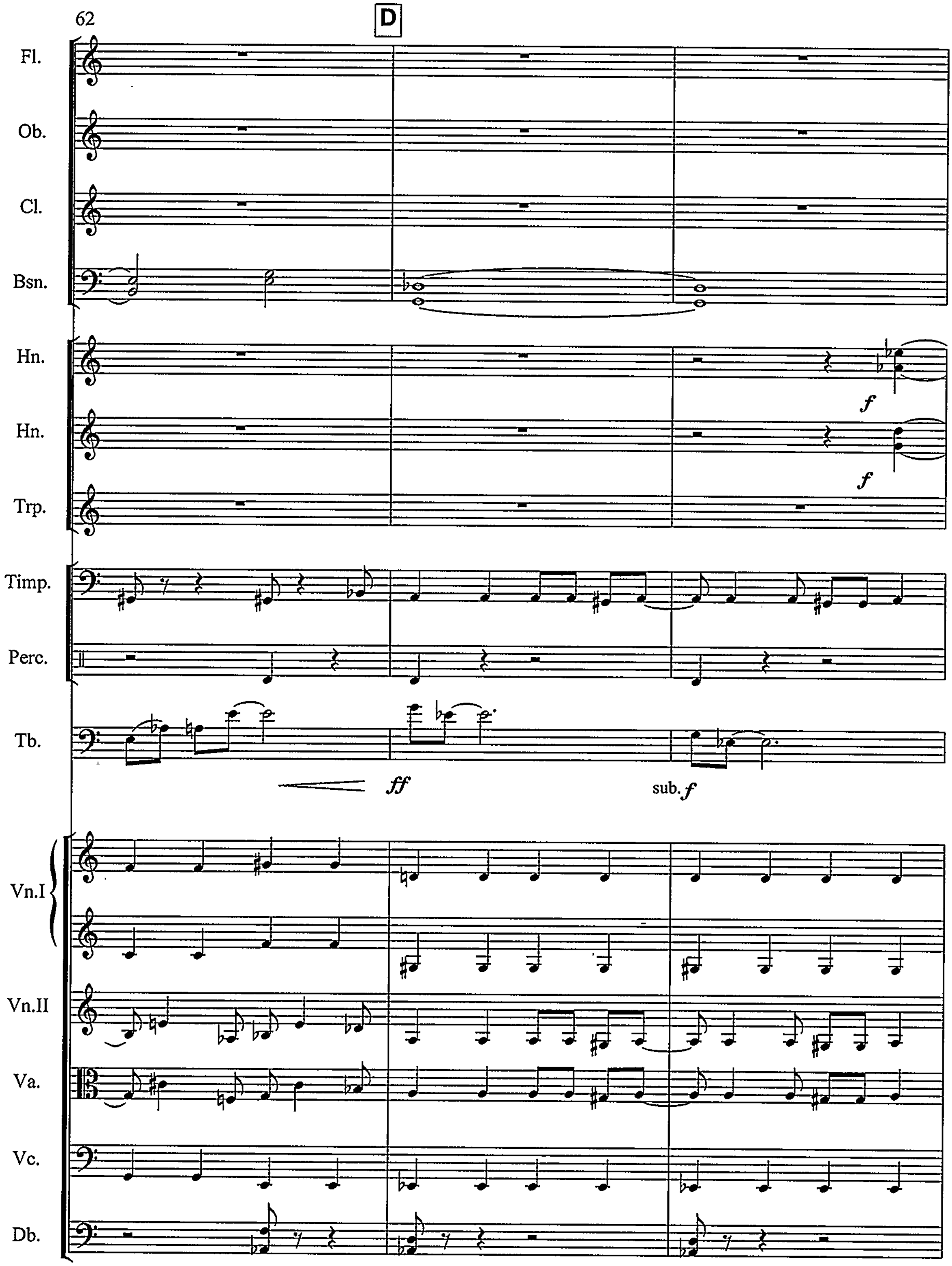

45
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
ff
sub. f
Vn.I
Vn.II
Va.
Vc.
Db.

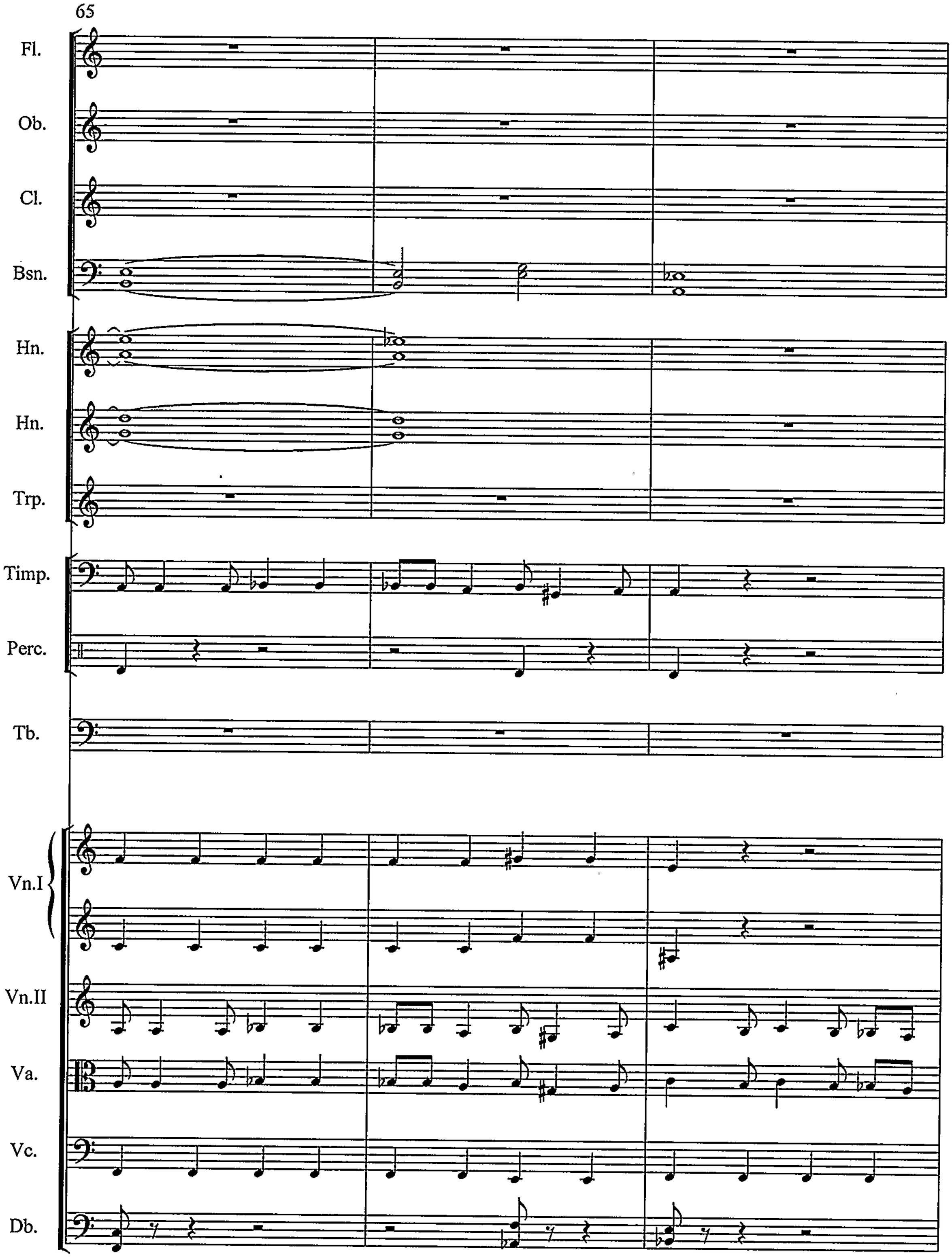

48
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
ff
f
Vn.I
Vn.II
Va.
Vc.
Db.

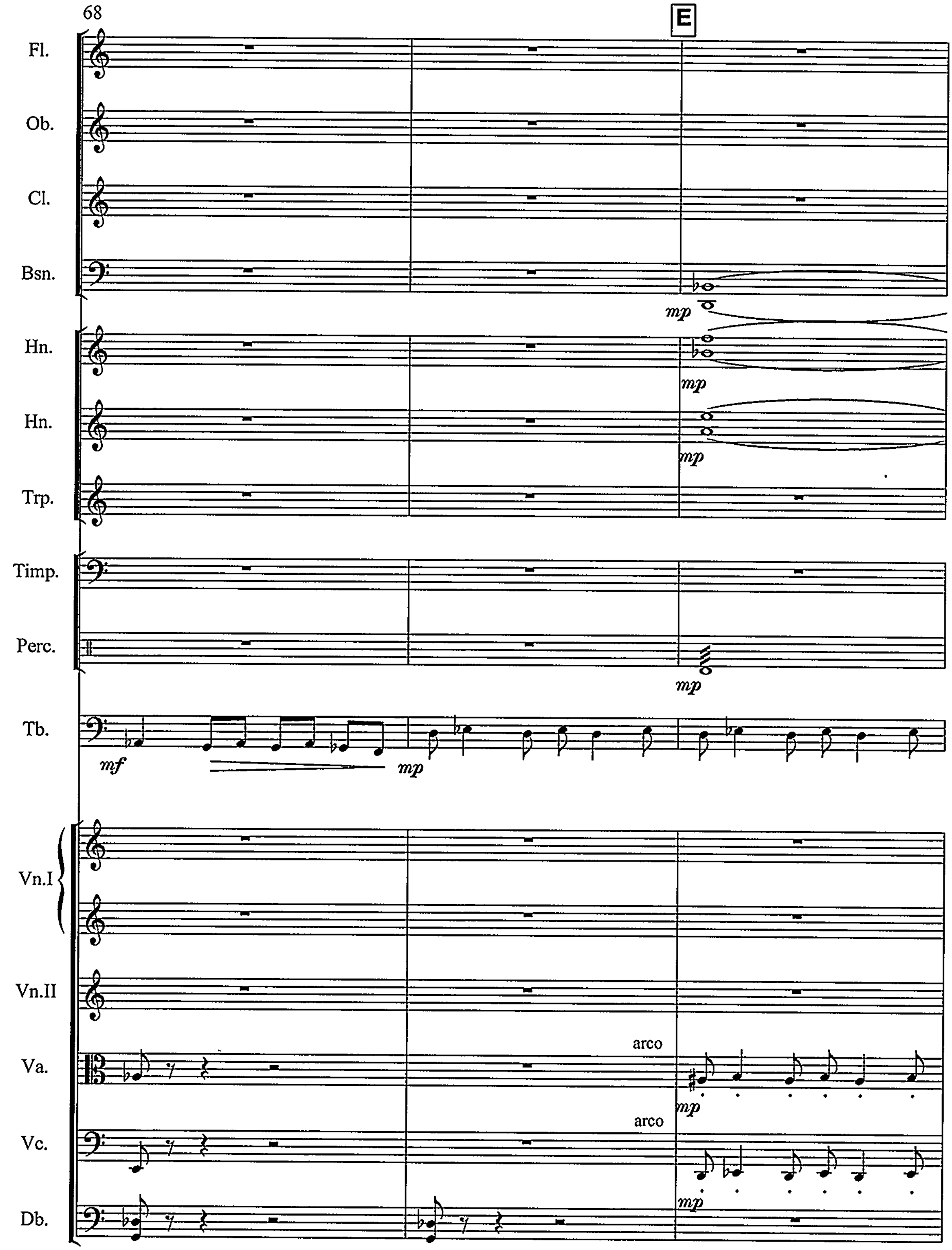

52
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
mf
ff
Vn.I
Vn.II
Va.
Vc.
Db.

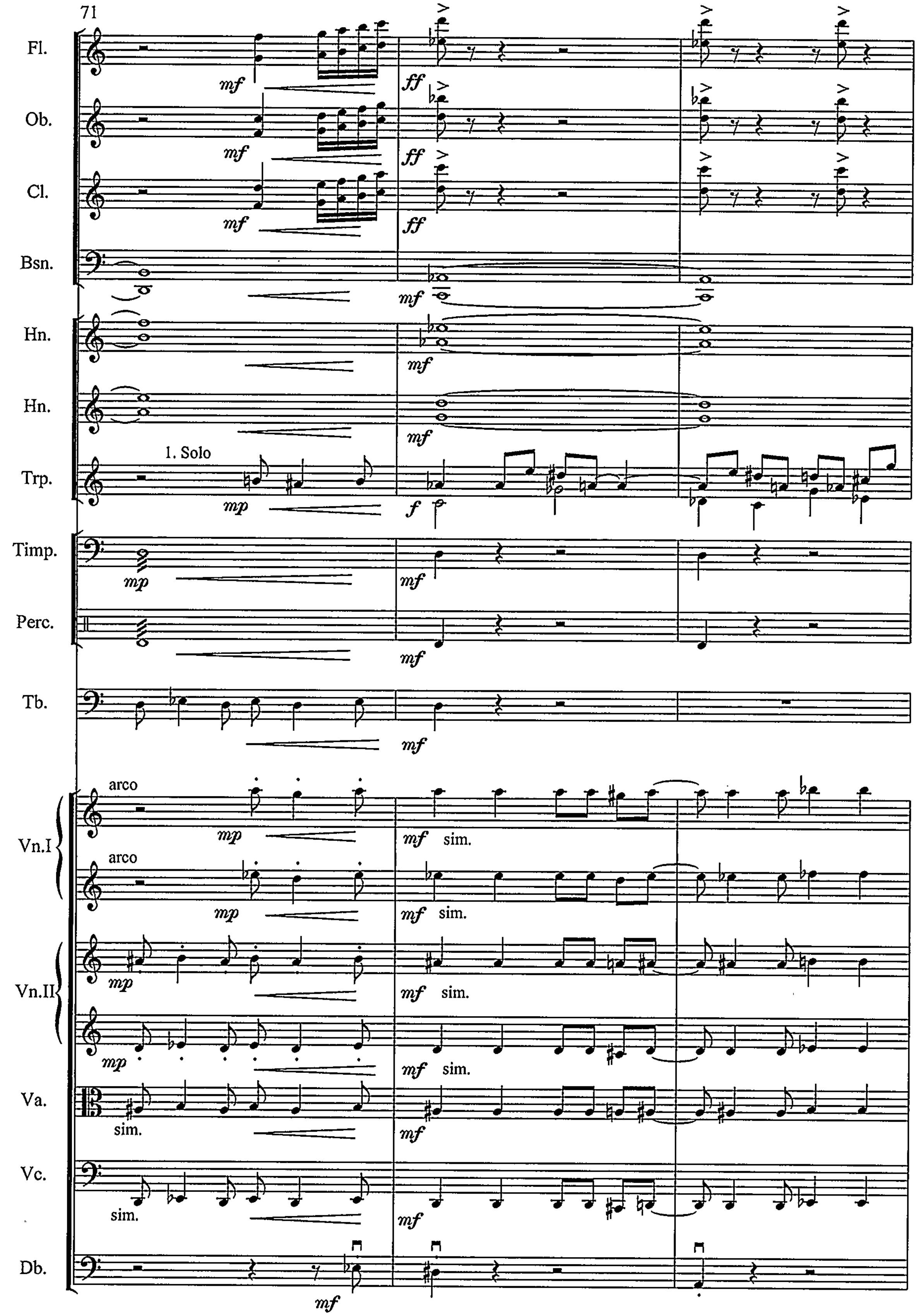

55
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
sub. mf
Vn.I
Vn.II
Va.
Vc.
Db.

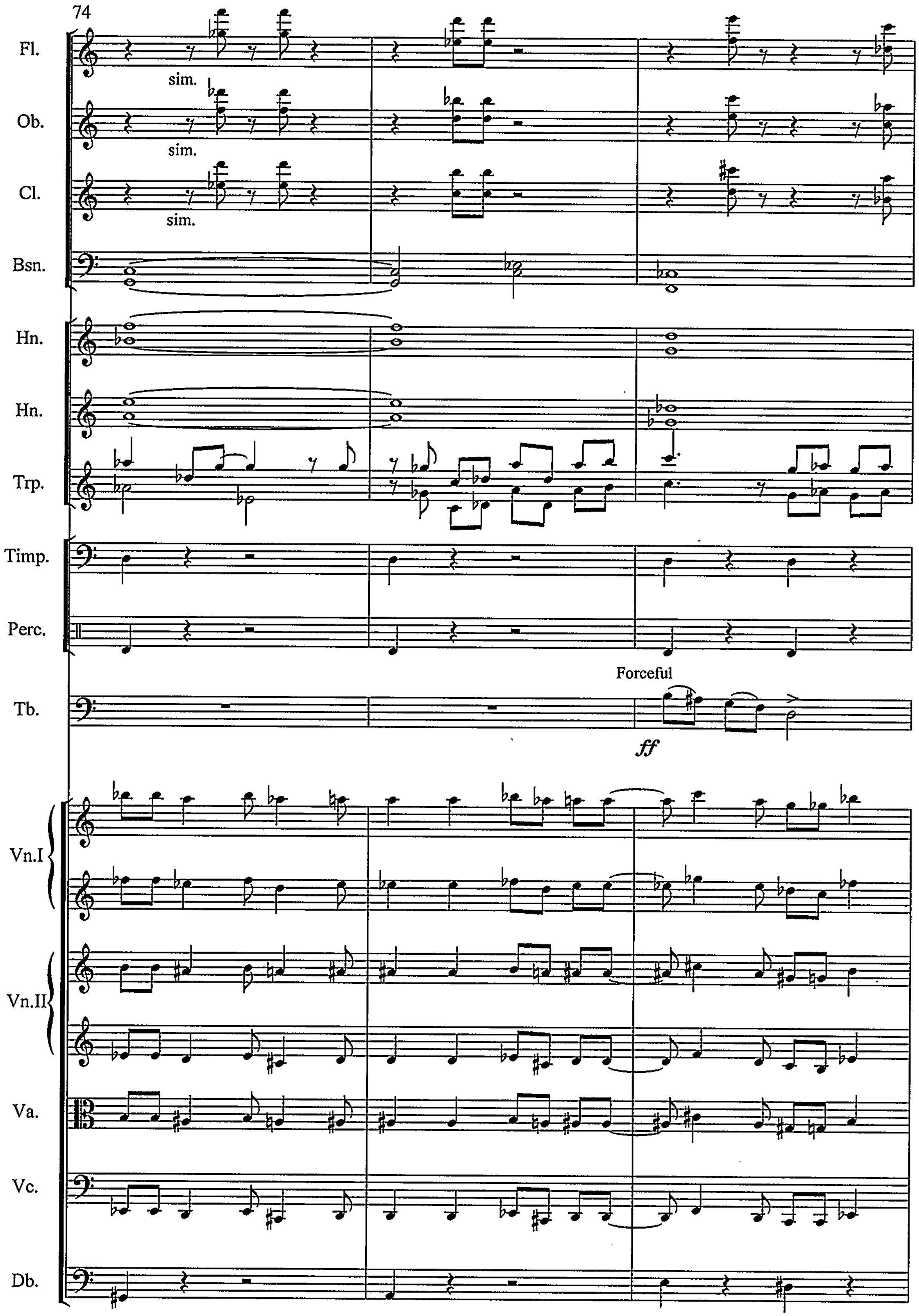

58
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

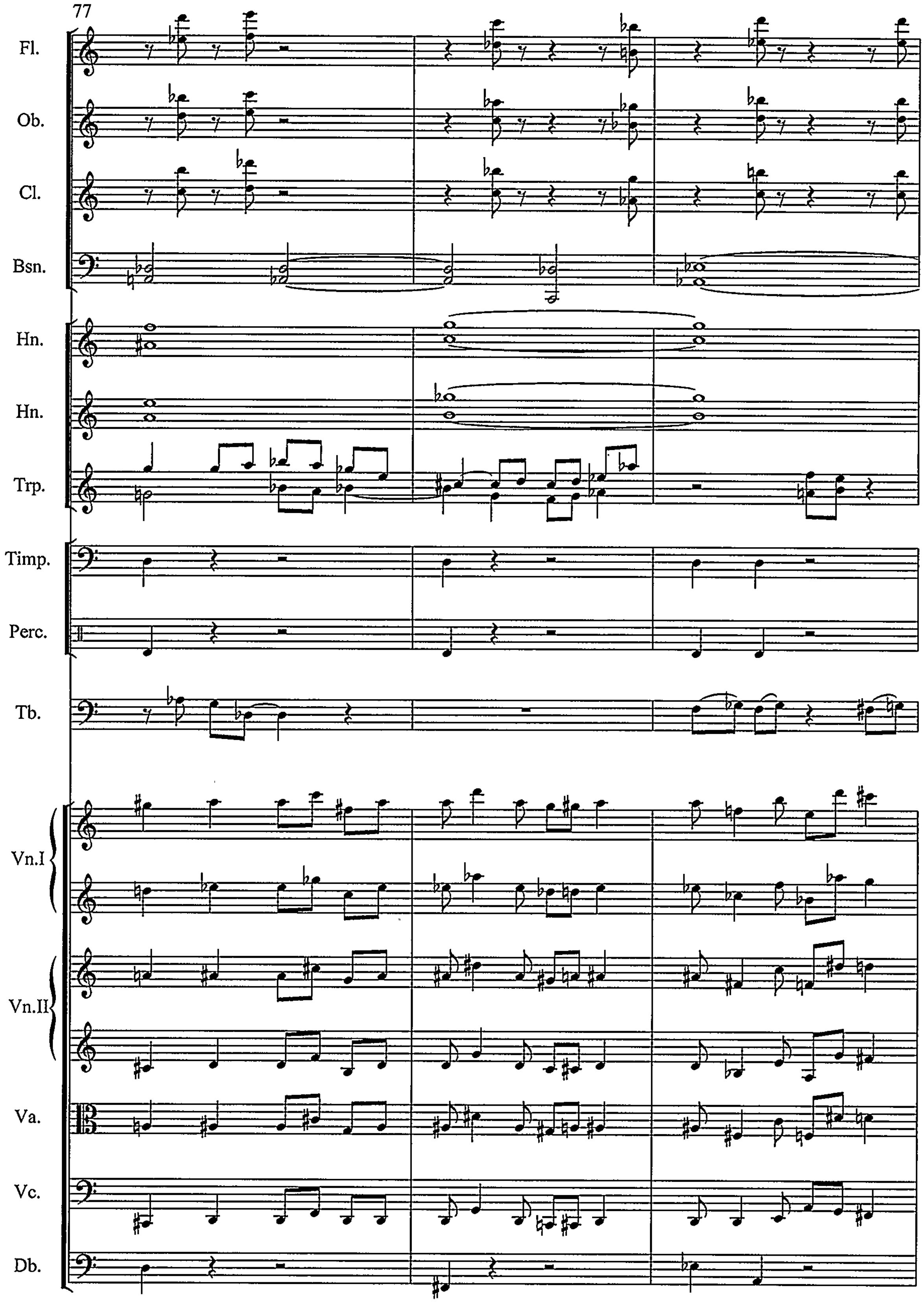

62
D
Fl.
Ob.
Cl.
Bsn.
Hn.
f
Hn.
f
Trp.
Timp.
Perc.
Tb.
ff
sub. f
Vn.I
Vn.II
Va.
Vc.
Db.

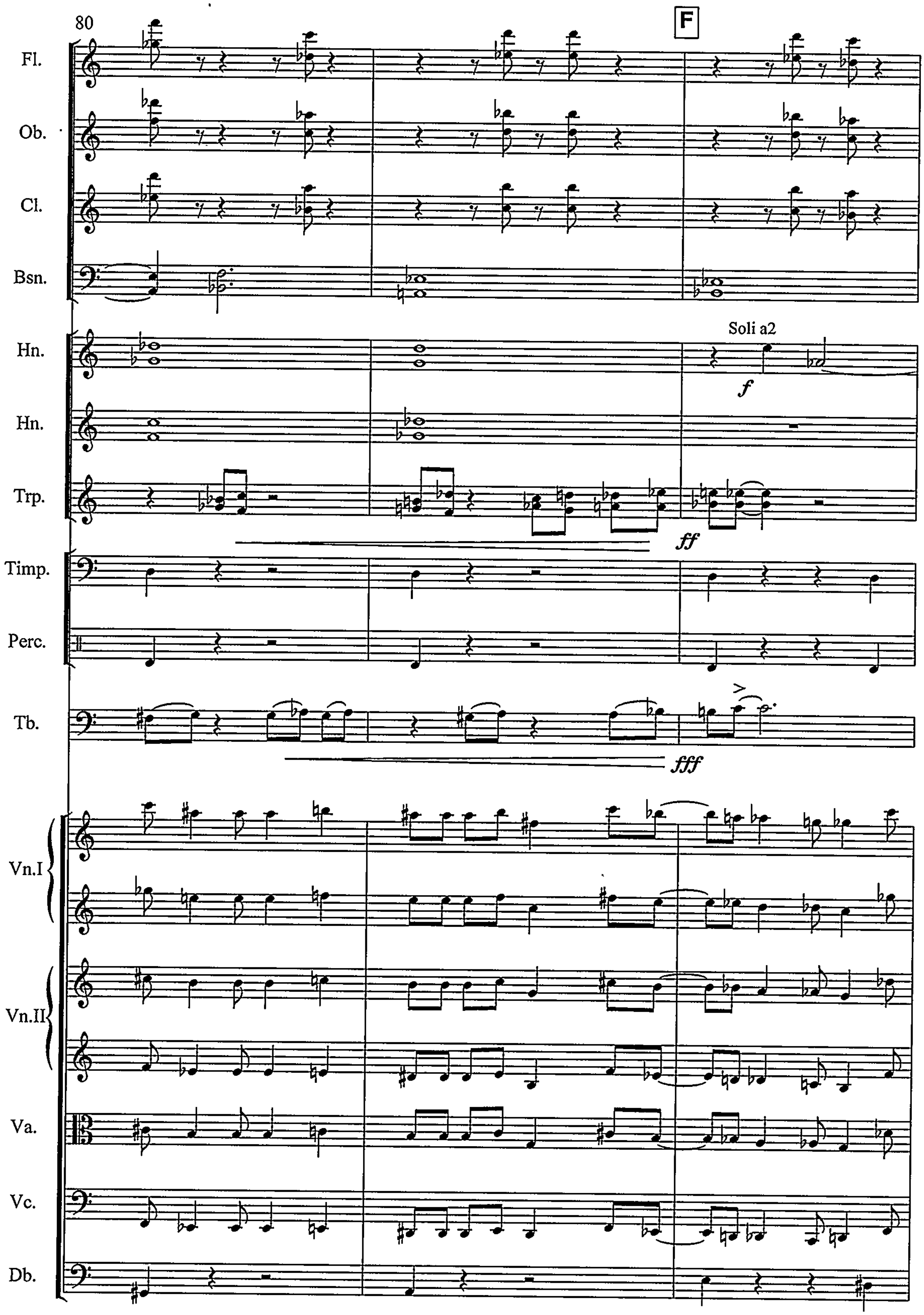

65
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

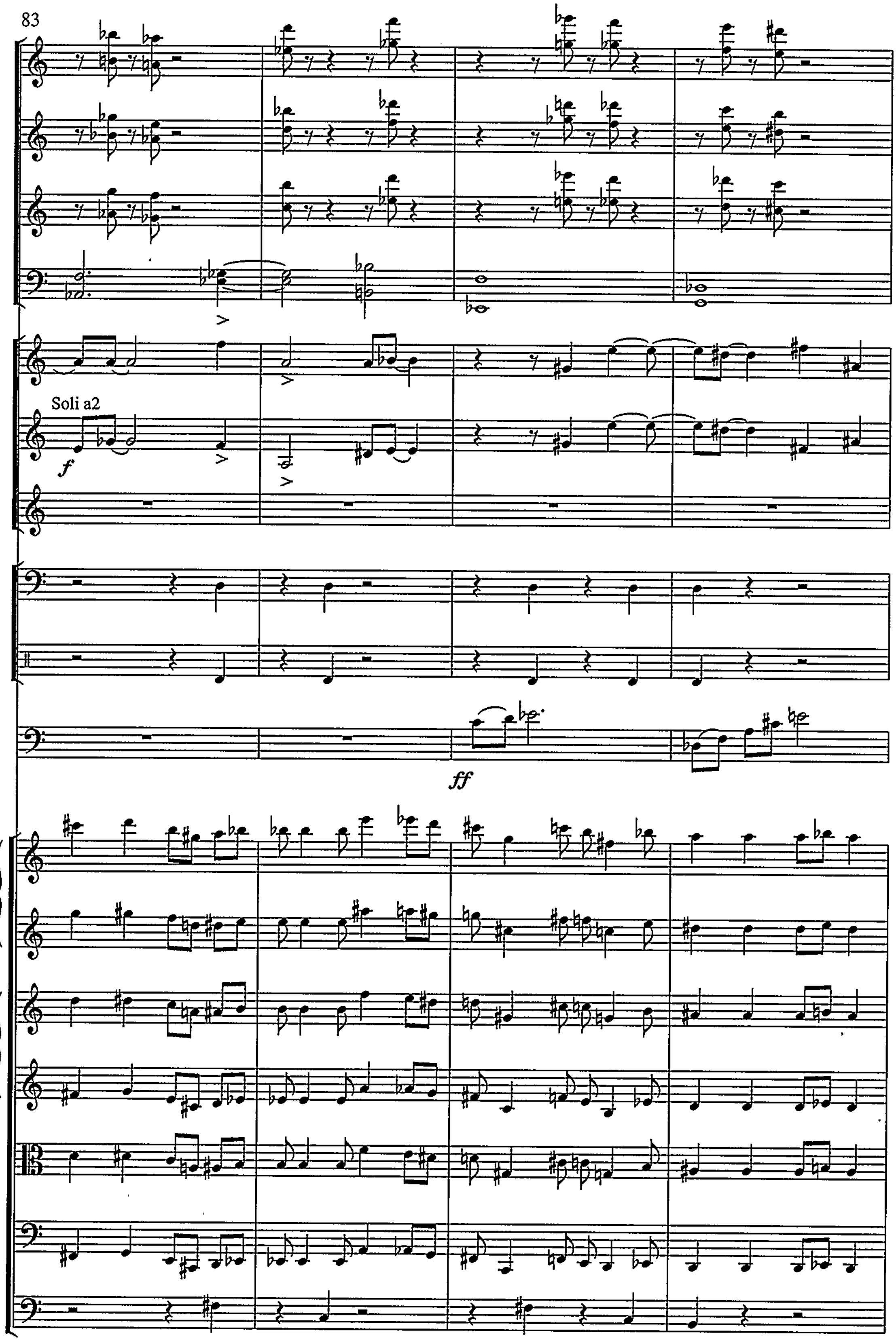

68
E
Fl.
Ob.
Cl.
Bsn.
mp
Hn.
mp
Hn.
mp
Trp.
Timp.
Perc.
mp
Tb.
mf
mp
Vn.I
Vn.II
Va.
arco
mp
Vc.
arco
mp
Db.

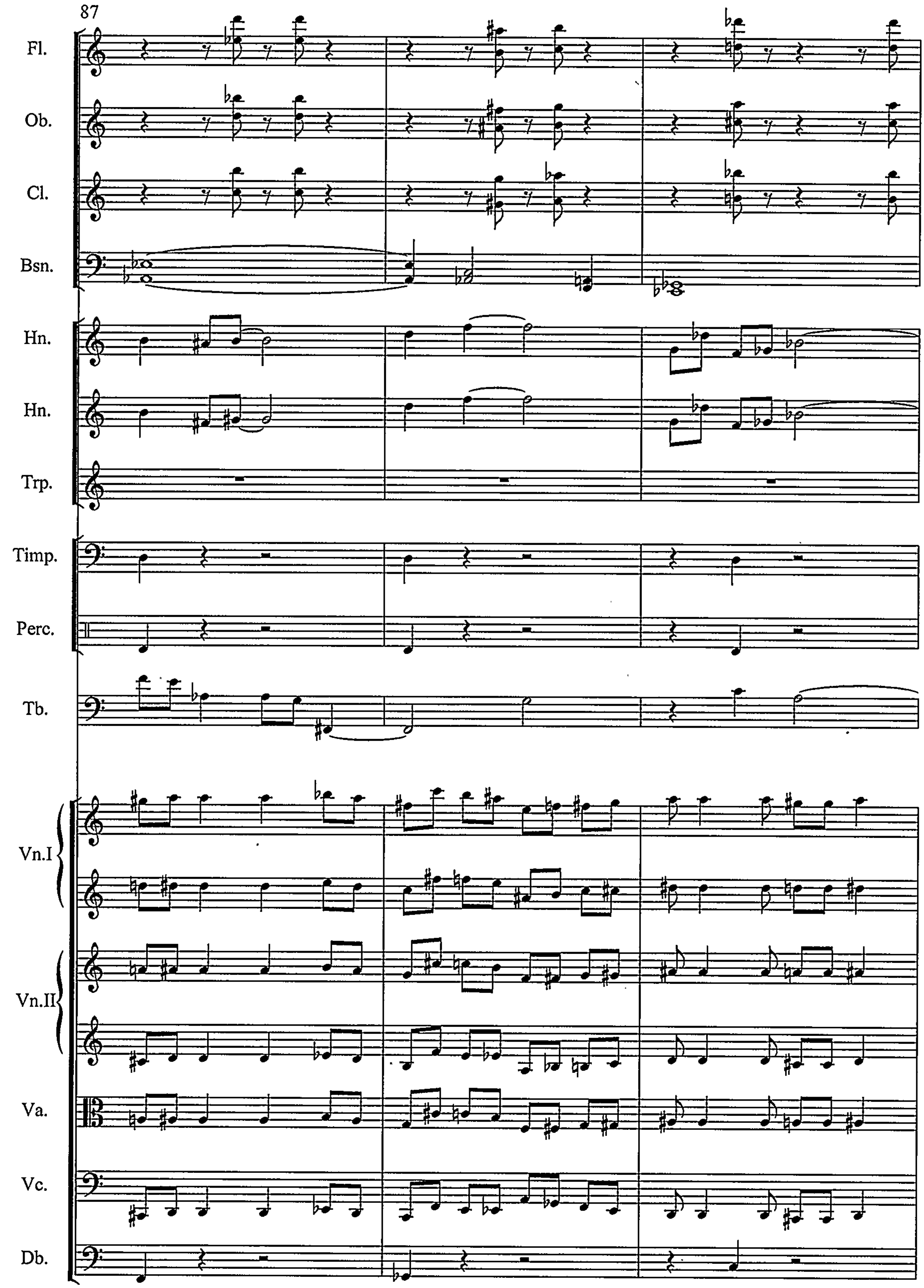

71
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
1. Solo
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
arco
arco
mf
ff
mp
f
sim.

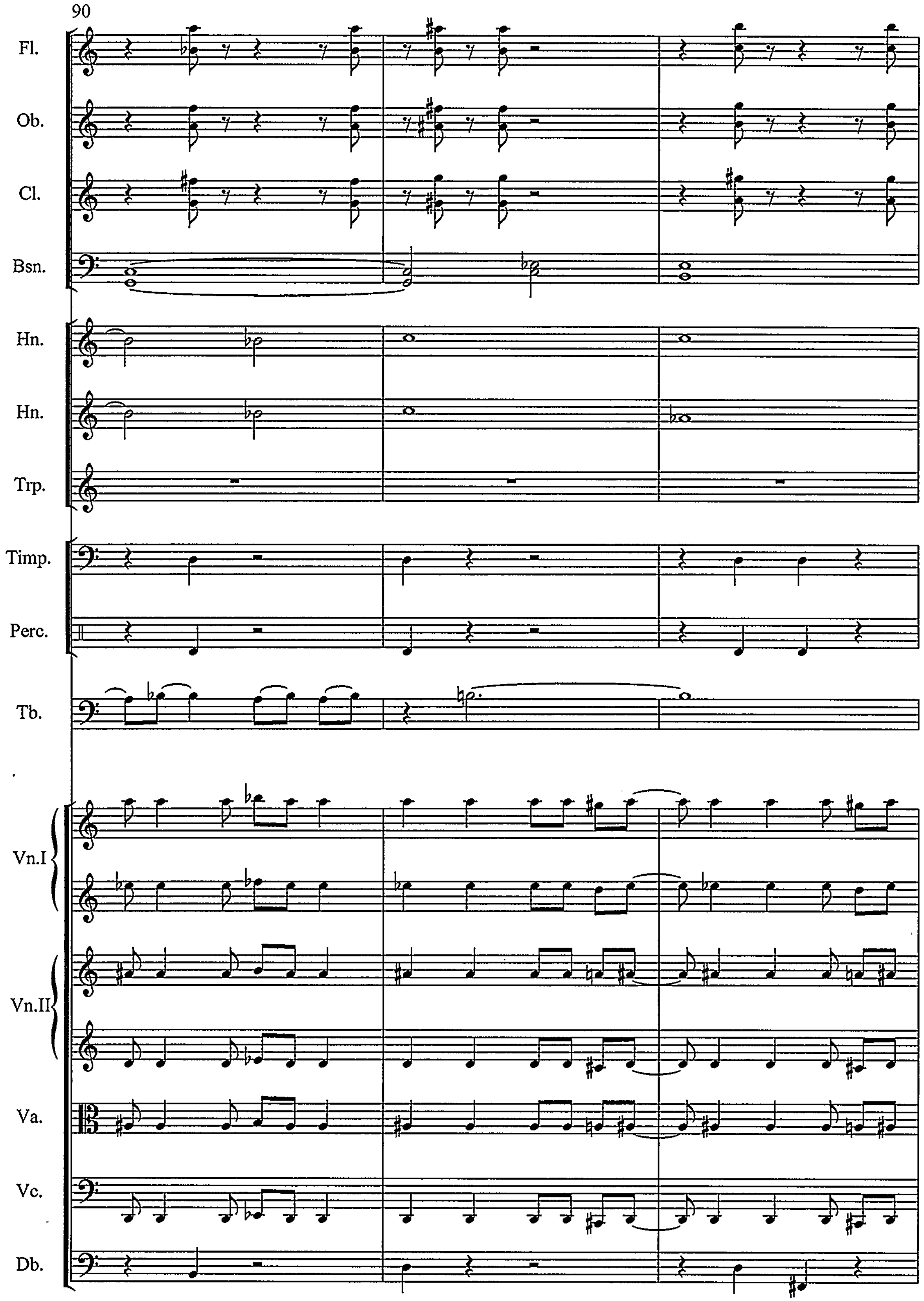

74
Fl.
sim.
Ob.
sim.
Cl.
sim.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Forceful
Tb.
ff
Vn.I
Vn.II
Va.
Vc.
Db.

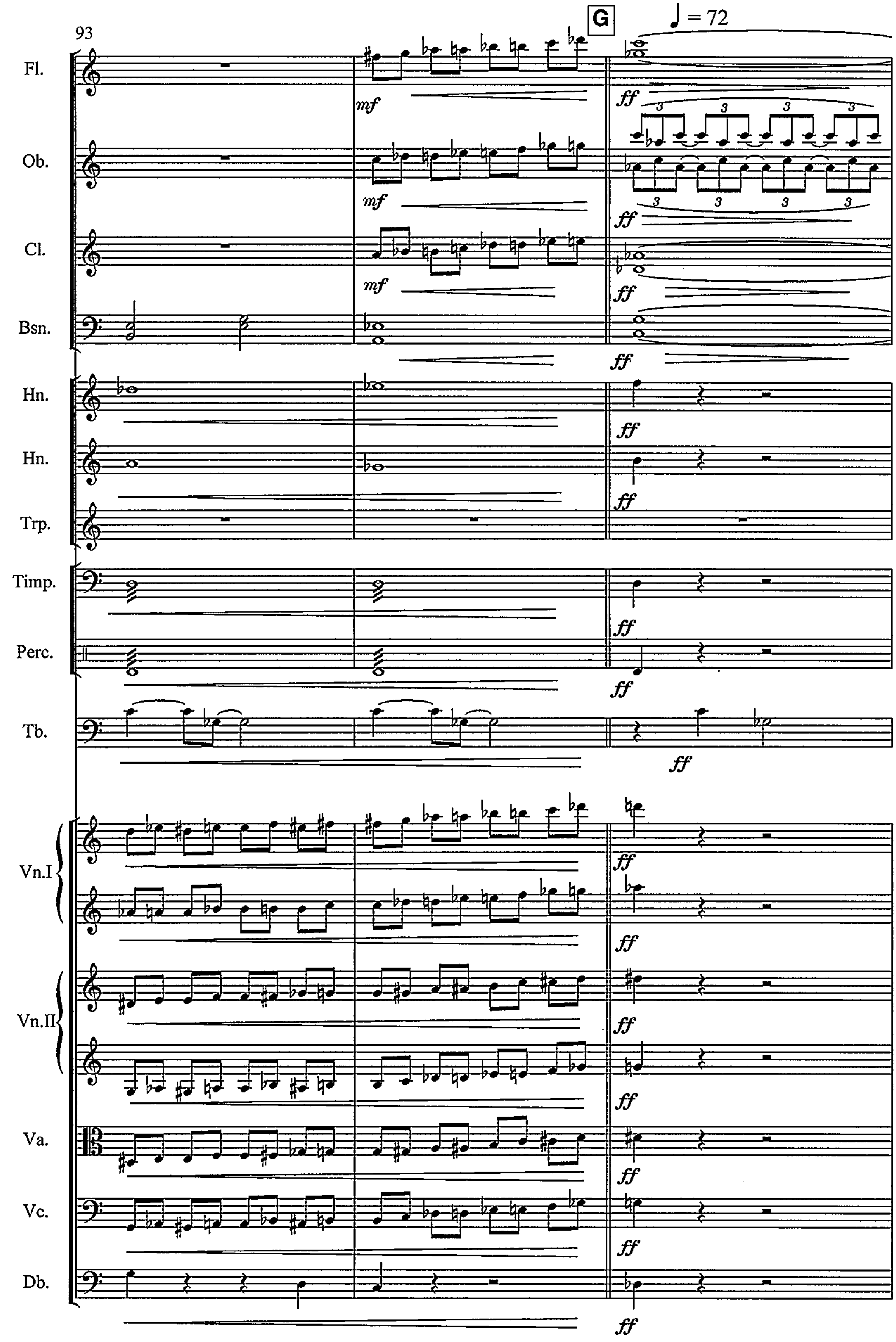

77
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

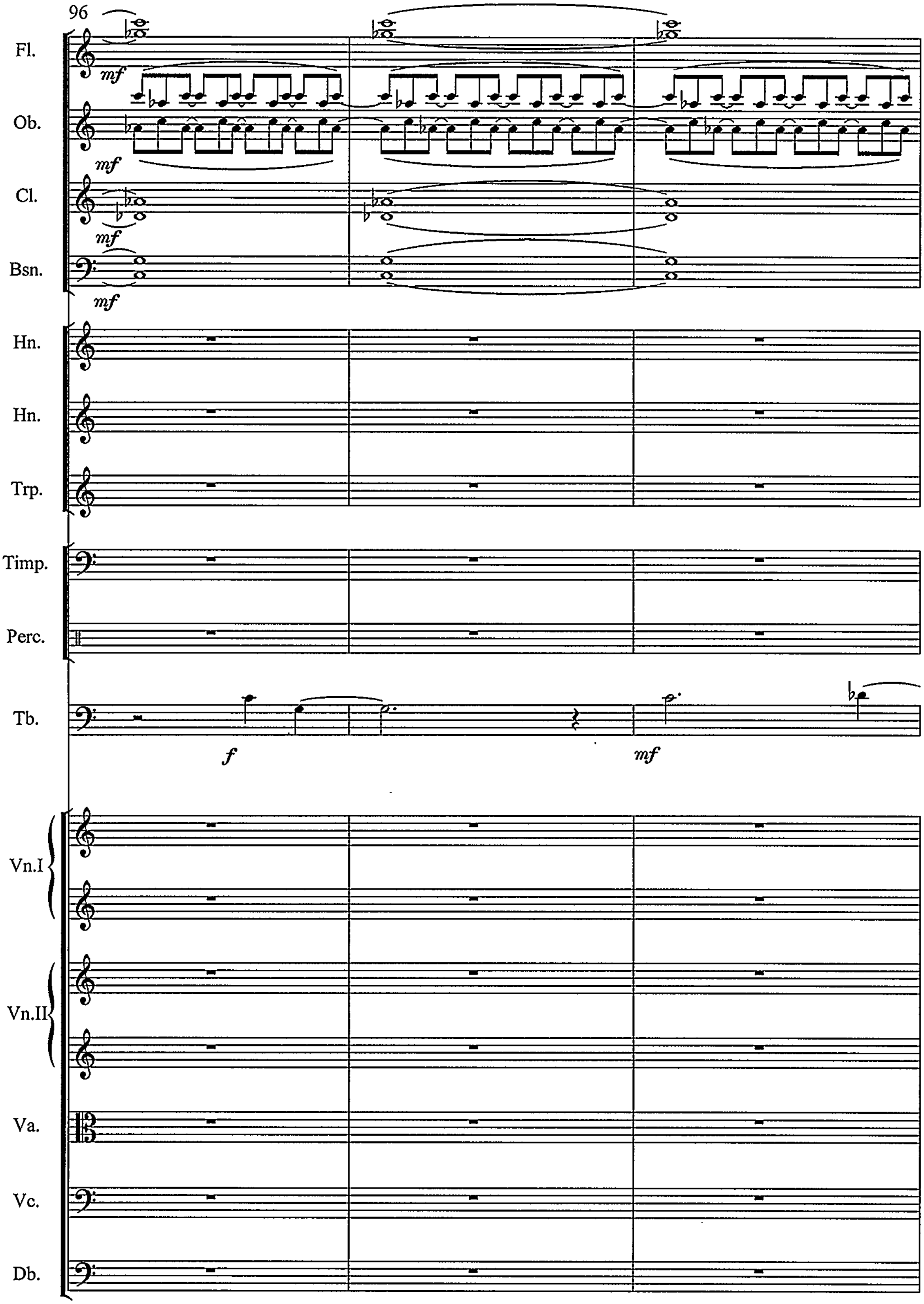

80
F
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Soli a2
f
Trp.
ff
Timp.
Perc.
Tb.
fff
Vn.I
Vn.II
Va.
Vc.
Db.

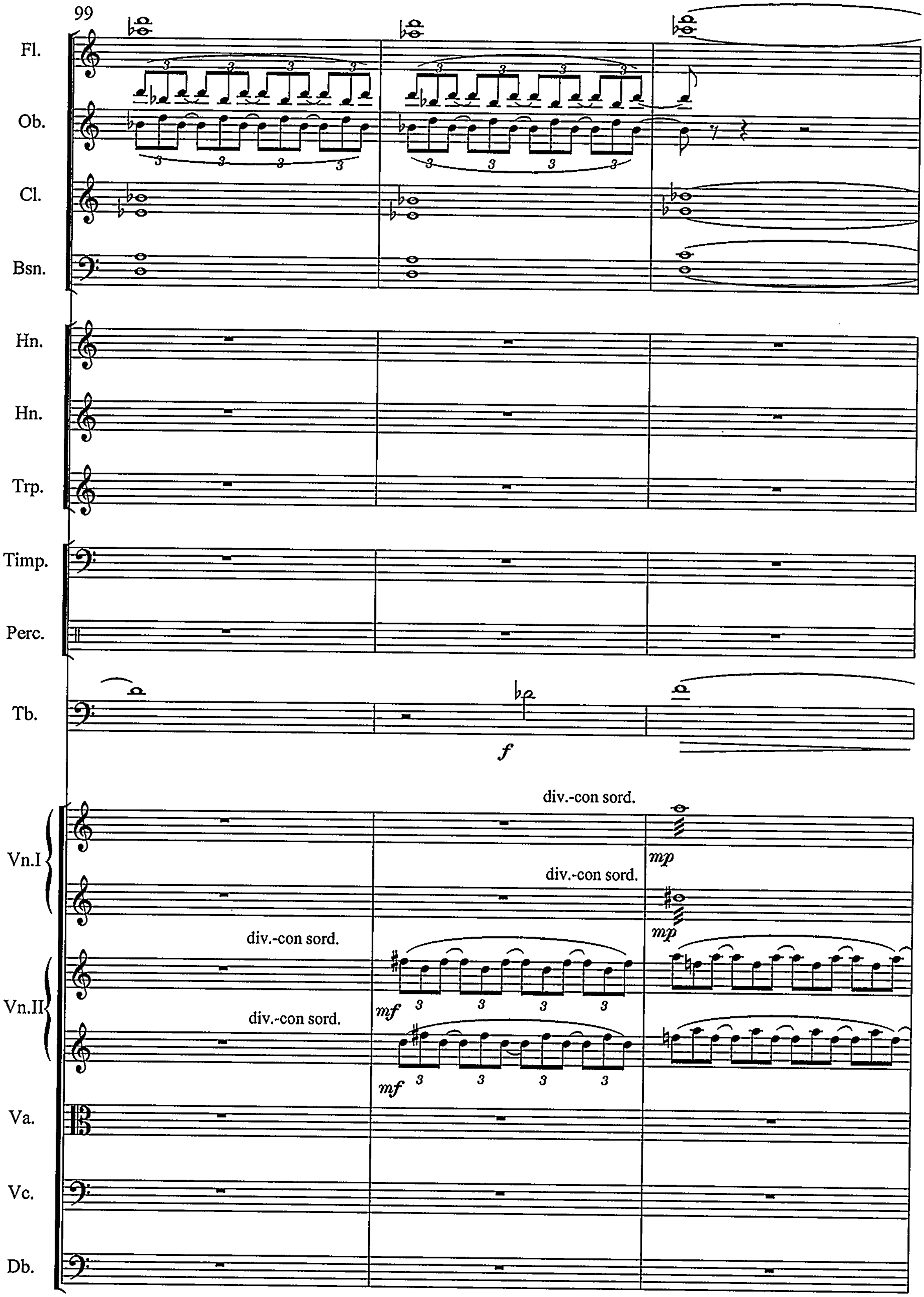

83
Fl.
Ob.
Cl.
Bsn.
Hn.
Soli a2
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
ff

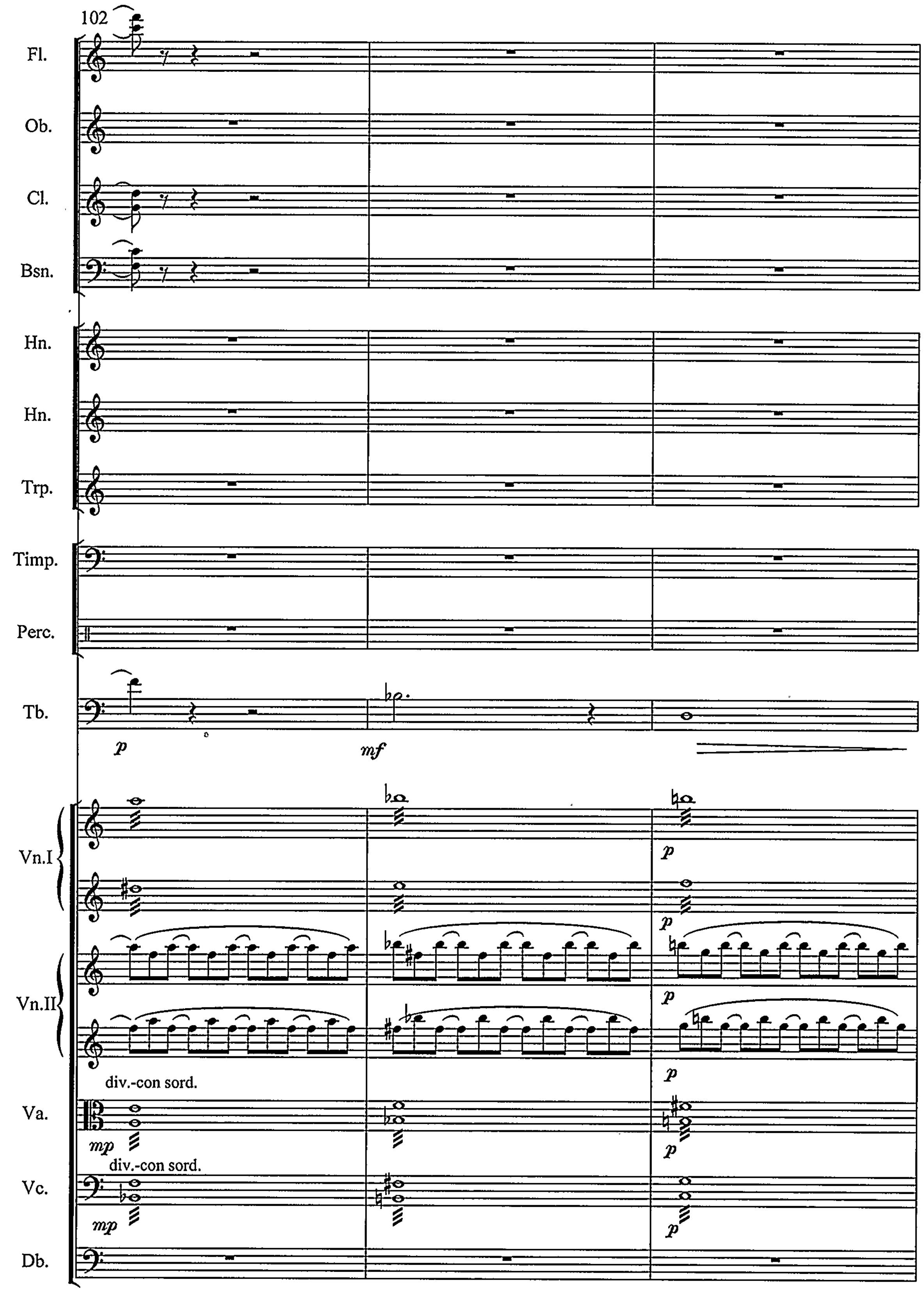

87
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

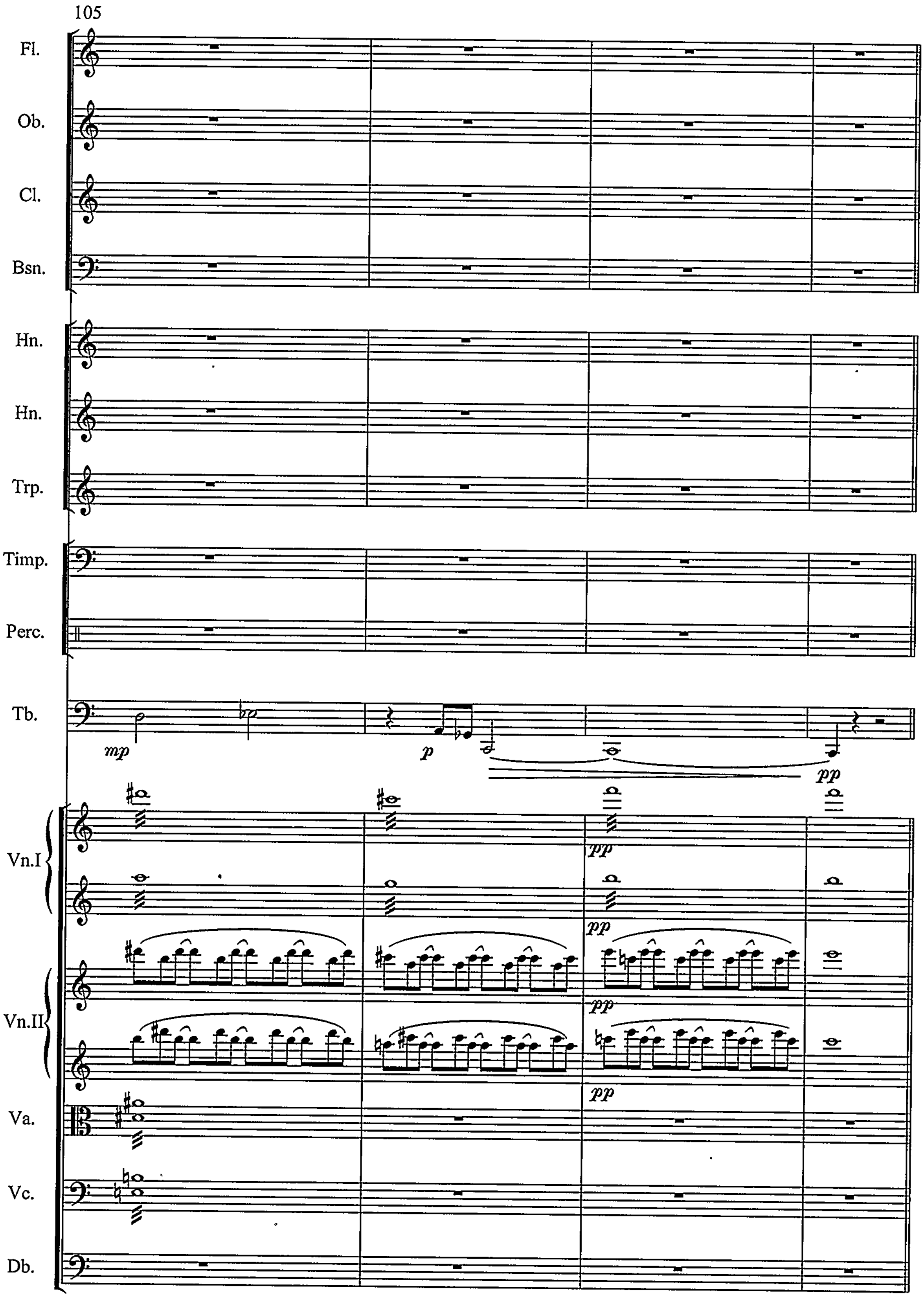

90
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.


93
G
♩ = 72
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
mf
ff
3


96
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
mf
mf
mf
mf
f
mf

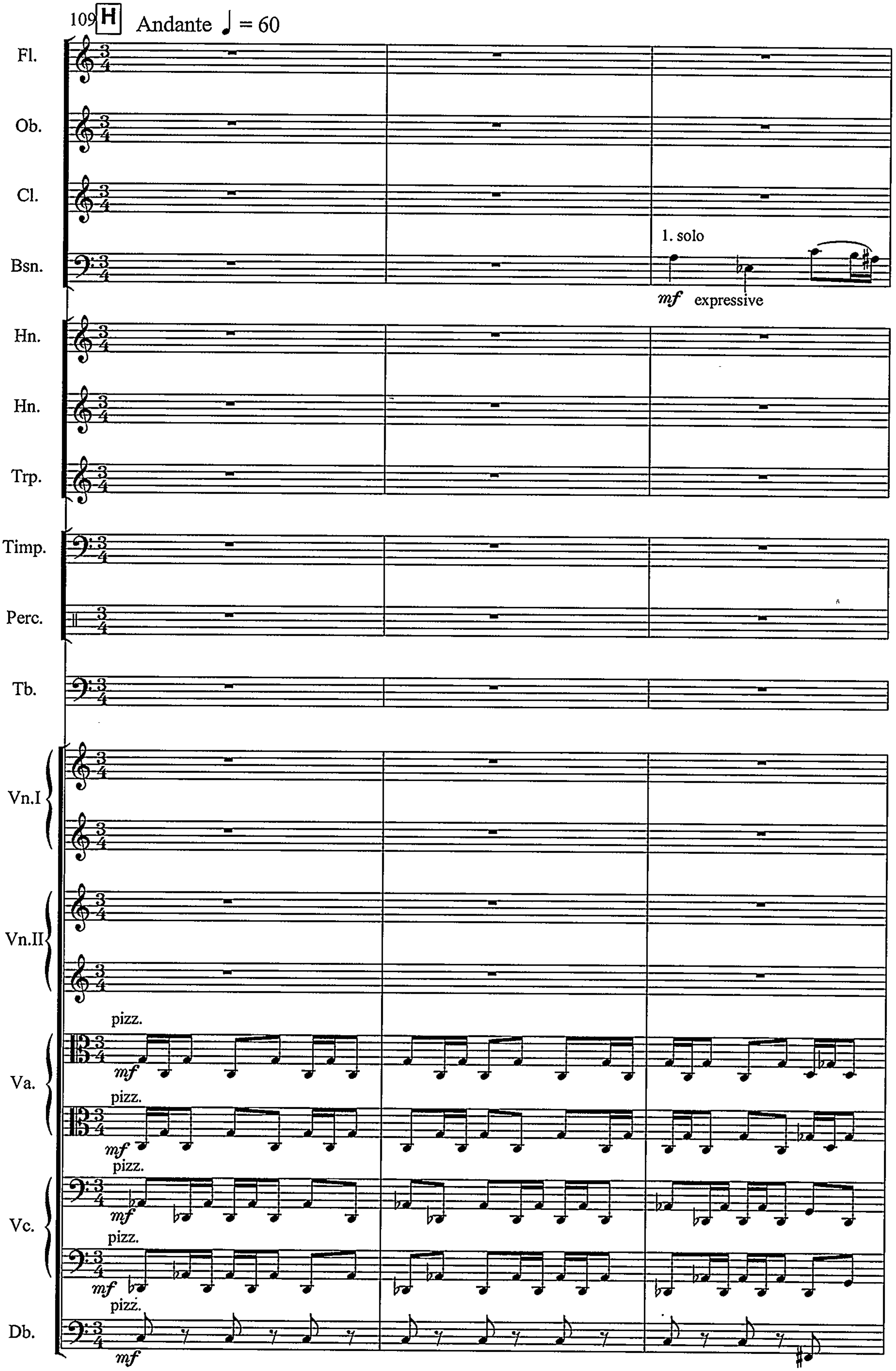

99
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
f
div.-con sord.
mp
div.-con sord.
mp
div.-con sord.
mf
div.-con sord.
mf
Vn.I
Vn.II
Va.
Vc.
Db.

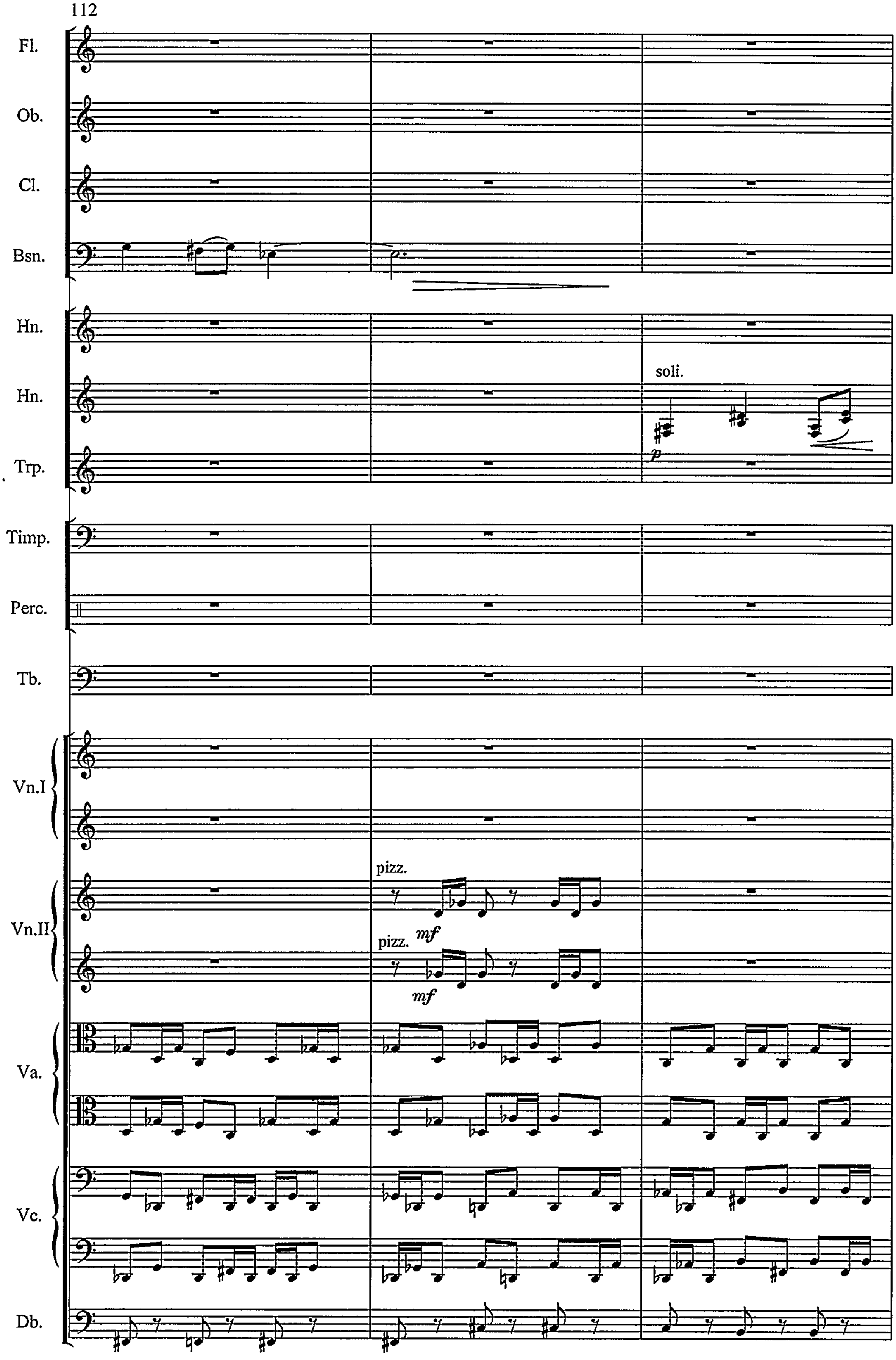

102
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
p
mf
Vn.I
p
p
Vn.II
p
p
div.-con sord.
Va.
mp
p
div.-con sord.
Vc.
mp
p
Db.

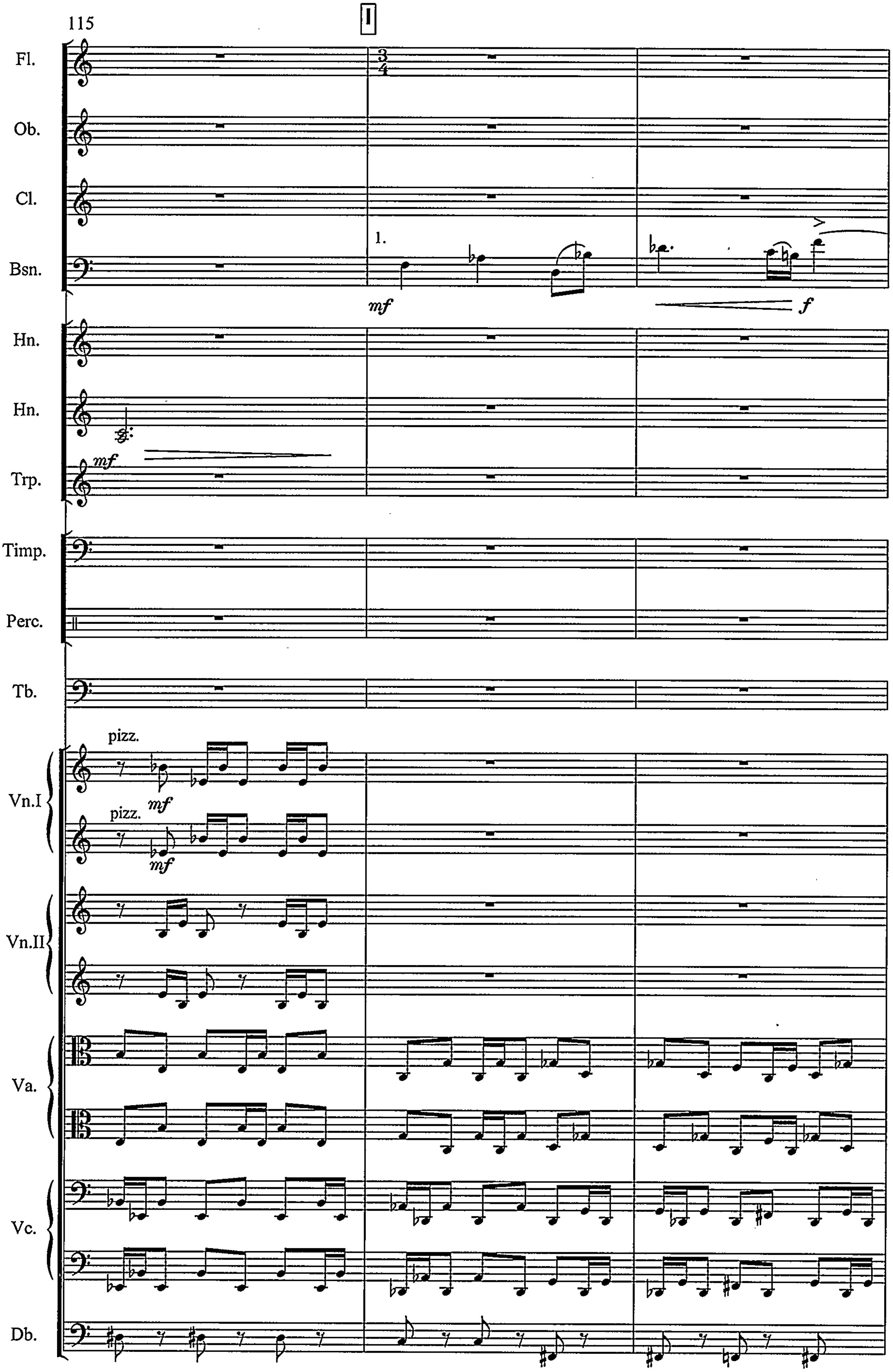

105
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
mp
p
pp
Vn.I
pp
pp
Vn.II
pp
pp
Va.
Vc.
Db.

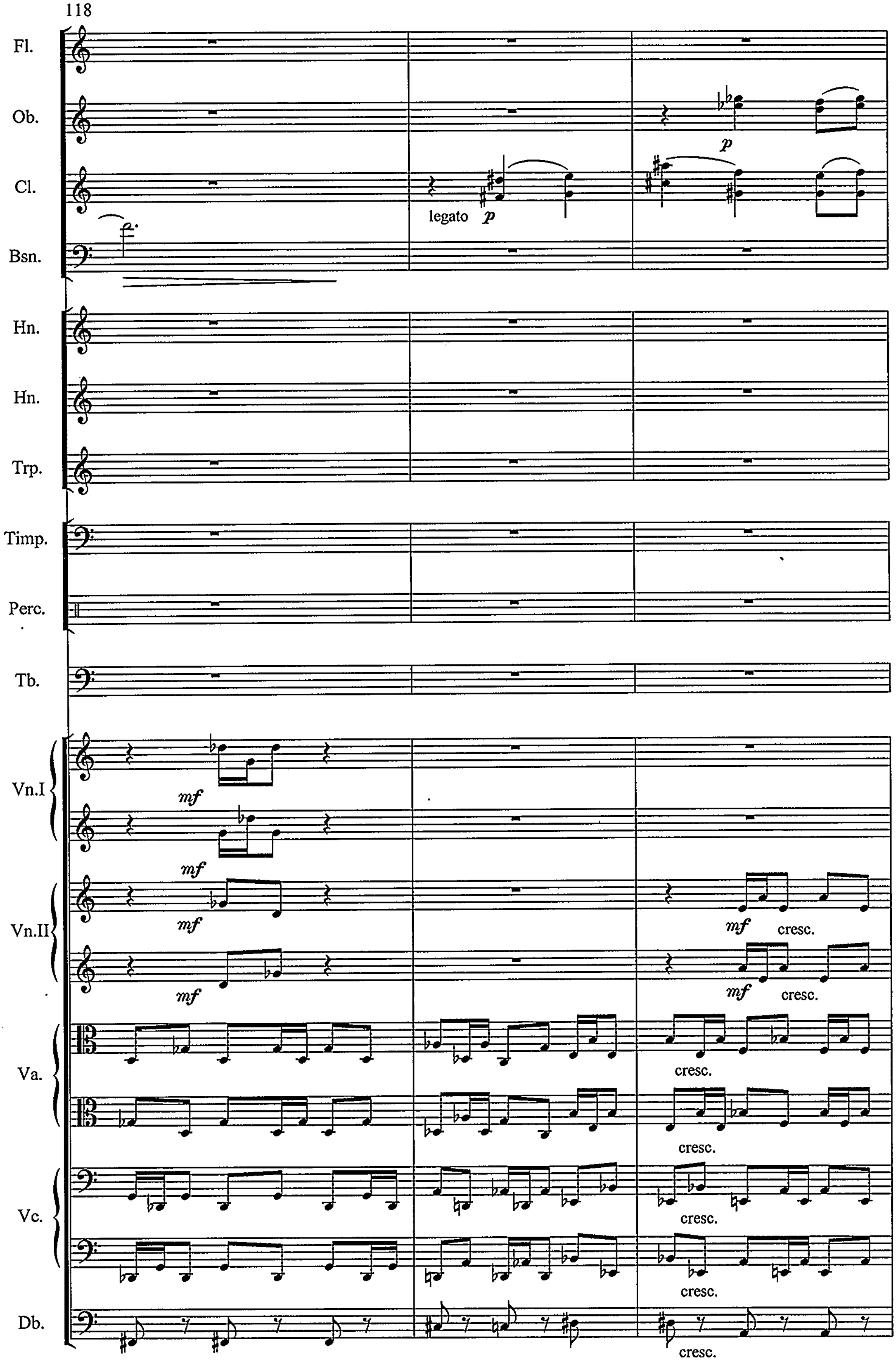
Attacca

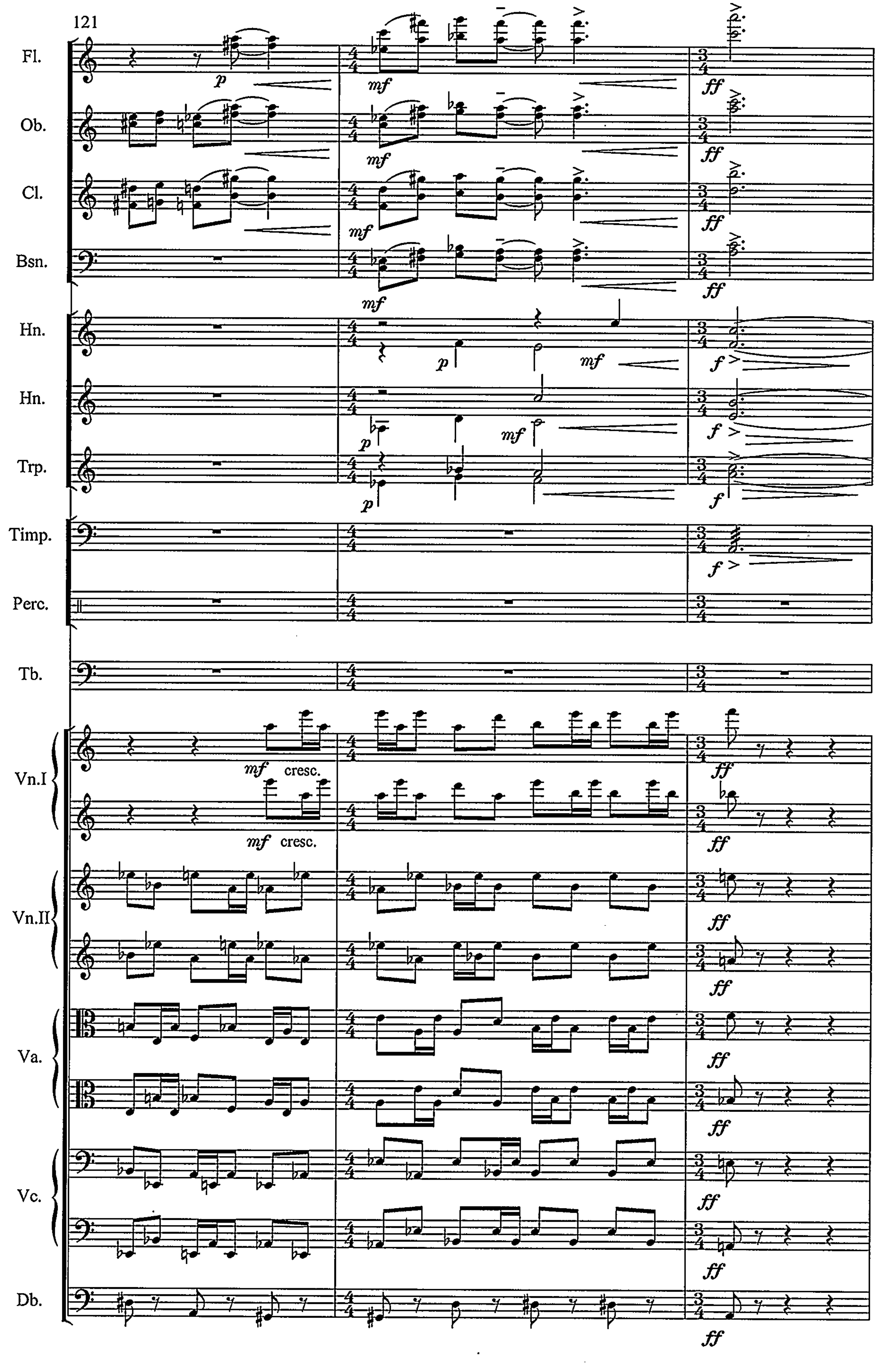
II

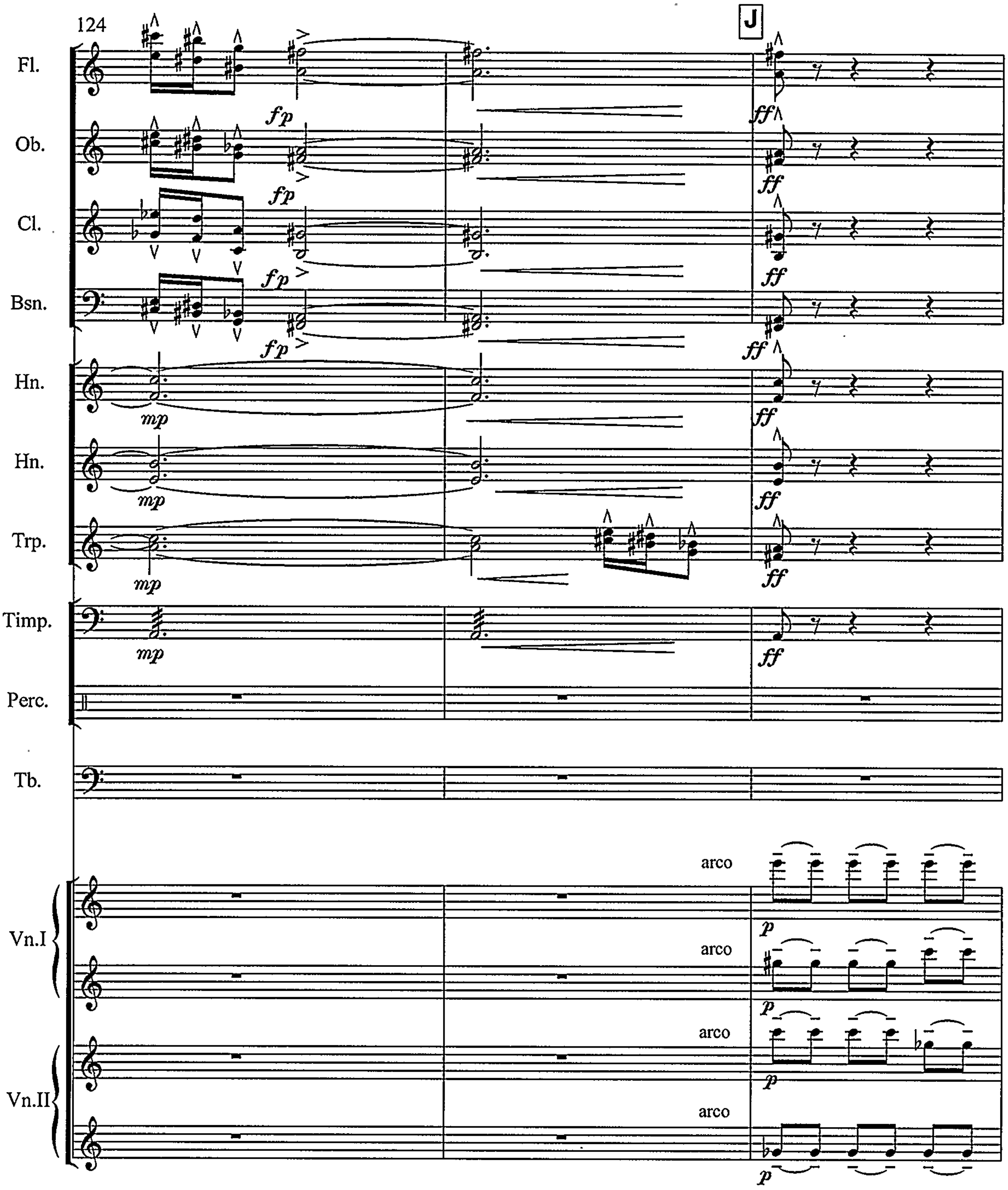

109
H
Andante ♩ = 60
Fl.
Ob.
Cl.
Bsn.
1. solo
mf
expressive
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
pizz.
mf
pizz.
mf
Vc.
pizz.
mf
pizz.
mf
Db.
pizz.
mf

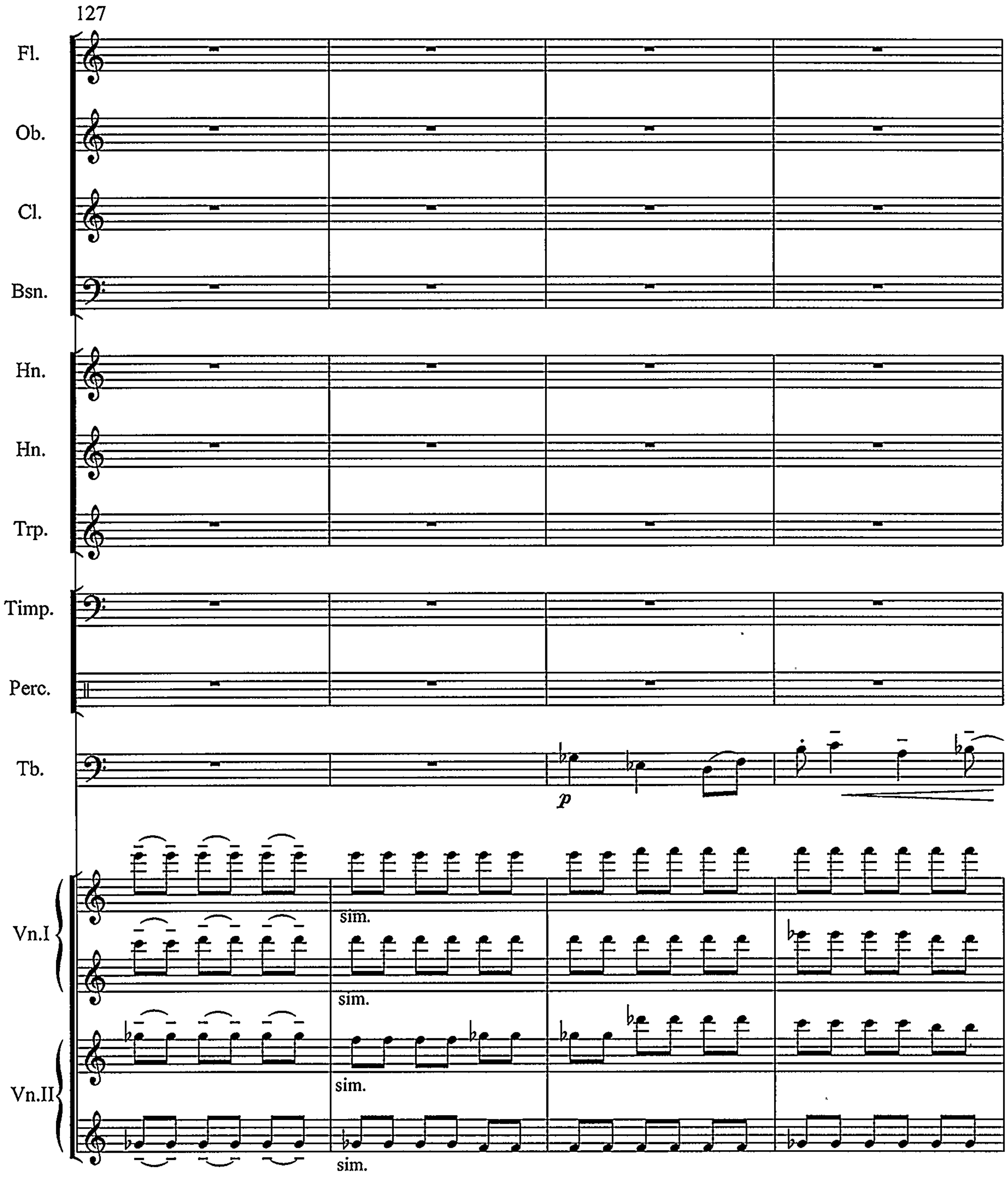

112
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
soli.
p
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
pizz.
mf
pizz.
mf
Va.
Vc.
Db.

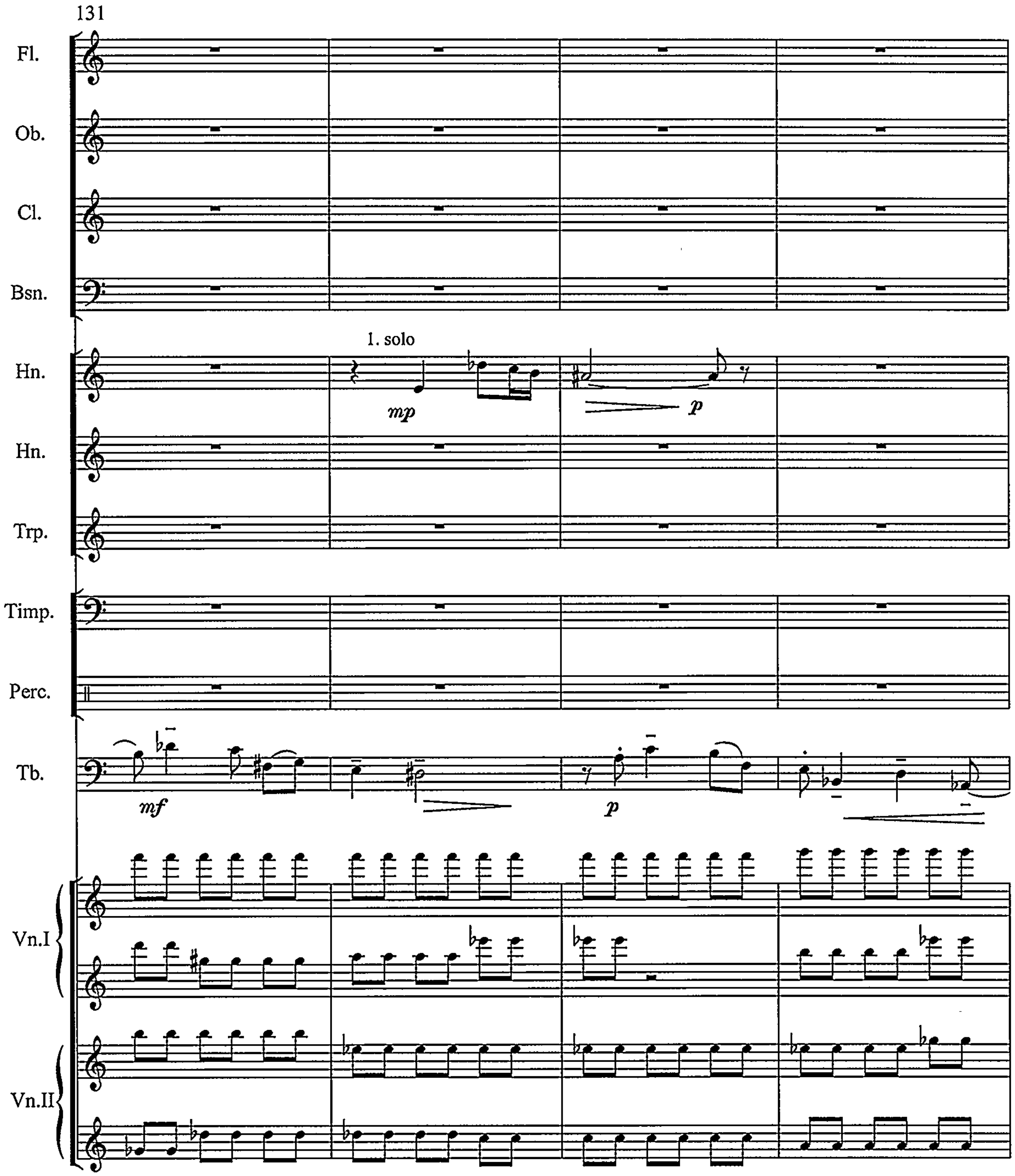

115
I
Fl.
Ob.
Cl.
Bsn.
1.
mf
f
Hn.
Hn.
mf
Trp.
Timp.
Perc.
Tb.
pizz.
mf
pizz.
mf
Vn.I
Vn.II
Va.
Vc.
Db.

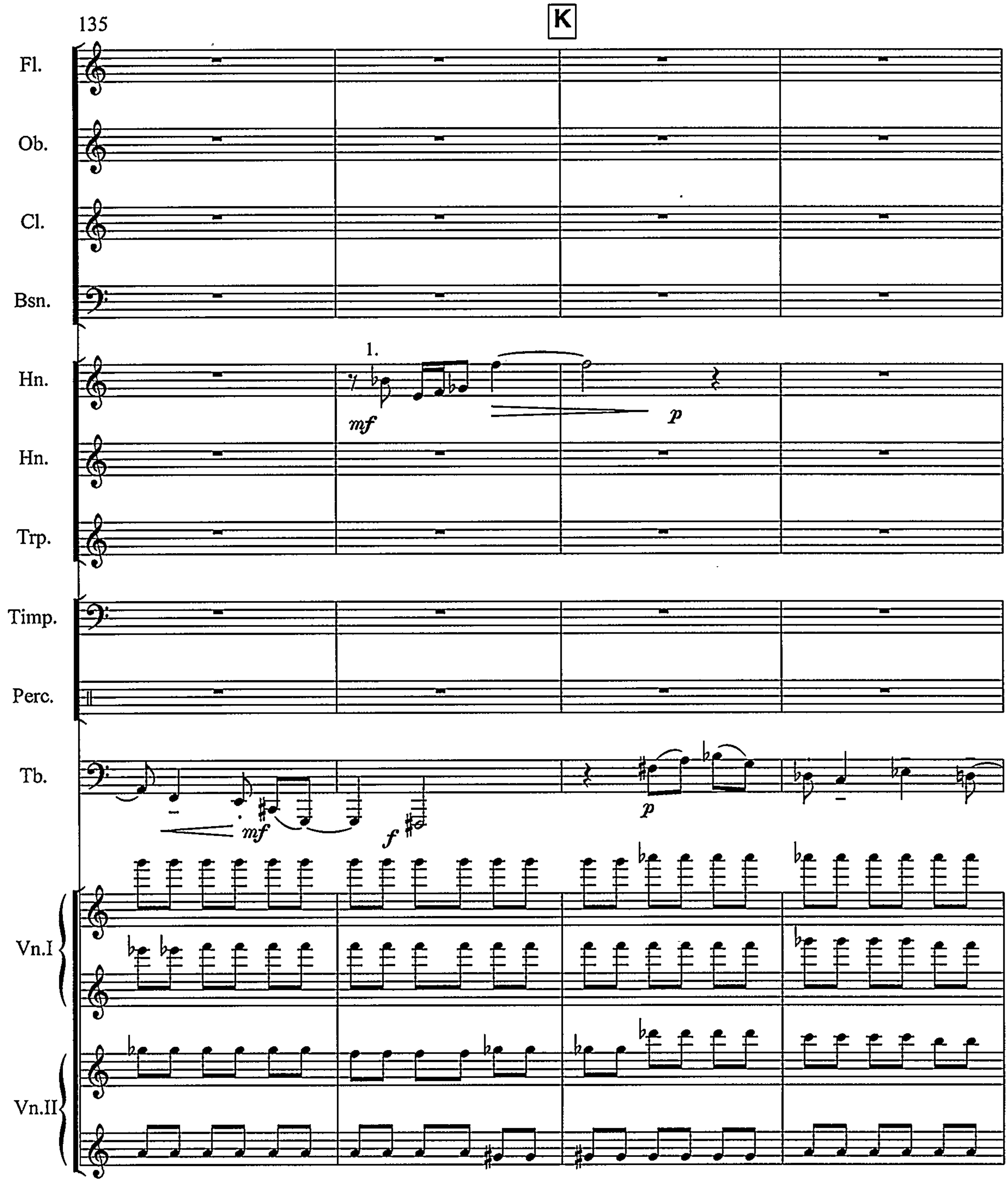

118
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
p
legato p
mf
mf
mf
mf
mf
cresc.
mf
cresc.
cresc.
cresc.
cresc.
cresc.
cresc.

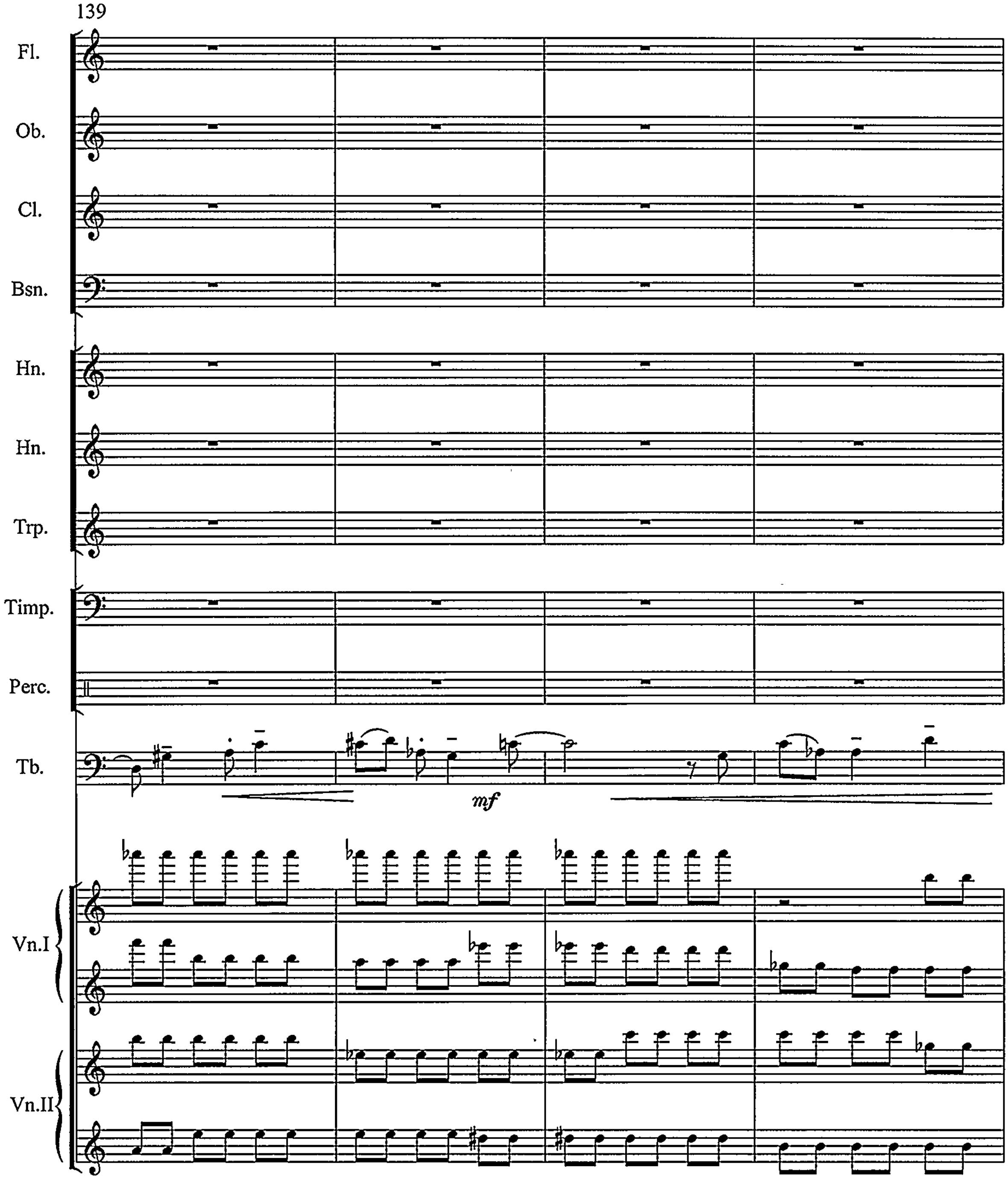

121
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
p
mf
ff
f
mf cresc.

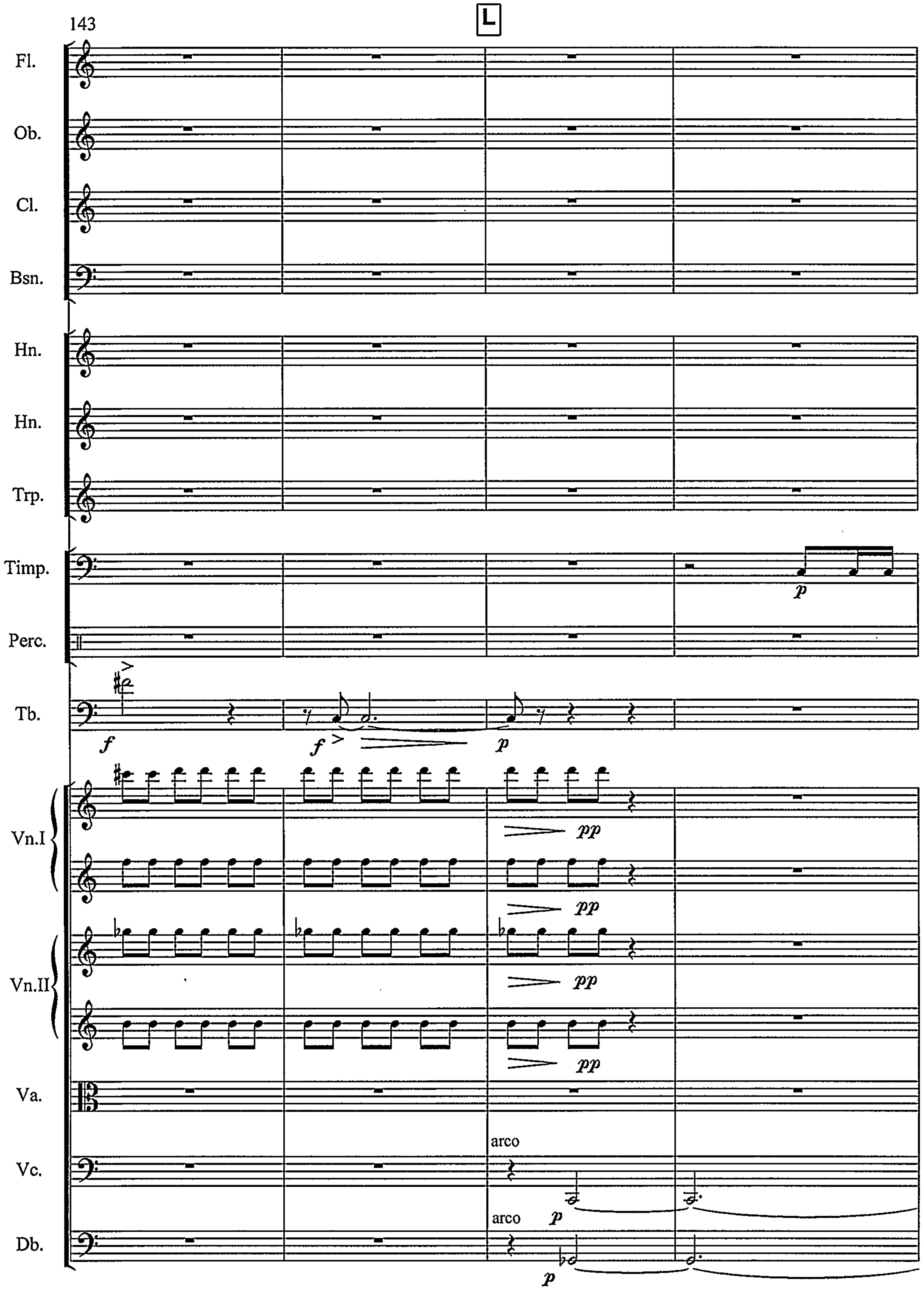

124
J
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
fp
mp
ff
p
arco

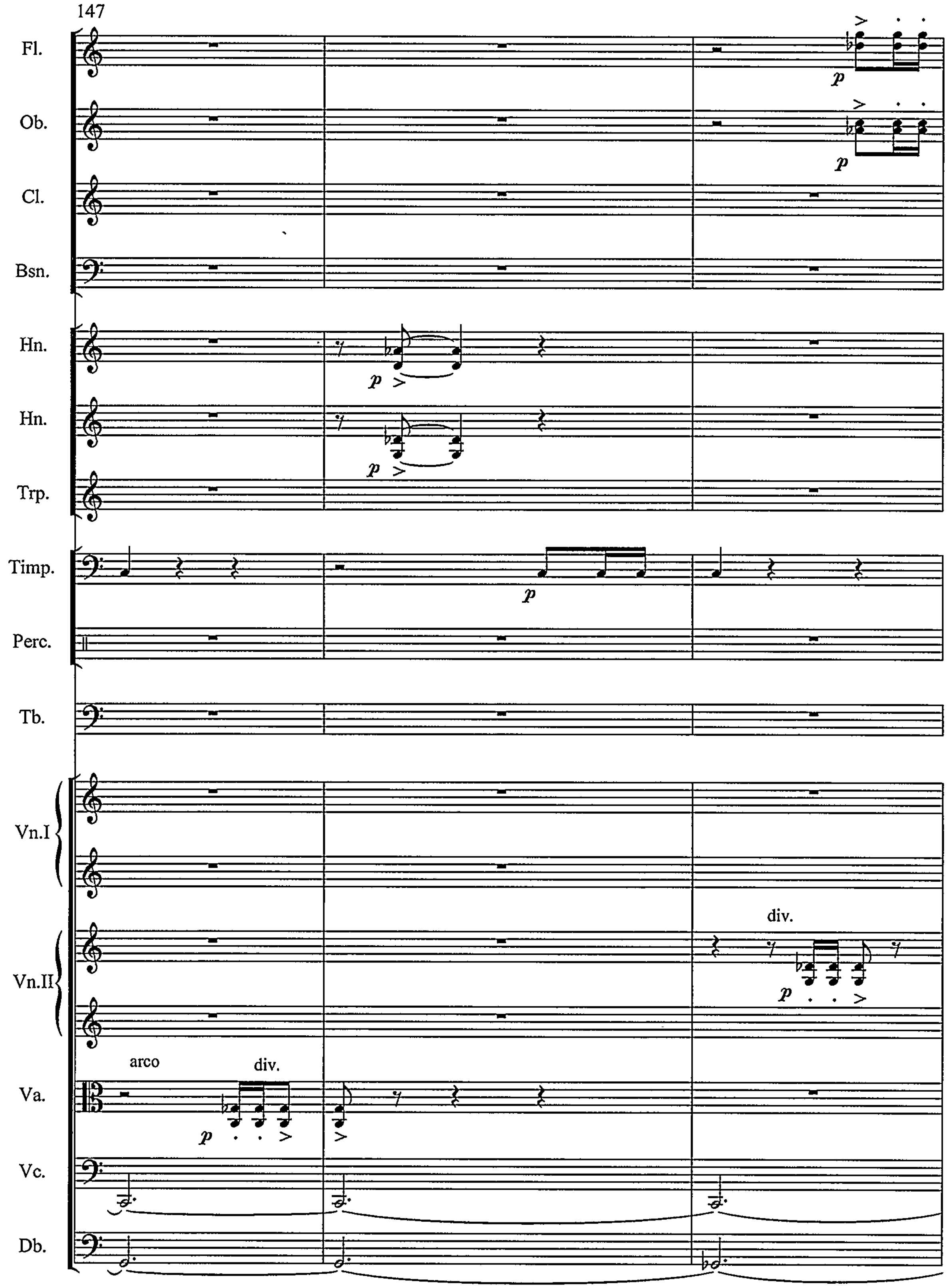

127
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
p
Vn.I
sim.
sim.
Vn.II
sim.
sim.

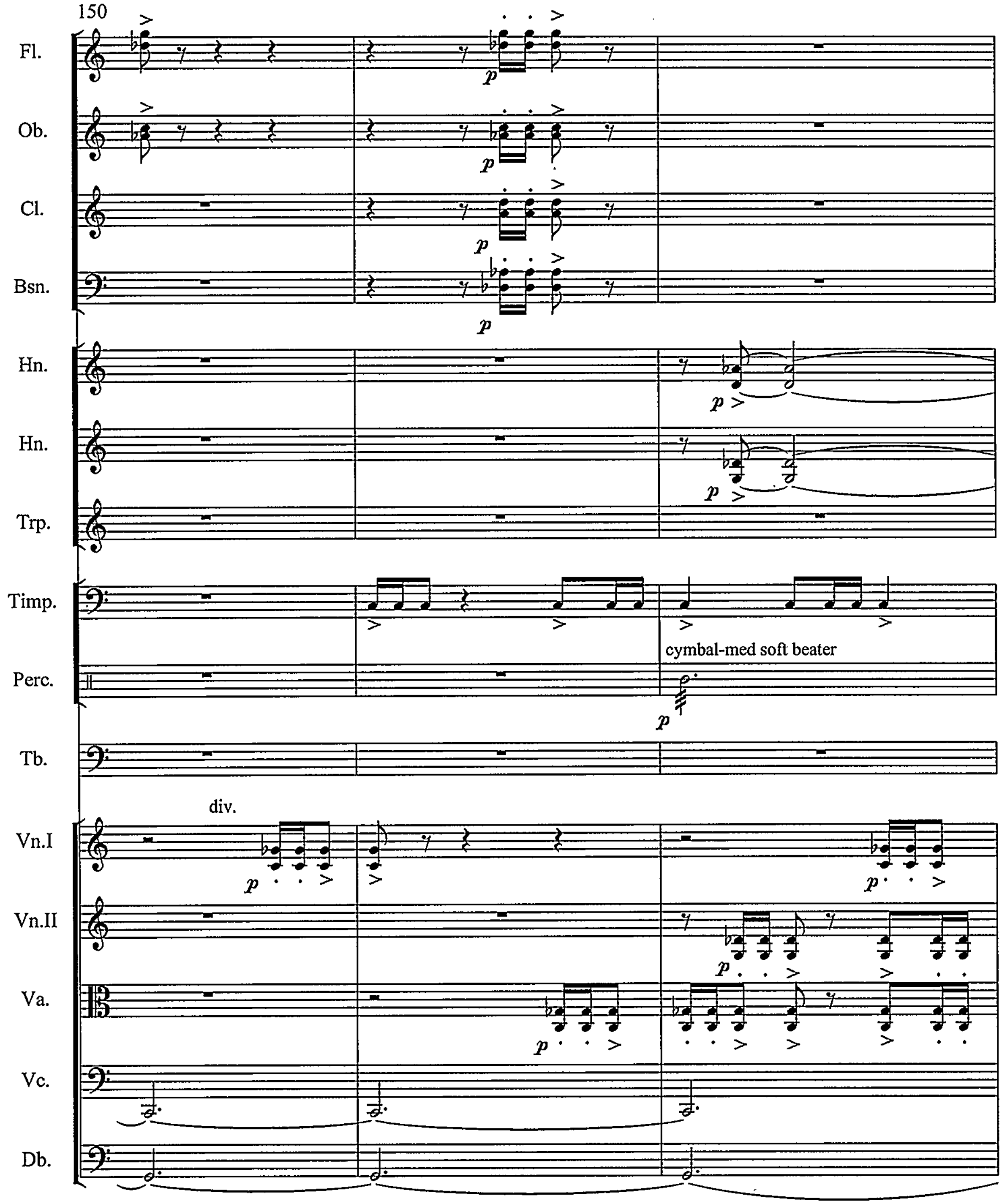

131
Fl.
Ob.
Cl.
Bsn.
1. solo
Hn.
mp
p
Hn.
Trp.
Timp.
Perc.
Tb.
mf
p
Vn.I
Vn.II

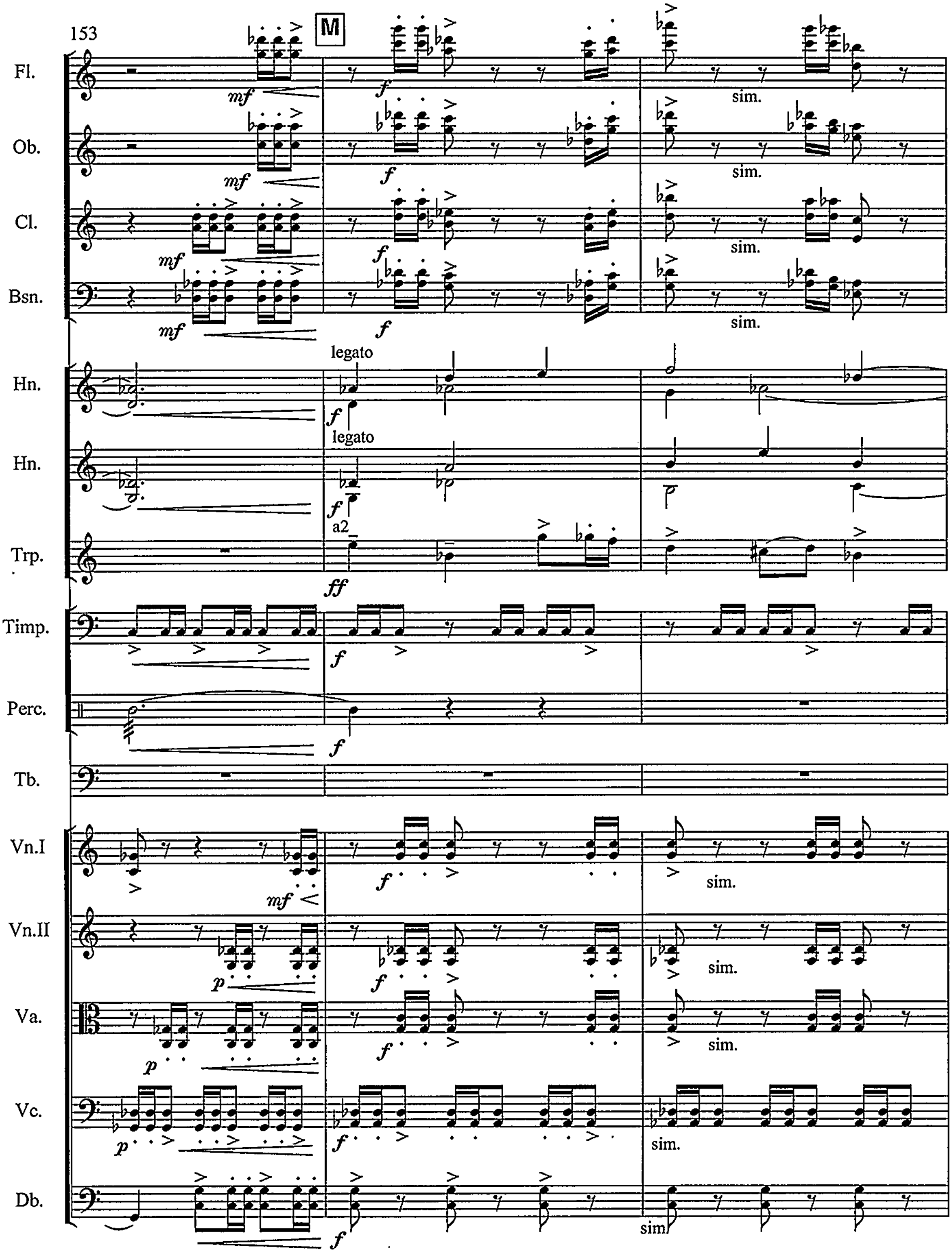

135
K
Fl.
Ob.
Cl.
Bsn.
Hn.
1.
mf
p
Hn.
Trp.
Timp.
Perc.
Tb.
mf
f
p
Vn.I
Vn.II

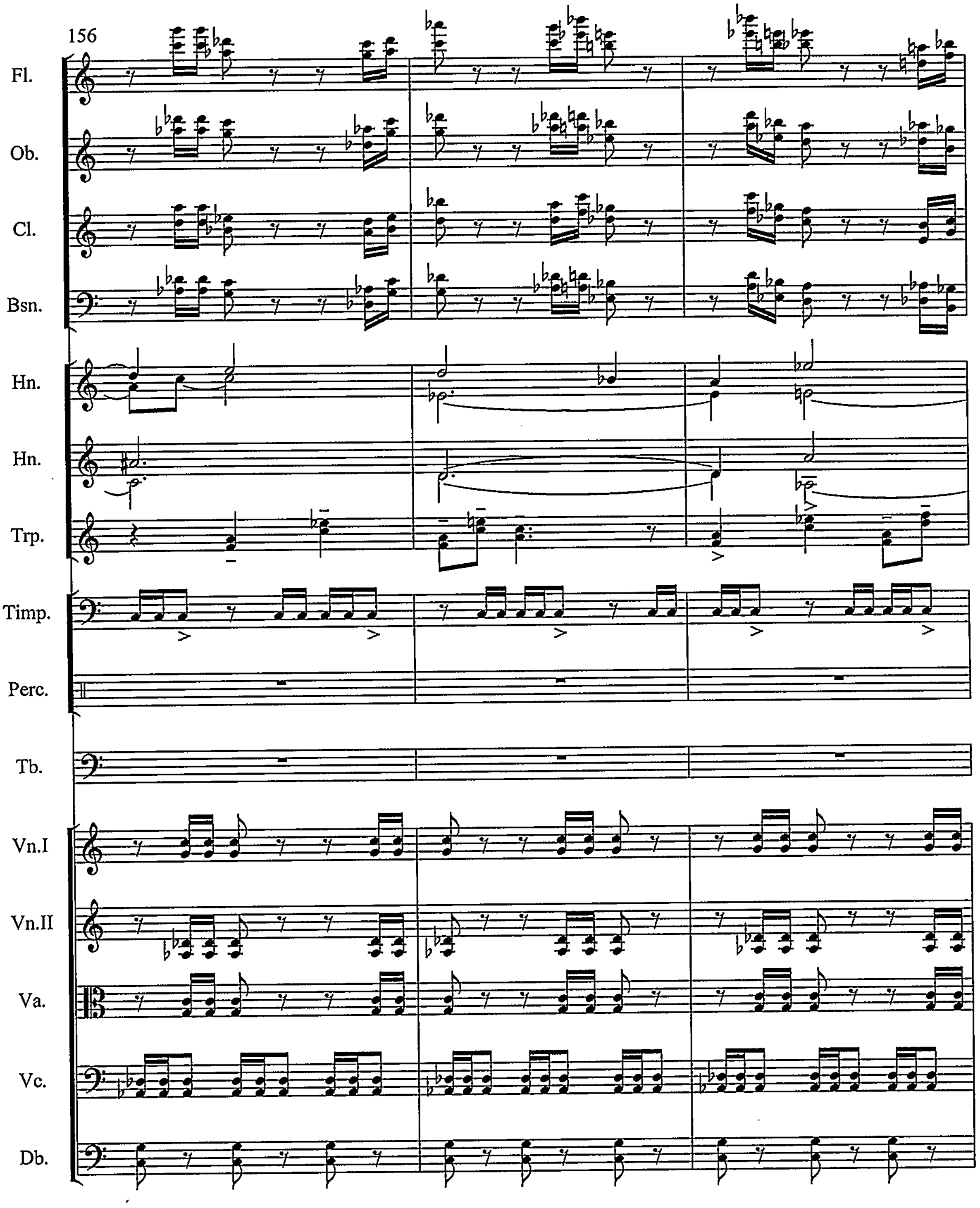

139
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
mf
Vn.I
Vn.II

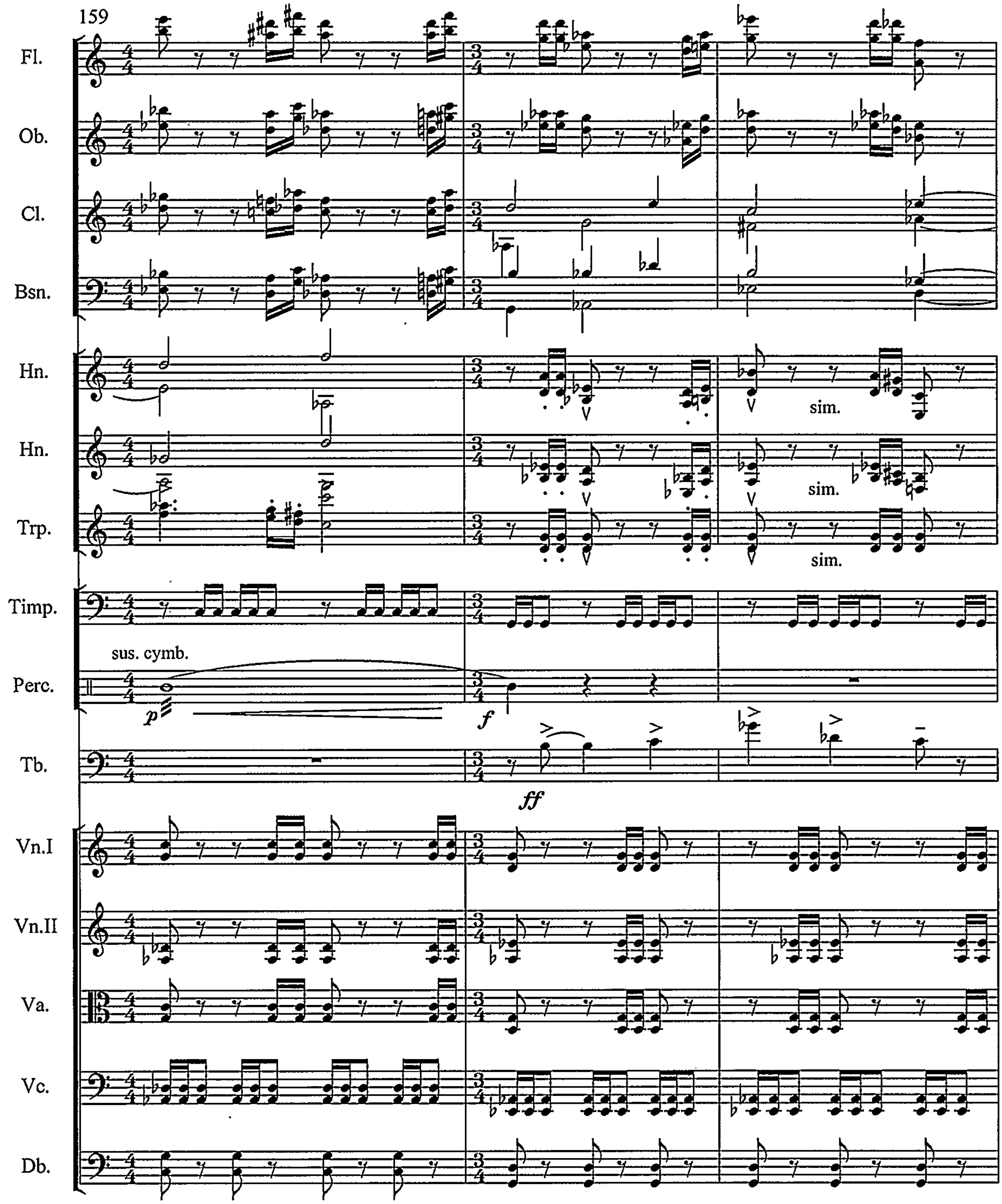

143
L
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
f
p
p
pp
pp
pp
pp
arco
arco
p
p

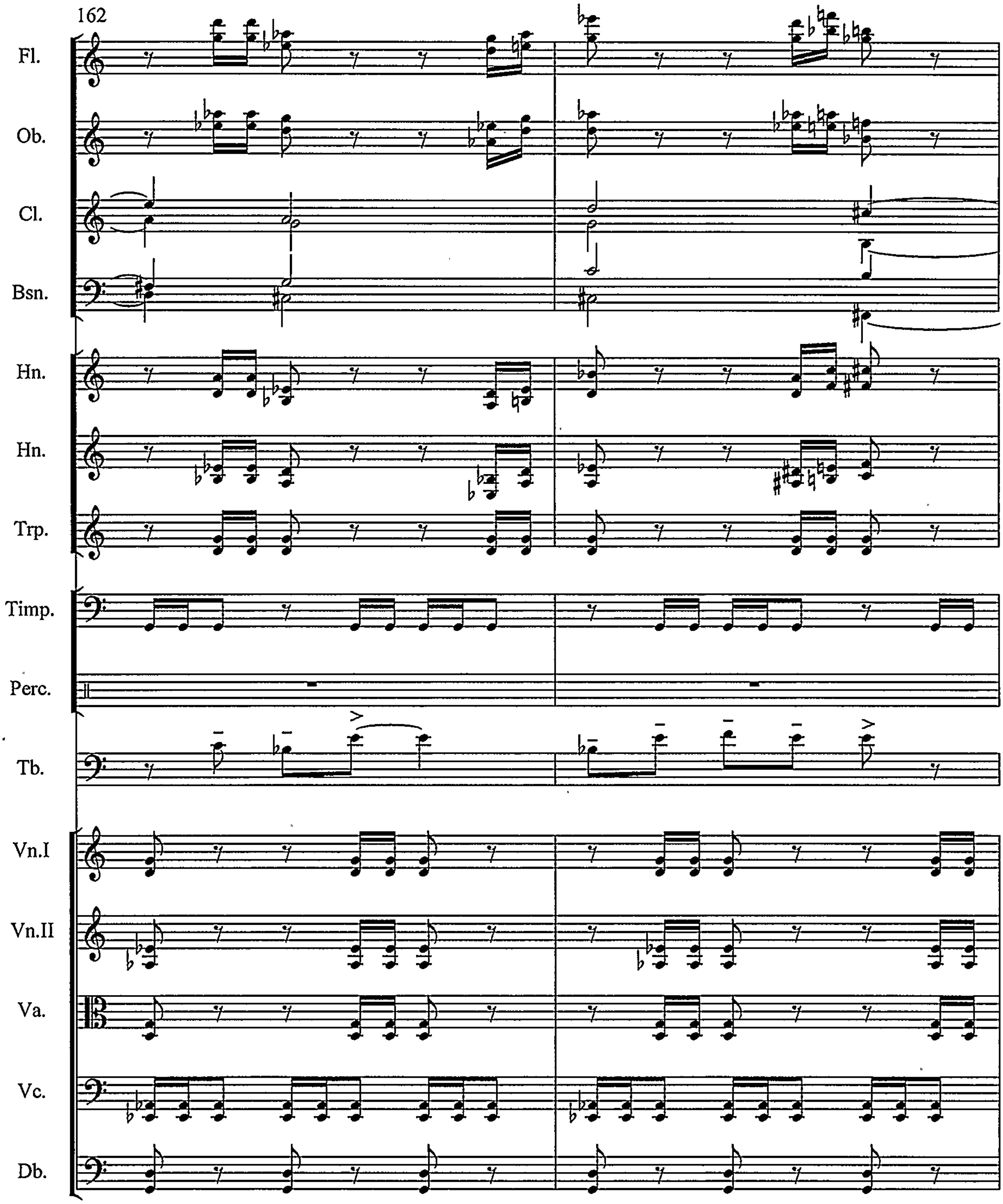

147
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
p
arco
div.
div.

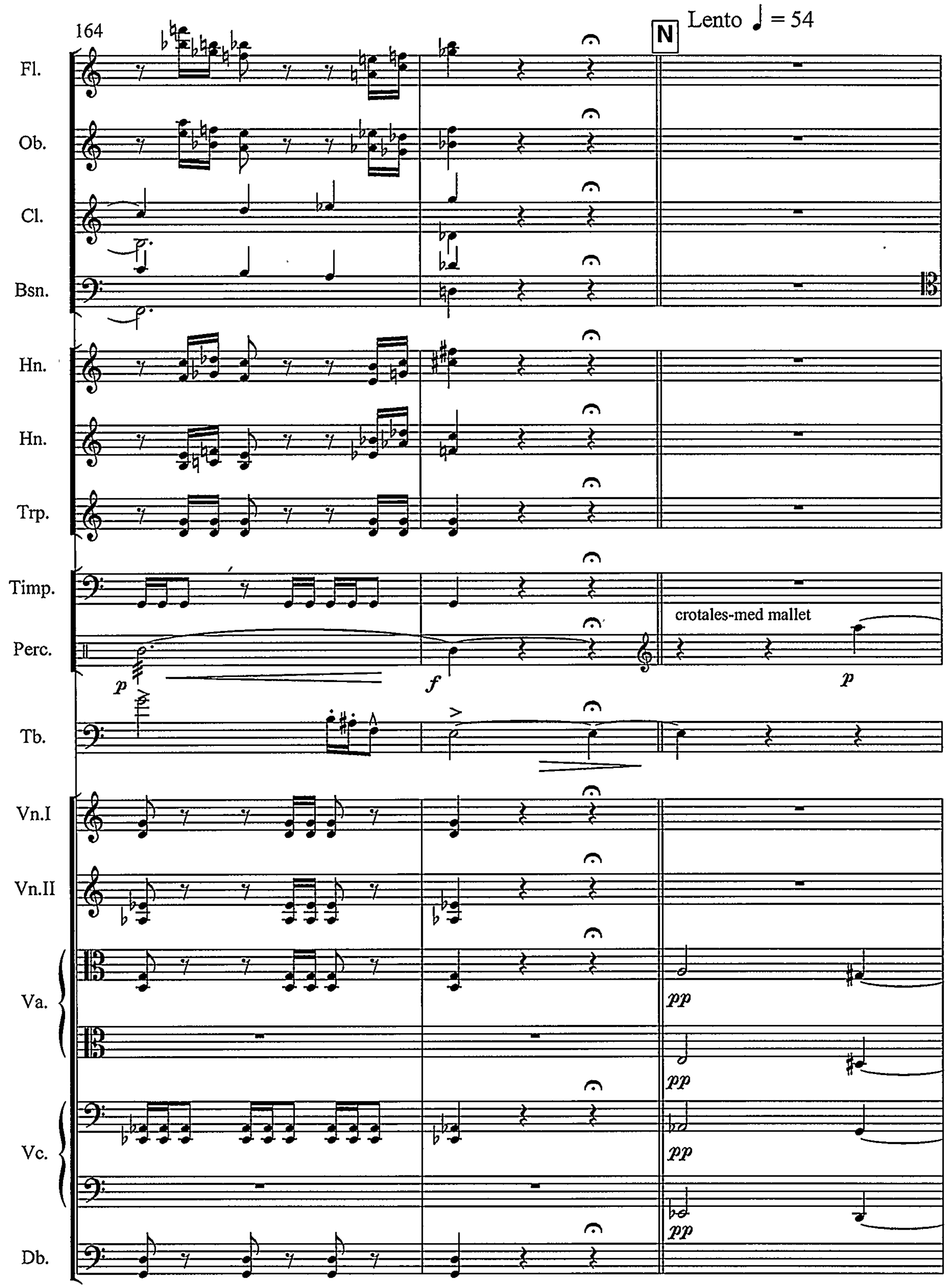

150
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
p
div.
cymbal-med soft beater

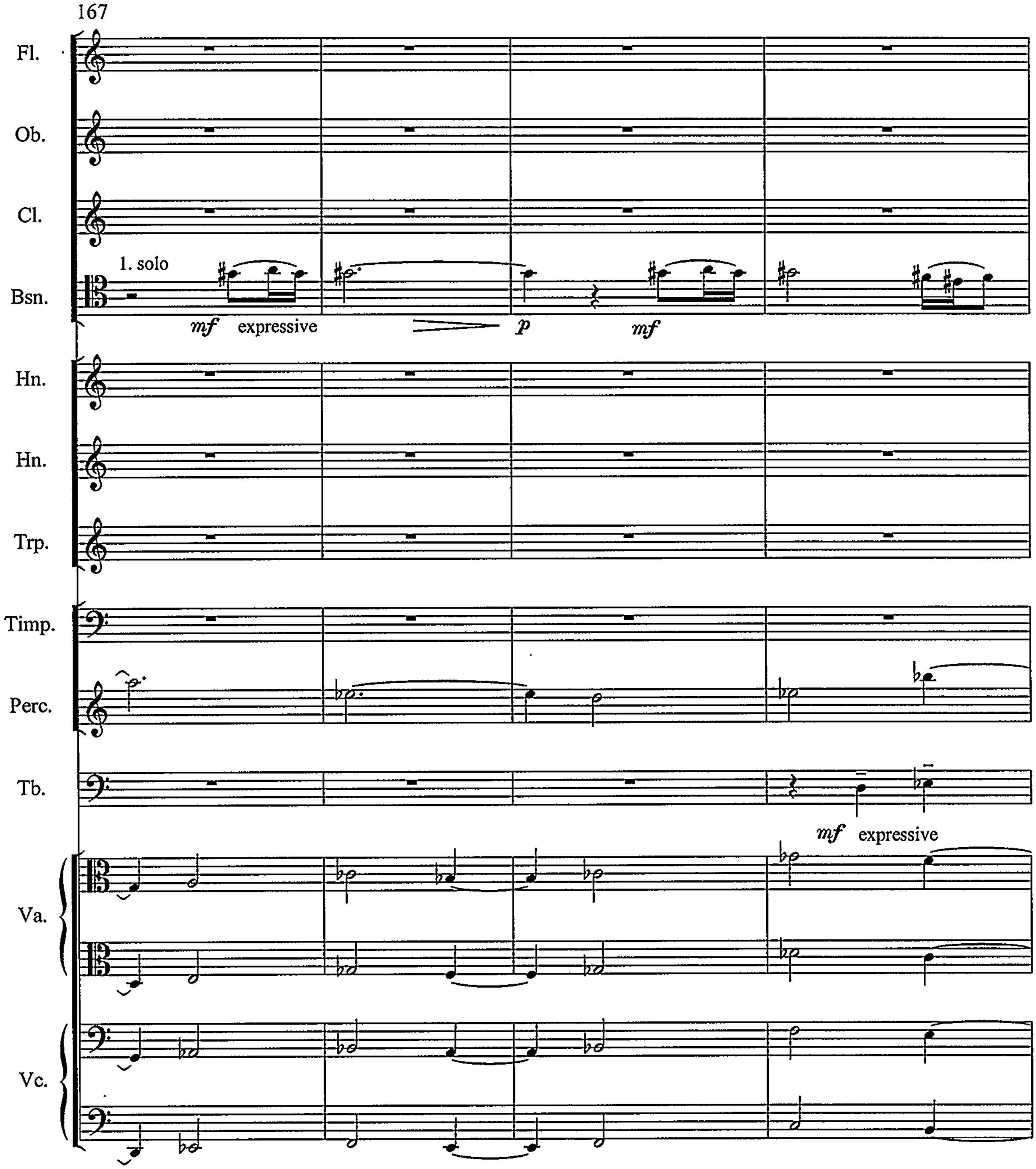

153
M
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
mf
f
sim.
legato
a2
ff
p
sim

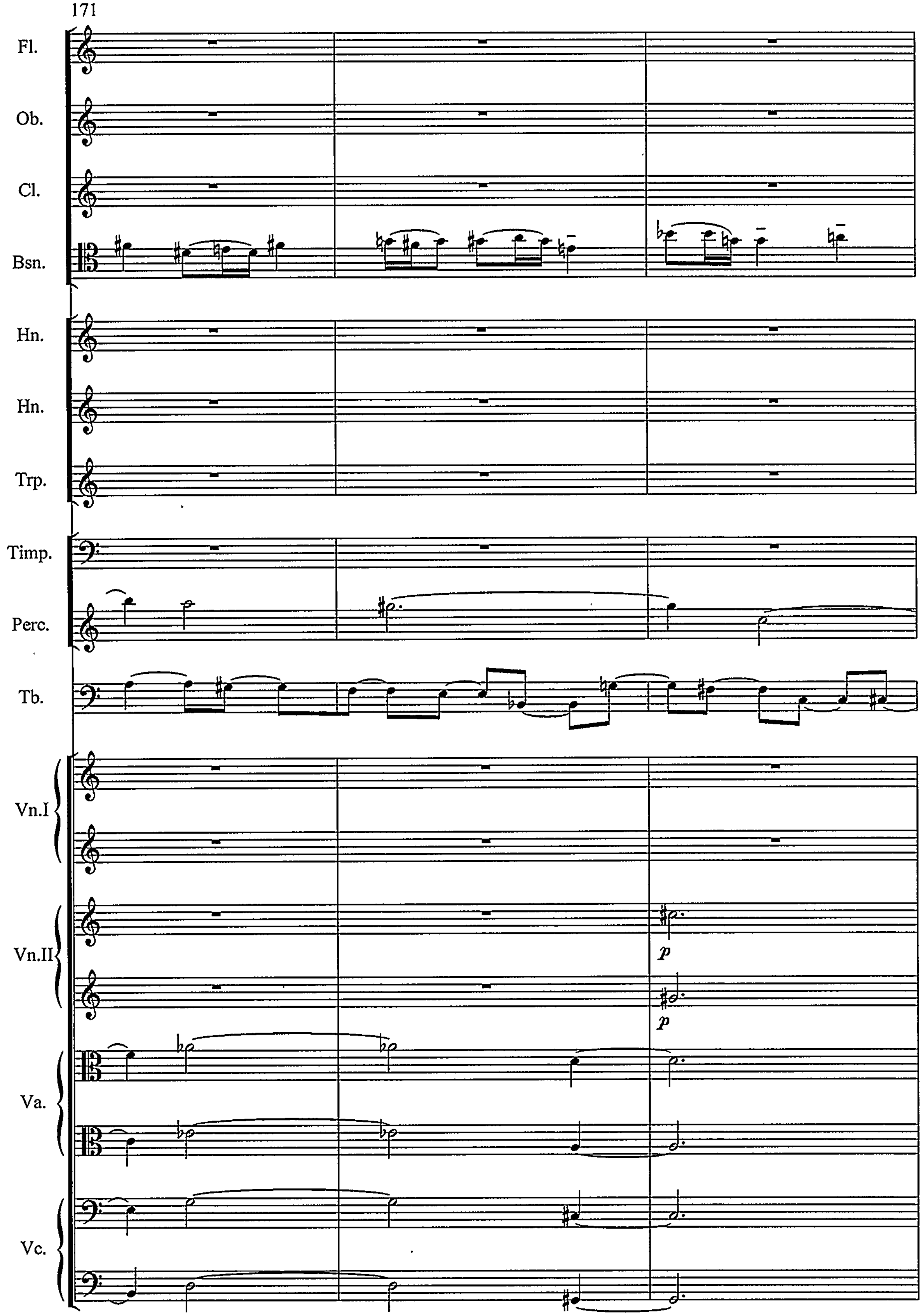

156
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

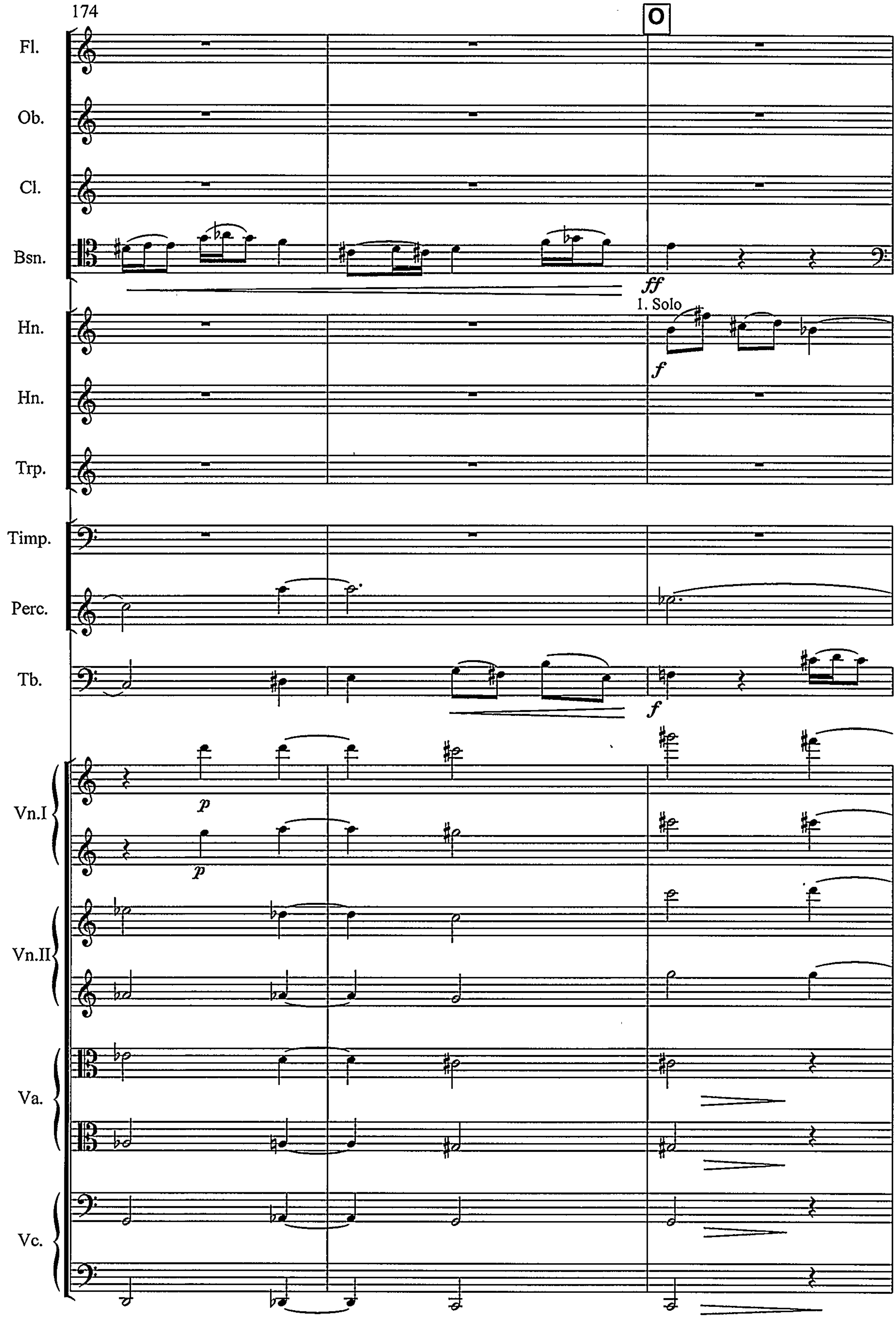

159
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
sim.
sim.
sim.
sus. cymb.
p
f
ff

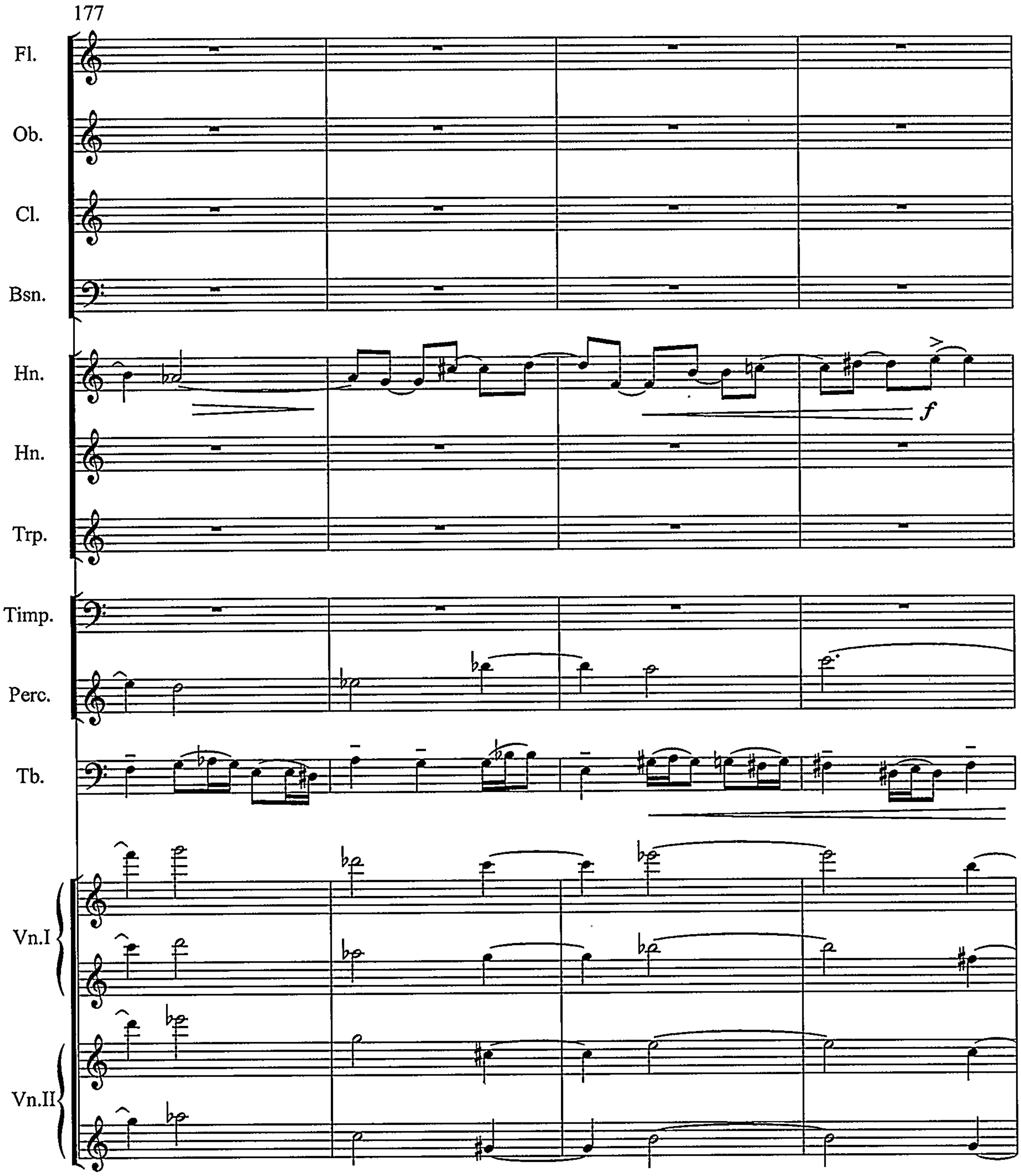

162
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

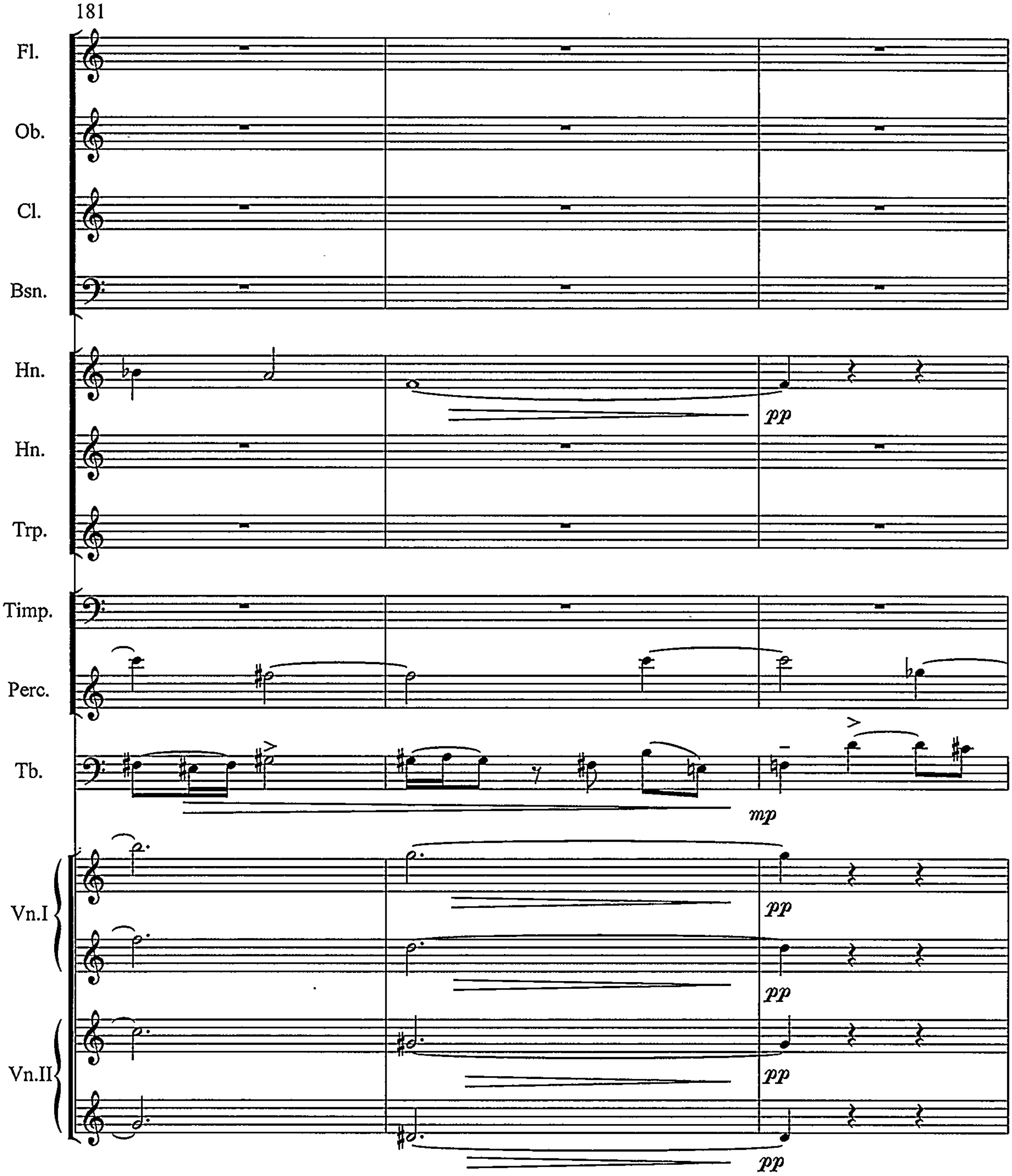

164
N
Lento ♩ = 54
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
crotales-med mallet
p
f
p
Tb.
Vn.I
Vn.II
Va.
pp
pp
Vc.
pp
pp
Db.

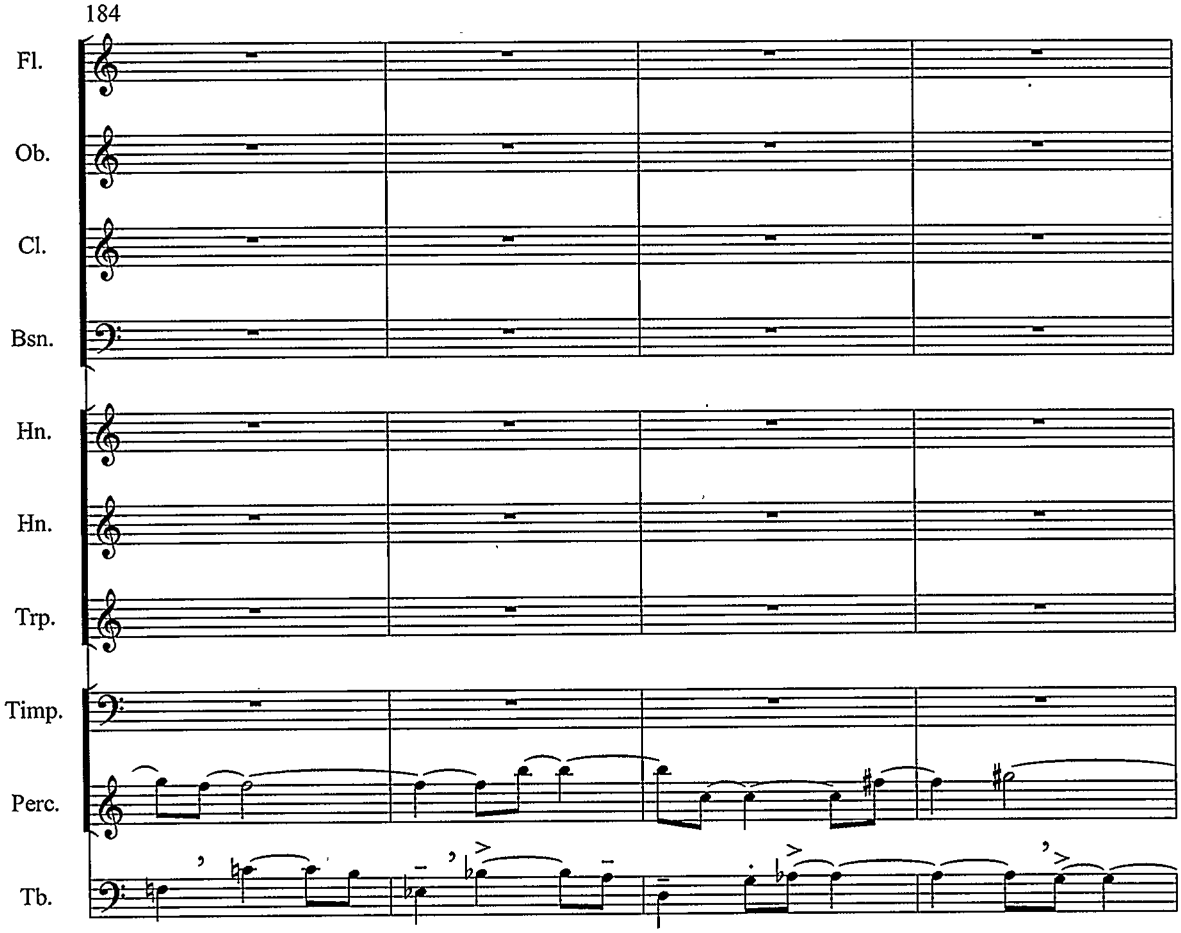

167
Fl.
Ob.
Cl.
1. solo
Bsn.
mf
expressive
p
mf
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
mf
expressive
Va.
Vc.

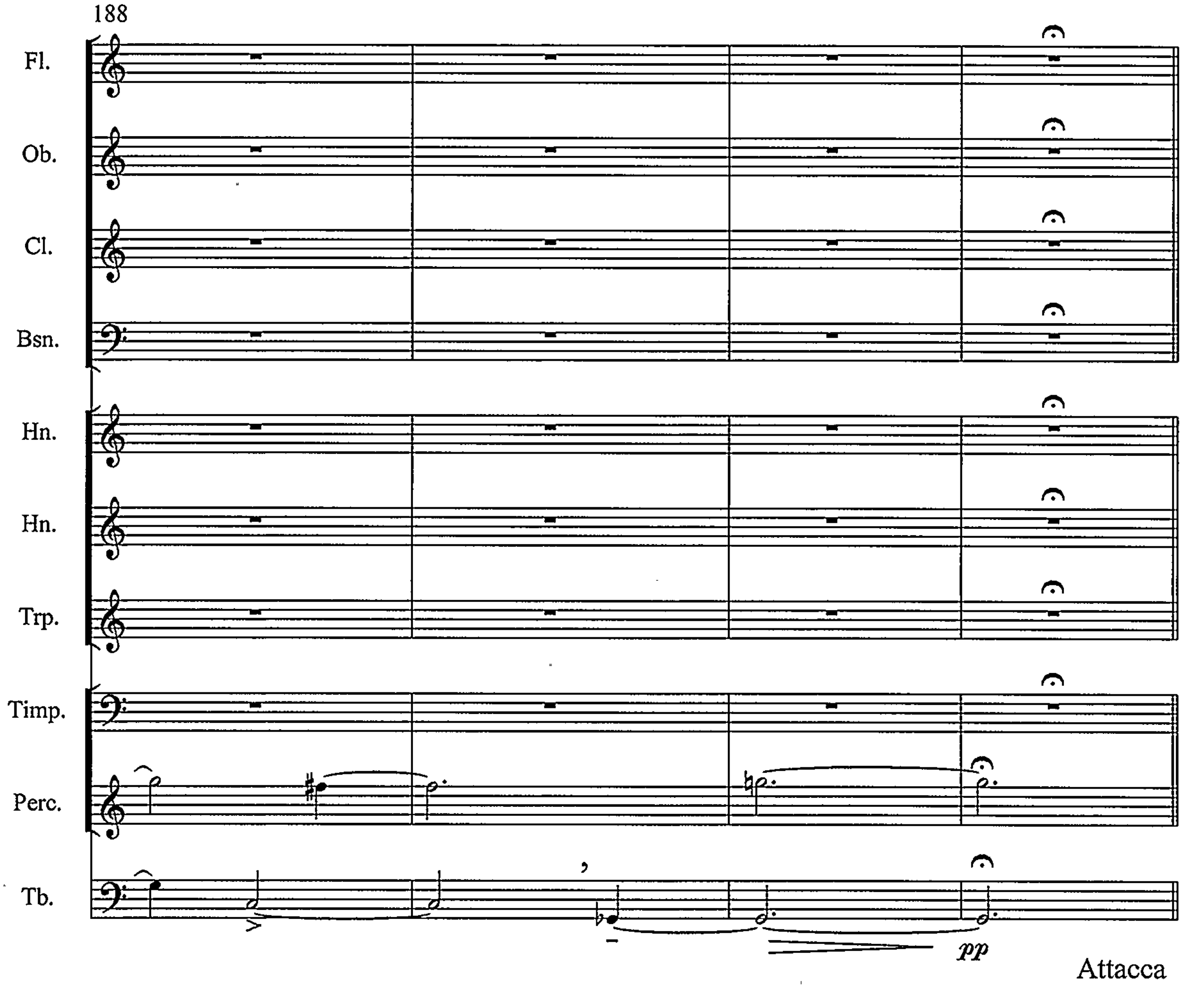

171
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
p
p
Va.
Vc.


174
O
Fl.
Ob.
Cl.
Bsn.
ff
1. Solo
Hn.
f
Hn.
Trp.
Timp.
Perc.
Tb.
f
p
Vn.I
p
Vn.II
Va.
Vc.

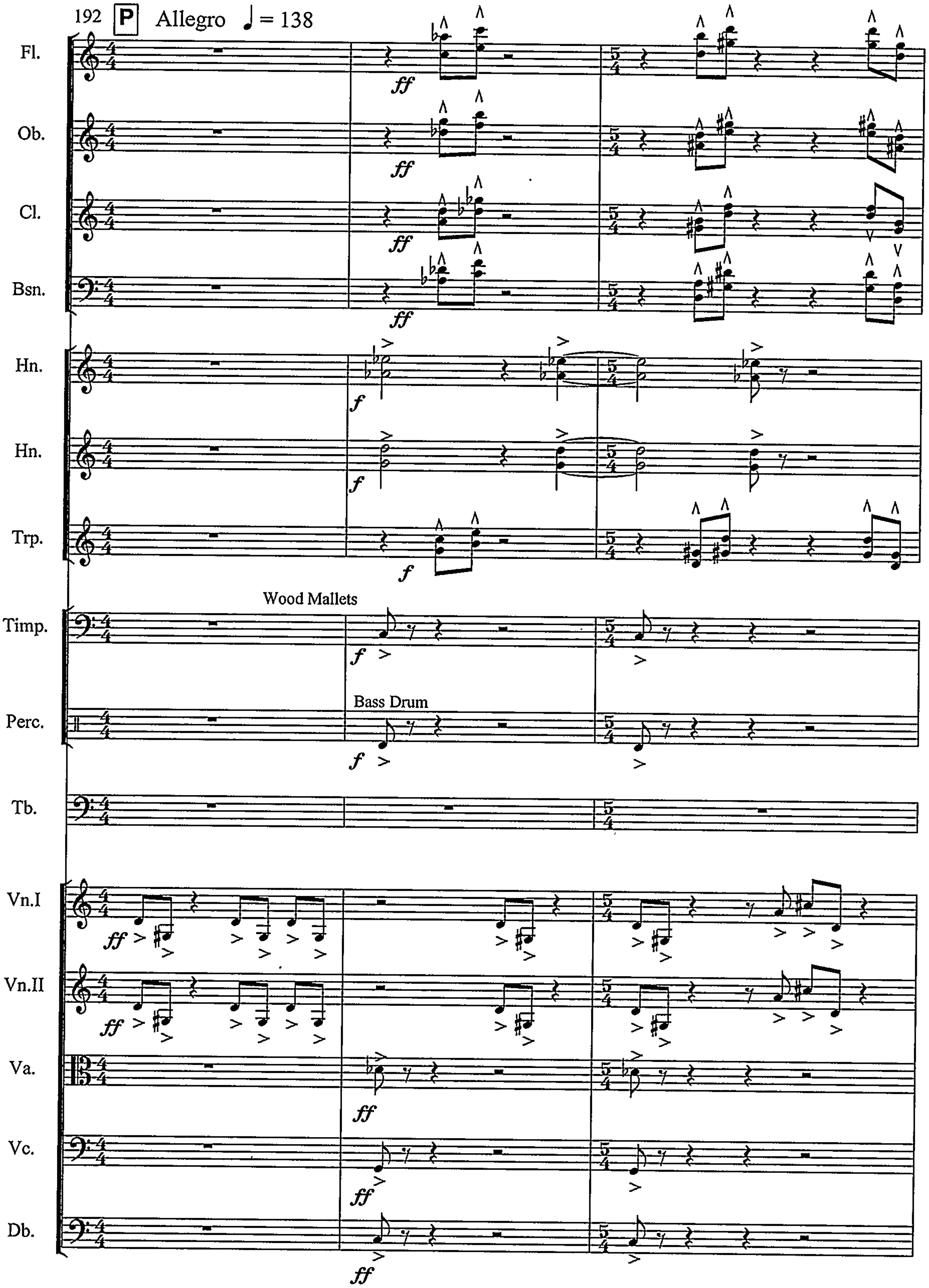

177
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
f

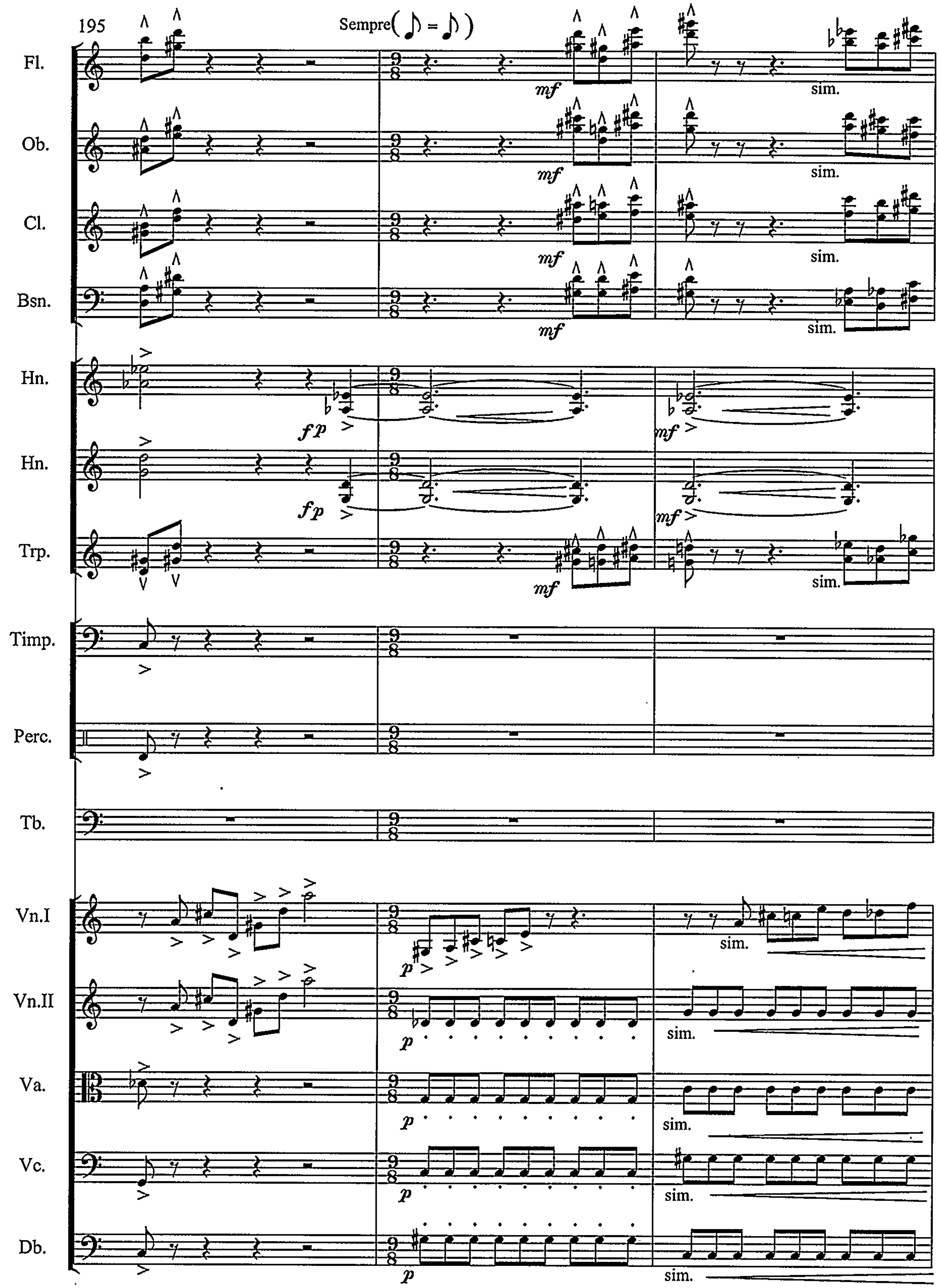

181
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
pp
mp
pp
pp
pp
pp

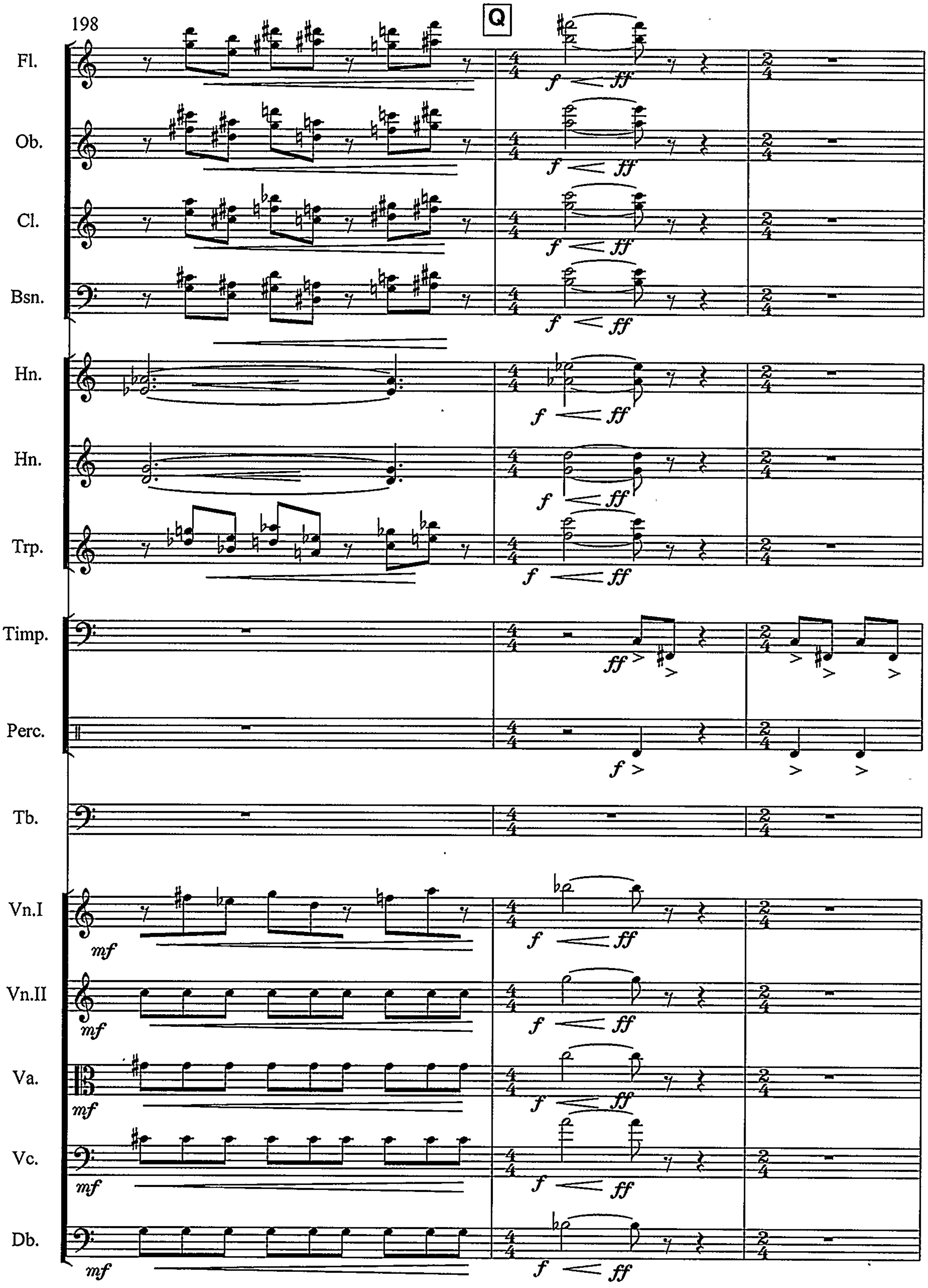

184
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.

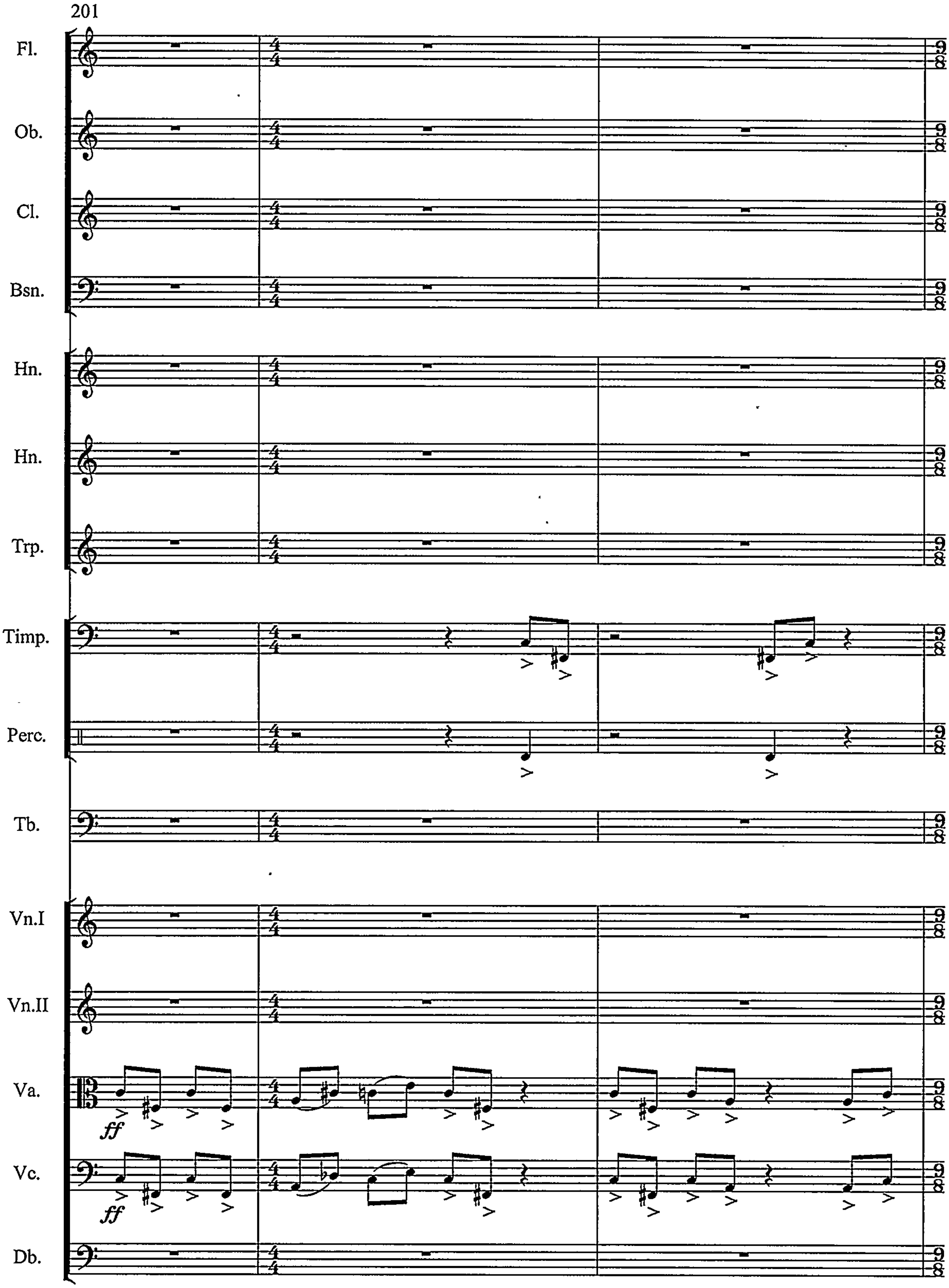

188
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
pp
Attacca

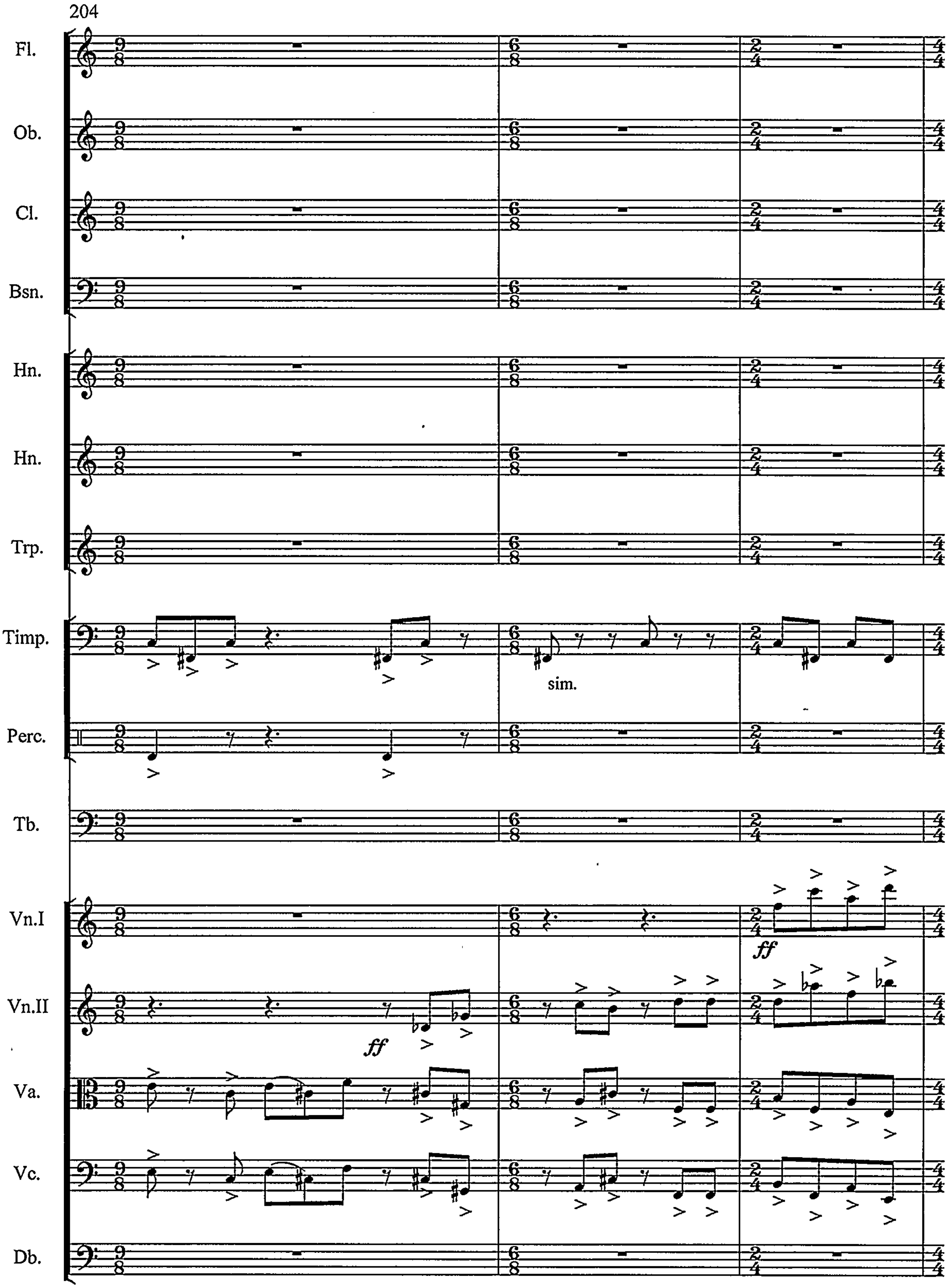
III

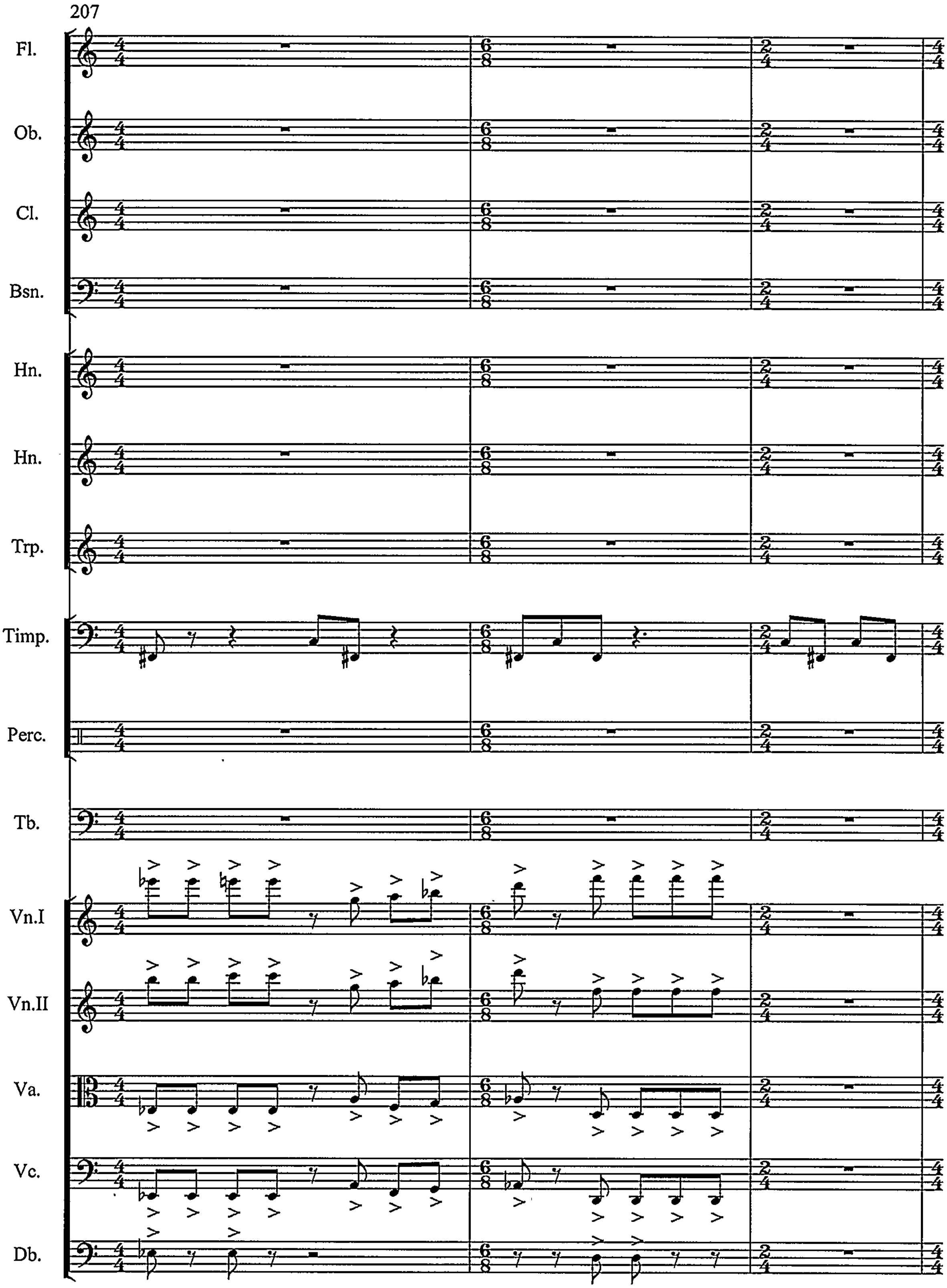

192
P
Allegro ♩ = 138
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Wood Mallets
Perc.
Bass Drum
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
ff
f

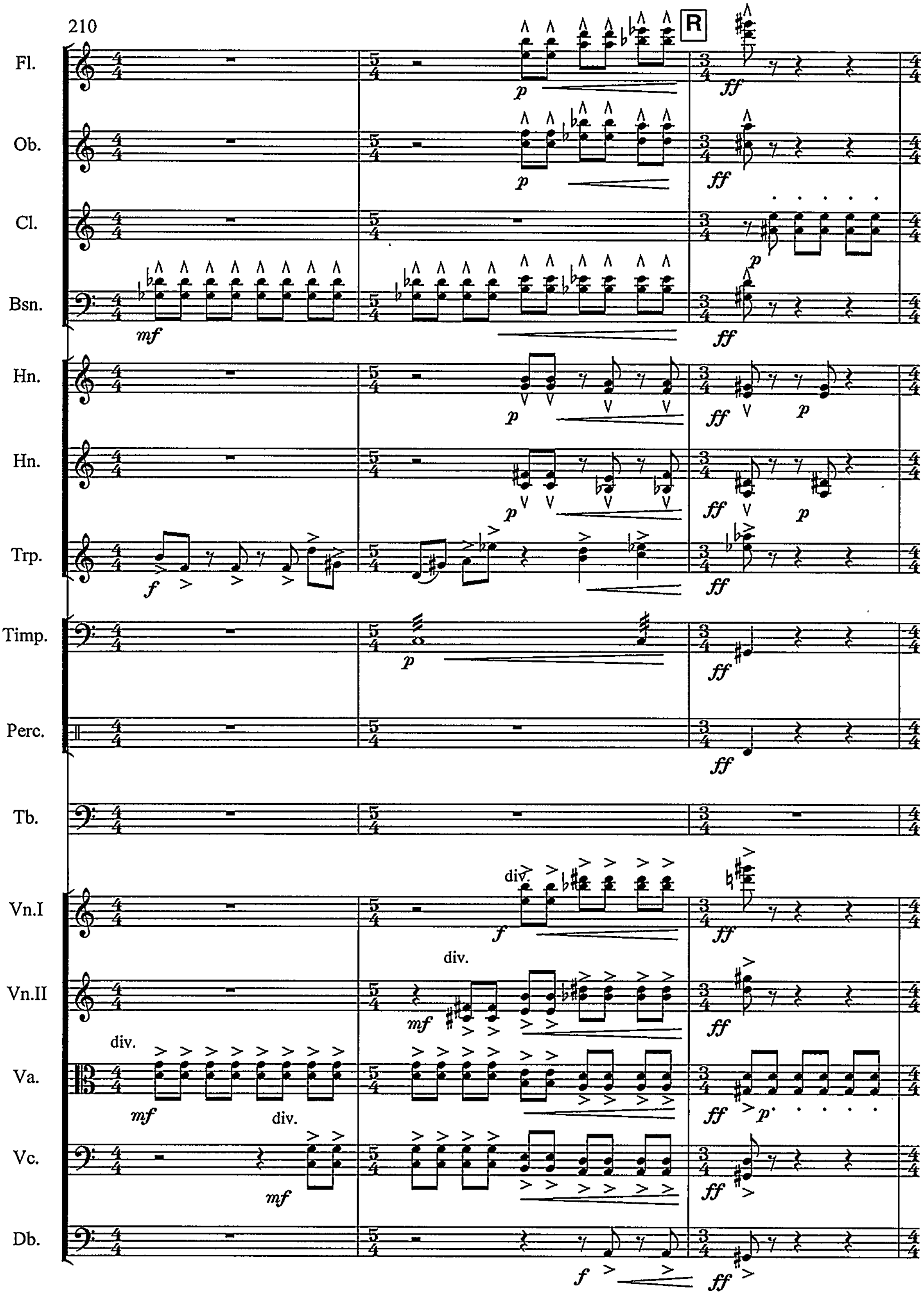

195
Sempre(♪ = ♪)
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
mf
sim.
fp
mf
p

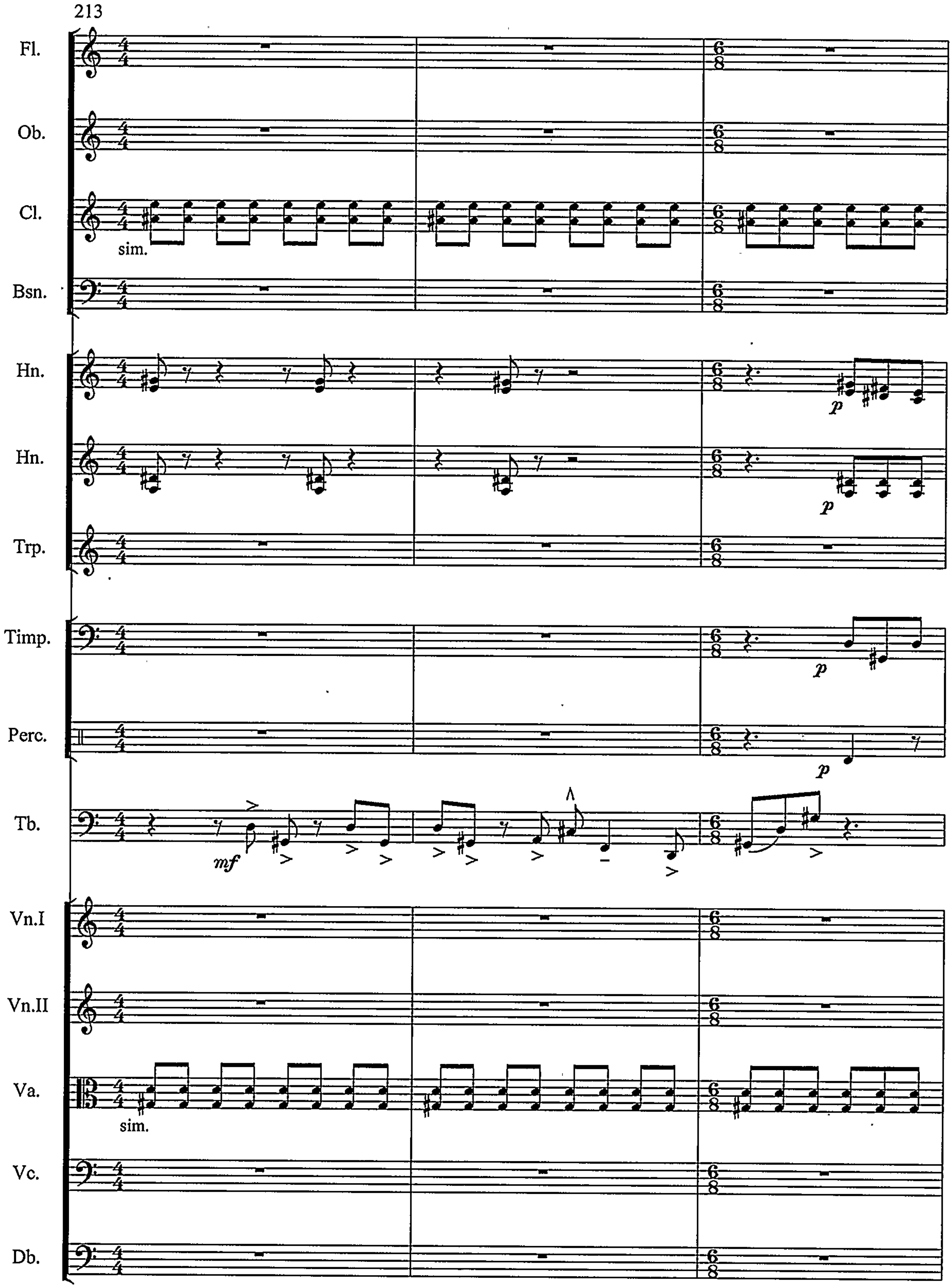

198
Q
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
ff
mf

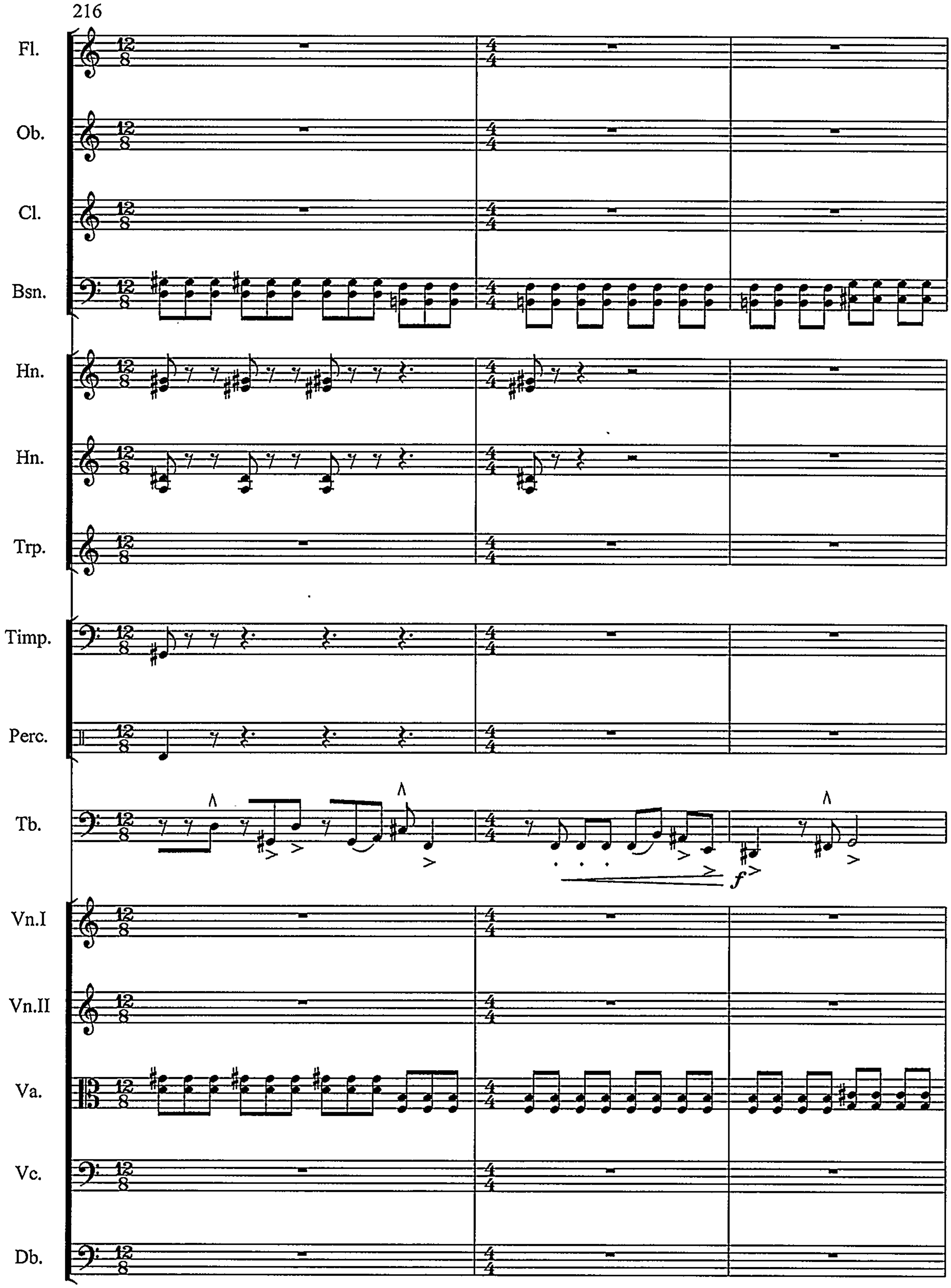

201
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
ff
ff

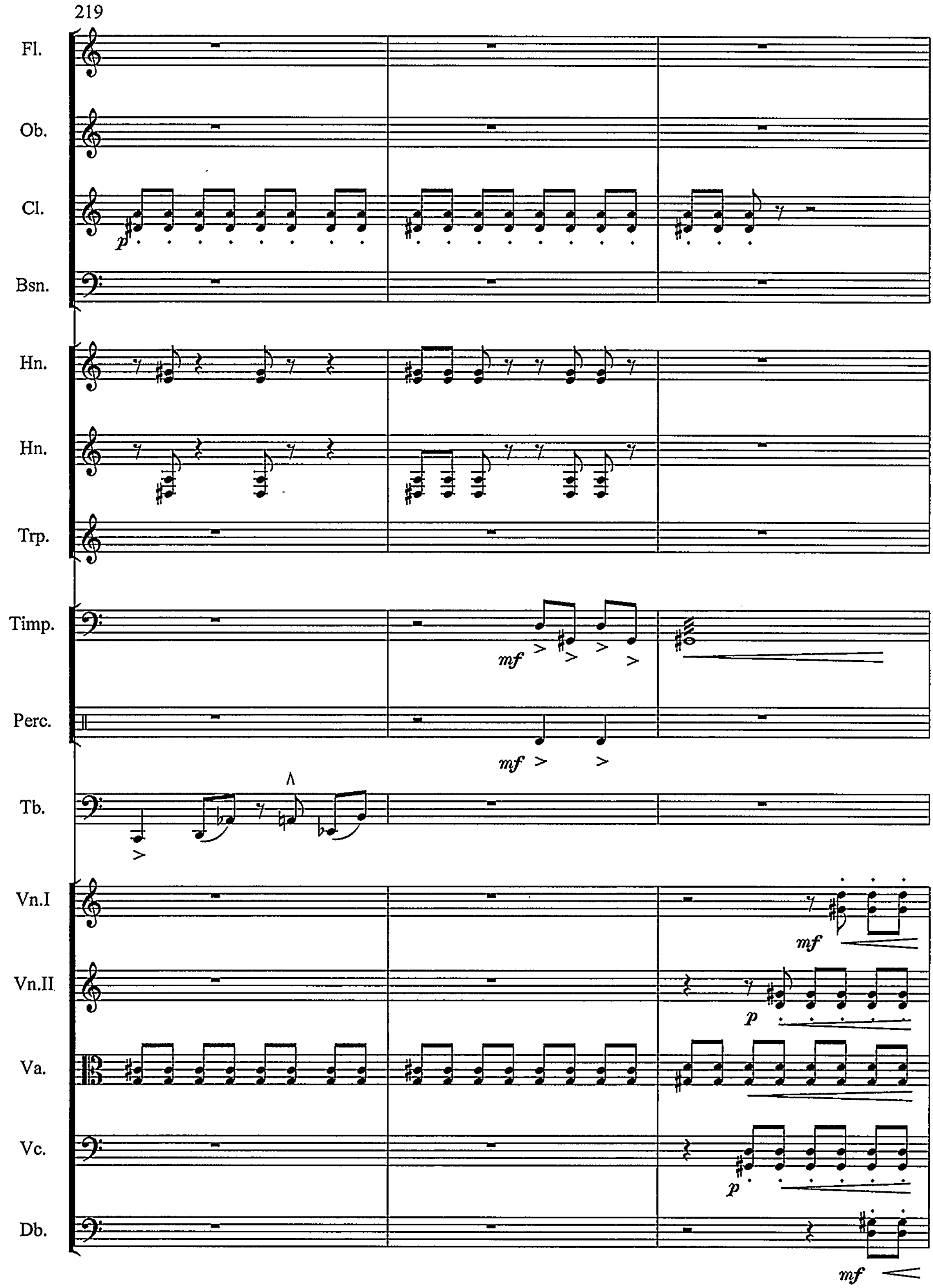

204
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
sim.
Perc.
Tb.
Vn.I
ff
Vn.II
ff
Va.
Vc.
Db.

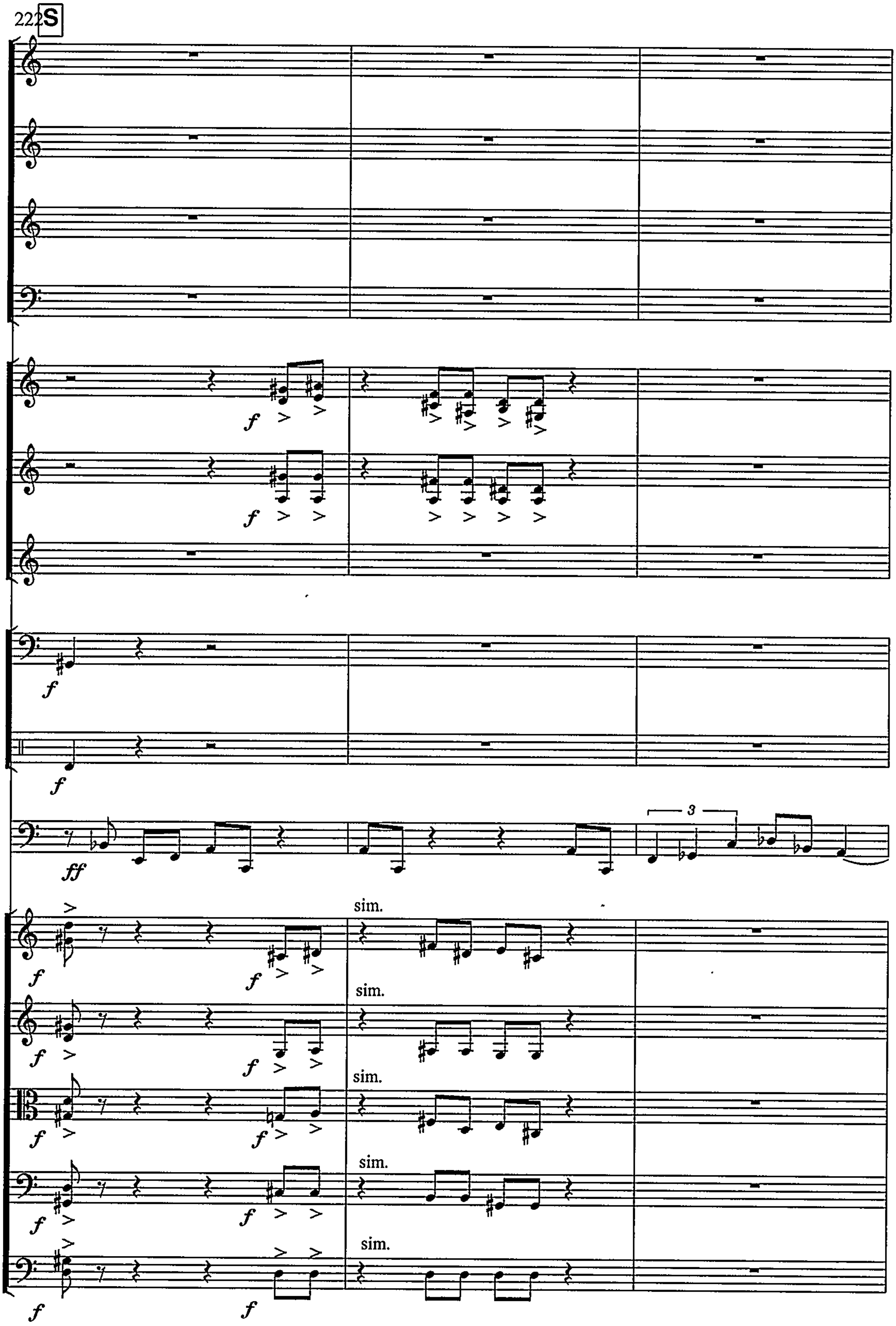

207
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

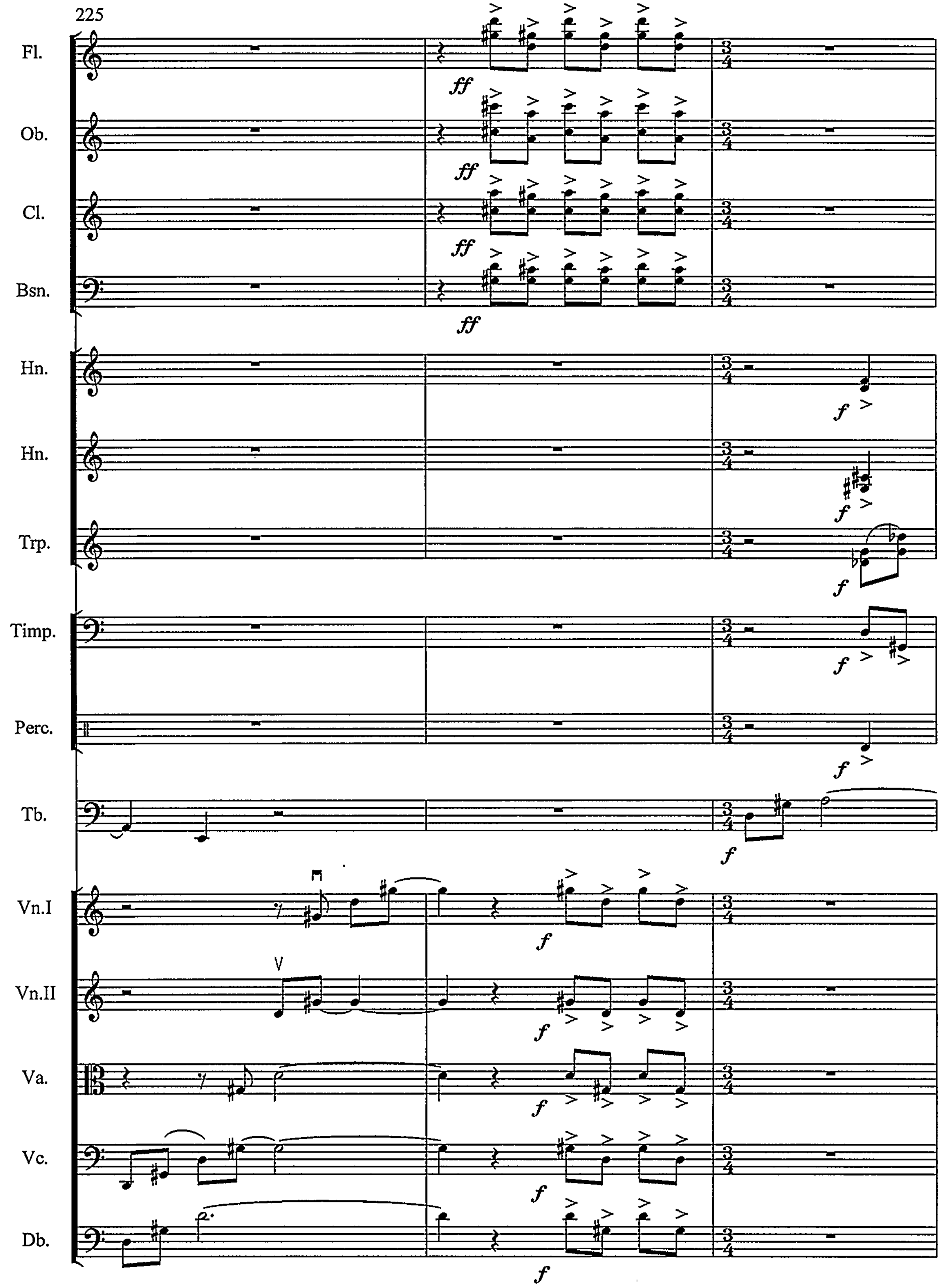

210
R
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
p
ff
mf
f
div.

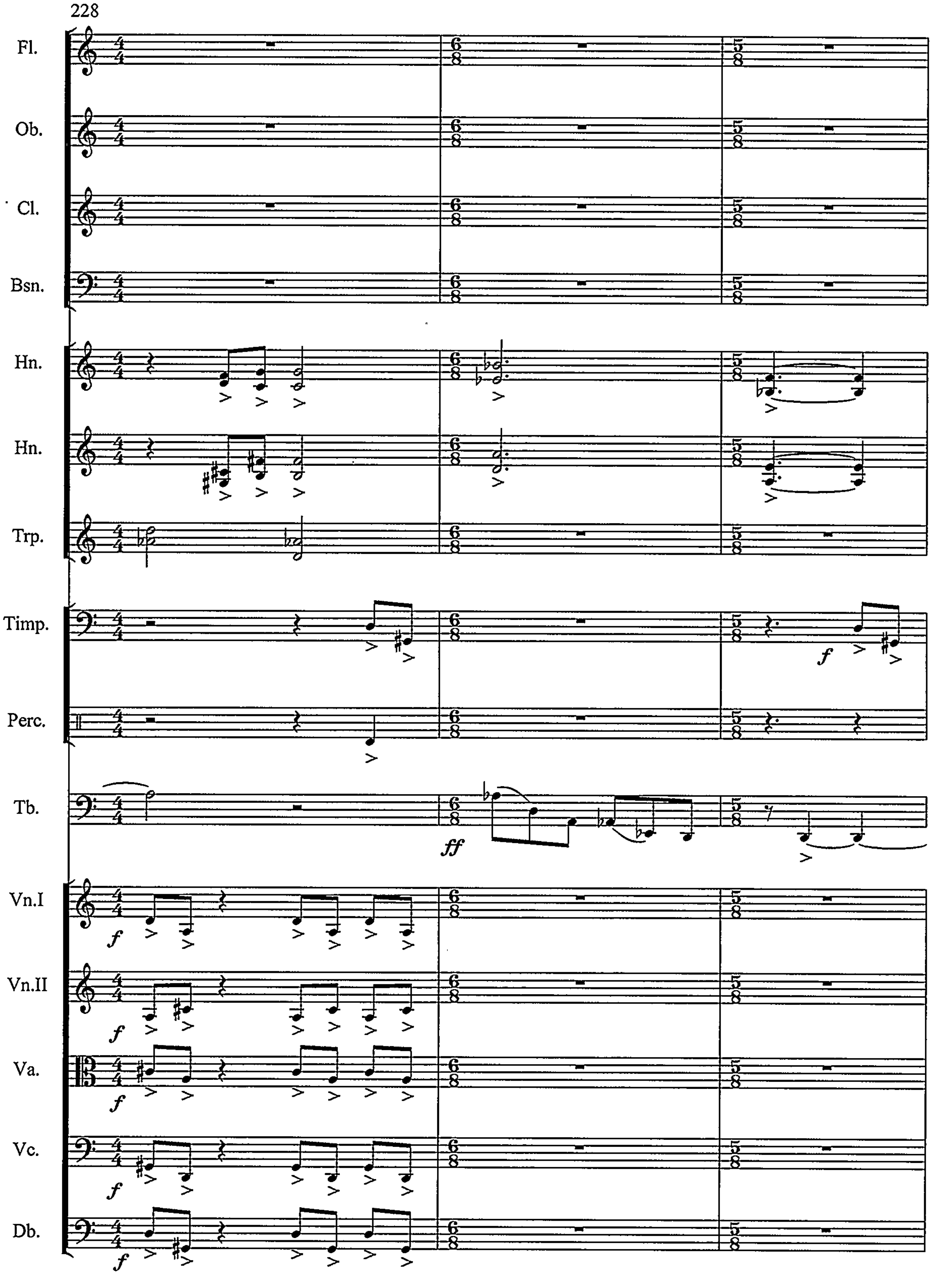

213
Fl.
Ob.
Cl.
sim.
Bsn.
Hn.
Hn.
p
Trp.
Timp.
p
Perc.
p
Tb.
mf
Vn.I
Vn.II
Va.
sim.
Vc.
Db.

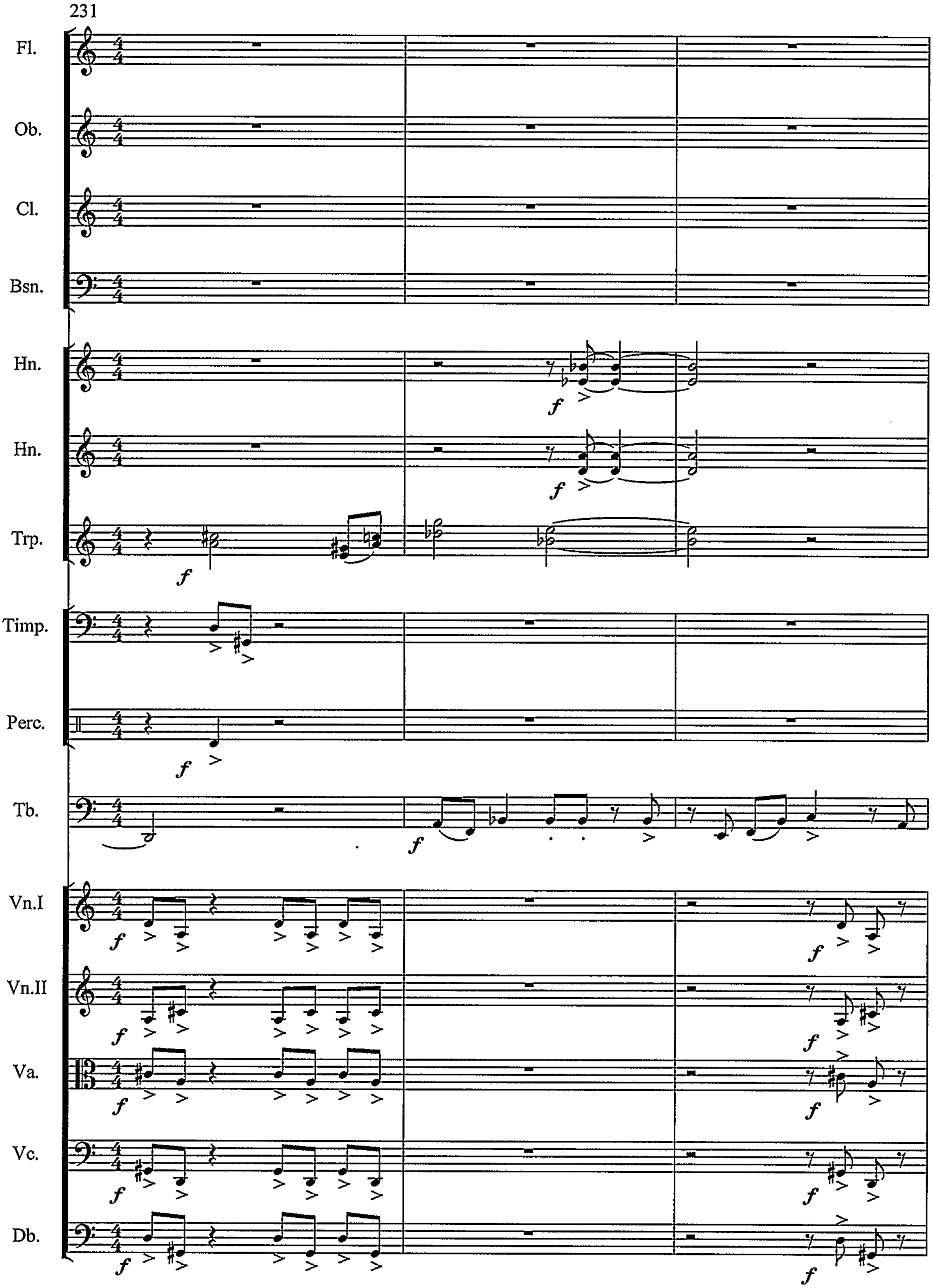

216
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
f
Vn.I
Vn.II
Va.
Vc.
Db.

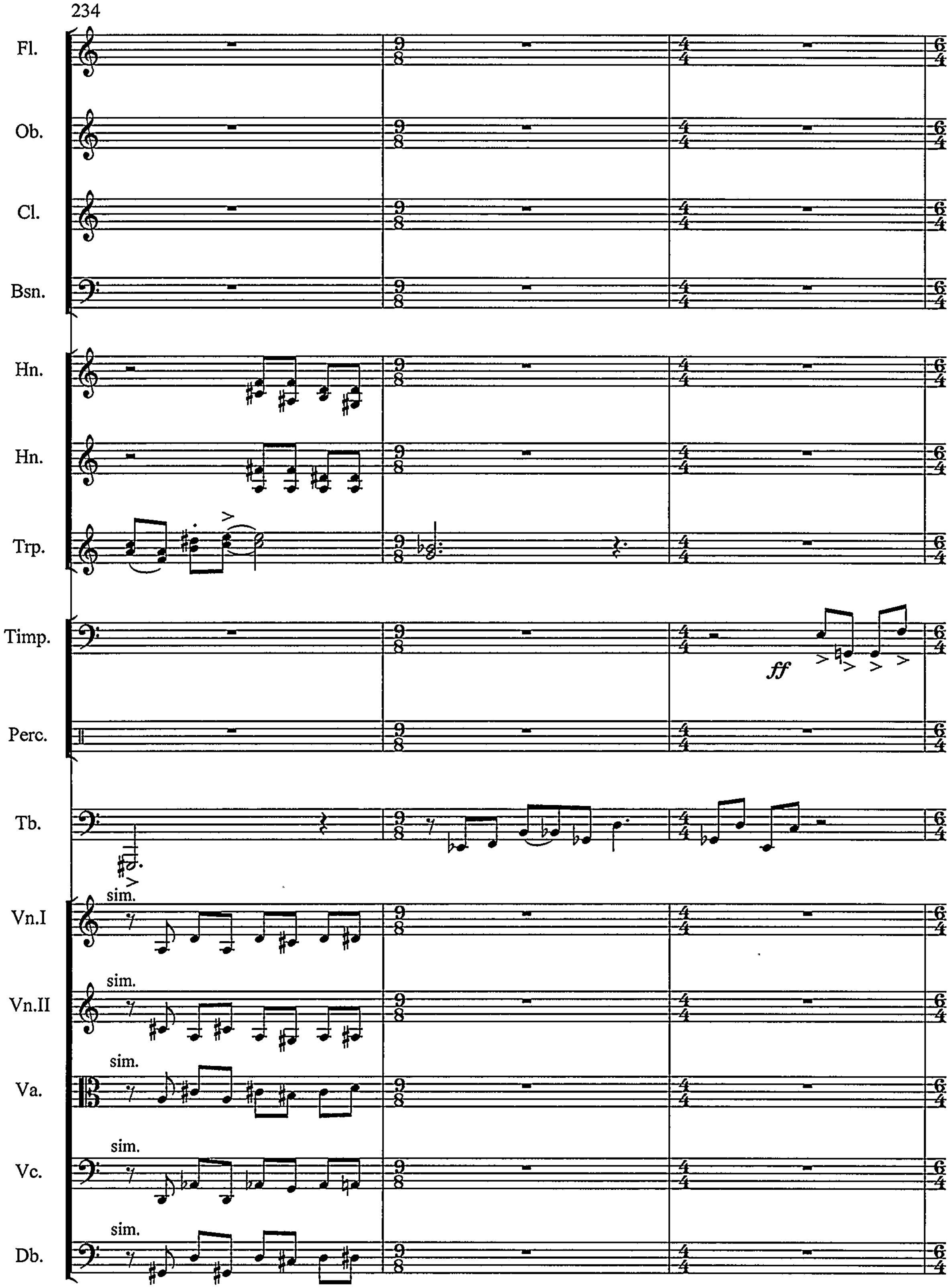

219
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
p
mf
mf
mf
p
p
mf

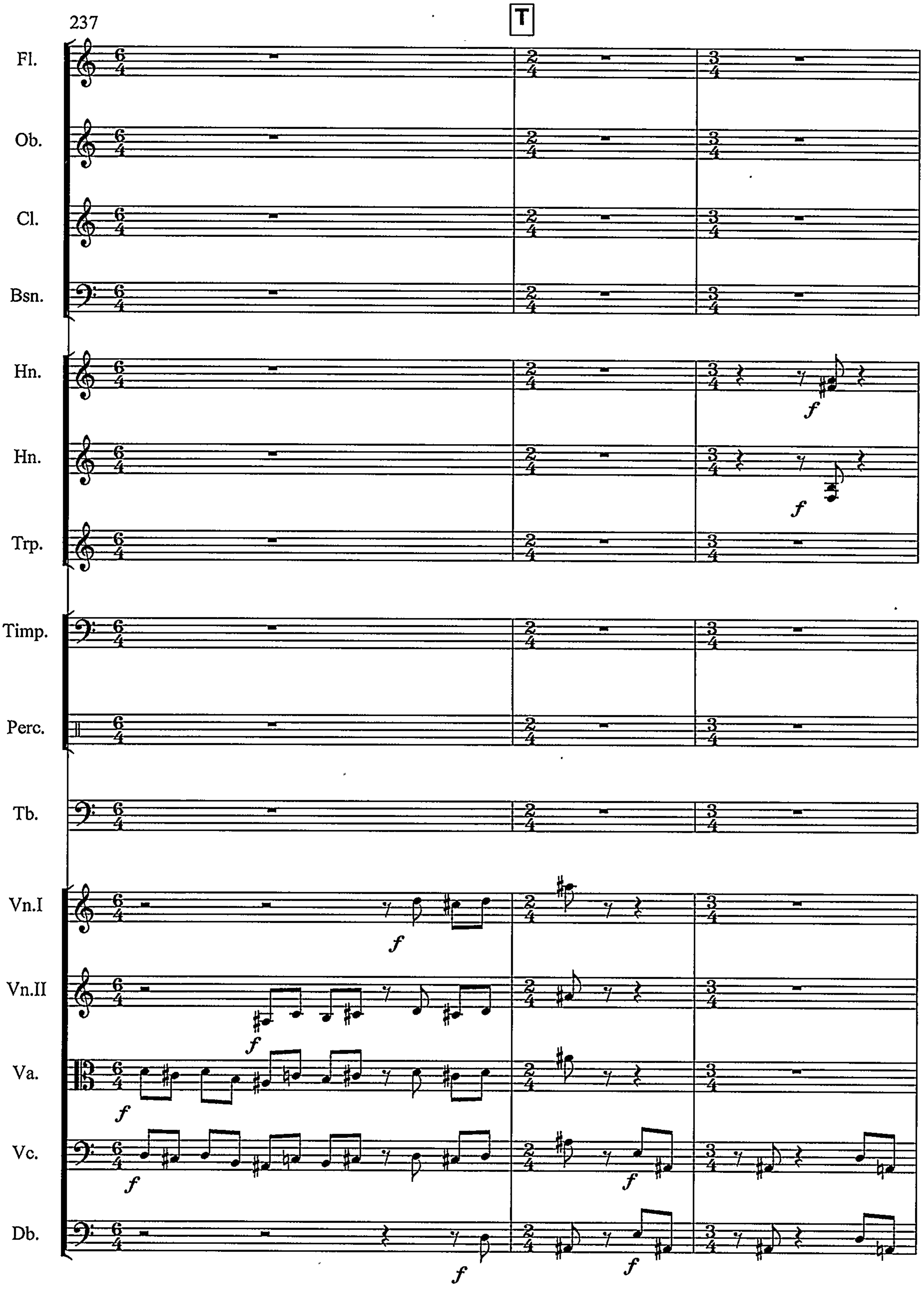

222
S
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
ff
sim.
3

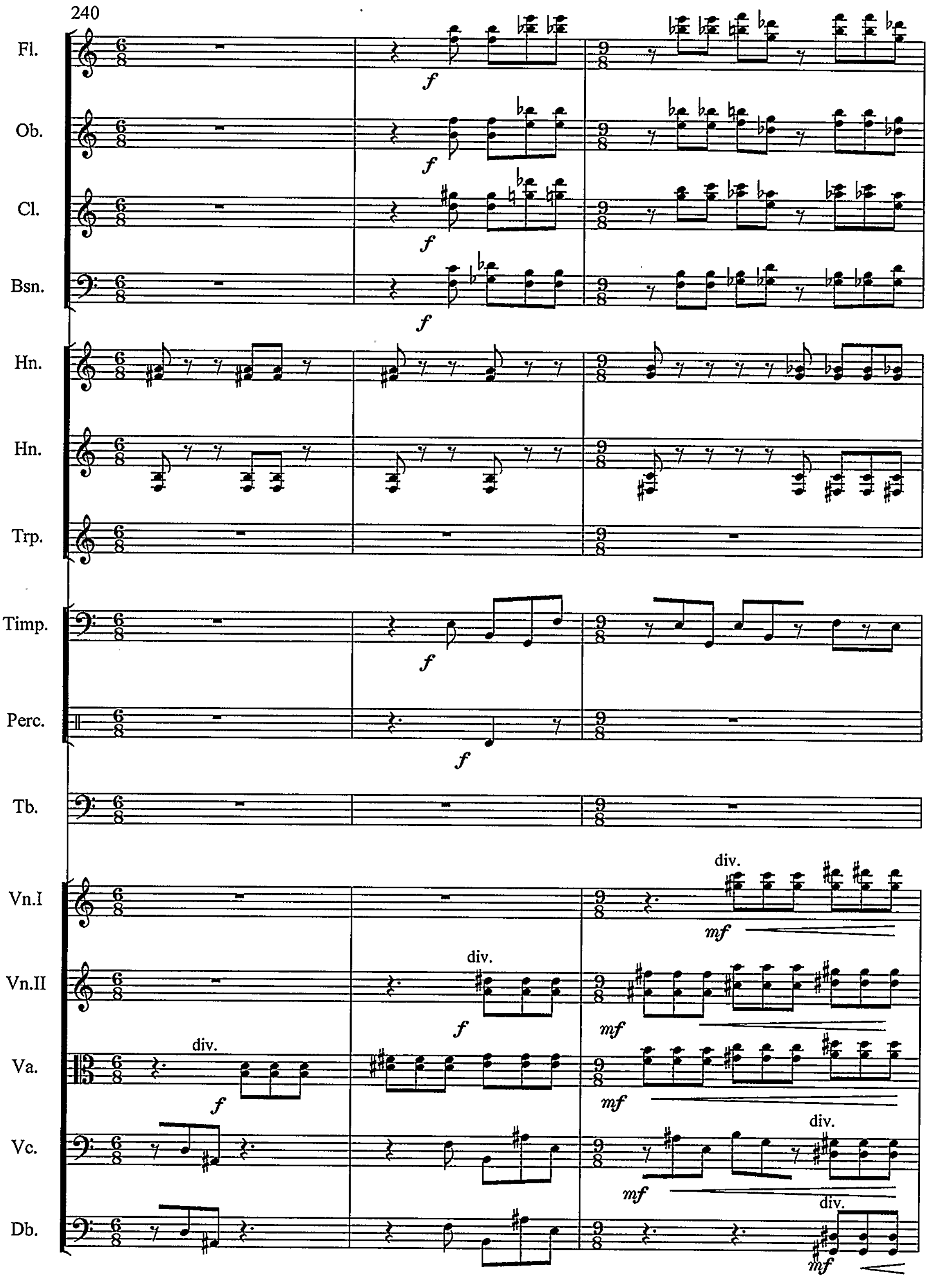

225
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
ff
ff
ff
ff
f
f
f
f
f
f
f
f
f
f
f
3
4

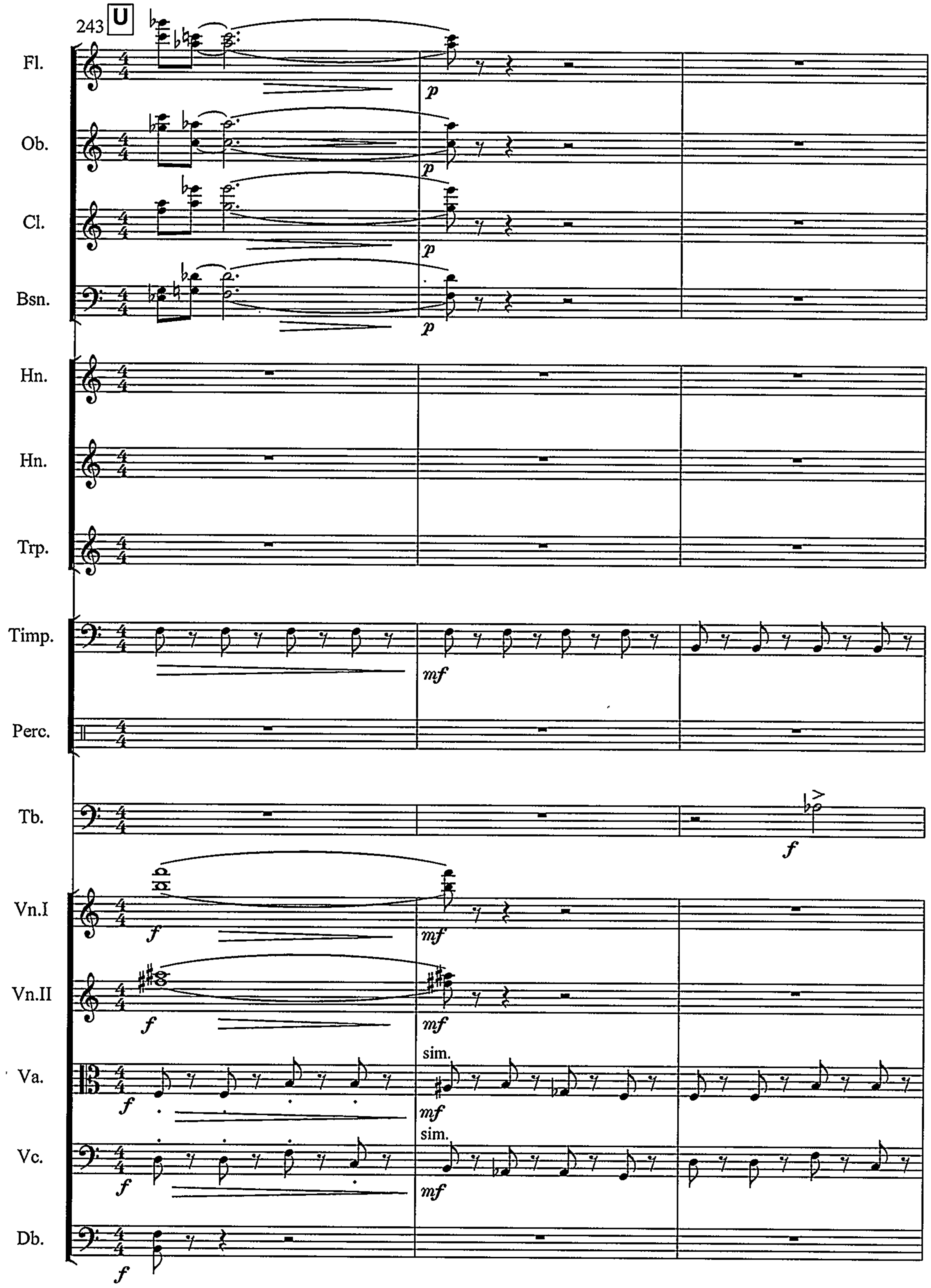

228
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
ff

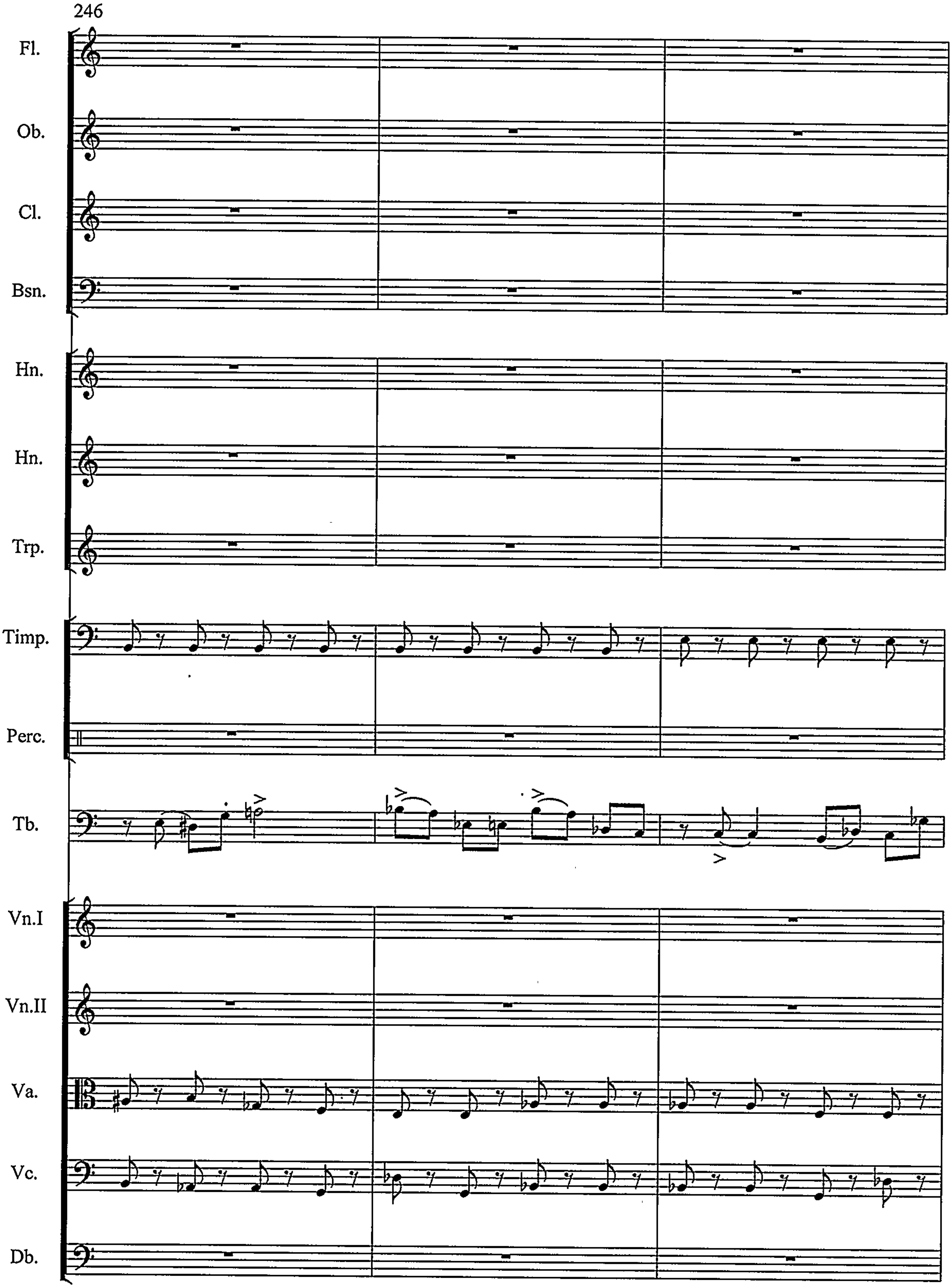

231
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f

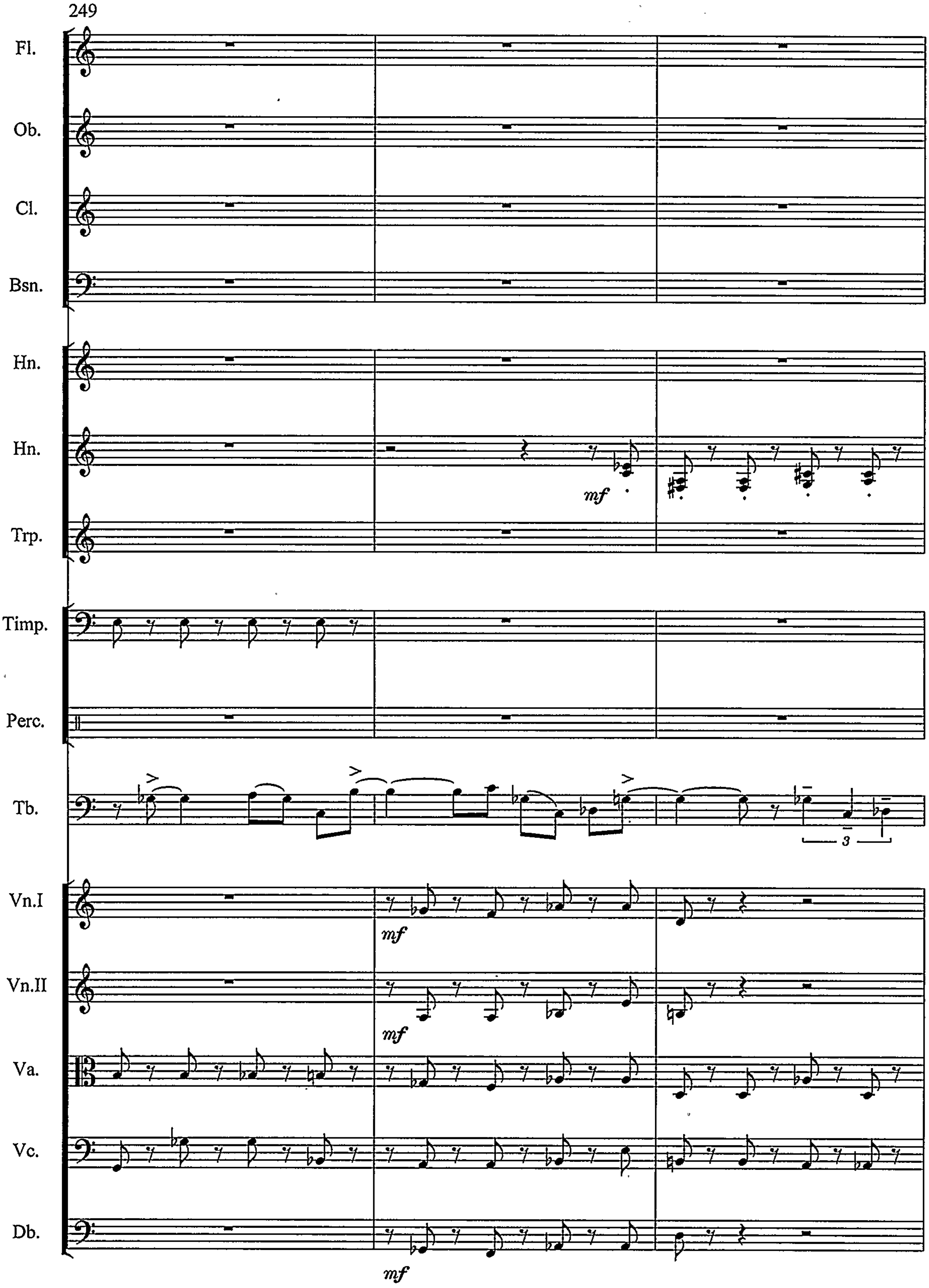

234
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
ff
Perc.
Tb.
sim.
Vn.I
sim.
Vn.II
sim.
Va.
sim.
Vc.
sim.
Db.

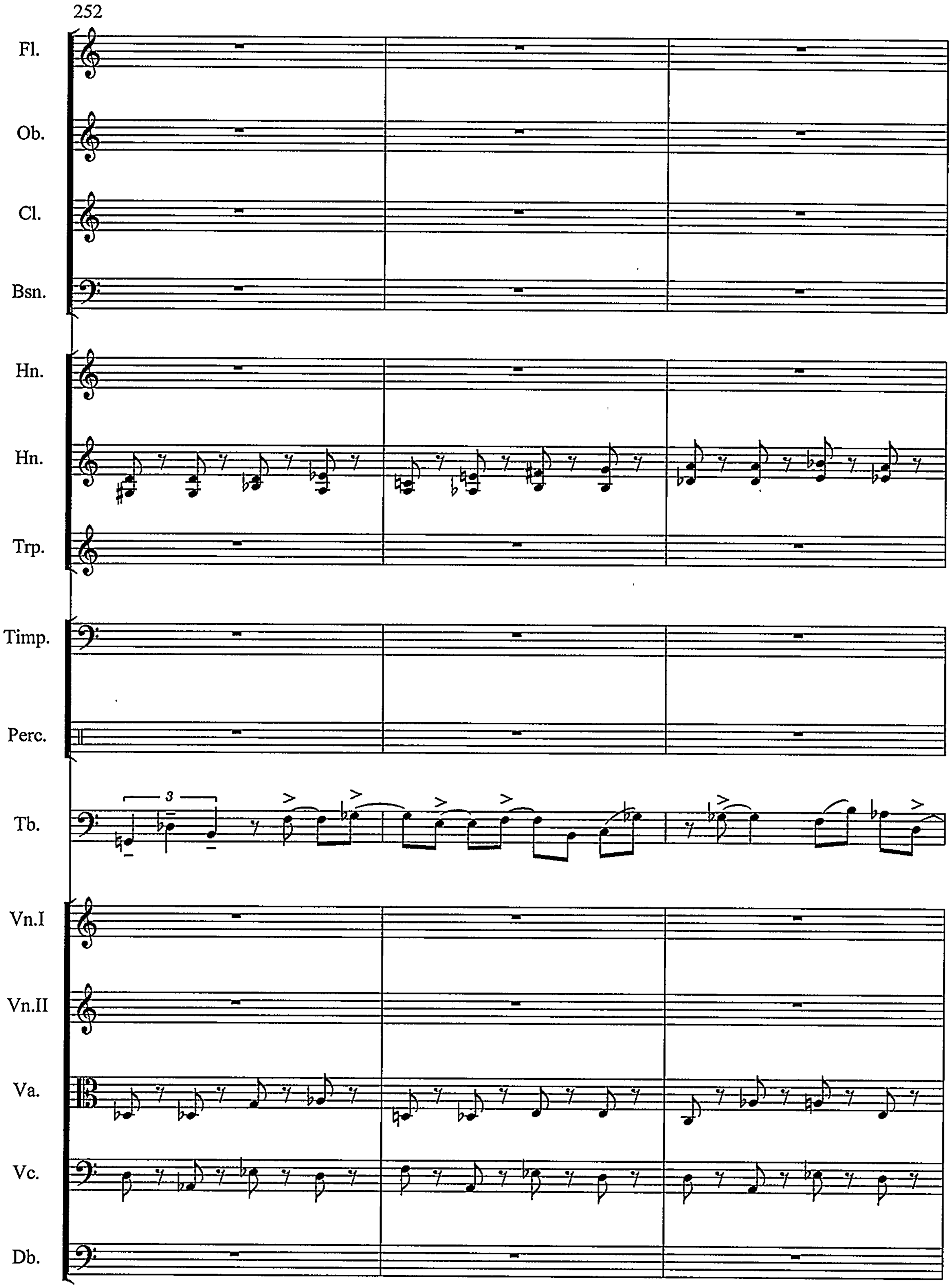

237
T
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f

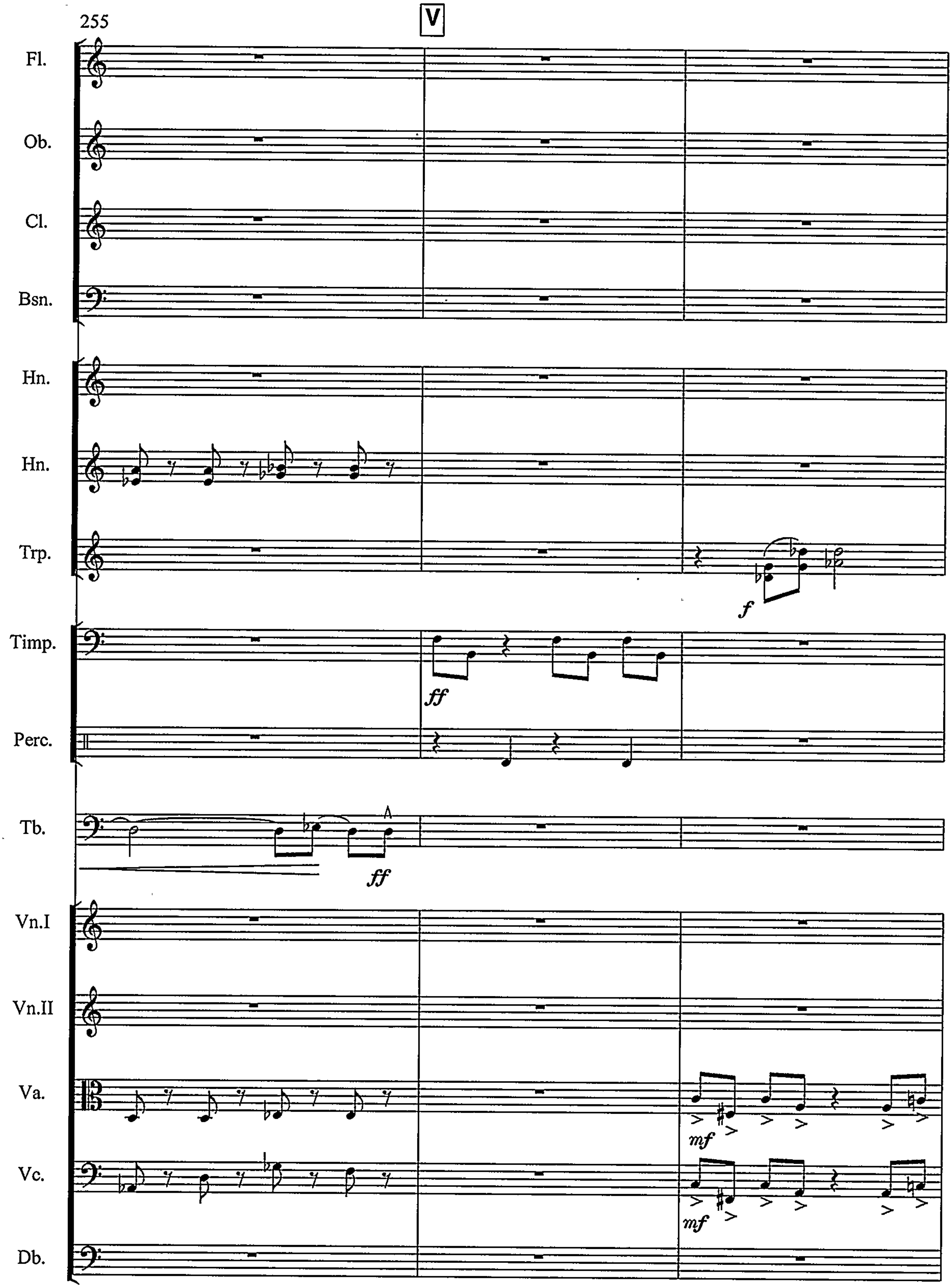

240
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
mf
div.

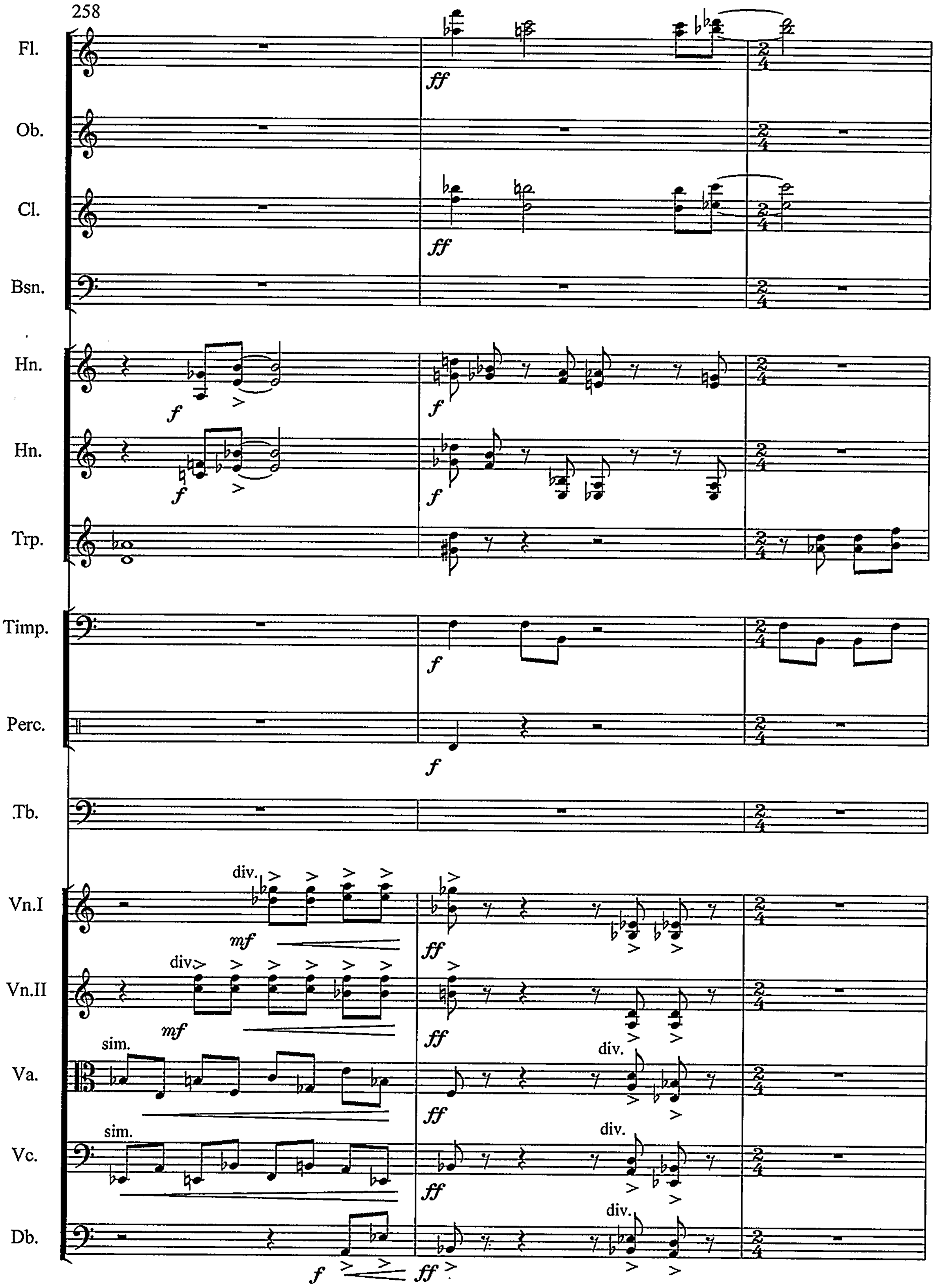

243
U
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
p
p
p
p
mf
f
f
mf
f
mf
sim.
f
mf
sim.
f
mf
f

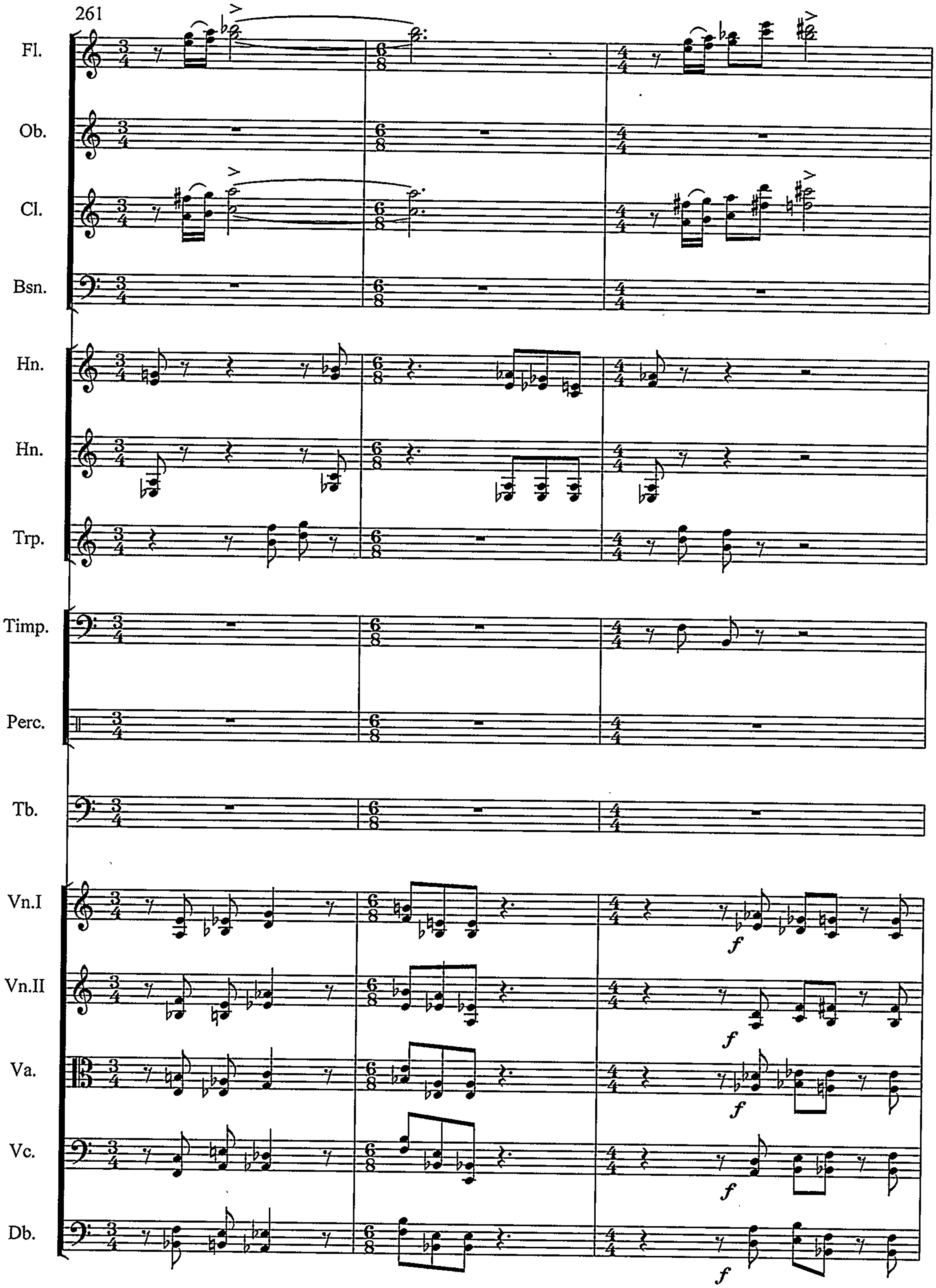

246
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

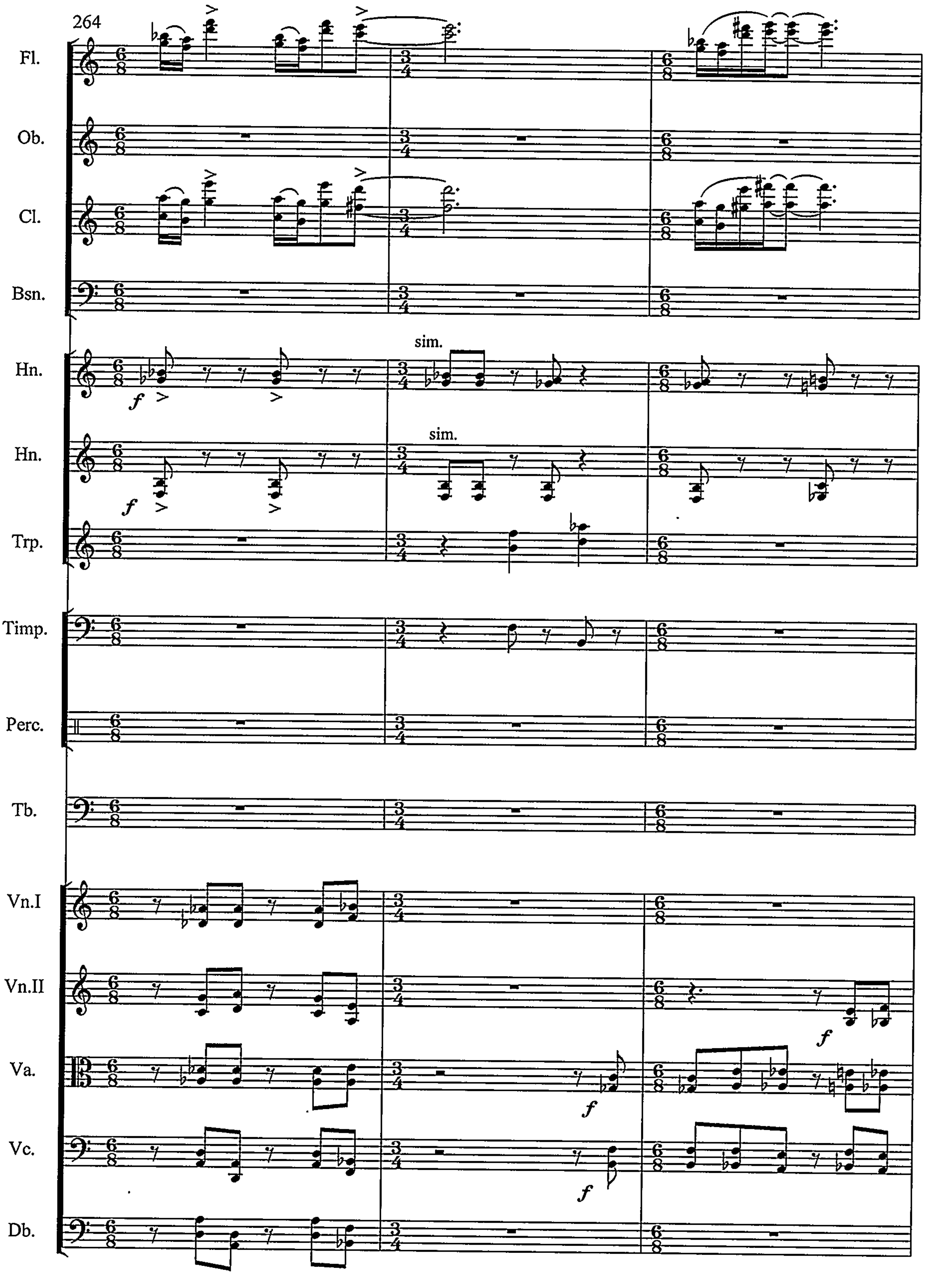

249
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
mf
Trp.
Timp.
Perc.
Tb.
3
Vn.I
mf
Vn.II
mf
Va.
Vc.
Db.
mf

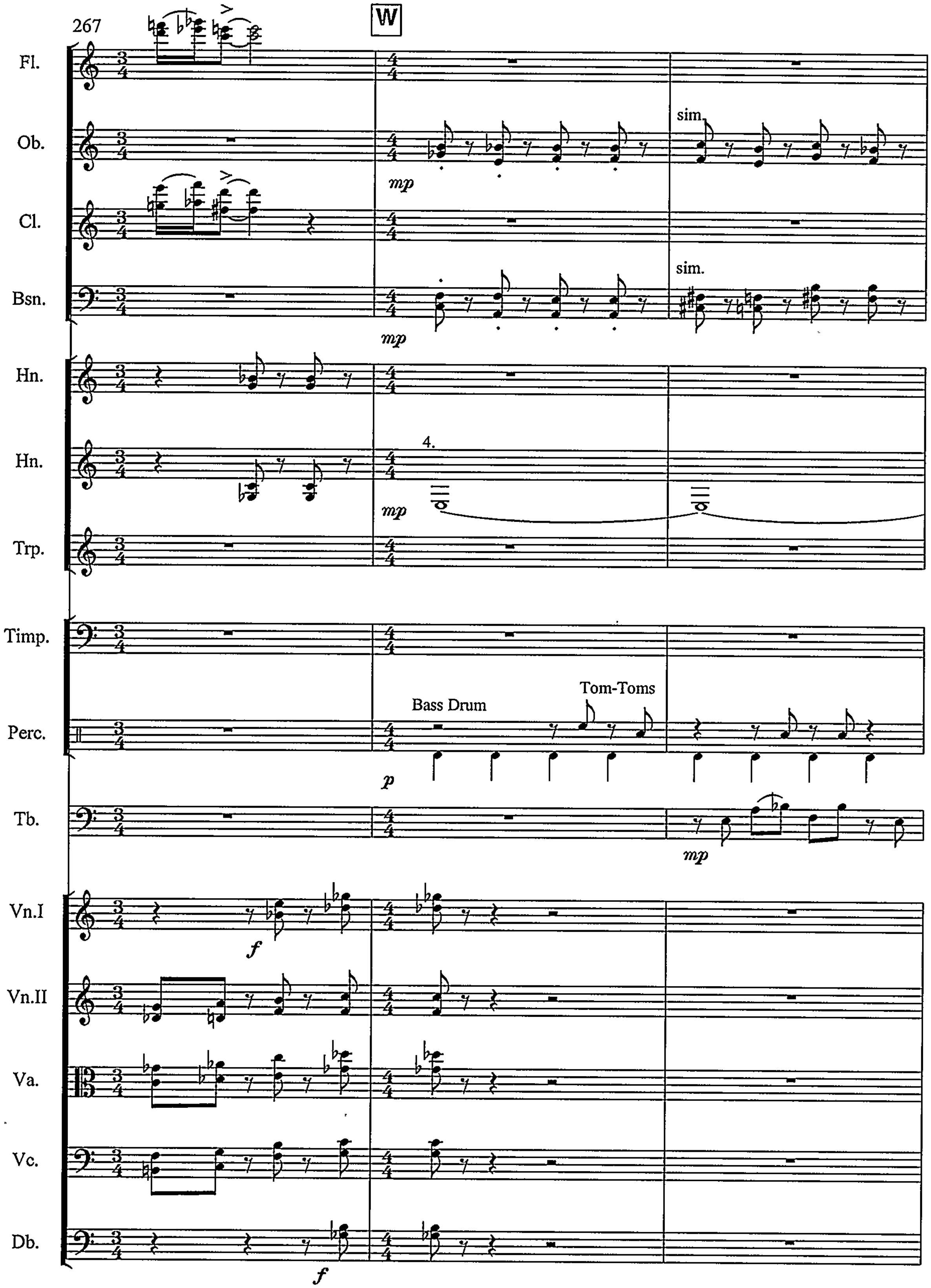

252
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
3
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

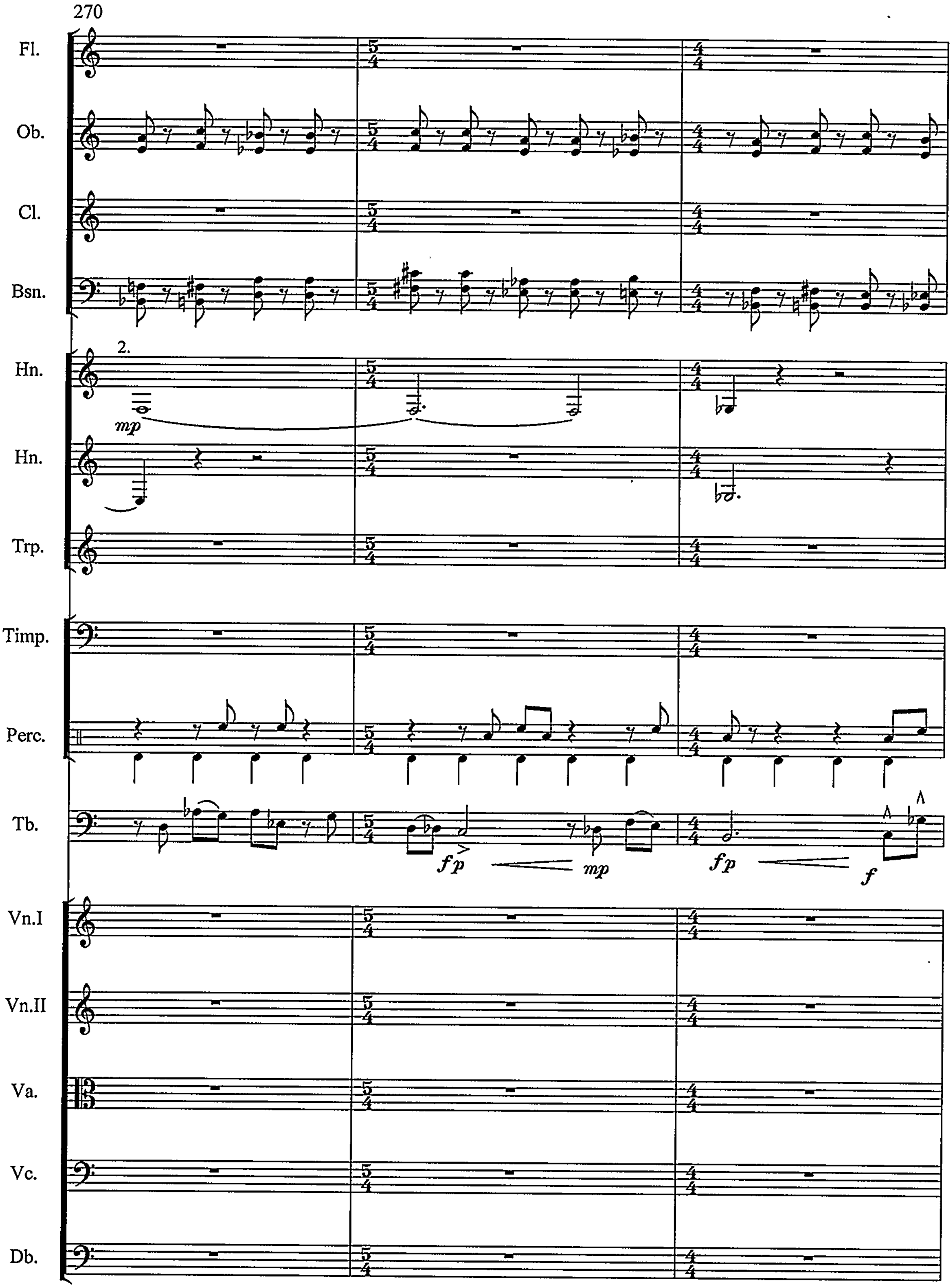

255
V
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
f
Timp.
ff
Perc.
Tb.
ff
Vn.I
Vn.II
Va.
mf
Vc.
mf
Db.

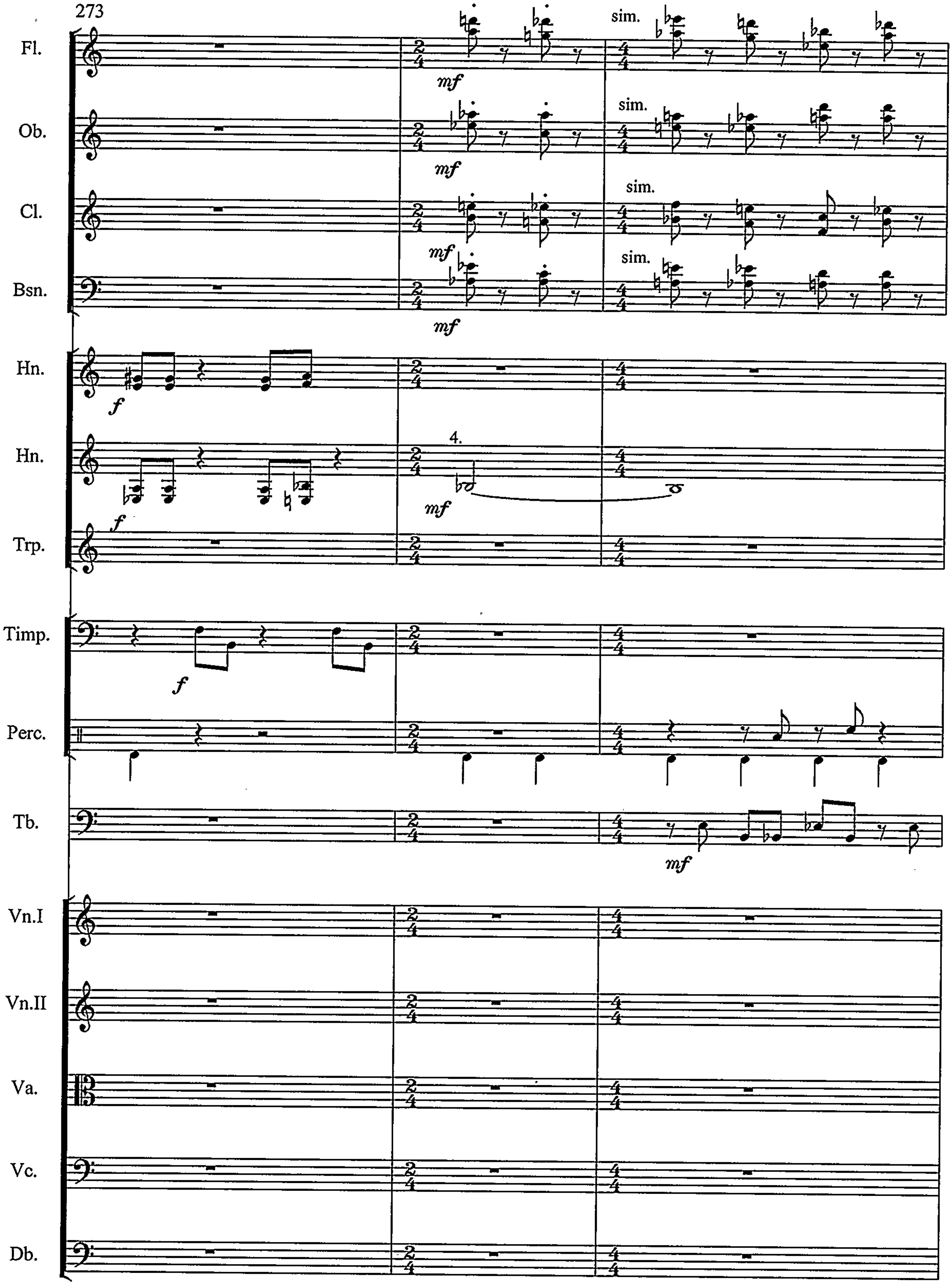

258
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
ff
f
mf
div.
sim.

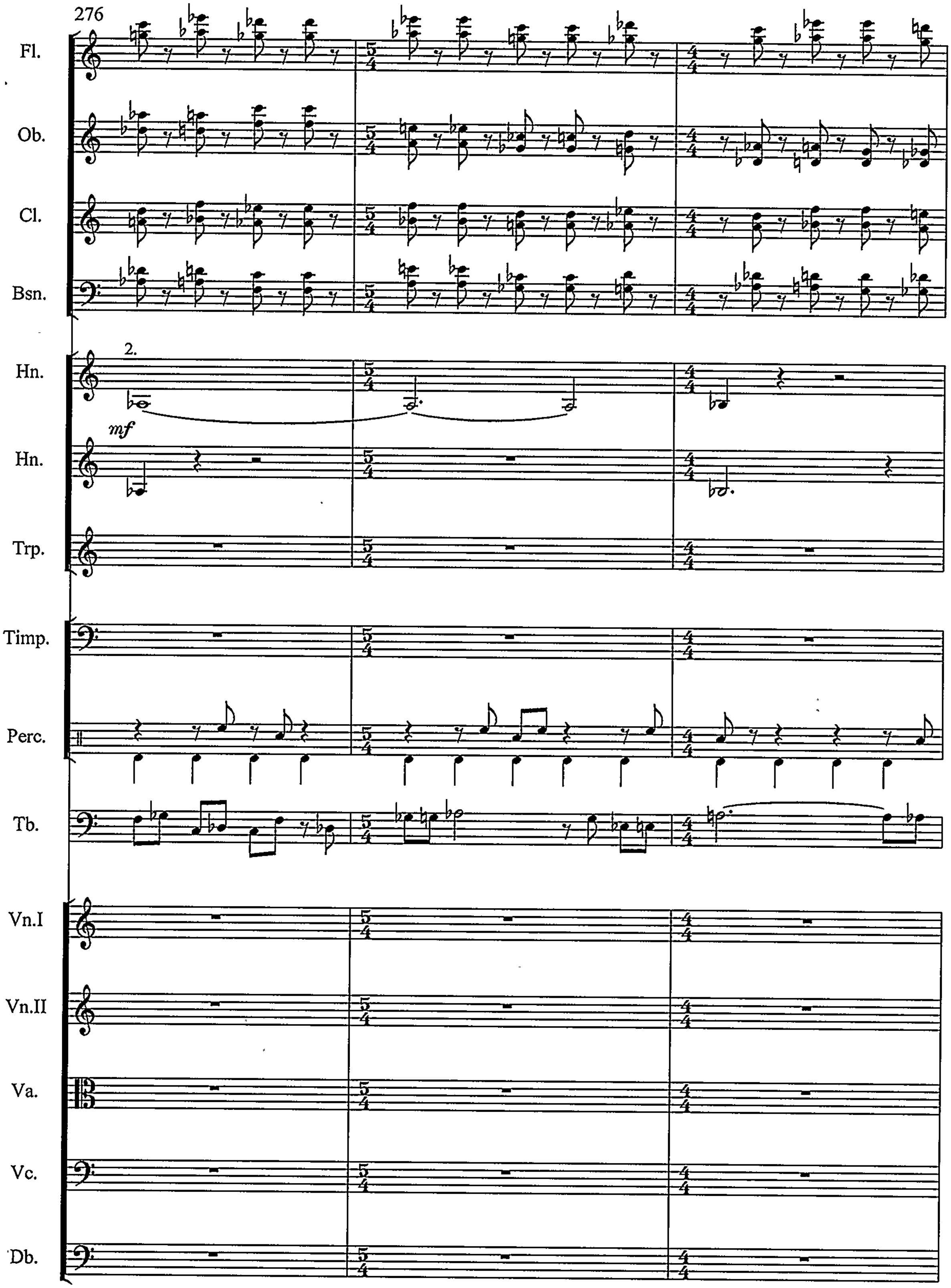

261
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
f
f
f
f

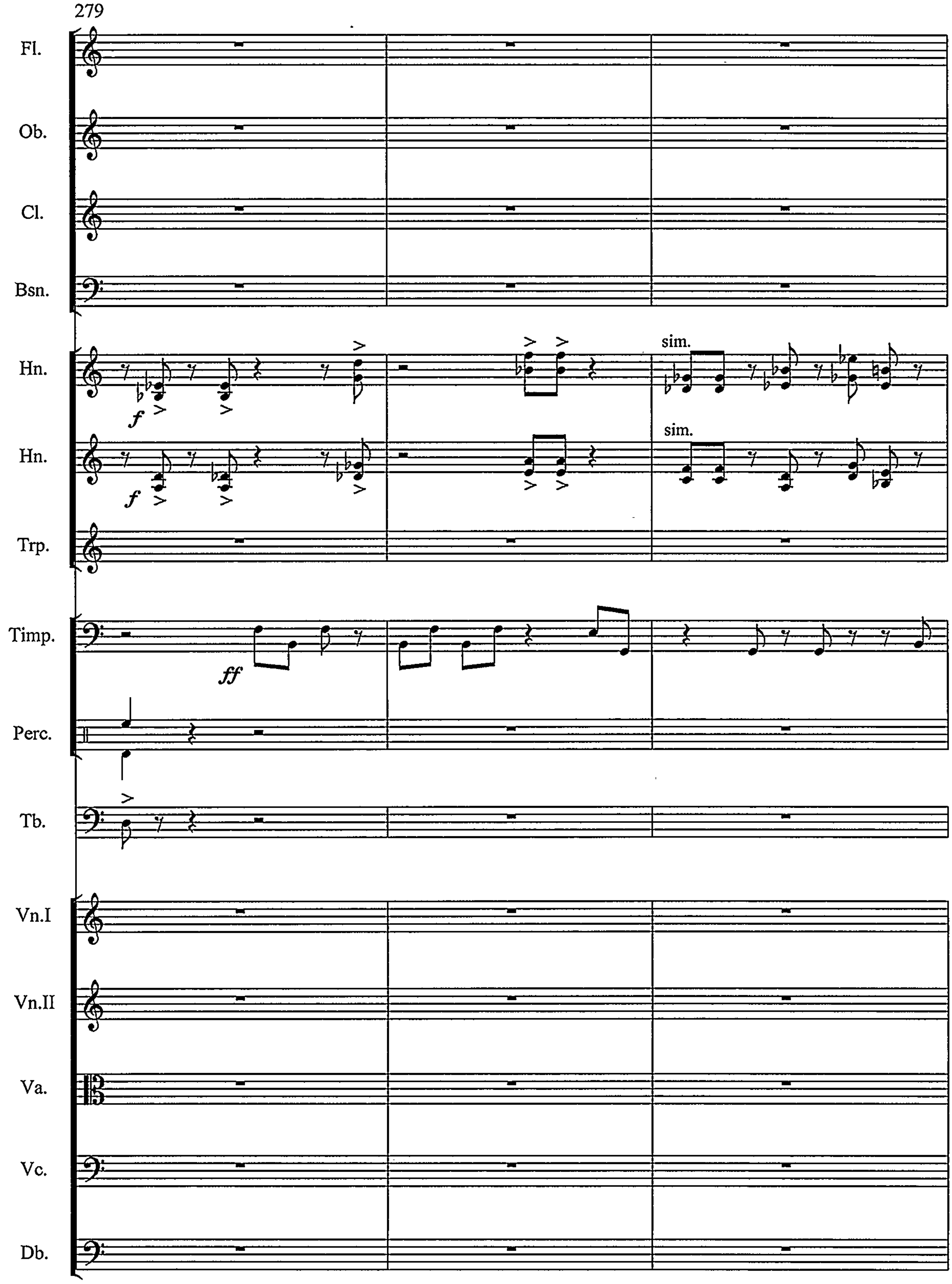

264
Fl.
Ob.
Cl.
Bsn.
Hn.
sim.
Hn.
sim.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
f
f
f
f

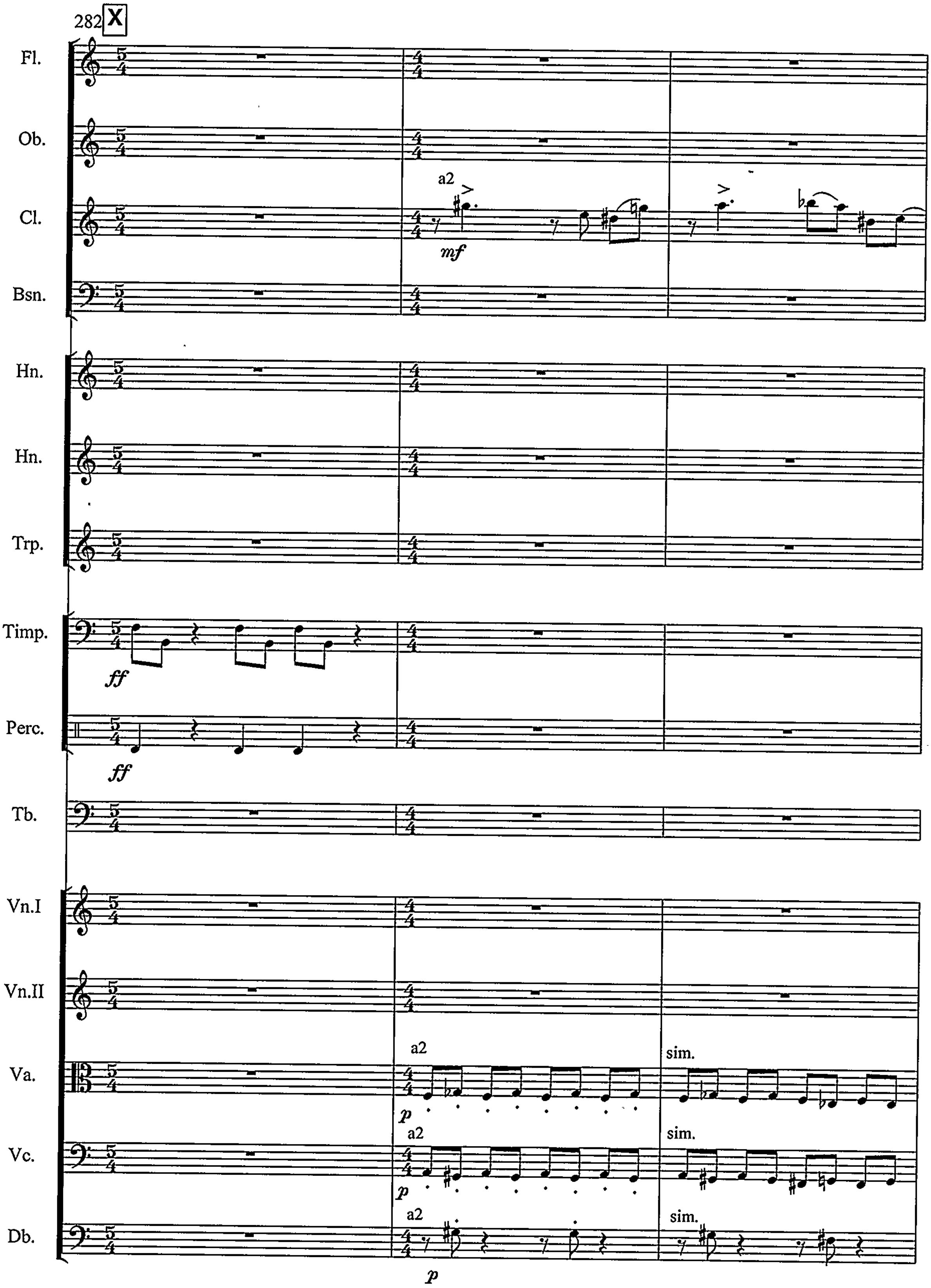

267
W
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
mp
sim.
mp
sim.
4.
mp
Bass Drum
Tom-Toms
p
mp
f
f

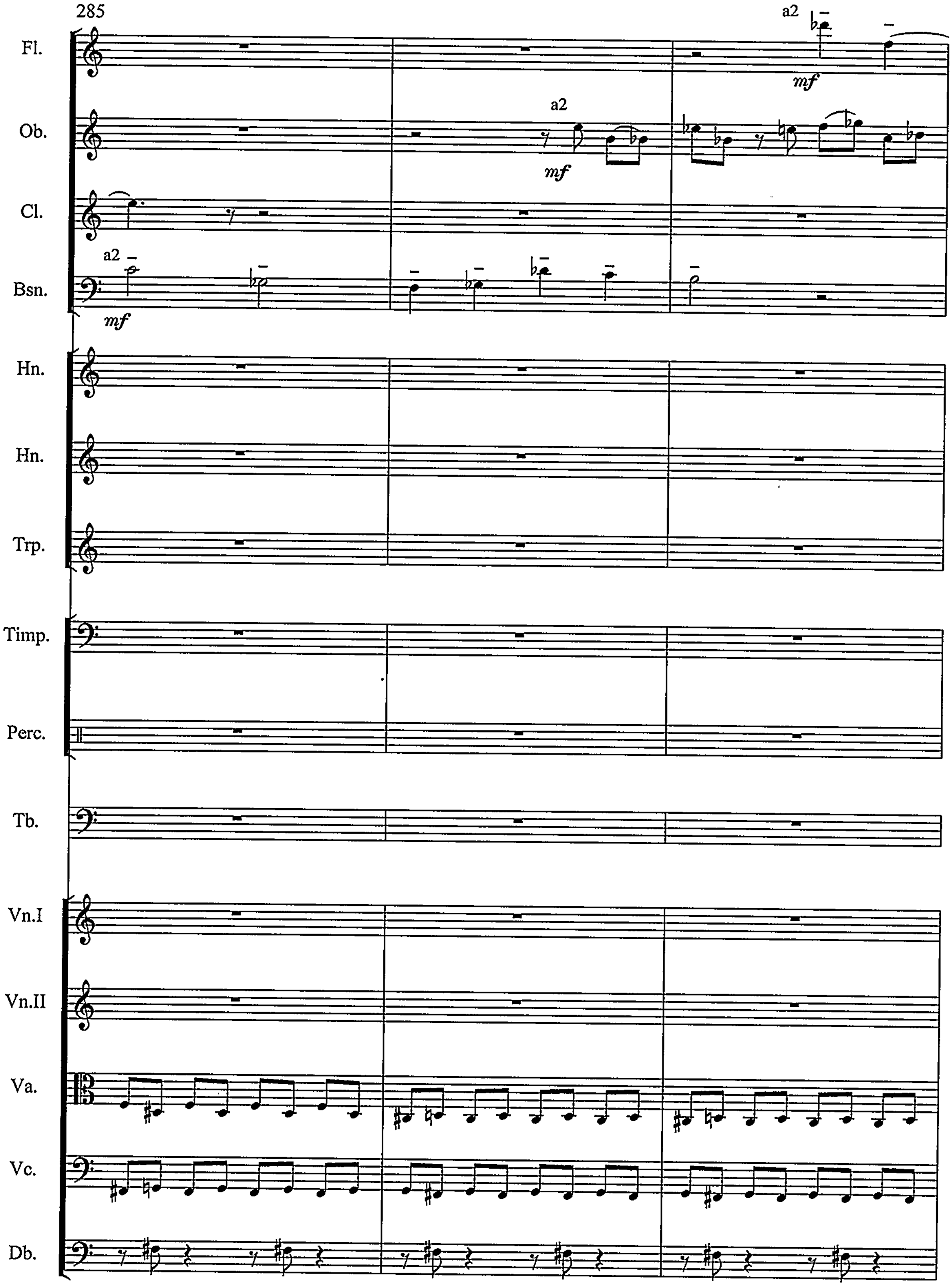

270
Fl.
Ob.
Cl.
Bsn.
Hn.
2.
mp
Hn.
Trp.
Timp.
Perc.
Tb.
fp
mp
fp
f
Vn.I
Vn.II
Va.
Vc.
Db.

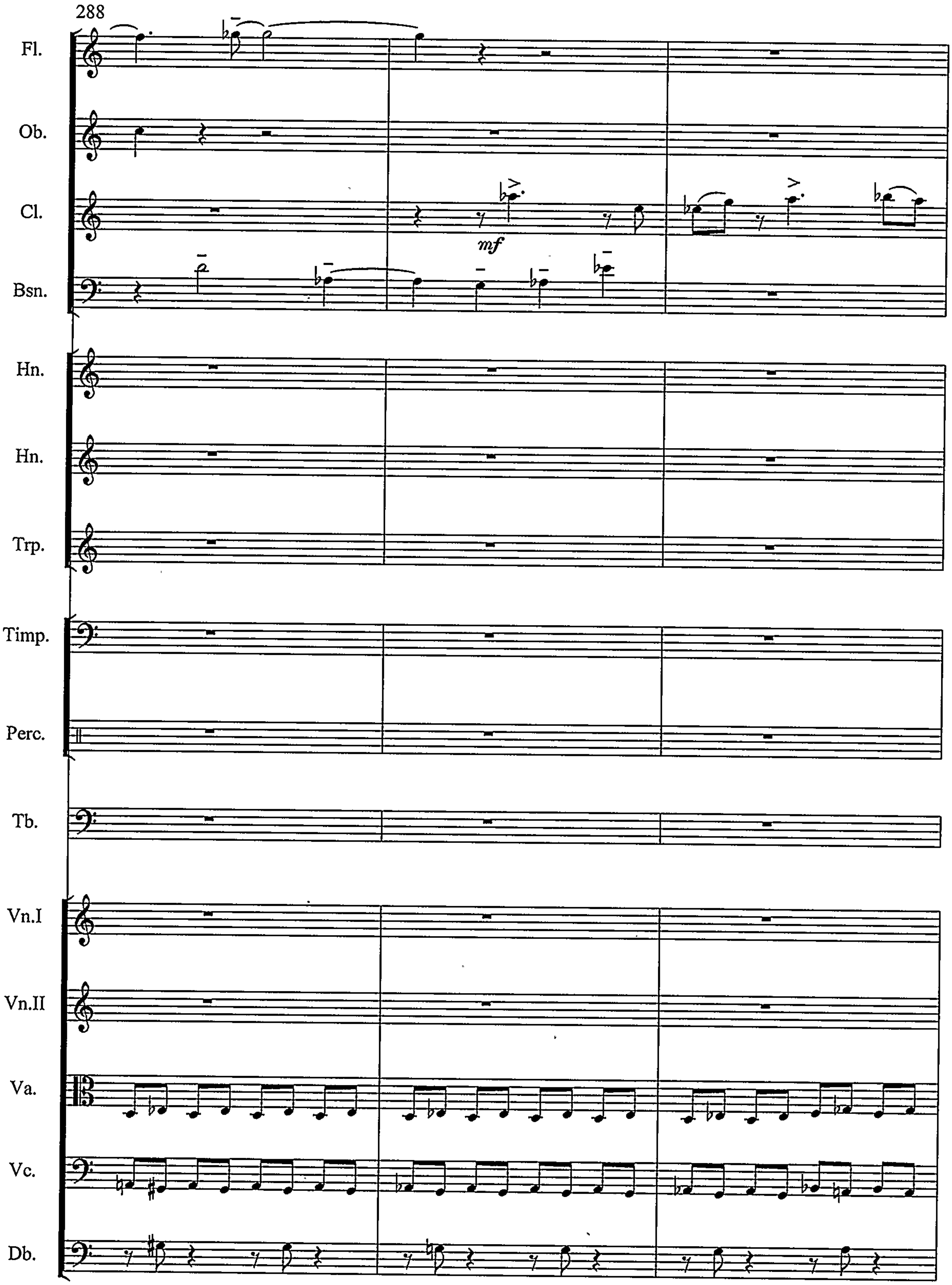

273
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
sim.
sim.
sim.
sim.
mf
mf
mf
mf
f
f
4.
mf
f
mf

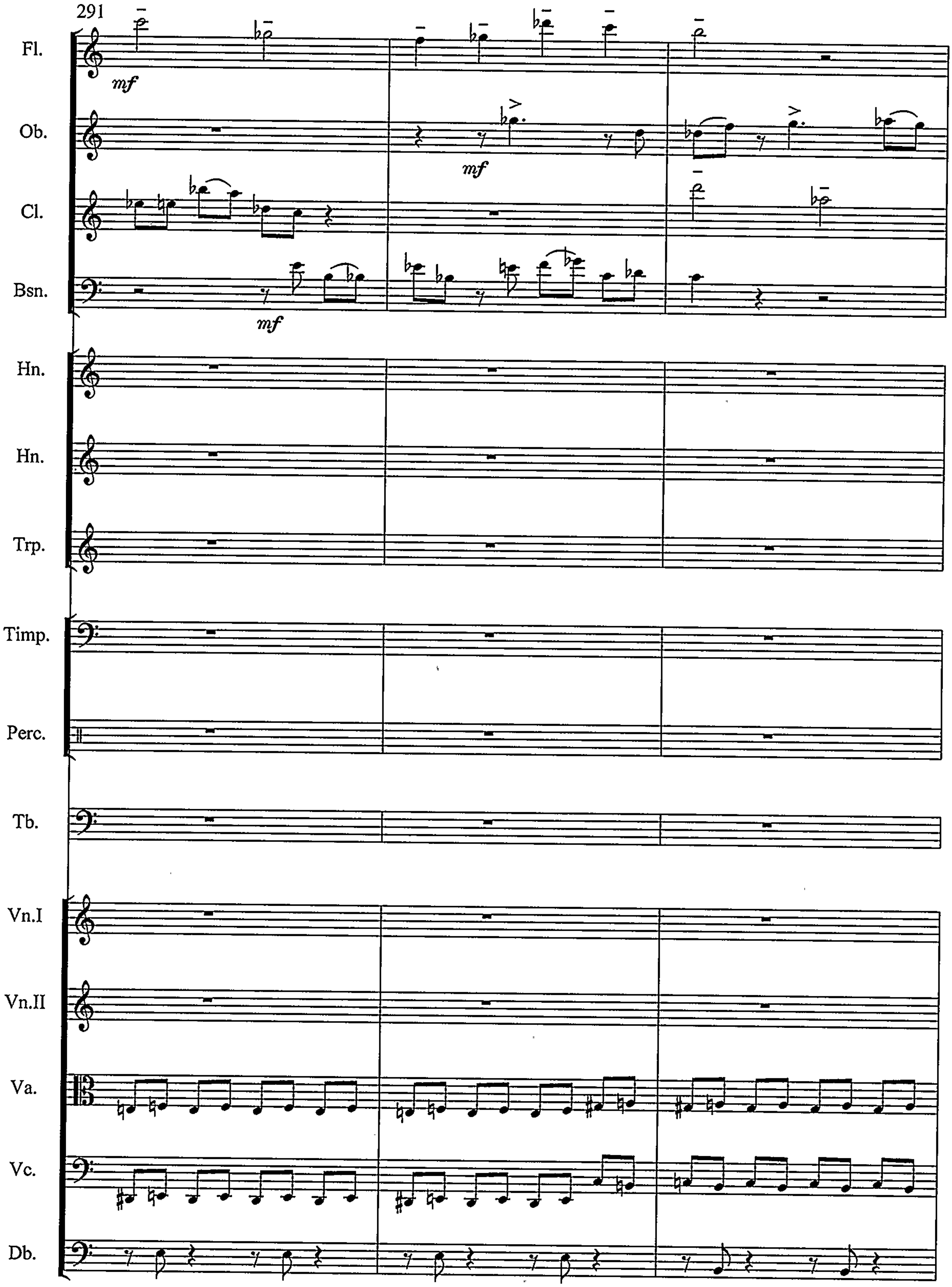

276
Fl.
Ob.
Cl.
Bsn.
Hn.
2.
mf
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

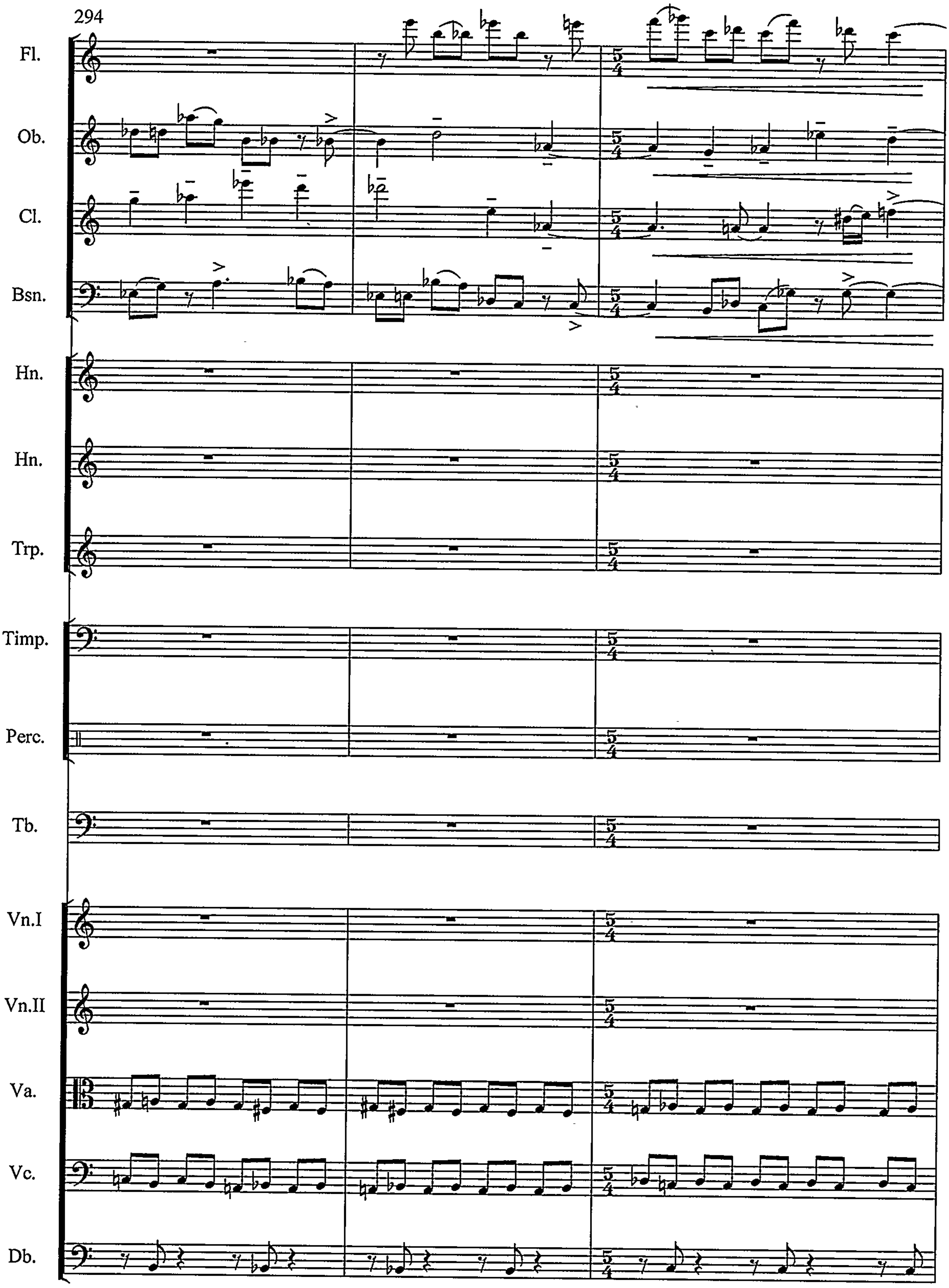

279
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
f
sim.
sim.
ff

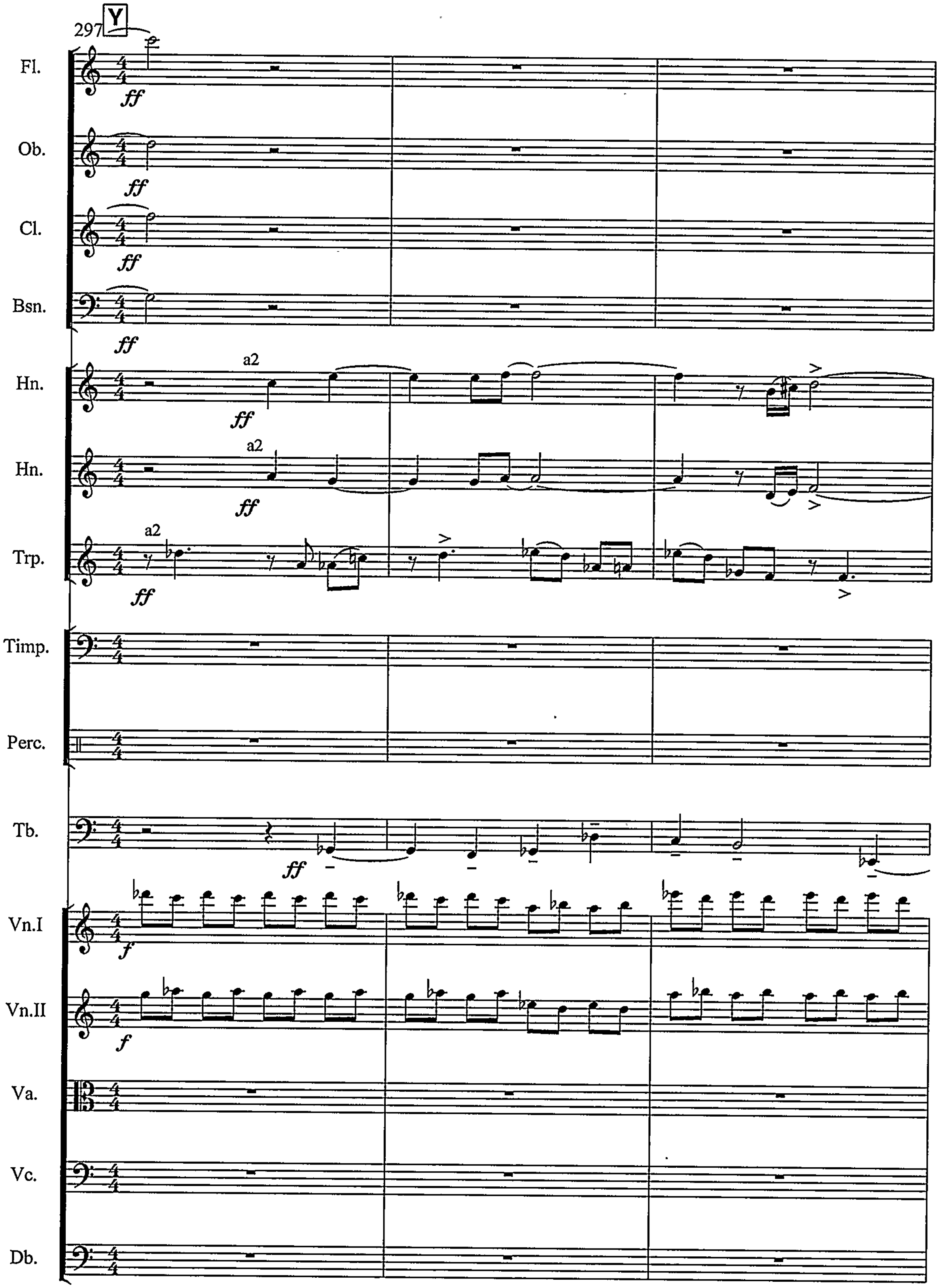

282
X
Fl.
Ob.
Cl.
a2
mf
Bsn.
Hn.
Hn.
Trp.
Timp.
ff
Perc.
ff
Tb.
Vn.I
Vn.II
Va.
a2
p
sim.
Vc.
a2
p
sim.
Db.
a2
p
sim.

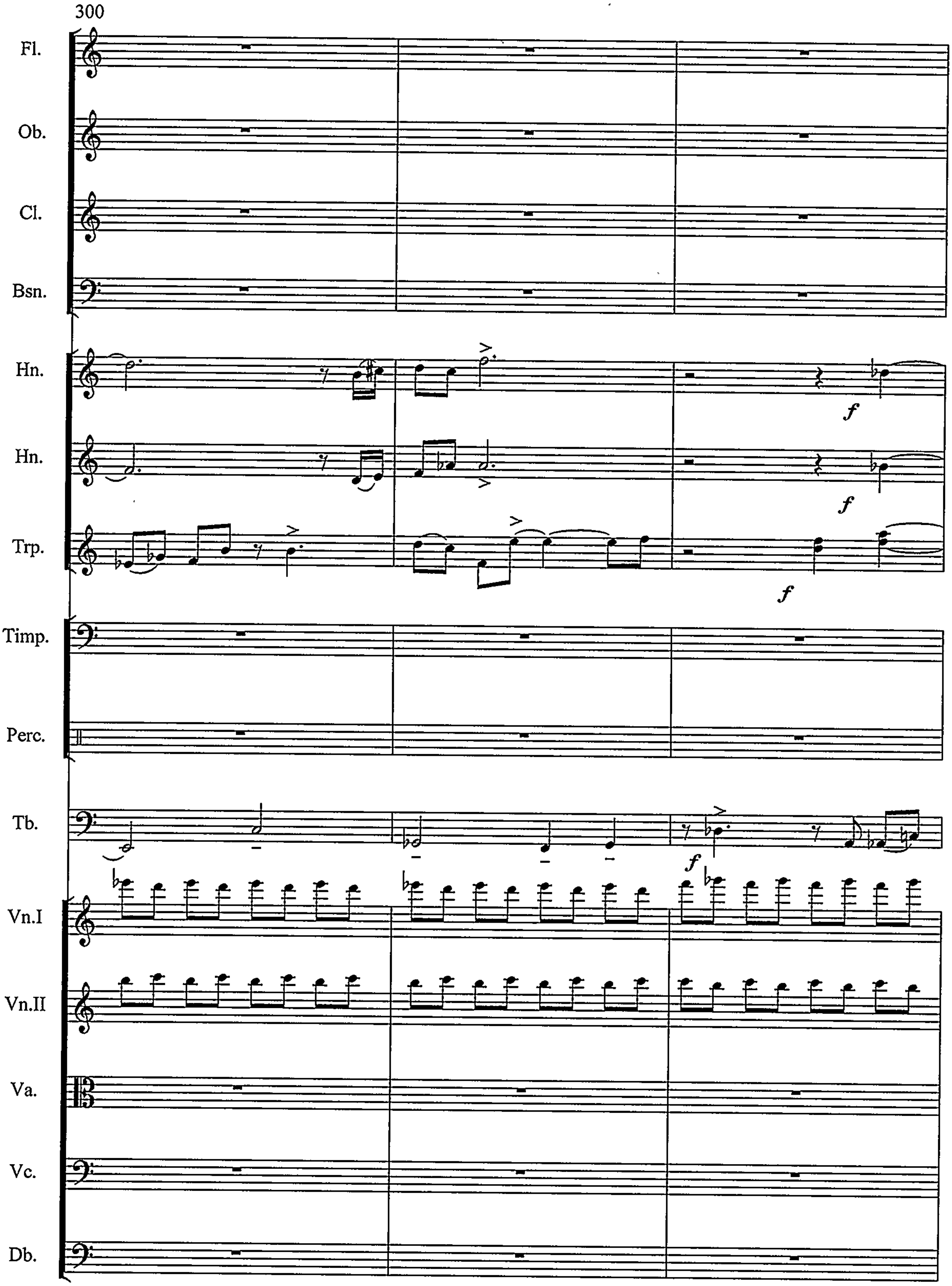

285
a2
mf
a2
mf
a2
mf
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

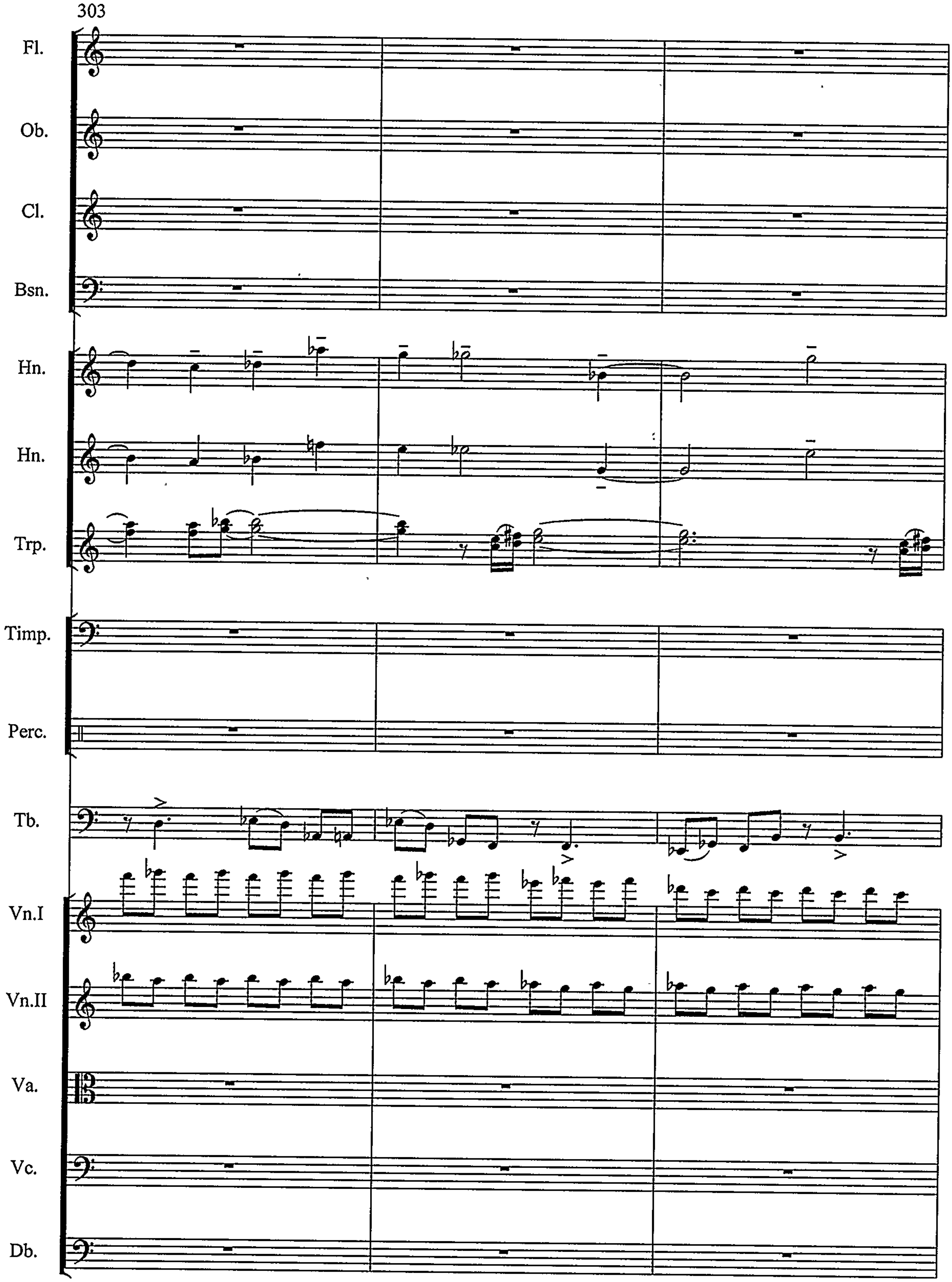

288
Fl.
Ob.
Cl.
mf
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

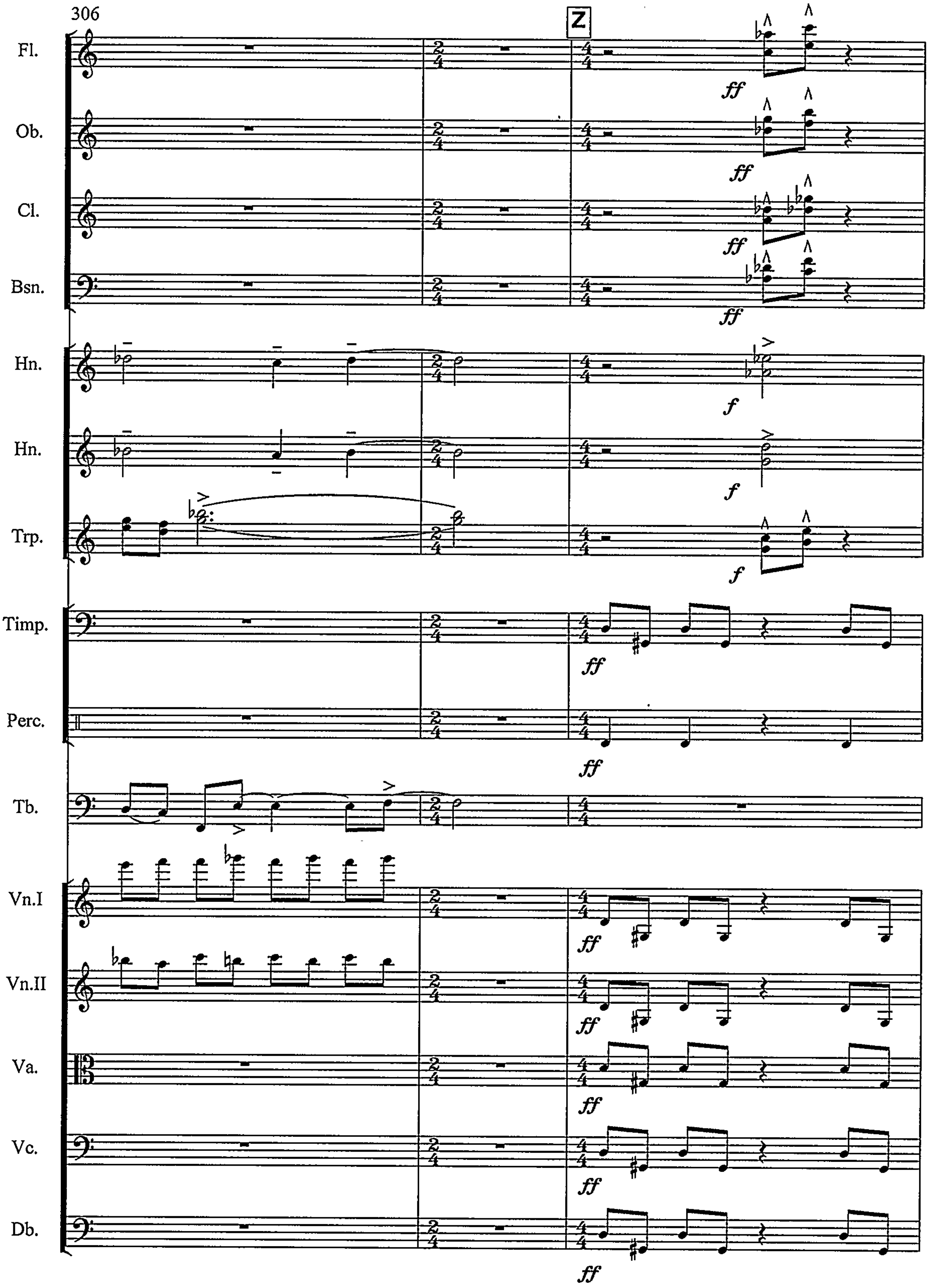

291
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
mf
mf
mf

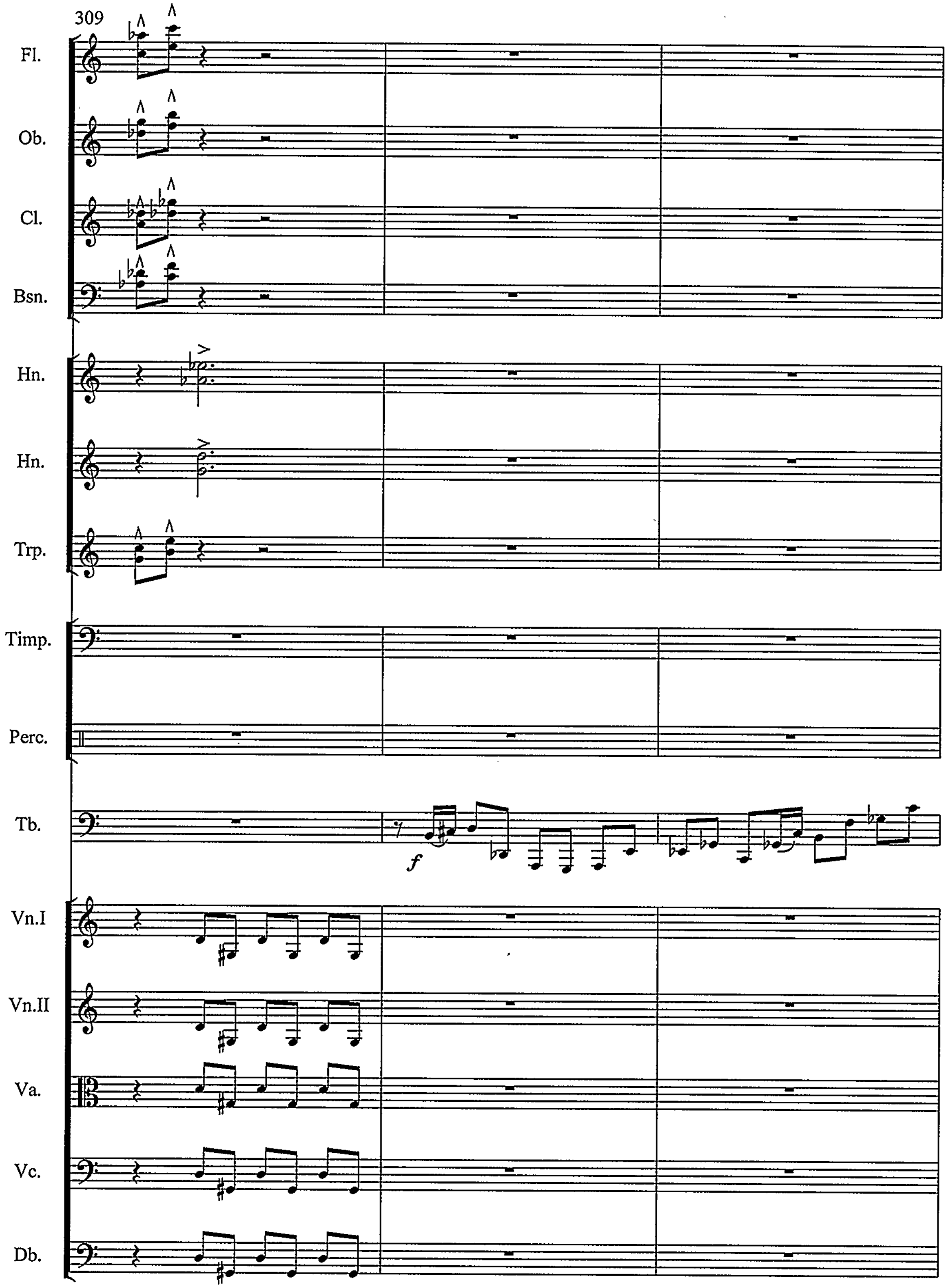

294
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.

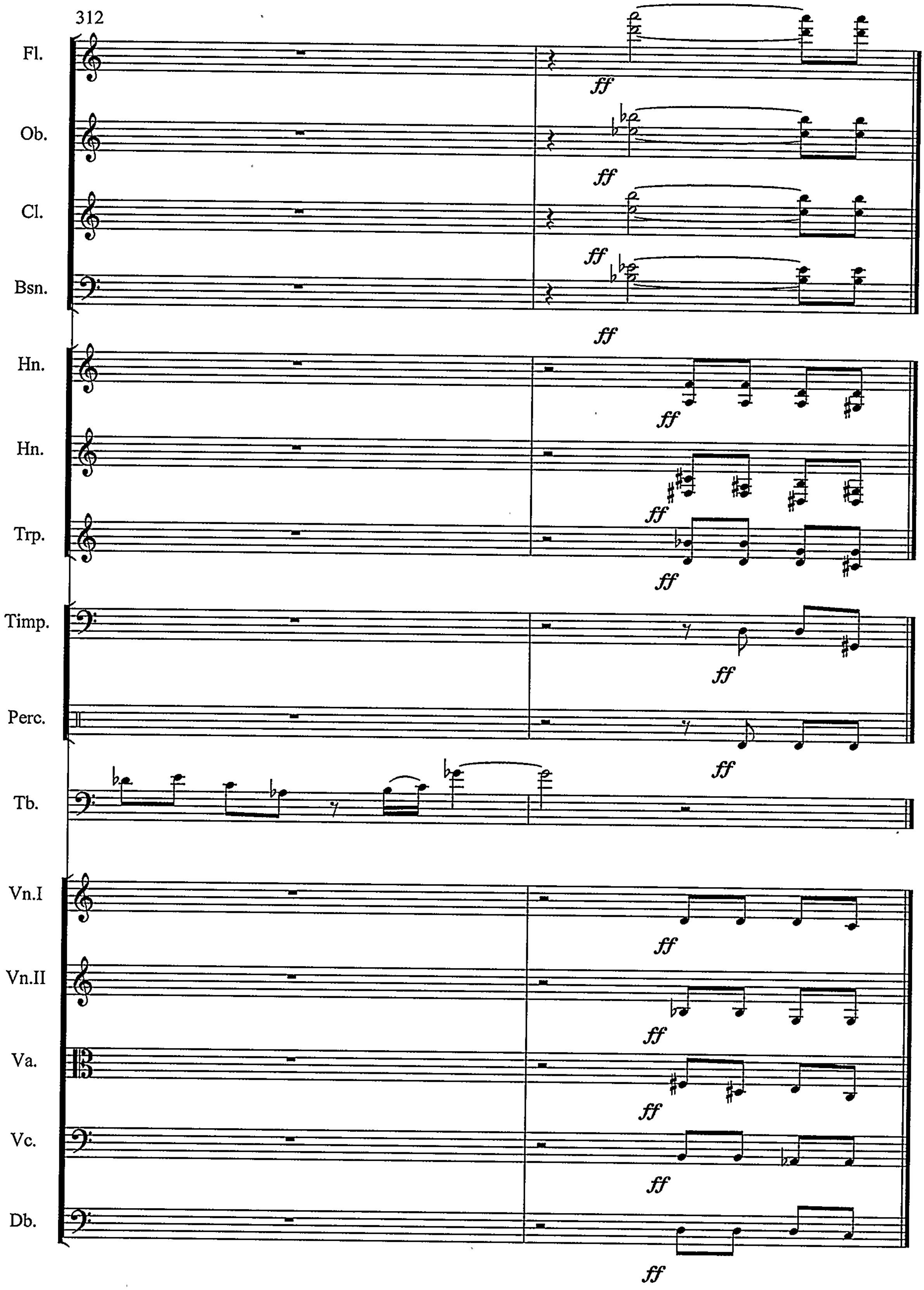

297
Y
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
ff
a2
f


300
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
f
f
f
f


303
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.


306
Z
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
ff
f


309
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
f
Vn.I
Vn.II
Va.
Vc.
Db.


312
Fl.
Ob.
Cl.
Bsn.
Hn.
Hn.
Trp.
Timp.
Perc.
Tb.
Vn.I
Vn.II
Va.
Vc.
Db.
ff