Commentary to Accompany Portfolio of Compositions

Benjamin Frederick Gaunt

Doctor of Philosophy

The Department of Music

Faculty of Arts and Humanities

The University of Sheffield

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Summary of Works & Recordings

All recordings are on accompanying USB drive unless stated otherwise.

1. **Steamhouse Noir** (c. 5')
for flute and cello
recorded by James Cairns and Michelle So, 26th April 2012: IABF, Manchester.

2. **The Dust of Long Dead Stars** (c. 4')
for flute trio
recorded by Tempest Flute Trio, 26th April 2012: IABF, Manchester.

3. **Drenched in Neon and Endless Rain** (c. 7')
for large ensemble
recorded by Sheffield Haydn Ensemble, 26th Feburary 2012: Firth Hall, Sheffield.

4. **Infected** (c. 5')
for oboe
recorded by Christopher Redgate, 6th June 2012: Upper Chapel, Sheffield.

5. **Seven Shrinking Machines** (c. 8')
for small ensemble
recorded by Icarus Ensemble, 21st November 2012: Bates Mill, Huddersfield.

6. **Three Catalysts** (c. 6')
for trumpet and percussion (no recording)

7. **Cataclysm** (c. 7')
for orchestra
recorded by Sheffield University Symphony Orchestra, 12th May 2013: Firth Hall, Sheffield.

8. **The Old Cataclysm Blues** (c. 7')
for small ensemble
recorded by Ensemble 10/10, 16th October 2013: Cornerstone, Liverpool.

9. **Revolution** (c. 6')
for mezzo-soprano and small ensemble
recorded by Sounds of the Engine House, 10th March 2014: Firth Hall, Sheffield.

10. **Zenir Nadith** (c. 6')
for soprano saxophone and piano (no recording)

11. **Factory Detritus** (c. 6')
for piano four-hands (no recording)

12. **The Inflation Ritual** (c. 15')
for trombone
recorded by Heider Nasralla, 28th July 2014: Copenhagen.

13. **Filling Rubin's Vase** (c.10')
for small ensemble
recorded by Sarah Nicolls, Oren Marshall and the London Sinfonietta, 20th August 2014: University of Surrey.

14. **In Absence of the Smoky God** (c. 7')
for ten singers (video of installation and video of live conducted performance)
recorded by Nick Cox, Pete David, Roo Foxo, Devon Francis, Angela Galvin, Jim Ghedi, Lyn Hodnett, Keitu Motlogwa, Luke Poot, and Linda Lee Welch, 17th August 2014: Beehive Works, Sheffield.

Acknowledgements

I would not have been able to complete this portfolio of compositions without the generosity and kindness of a number of people, to whom I am incredibly grateful.

Firstly, I would like to thank Dorothy Ker for her inspirational support, encouragement and attention to detail. Additionally, I am appreciative of Gary O'Shea's pedantry, and the illuminating conversations I have had with George Nicholson, Adam Stansbie, Alwynne Pritchard, Ian Gardiner, Piers Tattersall and Brendan Faegre.

I would also like to show gratitude to Icarus Ensemble, Giacomo Baldelli, and Huddersfield Contemporary Music Festival for a magical weekend in Reggio Emillia, where my doctoral research began to take shape.

I am indebted to all the musicians, organisations and festivals that have performed, programmed and promoted my work, especially Sound and Music and Sensoria Festival, who enabled me to embark on career-changing projects.

Finally, I would like to thank my parents for doing all the things great parents do when their son says he wants to become a composer.

Contents

1. Relinquishing Control

At the start of my doctoral studies, I was commissioned to write two short works that would feature in the same concert: *Steamhouse Noir* for flute and cello, and *The Dust of Long Dead Stars* for flute trio. Although *Steamhouse Noir* is a competent work, which explored many of my pre-doctoral concerns (mechanical textures, jazz inflections, and extended techniques), I consider *The Dust of Long Dead Stars* to be a far superior piece, an opinion reinforced by the positive audience response it received. It possesses a sense of excitement, vitality and completeness absent from the more austere *Steamhouse Noir*. I was intrigued by how two pieces written so close to one another could have such varied sonic impacts, and my attempts to understand this disparity fuelled my early doctoral research.

Both pieces contain elements of indeterminacy. *Steamhouse Noir* features a short, simple, box notation coda. By contrast, the guided improvisation in *The Dust of Long Dead Stars* is prominent, complex, structurally integral, and develops organically out of the opening material. Given that the more successful piece features improvisation more heavily, indeterminacy seemed a logical avenue to pursue further.

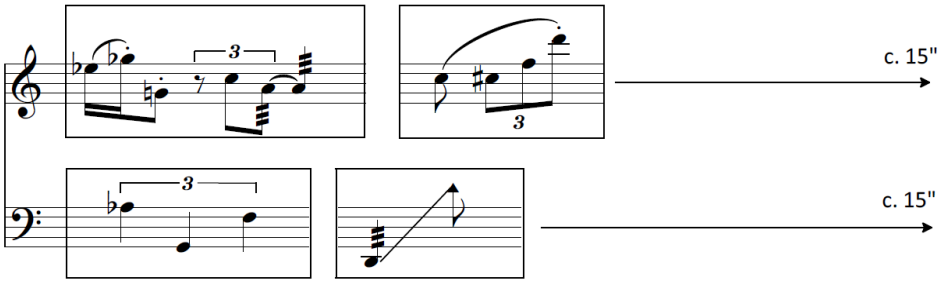

Figure 1 – box notation in Steamhouse Noir. In this example, both the flute and cello have been given two cells each. The flautist and cellist repeat their respective cells, independently and randomly swapping between the two for 15 seconds.

Rather than focus on developing new indeterminate techniques and notations, I instead challenged myself to integrate familiar indeterminate techniques into my existent compositional aesthetic. Consequently, I proposed two possibilities that I explored compositionally:

1. A piece mostly written using conventional notation, featuring a seamless transition to aleatoric notation, which satisfyingly concludes the piece, but is not discernibly aleatoric (ideally an audience member cannot hear that the piece uses aleatoric techniques, but if they can, they cannot tell when conventional notation ends, and aleatory begins).
2. A piece featuring guided improvisation, where the improvisation is structurally integral to the work, but is not discernibly improvisatory (ideally an audience member cannot hear that the piece is mostly improvisatory, but if they can, they cannot tell which elements of the piece are conventionally notated, and which are improvisatory).

I explored the first of these ideas in *Drenched in Neon and Endless Rain,* a work for large ensemble that features a box notation coda similar to *Steamhouse Noir*. In *Drenched in Neon and Endless Rain,*

however, the aleatory is more significant; it emerges seamlessly out of the previous section, references earlier material, and continues the piece's general feeling of descent.

The second idea was explored in *Infected*: the result of a series of workshops with oboist, Christopher Redgate. Here, the performer improvises within a number of limitations (including pitch range, speed, and section duration). At the end of each section, the oboist is instructed to play a short phrase which infects subsequent improvisation. Gradually, the improvisation becomes more complicated and manic as the number of infections increases. Thus, the improvisatory nature of the piece is not just crucial to its aesthetic, but also its structure and development.

After completing *Infected*, I attended a workshop in Italy with Icarus Ensemble, developing an inchoate piece that would later become *Seven Shrinking Machines.* I aimed to write something mechanical, angular and brutal, and devised a complicated sketch replete with guided improvisation, graphic notation, box notation, and independent tempi in an attempt to develop and extend my research into indeterminate music. The result was not musically satisfying; in using so many indeterminate techniques I had relinquished too much control. In previous pieces (particularly *Infected*) indeterminacy had aided the structure and aesthetic, but in this *Seven Shrinking Machines* sketch, aleatoric techniques were destructive. Rather than create an intricate, mechanical texture, the box notation and independent tempi possessed a cluttered, indistinct and unattractive quality. The overuse of improvisation and graphic notation resulted in a work that lacked a sense of narrative urgency. I came to the conclusion that I could write a more effective work if I abandoned indeterminate techniques.

2. Regaining Control

In re-evaluating the first four pieces, I noted the fourth most successful (*Steamhouse Noir*) had no discernible structure, the third most successful (*Drenched in Neon and Endless Rain*) had a somewhat discernible structure, the second most successful (*The Dust of Long Dead Stars*) had a clear structure and development, and the most successful (*Infected*) had a very clear structure and development:

Steamhouse Noir is shapeless, with no audible climax. I had intended soft, jazzy material to transform gradually into repetitive, mechanical cells, but the transition is not apparent enough for it to be successful and the resultant structure is unclear.

Drenched in Neon and Endless Rain was inspired by a descending Shepard tone, and is constructed of four sections. The first (bb. 1–48) is characterised by a clarinet melody rising through a chord sequence that begins at a high pitch and ends at a medium pitch. The second section (bb. 49–84) features a descending violin melody accompanied by a chord sequence that begins at a medium pitch, and ends at a low pitch. The third section (bb. 85–98) is a medium-pitch violin melody, over a low isorhythmic chord sequence. The fourth section (bb. 99–101) is a box notation coda that continues the sense of downward motion. Examining the piece in its entirety, the chords descend throughout, whilst the melody is arc-shaped (i.e. beginning low, rising to a highpoint at the centre of the work, and descending again).

The Dust of Long Dead Stars is a transitional piece; rather than having clearly defined sections, each section transforms seamlessly into the following section. A raucous opening gradually disintegrates into exuberant, overlapping arpeggios, which in turn collapse into a repeated staccatissimo motif, before melting into a quiet burbling that, after a short melody, vanishes into nothing.

Infected is another transitional piece insofar as it begins quietly, simply, within a small pitch range, and reaches a loud, complex climax using a larger pitch range. *Infected* instructs the performer to abide by certain restrictions when improvising, and with every new section, these restrictions change in a way that results in increasingly frenetic improvisation. Each individual section is not transitional, however (unlike *The Dust of Long Dead Stars*).

Singular Structures

In order to critique my own work, analyse the work of other composers, and write *Seven Shrinking Machines*, I coined the term ‘singular structure’. A singular structure is a piece of music or a section of a piece of music that is either:

- Transitional (i.e. has one or more criteria that changes gradually as the piece/section progresses, which is represented by an arrow)
- Static (i.e. has no criteria that changes gradually as the piece/section progresses, which is represented by a rectangle)

Drenched in Neon and Endless Rain is made up of two transitional singular structures, one static singular structure, and a final transitional singular structure, which combine to create one overarching transitional singular structure:

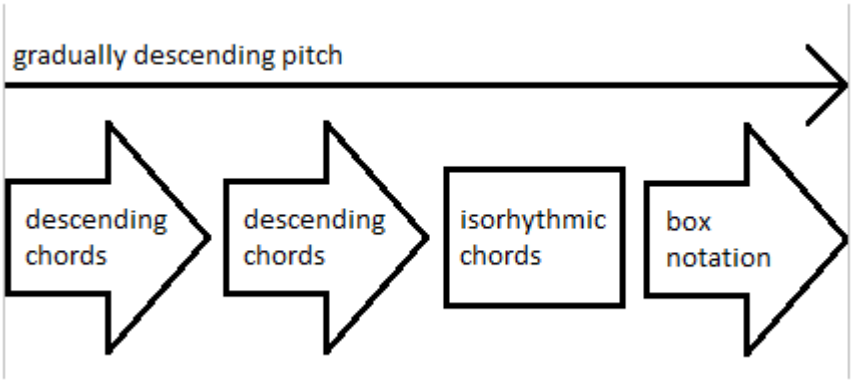

Figure 2 – structure of Drenched in Neon and Endless Rain

The Dust of Long Dead Stars is made up of five static singular structures, interspersed with four transitional singular structures, which combine to create one overarching transitional singular structure:

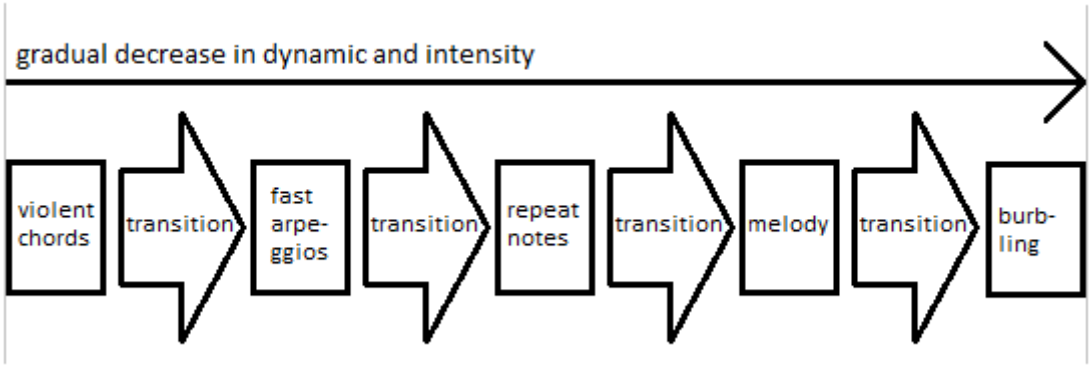

Figure 3 – structure of The Dust of Long Dead Stars

Infected is made up of nine static singular structures, which combine to create one overarching transitional singular structure, and a transitional singular structure coda:

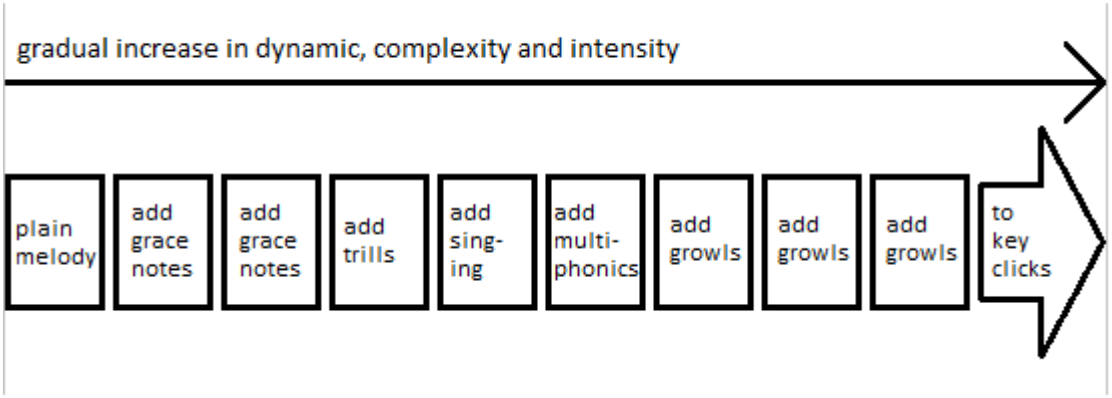

Figure 4 – structure of Infected

Of the four pieces, *Steamhouse Noir* is the least successful and is essentially structureless. The other three consist of an overarching transitional singular structure (although this is less audibly apparent in *Drenched in Neon and Endless Rain* than the other two works). The most successful piece is *Infected* which is comprised of an overarching transitional singular structure made up entirely of static singular structures; consequently, the piece's transition is not smooth but stepwise instead. *Seven Shrinking Machines* follows a similar model, but explores structure in a more methodical and mathematical way.

Putting Singular Structures into Practice

Seven Shrinking Machines is comprised of seven distinct sections, labelled A to G for analysis purposes. These seven sections are performed between one and seven times each, giving a total of twenty-eight static singular structures. At the start of the work, all seven sections (A to G) are presented in order. Then, section A is removed, and the remaining six sections (B to G) are presented in order. Then, section G is removed, and the remaining five sections (B to F) are presented in order. Then, section B is removed, and the remaining four sections (C to F) are presented in order. This process continues until there is only a single section (D) remaining:

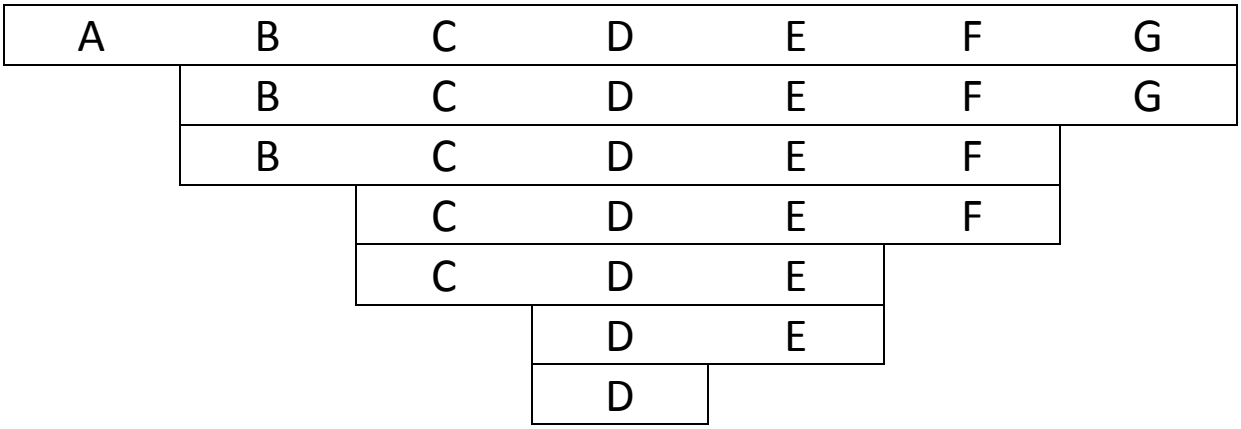

Figure 5 – structure of Seven Shrinking Machines

To aid the sense of structural shrinking, each section is two seconds shorter than the previous section, beginning with a 56-second A section and ending with a two-second D section. Additionally the highest note permitted in each section increases by a semitone so the piece begins with an A section where D4 is the highest note, followed by a B section where D#4 is the highest note, followed by a C section where E4 is the highest note. This process continues until the piece reaches its climax at the final D section, where F6 is the highest note.

As the piece progresses, it gets louder and higher in pitch, and through the decreasing lengths of successive sections, the piece feels like it builds momentum. Consequently, *Seven Shrinking Machines* gradually increases in intensity, and is therefore a transitional singular structure. In previous pieces, any overarching transitions (e.g. the increase in complexity in *Infected*) were a product of what was contained within each composite singular structure, and not a result of the structure itself. What makes *Seven Shrinking Machines* different is the increase in intensity is a direct result of the structural process. Satisfied with the quality of *Seven Shrinking Machines*, and happy

with the effectiveness of the structural process used to create it, I decided to devote the rest of my doctorate to experimenting with singular structures.

Three Catalysts consists of three movements each made up of three or four sections. The opening section of each movement features a near-identical trumpet melody (albeit with varying articulation, dynamics, mutes, and extended techniques). This melody is accompanied by the conga in the first movement, vibraphone in the second movement, and five temple blocks in the third movement. Each movement is an exercise in transition, and the percussion material acts as the catalyst for change.

In the first movement, 'Constant' the conga part remains unchanged throughout. After the initial melody, the trumpet part gradually becomes more rhythmical during the second section. In the third section, the trumpet part has become so mechanical that it is emulative of the conga part. The fourth section sees the trumpet part imitate the conga part in rhythmic unison. Therefore, the movement is a transitional singular structure, where the trumpet material gradually loses its identity and becomes analogous to the conga material.

The second movement, 'Changing', is also a transitional singular structure in which the instruments swap roles. In the first section the trumpet part is melodic, embellished with timbral trills. During the second section, the melody gradually disappears: timbral trills become semitone trills, then tremolandos of increasing interval width, before reaching perfect fifth tremolandos in the final section. The vibraphone part operates in reverse, beginning with perfect fifth tremolandos in the first section (acting as harmonic accompaniment to the trumpet melody). During the second section, these slow down, become staccato, and increase in interval width, climaxing in an octave deadstick melody in the third section.

The opening melody in the third movement, 'Absent', is accompanied by a temple block bisbigliando motif, which gradually disappears during the first section (initially played on five temple blocks, then four, then three etc.) During the second section, the trumpet part begins to emulate the temple block motif by vocalising, key clicking, and ripping up and down the harmonic series. In the third section, the temple block motif is gradually reintroduced, and is hocketed with analogous material in the trumpet. The fourth section, containing identical material in both instruments, acts as a coda to the movement and the piece as a whole.

Cataclysm is an attempt to subvert the structural process of *Seven Shrinking Machines.* In *Seven Shrinking Machines,* the length of each section decreases as the piece progresses, resulting in a structure that feels like it is shrinking and compressing. *Cataclysm* functions in the opposite manner; the length of each section increases as the piece progresses, resulting in a structure that feels like it is expanding and exploding. The content of each section in *Cataclysm* compliments the structural expansion; this is unlike *Seven Shrinking Machines*, where the content of each section bears little relation to the overarching structural process. The first section is a slowly pulsating chord: a static singular structure. The second section is a transitional singular structure, whereby the chord disintegrates and collapses in on itself, resulting in a unison burbling in the third section, accompanied by fragments of material. From the fourth section to the final eighth section, the piece decreases in textural complexity. The fourth section is made up of five independent parts (the burbling from previous sections, an arpeggio motif, a cello melody, a descending staccato figure, and

chords that fade in and out). In the fifth section, the burbling is removed and the other four parts remain (although the arpeggios are more intermittent, the melody is now higher and played on oboes and strings, the staccato figure has become more disjunct, and the chords are more prevalent). In the sixth section, the arpeggios are removed and the other three parts remain (the melody is now even higher, the disjunct figure is more prevalent, and the chords are gradually becoming shorter). The seventh section is essentially a duo between two distinct melodic lines; one of these is a continuation of the melody heard previously, the other is a variation of the staccato figure. The eighth section features a grand monody only. Consequently, the piece is a transitional singular structure because of both its structural process (gradual increase in section length) and material (gradual decrease in textural complexity). Furthermore, some of the sections feature transitional elements. For example, in the fifth section, the disjunct figure gradually becomes less staccato, culminating in its legato incarnation in the sixth section. Another example exists in the third section, where fragments of material in the flute and tuned percussion grow with each repetition, transitioning smoothly to the fourth section.

The Old Cataclysm Blues contains structural processes similar to those found in both *Seven Shrinking Machines* and *Cataclysm*. The opening (bb. 1–48) contains twelve static singular structures, of gradually increasing length, in a similar fashion to the expanding process in *Cataclysm.* As a consequence of this process, the material contained within each singular structure grows and develops: the range of the trumpet melody widens, the clarinet countermelody becomes more ornate, and a double bass glissando motif emerges and grows. The next section (bb. 49–102) is constructed using a contracting structural process, similar to that used in *Seven Shrinking Machines*. The start of each singular structure gradually becomes more violent and prominent, from the cello pizzicato notes of bars 49, 56 and 62, to the violin pizzicato dyads and double bass buzzes of bars 68, 73 and 78, to the snap pizzicato, overbowing and string slapping of bars 82, 86 and 89, to the glissandi and flutter-tongued chords that accelerate into the next section (bb. 103–167). This contains twenty static singular structures, of gradually increasing length. Each singular structure begins with the aggressive chord (heard earlier), followed by chaotic Dixieland material. The progressive increase in the length of each singular structure means the chords are heard less and less frequently, resulting in a perceived loss of momentum. A sense of deceleration is even more apparent in the final bars of this section (bb. 157–167), where note lengths increase and the tempo decreases. A short transitional singular structure (bb. 168–178), where a chord repeats and shrinks, concludes the piece.

Having composed a piece with a contracting structural process (*Seven Shrinking Machines*), a piece with an expanding structural process (*Cataclysm*), and a piece that combines both contracting and expanding structural processes (*The Old Cataclysm Blues*), I wrote *Revolution*: a piece with no structural process, constructed of six sections of equal length. The entire work is a transitional singular structure, however, as the vocalist's material becomes more prominent with each passing section. Initially, the singer is silent. Then, in the second section, she performs unpitched techniques, emulating the instrumentalists. The third section features the first pitched notes for the vocalist, albeit ones shared with other instruments (e.g. in bar 45, the singer's C♯s are in unison with the oboe, and the A is in unison with the clarinet). In the fourth section, for the first time, notes are sung that are not shared with other instruments, but these are limited to a single pitch. In the fifth section, the singer performs an accompanied melody, which develops into an unaccompanied

melody in the sixth section. Additionally, many of these sections are transitional singular structures. The first section is the most simple: a rhythmically complex pattern gradually builds in layers. In the second section, every performer has an independent motif that becomes shorter with each repetition (e.g. the oboe motif lasts eleven beats (bb. 25–27). This is repeated, without the final beat, resulting in a motif that lasts ten beats. Then this is repeated without the final beat, resulting in a motif that lasts nine beats. This process continues until the motif has shrunk to a single note: the final B♭ of bar 44). In contrast to this reductive process, the third section is constructed using an additive process. The ensemble performs a single chord, then repeats this and adds a new chord, then repeats these two chords and adds a new chord. This process continues until the pattern of chords is ten beats long (bb. 59–61). The fourth section is a transitional singular structure, comprised of smaller transitional singular structures. Bars 62–67 contain ostinati that diminuendo and decay over nineteen beats. Bars 68–72 contain similar ostinati, totalling seventeen beats in length. Bars 73–77 contain similar ostinati, totalling fifteen beats in length. This process continues, shortening the length of each set of decaying ostinati by two beats, until the final one which is three beats long (bar 91). The fifth and sixth sections are both static singular structures.

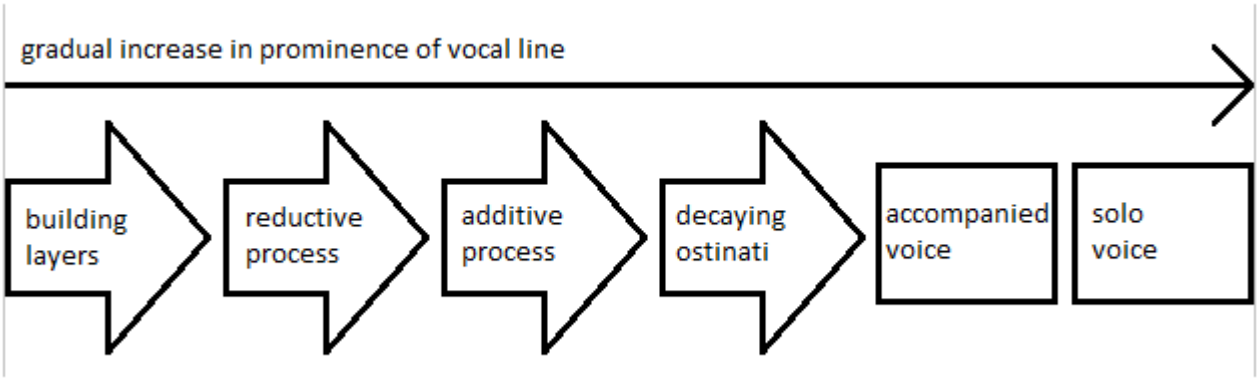

Figure 6 – structure of Revolution

Temporal Node Points

Zenir Nadith is essentially two simultaneous transitional singular structures. In homage to Conlon Nancarrow's *Study for Player Piano No. 21,* soprano saxophone material begins extremely quickly and gets slower, while piano material begins extremely slowly and gets quicker. Unlike the Nancarrow work, where the simultaneous acceleration and deceleration is smooth, the process in *Zenir Nadith* happens in stages. The piece is split into 23 sections, each of six bars. The first section features saxophone trills that gradually descend in pitch, and slow to semiquavers, accompanied by a single piano chord. The second section contains fewer saxophone notes (72), and two piano chords. The third section contains fewer saxophone notes (48), and three piano chords. From the fourth section onwards, the number of saxophone notes decreases by four, and the number of piano notes/chords increases by one. As a consequence of this process, the central twelfth section features an equal number of notes/chords in both instruments. Here, the saxophone and piano are playing in rhythmic unison. The remaining eleven sections are a mirror image of the first eleven; the number of piano notes/chords increases by four and the number of saxophone notes decreases by one. The piece concludes with a shrill saxophone wail, and a series of descending piano arpeggios

that get faster and lower – the opposite of the piece's opening. Occasionally, the process yielded a rational ratio between the number of saxophone notes and the number of piano notes/chords (e.g. section 21 contains three saxophone notes and 48 piano notes, for a ratio of 1:16). On seven occasions, I chose to exploit these relationships and construct sections where the ratios can be easily heard (e.g. the 6:1 ratio of the sixth section is rendered as six triplet crotchet saxophone notes per bar, accompanied by a piano semibreve); I call these sections 'temporal node points'.

Section	Number of Saxophone Notes	Number of Piano Notes/Chords	Temporal Node Points
1	Many	1	
2	72	2	36:1
3	48	3	16:1
4	44	4	
5	40	5	
6	36	6	6:1
7	32	7	
8	28	8	
9	24	9	
10	20	10	
11	16	11	
12	12	12	1:1
13	11	16	
14	10	20	
15	9	24	
16	8	28	
17	7	32	
18	6	36	1:6
19	5	40	
20	4	44	
21	3	48	1:16
22	2	72	1:36
23	1	Many	

Figure 7 – structure of Zenir Nadith

Although the majority of sections are static singular structures, a few are transitional singular structures; for example, the central section contains twelve chords of six notes, five of which are played on the piano, and one performed on saxophone. The saxophone plays the lowest note of the first two chords, the second lowest note of the next two chords, and the third lowest note of the next two chords. This process continues until it is playing the highest note of the final two chords. This swapping of roles in this section (the piano higher than the saxophone at the beginning, the saxophone higher than the piano at the end) echoes the overall structure of the piece (the piano slower than the saxophone at the beginning, the saxophone slower than the piano at the end).

The Inflation Ritual is a transitional singular structure, consisting of sixteen movements that progressively grow in length, pitch range, volume and complexity. Initially, the opening movements are relatively shapeless, with little variation in dynamic and pitch. As the piece progresses, the movements become more prominently arc-shaped. These arcs increase in size, so the later

movements span the entirety of the trombone's range. The final arc is so large that it overinflates, and the piece ends with a 90-second descent symbolic of the piece collapsing in on itself. Throughout the first five movements, the trombonist is muted and facing away from the audience. The trombonist turns to face the audience but remains muted for the following four movements. The trombonist is unmuted for the next four movements, and then plays into a snare drum for the final three movements. This progression – from a subdued tone to a raucous, distorted one – emphasises the piece's sense of inflation and growth. As the piece develops, it also becomes increasingly complex. The first movement contains just one idea; long notes with varying levels of vibrato. The second movement is similar. The third movement contains two ideas: the long notes are bookended by short mechanical motifs. The fourth movement is similar. The fifth movement contains three ideas, as does the sixth movement. The seventh movement contains four ideas, and the eighth movement is similar. This process continues until the final two movements, which each contain eight distinct ideas. The four ideas emerging in the centre of each movement are labelled A–D, and the four at the ends of each movement W-Z:

- A – long notes with varying levels of vibrato
- B – rapidly tongued glissandi
- C – syncopated augmented triads
- D – tremolando minor thirds
- W – notes performed with oo-ee mouthshape
- X – large glissandi with singing and growling
- Y – small glissandi
- Z – mechanical motifs

Each movement is constructed as follows:

Movement	Structure
I	A
II	A
III	Z A Z
IV	Z A Z
V	Z B A B Z
VI	Z B A B Z
VII	Z Y B A B Y Z
VIII	Z Y B A B Y Z
IX	Z Y C B A B C Y Z
X	Z Y C B A B C Y Z

XI	Z Y X C B A B C X Y Z
XII	Z Y X C B A B C X Y Z
XIII	Z Y D C B A B C D X Y Z
XIV	Z Y D C B A B C D X Y Z
XV	Z Y X W D C B A B C D W X Y Z
XVI	Z Y X W D C B A B C D W X Y Z

Figure 8 – structure of The Inflation Ritual

Thus, the arc shape of each movement is influenced not only by the pitch and dynamic contour (a low, quiet opening; a loud, high middle; and a low, quiet end) but also by its nonretrogradable structure.

3. Interval Palettes

My love of puzzles, patterns and mathematics manifests itself in the logic of the singular structure methodology. Similarly, a lot of the pitch material in my music is constructed using numerical processes and restrictions. In order to generate pitch content, I have devised a method of restricting intervals that I call interval palettes. For example, an interval palette of 1/3/5 means I restrict myself to using minor seconds (1), minor thirds (3), perfect fourths (5), and the inversions of these intervals; perfect fifths (5), major sixths (3) and major sevenths (1). Intervals not contained within the palette are not used, but they can still be reached by using combinations of permitted intervals. For example, in 1/3/5, a major third (4) is forbidden; however, the perfect fourth can be outlined by using a combination of 1, 3 and 5 intervals, as shown in the examples below:

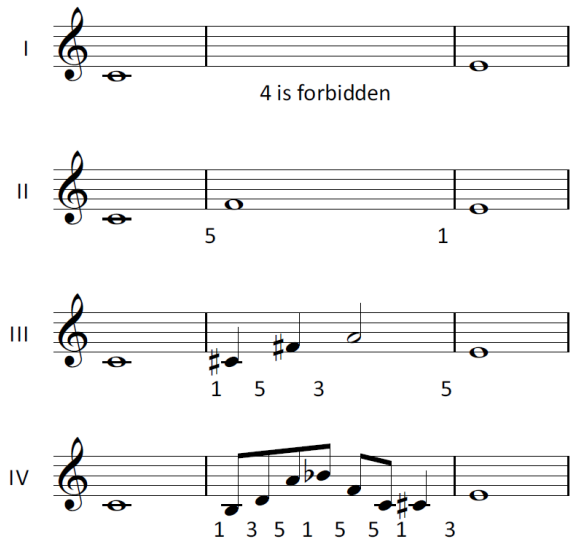

Figure 9 – three different methods of using 1/3/5 to outline a perfect fourth

Example I shows that the E cannot immediately follow the C as major thirds are forbidden in 1/3/5. Examples II, III, and IV indicate different ways in which the E can be achieved, using permitted intervals.

I also use interval palettes to generate harmonic material; for example, 1/3/5, can generate a wide variety of chords:

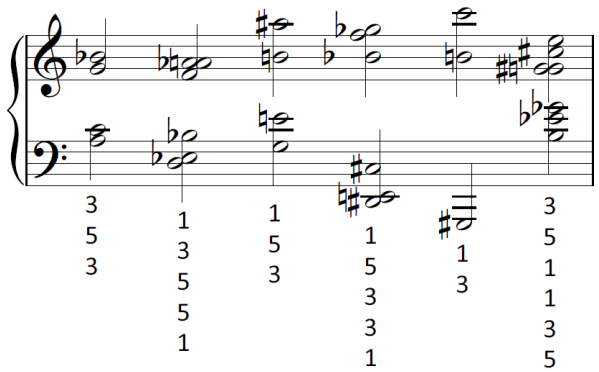

Figure 10 – chords constructed using 1/3/5 (the numbers below indicate the intervals used)

Using only certain intervals gives the chords a particular quality that would not be present if a different interval palette was used; however, since pitches are not restricted (any pitch can be heard as long as the interval palette permits its existence) a composer has control over the range, colour and pitch density of each chord.

There are a number of interval palettes that are difficult to use effectively. For example, 1/2/3 is quite restrictive as it only allows for very small or very wide intervals, and eliminates fourths and fifths of any kind. 4/5/6 can result in some lovely harmonic material, but the lack of small intervals makes melodic writing hard. Mathematically, when one interval palette number is a divisor of another, the resultant interval palette is likely to be restrictive. Consequently, 2/4/6 is probably the least useful interval palette as two is a divisor of both four and six, and any resultant harmonic or melodic material will inevitably conform to the whole-tone scale.

Much of the melodic and harmonic material in *Three Catalysts* is constructed using 1/3/5. Given that the outer movements feature unpitched percussion (and thus an absence of harmony), the interval palette is used only to create the winding trumpet melody. The central movement contains a vibraphone part, however, which provides harmonic accompaniment, and therefore 1/3/5 is used to construct both melodic and harmonic material. In the opening section of *Changing* (bb. 1–19), the vibraphone performs perfect fifth tremolandos; the interval between one tremolando and the next always adheres to 1/3/5 (as shown below). In the middle section (bb. 20–44), the trumpet begins performing timbral trills, which become semitone trills, then tremolandos that expand in interval, all of which conform to 1/3/5 until they are perfect fifths (emulating the vibraphone's opening material). In the middle section, the vibraphone also goes through a process of interval expansion; the perfect fifth tremolandos become major sixths, major sevenths, then octaves (all permitted in 1/3/5). Thus, even when other processes are taking place, the trumpet and vibraphone both adhere to the interval palette technique; however, this interval palette only applies to each individual instrument – incidental harmonies created by simultaneous pitch in both instruments do not necessarily conform to 1/3/5.

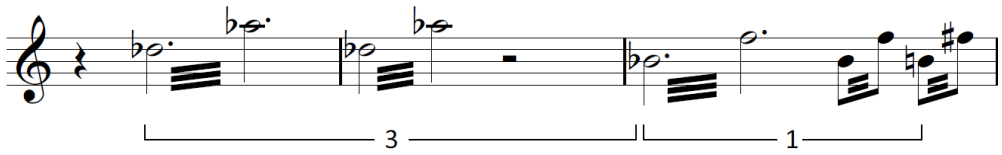

Figure 11 – vibraphone material in the second movement of Three Catalysts is constructed using 1/3/5

The Old Cataclysm Blues features a more complicated use of the 1/3/5 interval palette. In the opening section (bb. 1–48), the trumpet part is generated using the interval palette, except for the acciaccaturas, which are always a semitone away from the note that follows. At the start of each singular structure (marked by double barlines), the clarinet begins on the same note as the trumpet, but diverges into elaborate acciaccatura flourishes and long notes, all of which conform to 1/3/5. The violin and cello also begin each singular structure on the same note as the trumpet, and then independently slide downwards, in accordance with the interval palette. Harmonies between the violin and cello often conform to 1/3/5. The second section (bb. 49–102), features singular structures (again, marked by double barlines) all of which begin with a chord. The first chord (b. 49)

features a unison concert D in the clarinet and cello, and a concert A in the trumpet, creating an interval of a perfect fifth, which is permitted by 1/3/5. As the section progresses, the chords that begin each singular structure (which become louder, denser and more aggressive) all adhere to the interval palette, as do the climactic chords at bars 98 to 102. These chords form the backbone of the next section (bb. 103–167); each of the twenty singular sections begins with one of these chords, and continues with Dixieland-inspired material that melodically adheres to 1/3/5.

The opening to *Revolution* (bb. 1–24) features four independent ostinati, each of which adheres melodically to the 1/3/5 interval palette. As the piece develops, the melodic material undergoes other processes, and the influence of the interval palette decreases. However, the 1/3/5 interval palette returns in the final two sections (bb. 92–116 and bb. 117–148), where it is used to construct the vocalist's melody.

Although *Cataclysm* does not strictly adhere to an interval palette, certain sections do feature specific intervals prominently. For example, in order to achieve a sense of expansiveness and power in the final section, only ascending and descending major thirds and descending perfect fifths were used. During the early stages of composition, I had intended the work to be written using strict interval palettes. However, as the piece developed it because clear that some of the more complex textures would be impossible to realise in this manner, and so the technique was softened.

Seven Shrinking Machines features a more complex use of interval palettes than any of my other works. Rather than using a single palette throughout, the palette changes in accordance with the overall structural process. The first seven sections (A to G, bb. 1–89) are all constructed using the 1/2/5 palette. As per the structural process, A is removed, and the following six sections (B to G, bb. 89–146) are constructed using a different palette (1/2/6). Therefore, although similar material is presented in both the first B section (bb. 15–28) and the second B section (bb. 90–100), the character and colour is altered slightly on account of the fact that different intervals are permitted and forbidden. This pattern continues – every time a section is eliminated the palette changes, as shown below:

ABCDEFG	BCDEFG	BCDEF	CDEF	CDE	DE	D
1/2/5	1/2/6	1/3/4	1/3/5	2/3/4	2/4/5	2/5/6

Figure 12 – interval palettes in Seven Shrinking Machines

There are a total of 20 three-number interval palettes; in order to create *Seven Shrinking Machines* I selected my favourite seven. There is a systematic approach to the order in which these seven palettes appear. Given that the smallest numbers result in the largest non-compound intervals (e.g. 1 permits use of a major seventh, 2 permits use of a minor seventh), as well as the fact I wanted to achieve a sense that the piece is shrinking, the numeric value of the palettes increases as the piece progresses.

I tend to use interval palettes containing three numbers; I have found using only two numbers to be rather restrictive (useful, perhaps, for a single melodic line or a short section but less suitable for anything more substantial) and four numbers to be too permissive (allowing so many intervals that it is barely worth employing the palette).

4. Rhythmic Techniques

Whilst I often use structural processes and pitch generation processes in order to devise entire pieces, I tend to approach rhythm more intuitively. Prior to my doctoral studies, I composed a long alto saxophone work where the rhythm was constructed using a complex mathematical process. I intend for singular structures and interval palettes to be audible (i.e. these processes and restrictions have a noticeable effect on the outcome of the piece), and I feel they give me control over development and pitch content. The rhythmic process used in the alto saxophone work was not audible (I believe I could have written something equally effective without the process), and was more time consuming than if I had written intuitively. Consequently, I tend to avoid using large-scale rhythmic processes (i.e. processes that generate the rhythmic material for an entire work). I do, however, use small-scale rhythmic processes (i.e. processes that generate the rhythmic material for a section) if I believe they are audible and beneficial:

Inspired by minimalist phase shifting, 'independent ostinati' is a technique featured in *Seven Shrinking Machines, and Revolution.* In order to create independent ostinati, there must be two or more simultaneous musical lines. Each line consists of a repeating cell of a different duration to the cells in other lines. For example, in *Seven Shrinking Machines* (bb. 29–41) the flute cell is four crotchets long, the clarinet cell is five crotchets long, the accordion left-hand cell is six crotchets long, the electric guitar and accordion right-hand cell is seven crotchets long, and the percussion and bass cell is ten crotchets long. This creates a complex texture of cross-rhythms, simultaneously static and fluid, possessing a mechanical quality.

A similar technique is used in the fourth section of *Revolution* (bb. 62–91). The opening six bars of this section are constructed using a four-crotchet clarinet cell, a five-crotchet cello cell, and a six-crotchet oboe cell. Although these cells repeat (and therefore form independent ostinati) they also go through a decaying process; for example, the first oboe cell (bb. 62–63) is a five-note melody. The first time it repeats, the D is removed, and it becomes a four-note melody. On the second repetition, the C is removed, and it becomes a three-note melody. The clarinet and cello parts go through a similar reductive process, resulting in a mechanical texture that disassembles.

In the sketches to *Seven Shrinking Machines*, I experimented with superimposed tempi. Although I eventually abandoned the sketch, I decided to use a similar technique when composing the Dixieland section (bb. 103–167) in *The Old Cataclysm Blues*. In the *Seven Shrinking Machines* sketch, I had used box notation and written instructions to realise superimposed tempi. In *The Old Cataclysm Blues* I aimed to achieve a similar effect using standard notation, in order to balance chaos and accuracy. Although this technique occurs throughout the Dixieland section, bar 121 is a particularly good example. Here, the bassoon is playing a rhythm that alternates between crotchets and quavers, achieving a slow swing. Simultaneously, the violin is playing a triplet crotchet and quaver rhythm, achieving a faster swing, and the clarinet is playing a nonuplet quaver and semiquaver rhythm, achieving an even faster swing. For every four bassoon notes there are six violin notes, and nine clarinet notes. Consequently, the violin swing is 1.5 times as fast as the bassoon swing, and the clarinet swing is 1.5 times as fast as the violin swing, resulting in the illusion of three different, independent tempi.

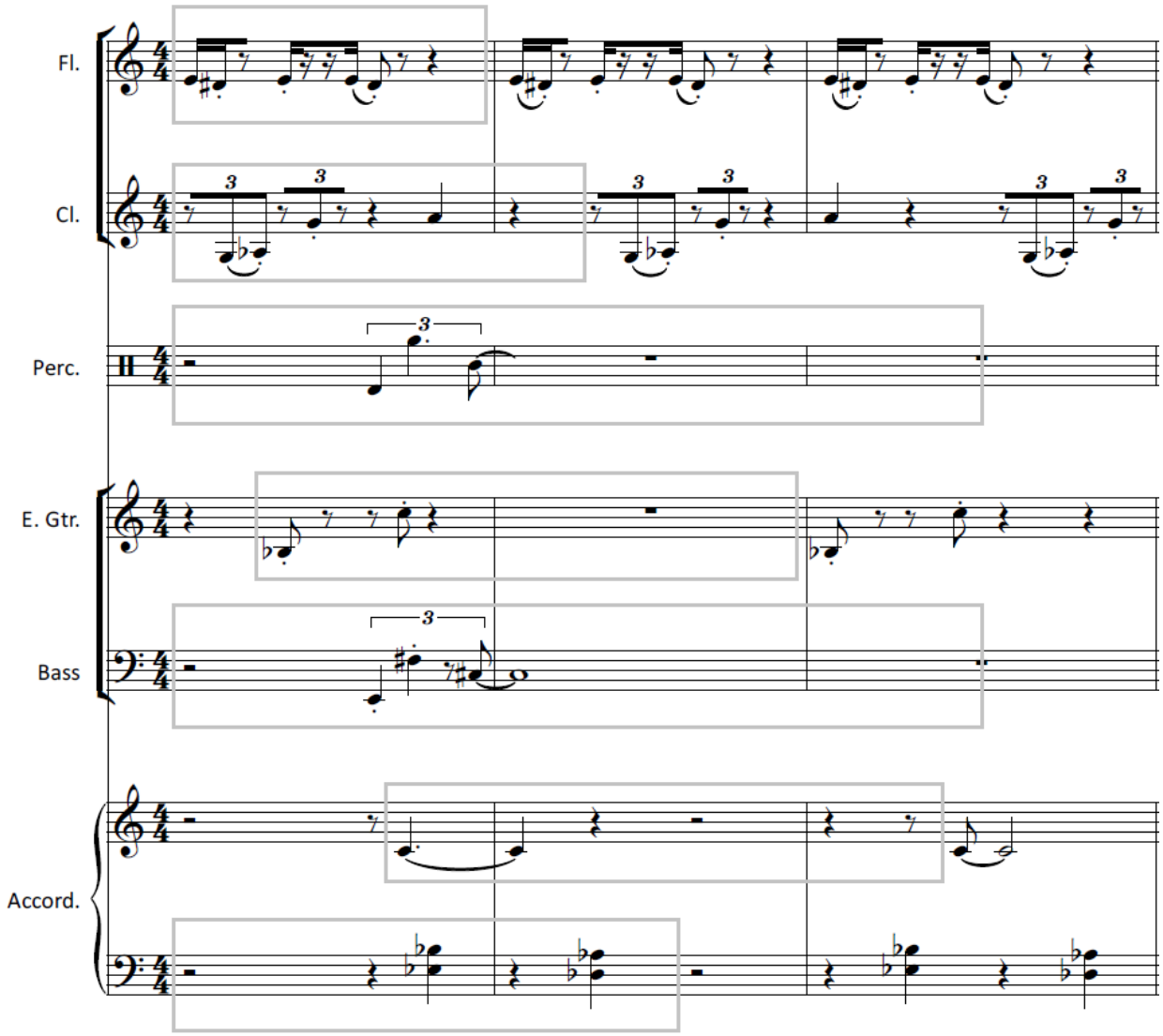

Figure 13 – independent ostinati in Seven Shrinking Machines (boxes indicate the length of each repeated cell)

I use isorhythms in bars 85 to 98 of *Drenched in Neon and Endless Rain* in the bassoon, French horns and double bass. Here, a repeated pattern of seven chords is applied to a rhythm of five notes. This is accompanied by a repetitive violin melody of a different duration to the isorhythm, thus resulting in independent ostinati.

Much of my music is pulse-driven; even when rhythms are complex (and independent ostinati or multiple simultaneous tempi are used) there often exists an audible sense of pulse. There are times, however, when it is desirable to obscure the beat using 'written-out rubato'. Rather than compose a musical line using simple rhythms and give the performer control over the temporal ebb and flow, I maintain control by artificially inducing a sense of rubato (using ties, duplets, tuplets, nested tuplets and other rhythmic devices that can hide or distort the pulse).

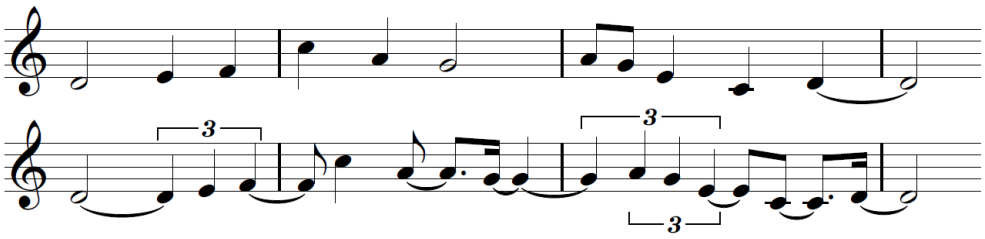

Figure 14 – the lower melody is a written-out rubato version of the upper melody

I have used written-out rubato in a variety of ways:

1. I often write two or more simultaneous lines that undergo independent rubato, and therefore I have complete control over how these lines rhythmically interact;
2. I have experimented with combining rubato and non-rubato material (e.g. bars 55 to 67 of *Seven Shrinking Machines* features a written-out rubato guitar and flute melody accompanied by a rhythmically regular motif on the clarinet);
3. I artificially emulate an accelerando or ritardando without changing the underlying tempo, which I achieve by progressively decreasing or increasing note lengths (e.g. the trumpet melody in bars 68 to 70 of *The Old Cataclysm Blues*). Occasionally, I write multiple musical lines that independently increase or decrease in speed at different rates, (e.g. in bars 162 to 167 of *The Old Cataclysm Blues* the clarinet, bassoon, violin and double bass all undergo independent ritardando; in each part note-lengths gradually increase, but at different rates, so no two parts are rhythmically synchronised).

5. An Aesthetic Study of Seven Shrinking Machines

For as long as I have been composing, I have loved the music of Stravinsky and Messiaen. In particular, I have been drawn to the way in which these composers juxtapose contrasting blocks of musical material. Shortly before composing *Seven Shrinking Machines,* I had revisited a work that I had admired as a teenager; *De Snelheid* by Louis Andriessen. In essence, then, *Seven Shrinking Machines* is an attempt to combine the block forms of Stravinsky and Messiaen with the structural clarity of the Andriessen, resulting in a piece comprised of seven distinct, contrasting sections:

A (bb. 1-14) – The steam/breath sounds of Section A are influenced by both Steampunk (a subgenre of science fiction, inspired by the Industrial Revolution) and Peter Ablinger's *Violine und Rauschen (Veronica).* I experimented with using white noise as a way of unifying the timbres of the various acoustic, electronic and unpitched instruments. (Air sounds have appeared in a number of pieces written both before and after *Seven Shrinking* Machines, including *Steamhouse Noir*, *Three Catalysts*, and *The Old Cataclysm Blues*). The chords that appear in both the vibraphone and electric guitar are another attempt to unify timbre; the dyads are in unison and the motor and harmoniser add a similar vibrato to both instruments. The pitches themselves outline the three intervals present in the interval palette (minor second, major second, and perfect fourth).

B (bb. 15-28, 90-100, 147-154) – Section B possesses what I consider to be an apocalyptic aesthetic, characterised by the slow, distorted melody and metallic vibraphone interjections (both of which are inspired by *At the Heart of It All* by Aphex Twin), accompanied by siren-like glissandi. Immediately prior to writing this piece, I had been listening to *Asyla* by Thomas Adès; the clamorous gong opening may have influenced the ritualistic bell plate and cymbal material in this section.

C (bb. 29-41, 101-110, 155-161, 181-185, 199-201) – Since hearing Harrison Birtwistle's *Carmen Arcadiae Mechanicae Perpetuum* and Martin Butler's *Jazz Machines* whilst an undergraduate student, I have become fascinated with musical representations of machinery. This drives the clarity of the structure of *Seven Shrinking Machines,* and much of the musical content too. Section C is the most perceptibly mechanical section of the work; a consequence of the independent ostinati, syncopated rhythms and metallic sounds (muted electric guitar, slap bass, and unpitched percussion).

D (bb. 42-54, 111-120, 162-168, 186-190, 202-204, 207-208) – In contrast to other sections, D is unique insofar as all instruments play similar material in rhythmic unison. The melody (performed by flute and vibraphone) adheres to the interval palette horizontally, whilst the harmonic material (performed by all other instruments) adheres to the interval palette vertically. Although not directly inspired by it, this section reminds me somewhat of the final movement of Bartok's String Quartet No. 6, particularly the winding melody constructed of small intervals, the doleful harmonic content, and the shimmering chords similar to Bartok's sul ponticello chords in bars 75 and 76.

E (bb. 55-66, 121-129, 169-174, 191-194, 205-206, 209) – Rather than being constructed of entirely new material, Section E is a combination of elements from other sections. The flute and electric guitar melody is similar to the one found in Section D; winding, harmonically ambiguous and constructed of relatively short intervals. Additionally, both instruments perform essentially the same material in an attempt to unify acoustic and electronic sounds (like Section A). The intricate clarinet

motifs are comparable to the frantic scalic passages in Section F. The repetitive, disjointed accordion rhythms have a mechanical quality to them, and are therefore reminiscent of Section C.

F (bb. 67-78, 130-138, 175-180, 195-198) – In Section F, fast, intricate crossrhythms create a sense of speed and frantic energy. The semiquavers in the clarinet, percussion, and bass guitar, quintuplet semiquavers in the synthesiser, and sextuplet semiquavers in the accordion result in a rhythmically complex texture. In other pieces *(*e.g. *Cataclysm*, *The Dust of Long Dead Stars*, and numerous pre-doctoral works) I have rendered similar textures using box notation or text instructions. Here, inspired by the exhilarating opening to David Horne's *Concerto for Orchestra* and the marvellous Presto from Elliot Carter's Clarinet Concerto, I chose to notate conventionally.

G (bb. 79-89, 139-146) – Section G is the result of extensive workshopping, and was an attempt to make a simple gesture (an ascending flourish) as interesting and colourful as possible.

The coda (bb. 210-234) combines both the tremolando chords of Section D and the white noise of Section A. While the chords remain the same length, the white noise increases in duration with each repetition until it is identical to the first three bars of the piece. The final dyad (bar 234) continues the pattern of expanding intervals explored in bars 4, 9, and 14.

One of the most challenging aspects of writing this work was deciding the order in which the sections appeared (and therefore, the order in which they disappeared). The difficulty was in imagining what material would be most suitable at the piece's climax, what material would sound effective at higher transpositions (because the pitch ascends as the piece progresses), and what material would only work at the beginning of the piece. During the workshop, I discovered Section B, C, D, and E sounded suitably aggressive and energetic at high volume, and they therefore formed the climax. The tranquillity and ethereality of Section A made it ideal material for both the introduction and coda.

6. Time Proportion

> ...it has often been claimed, especially since Kant, that music is an art of time, if not *the* art of time.[1]

My desire to control duration is a reaction to the music I wrote before I began the doctorate. Two compositions in particular (a solo alto saxophone work and a piece for soprano and megaphone) were overlong; there was no sense of structural inevitability, no connection between duration and material. A reduction in length would not have necessarily resulted in a reduction of meaning or impact. Influenced by my dissatisfaction with the duration of both works, I became interested in finding a way to compose pieces that felt like they were the 'right' length.

I became curious about Bartók's close connection with the law of the Golden Section[2] and Cage's experiments with micro-macrocosmic rhythmic structures,[3] where both composers treat duration and proportion as quantitative data. In order to control the overall length of pieces, I decided I must control the duration of sections and the proportional relationships between them.

For Cage's micro-macrocosmic structures to be audibly proportional (in order for the listener to appreciate the symmetry between the length of phrases and the length of sections), the listener must have an unwaveringly accurate sense of the passage of time. This is rarely the case, however, as there are a number of musical and extra-musical conditions that affect temporal perception. These include repetition and alteration of material,[4] complexity of material,[5] number of events,[6] familiarity and predictability,[7] expectancy of an event to occur,[8] unpleasantness of stimuli,[9] body temperature,[10] caffeine intake,[11] and drug intake.[12] In his book *Time and Free Will*, French Philosopher Henri Bergson concluded that duration is not a mathematically divisible extensity, but rather an internal experience.

> Duration properly so called has no moments which are identical or external to one another, being essentially heterogeneous, continuous, and with no analogy to number.[13]

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[1] Philip Alperson, '"Musical Time" and Music as an "Art of Time"', *The Journal of Aesthetics and Art Criticism*, Summer 1980, p. 407.
[2] Ernő Lendvai, *Béla Bartók: An Analysis of his Music* (London: Kahn & Averill, 2000), p. 18.
[3] James Prichett, *The Music of John Cage* (Cambridge: Cambridge University Press, 1996), p. 16.
[4] Karlheinz Stockhausen, 'Structure and Experiential Time', English edition of *Die Reihe* musical journal, 1958, p. 64.
[5] Harvey Richard Schiffman, *Sensation and Perception: An Integrated Approach* (New York: John Wiley & Sons, 1996) p. 496.
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] Ibid., p. 494
[11] Ibid.
[12] Ibid.
[13] Henri Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness* (New York: Dover, 2001), p. 120.

Given my desire to employ processes that have an audible effect (e.g. singular structures, interval palettes etc.), how am I to control the proportions of sections if duration is an indivisible, internal experience and a listener's temporal perception is affected so easily by internal and external factors? Through composing, I have learned that by deploying a number of principles, the internal and external factors affecting temporal perception are ameliorated, and durational proportions are made more audible:

- 'Disparity' – if one section (of a piece of music) is considerably longer or shorter than the next, a listener is likely to be able to discern that a difference between the two exists. A listener is less likely to discern a difference in duration if one section is only slightly longer or shorter than the next.
- 'Completion' – it is not possible to understand a proportional relationship before completion. For example, if there exists a minim followed by a crotchet, a listener will only be able to hear that the second note is half the duration of the first when both notes have been played in full. Similarly, a proportional relationship between two sections is only likely to be discernible after both sections have finished.
- 'Repetition' – repeating a proportional relationship allows for comprehension before completion; for example, if there exists a sequence of alternating minims and crotchets, the listener will only need to hear a few notes before understanding the proportional relationship, and will be able to predict the durations of subsequent notes.
- 'Sequence' – a sequential proportional relationship allows for comprehension before completion. For example, if there exists a maxima, followed by a longa, followed by a breve, followed by a semibreve, a minim, a crotchet, a quaver, a semiquaver etc. the listener will detect the notes are halving in duration before the sequence has finished.
- 'Proximity' – a listener is more likely to appreciate a proportional relationship between two sections that are adjacent, compared to two sections that are apart from one another.

These principles influence the construction of the proportional relationships in *Seven Shrinking Machines.* This work consists of 28 sections, the first of which is 56 seconds long. The subsequent sections decrease sequentially, with each section two seconds shorter than the one that preceded it, resulting in a two-second final section. Due to the sequentiality of the process, the listener will detect that the sections are decreasing in duration before the piece has finished.

Although the rate at which the sections decrease in duration remains constant (two seconds every section), the proportion between one section and the next does not remain constant. The first section (56 seconds) is 1.037 times the duration of the second section (54 seconds). The second section is 1.038 times the duration of the third section (52 seconds). These ratios are so close to 1:1 that the listener is unlikely to detect any proportional relationship; however, as the piece progresses, these ratios widen – the ratio between the penultimate section and the final section is 2:1, which is certainly audible. Therefore, although it is impossible to ascertain precisely when the listener becomes aware of the shrinking durations (as this is affected by internal, external, musical, and extra-musical factors), it is inevitable the listener will become aware of it at some point before the piece finishes.

The reason the structural process in *Seven Shrinking Machines* is so audible is because it is a marriage of the 'disparity' principle and the 'sequence' principle. As the sequence of shrinking

durations continues, it becomes more apparent to the listener by virtue of both its repetitiveness and the fact the ratios between adjacent sections are widening.

The expanding structural process in *Cataclysm* is less audible, for two reasons. Firstly, there are fewer sections than in *Seven Shrinking Machines* (eight, as opposed to 28), which affords the listener less opportunity to understand the sequence. Secondly, when the structural process is one of expansion, the 'disparity' principle and the 'sequence' principle do not work in tandem. As the sections lengthen, the ratios between adjacent sections shrink; that is, the listener is more likely to detect proportional relationships at the beginning of the piece because that is when the proportional ratios are at their widest. That runs in opposition to the 'sequence' principle, where a listener is more likely to detect proportional relationships the closer the sequence is to its end.

It is not essential, however, that a listener understands the mathematics that govern the proportions as long as the proportions have an effect on the impact of the piece.

7. Two Final Pieces

This commentary will end as it began, with the critical comparison of two pieces written in close succession. I was commissioned to write an ensemble work for Sarah Nicolls, Oren Marshall and the London Sinfonietta, and also a vocal piece that was to form the soundtrack to a film installation to be showed at the Sensoria festival. I viewed the first commission as an opportunity to put into practice all the techniques and procedures I had developed over the course of the doctorate, and the second commission as a chance to try a different approach to composition.

Having compositionally explored time proportion, I wanted to begin experimenting with notions of musical space (given there are well-documented scientific and philosophical links between time and space)[14]. There are numerous ways in which composers have considered space, ranging from the analogous e.g. music that is evocative of a landscape like Birtwistle's *Silbury Air* or Peter Schat's geometric approach to pitch space, to the physical e.g. the separated groups of instruments and off-stage strings in Ives' *The Unanswered Question*, or the way acousmatic musicians use multiple speakers to distribute sound spatially.

I began attending lectures in the Architecture School and I developed an interest in the idea of negative space:

> When we create buildings today, we frequently focus our efforts on their shapes, with the shape of outdoor space a rather accidental leftover. These outdoor spaces, such as those typically found in suburbs, are negative spaces because the buildings aren't arranged to lend shape to the spaces in between.
>
> Urban buildings, however, are often designed under the opposite assumptions: building shapes can be secondary to the shape of the public space, to the extent that some urban buildings are almost literally 'deformed' so that the plazas, courtyards, and squares that abut them may be given positive shape.[15]

The architectural principle that a positive shape will inevitably enforce some distortion on the resultant negative space prompted me to explore ways in which having a pitch void (i.e. a range of forbidden pitches) might distort and influence both the structure of a piece and musical material. Thus the concept for *Filling Rubin's Vase* was devised. Rubin's Vase is an optical illusion named after the Danish psychologist, Edgar Rubin. Two faces are shown in profile, and the negative space between them forms the shape of a vase. In *Filling Rubin's Vase*, this negative space is represented by a pitch void between middle C and the octave above. The piece is constructed of 32 static singular structures, alternating between high sections (where all material exists above the pitch void) and low sections (where all material exists below the pitch void).

Structurally, *Filling Rubin's Vase* operates in a similar manner to *Seven Shrinking Machines* insofar as sections become progressively shorter as the piece progresses.

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[14] Stephen Hawking, *A Brief History of Time: From the Big Bang to Black Holes* (London: Bantam Press, 1988), p.15.

[15] Matthew Frederick, *101 Things I Learned in Architecture School* (London: The MIT Press, 2007), p. 7.

Type of Section	Bar Number	Treble/Bass	Duration (seconds)	Interval Palette
A	1	Bass	32	4/5/6
B	9	Treble	31	1/2/4
C	32	Bass	30	3/4/5
D	51	Treble	29	2/3/5
E	66	Bass	28	1/3/5
F	80	Treble	27	2/4/5
G	92	Bass	26	2/3/6
H	106	Treble	25	N/A
A	119	Bass	24	4/5/6
B	125	Treble	23	1/2/4
C	142	Bass	22	3/4/5
D	156	Treble	21	2/3/5
E	167	Bass	20	1/3/5
F	177	Treble	19	2/4/5
G	185	Bass	18	2/3/6
H	195	Treble	17	N/A
Structural Midpoint				
H	204	Bass	16	N/A
G	212	Treble	15	2/3/6
F	219	Bass	14	2/4/5
E	226	Treble	13	1/3/5
D	233	Bass	12	2/3/5
C	239	Treble	11	3/4/5
B	246	Bass	10	1/2/4
A	251	Treble	9	4/5/6
H	256	Bass	8	N/A
G	260	Treble	7	2/3/6
F	264	Bass	6	2/4/5
E	267	Treble	5	1/3/5
D	270	Bass	4	2/3/5
C	272	Treble	3	3/4/5
B	274	Bass	2	1/2/4
A	275	Treble	1	4/5/6

Figure 15 – structure of Filling Rubin's Vase

Eight different sections (labelled A–H) are presented. Sections A, C, E, and G are performed by a consort of three low instruments (tuba, bassoon and double bass), while sections B, D, F and H are performed by a consort of three high instruments (piano, viola and accordion). These eight sections are then repeated (albeit with shorter durations). Bar 204 is the structural (but not proportional) midpoint of the work. From here on in, the order of sections is reversed. This now means sections H, F, D and B are performed by the bass consort, and sections G, E, C and A are performed by the treble consort. In order to achieve this, material that was previously in a high register (above the pitch void) needed to be rewritten in a low register (below the pitch void), and vice versa. For some sections, high register and low register incarnations are very similar; for example, the low version of section G (bb. 92–105) is comparable to the high version (bb. 212–218): the idea itself remains identical, only the pitch, duration and instrumentation have changed. For other sections, high register and low register incarnations are very different; for example, the high version of section B

(bb. 9–31) bears little resemblance to the low version (bb. 246–251): the direction of motion has changed (ascending scales have become descending scales) and the low version is much slower. Regardless of whether high and low incarnations are similar or dissimilar in mood and character, they always share the same interval palette.

Alternating between high and low sections is a structural process; however, as the sections become shorter, the rate of alternation increases. The final few sections are so short – it is likely the listener hears the high-low alternation not as the result of a structural process, but as a disjunct texture. The coda (bb. 276–286) takes this further; low and high material alternates even faster, losing detail as it does so, eventually becoming alternating low and high chords. The high chords gradually decrease in pitch, the low chords gradually ascend, and they meet in the middle, filling in the pitch void. The piece ends with a raucous chord which inverts the role of each consort (i.e. the high consort has low material and vice versa).

The high consort is seated apart from the low consort, and because material is only performed by one consort at a time, the piece is antiphonal. Therefore, *Filling Rubin's Vase* is concerned with both a physical and analogous approach to space.

Shortly after completing *Filling Rubin's Vase,* I was invited by filmmaker Matt Stokes to collaborate on an installation, to be housed at the Site Gallery in Sheffield. Inspired by the 1984 Barry Hines's film *Threads*, Stokes's vision was to depict a post-apocalyptic world inhabited by two radically different societies. The first of these is a nomadic, subterranean group of people who scratch a meagre existence by foraging and scavenging. The other society is a mysterious cult of robed, blind people that live peacefully, overground. Stokes and I engaged in varied research to help inform the characteristics and musical language of each group:

- The initial idea was for the overground community to have suffered a radiation-induced blindness, for them to communicate and share knowledge telepathically, and by vocal sounds. Inspired by the religious overtones in John Wyndham's post-apocalyptic novel *The Chrysalids*, and by Stokes's design for costumes (inspired by the white tunics of characters in the sci-fi film *Lathe of Heaven*, and the cowls of medieval monks), I wanted the overground group to communicate in a ritualistic manner. I aimed to avoid consonant sounds (as these were to be used extensively by the underground group), and consequently devised a simple, hummed melody (a synthesis of plainchant and '*Coro a bocca chiusa*' from *Madame Butterfly*), that had a religious, spiritualistic feel to it.
- The underground community was modelled on the troglodyte Morlocks of H.G. Wells' *The Time Machine*, Henry Moore's drawings of people taking shelter in the London Underground during WWII, and the cave-dwelling rope-makers of Peak Cavern, Sheffield. Stokes imagined that this group of people had suffered throat cancers as a result of nuclear fallout, and consequently I watched videos of aphonia sufferers, which helped inform the aggressive consonants, growls and grunts of the underground singers. *Threads* is split into three sections: pre-apocalypse, apocalypse, and post-apocalypse. There is a scene in the third section where a female and two males have an argument; the language they use is a corrupted, simplified Sheffield slang. Inspired by this, and by Guy Reibel's album *Langages Imaginaires*, I sought to create an imagined language – a distorted version of English. In

order to achieve this I used the lyrics a Sheffield folk song, *The Good Old Times,* as something I could twist and corrupt.

Stokes's plan was for the piece to climax when both groups had reached a union (although he was not clear as to what this meant, exactly). In order to achieve this sense of climax, I planned to use a structural process similar to that of *Filling Rubin's Vase*; I conceived a piece where the material alternated between the overground and underground group, and the alterations became increasingly rapid, until both groups were singing simultaneously, thus achieving union. It became clear in the early workshops, however, that this structure was unsuitable. Firstly, most of the singers could not read music, and these structural processes require the temporal precision that notation facilitates. Secondly, the speed at which alterations took place meant that certain ideas (like the inclusion of *The Good Old Times*) was not given proper time to develop in a meaningful way. Thirdly, the increasing frequency of alterations, and the consequent increase in energy and excitement resulted in a climax that felt less like a union and more like a conflict. Therefore, it was necessary to change the structure (initially I was disappointed with this realisation as I had hoped to continue researching expanding and contracting structures, but in hindsight I recognise that this alternative approach improved *In Absence of the Smoky God,* and will likely inform my post-doctoral compositions).

I decided that the union reached between both groups should be a subtle one, and should occur before the climax. Previously I had only considered intra-group communication, but Stokes and I discussed the possibility of there being a small amount of inter-group communication. I decided, then, that *The Good Old Times* should be the compositional focal point and the catalyst for interaction between the two groups. To achieve this, one of the underground vocalists was instructed to sing snatches of a quiet, improvised, folk-inspired melody, distorting the lyrics to *The Good Old Times*, as though he was half-remembering a song he once knew. As the piece progresses, this melody is imitated by the other underground singers who abandon their grunts, growls and snorts, and attempt recall this old folk song. Up to this point, the overground group has only been permitted to hum; however, as the underground group adopt *The Good Old Times*, the overground group also begins to imitate it: their mouths open, and the humming gradually transforms into singing (an 'oo' vowel sound), thus achieving a subtle sense of union between both societies. From this point, both groups diverge: the underground group, rather tragically, forget the folk song and return to the grunting, growling and snorting, whilst the overground are transformed, powerfully singing multiple vowel sounds. Thus the piece is constructed of two simultaneous structures; the overground group is a transitional singular structure (from humming to singing), and the underground group is an arc structure (from noise to pitch to noise).

The piece was developed and devised over a period of workshops and, consequently, the score is not a conventional one. It is designed as an *aide-mémoire* for the singers, and only functions in conjunction with a conductor (as shown in accompanying video):

Section	Overground	Underground
A	Keitu hums simple melody	
B		Luke consonant sounds
C	Keitu hums melody again, gradually others join, slow sliding between notes	Luke consonant sound interruptions (very sporadic)

D		Luke instigates call-and-response, the response initially by one person, then gradually more of the group join, Pete's response is the beginning of the folk melody
E	Similar humming, Angela and Nick slide off to 'oo'	Luke consonant sound interruptions and Pete folk interruptions (very sporadic)
F		Consonant sounds by all group, except Pete whose folk melody gradually becomes stronger
G	Pete's folk melody becomes stronger still, gradually (by ripple effect) all Underground (except Luke) are influenced by it, and eventually all Overground are imitating also to 'oo' only	
H	The influence of Pete's melody decreases, and is replaced by independent vowel sound notes, lots of vibrato, with gaps	
I	Same as H	Violent outbursts; snarls, snorts, grunts – sporadic, directed by Ben
J	Climax – Ben's left hand indicates violent Underground stabs, Ben's right hand indicates long Overground notes	
K	Coda – Ben continues to direct both groups, Overground disappears leaving increasingly sporadic Underground outbursts	

Figure 16 – In Absence of the Smoky God aide-mémoire sheet (the instructions are not particularly detailed, as the piece was devised over a number of workshops and each section was developed and improved upon in collaboration with the singers)

Stokes and I agreed that in order to achieve the required energy, interaction and spontaneity, we preferred recording in a complete take, featuring all ten singers (i.e. not recording the piece in small chunks, nor recording each singer or group individually and multitracking). This is generally a more difficult and time-consuming method, but on the day of recording, we managed six complete takes. The final track is a splicing of two takes: one take for sections A to I, and another take for sections J and K (to provide an appropriately long coda). Filming took place over a single weekend (a day per group), the singers acted and lip-synched to the pre-recorded track. The resultant film is, in essence, a music video where all communication and interaction happens through music, and there is no spoken dialogue.

Given that *Filling Rubin's Vase* was constructed using techniques I had tried and tested (which had previously resulted in pieces that I found musically satisfying) and *In Absence of the Smoky God* was a venture into the unknown, using unfamiliar methods, I was expecting the former to be a success and the latter to be less so; however, I consider *In Absence of the Smoky God* to be a far more impactful work. Initially confused by this outcome, I have now come to realise there may be inherent deficiencies in the methods used to create *Filling Rubin's Vase*:

- *Filling Rubin's Vase* (and other pieces that use a similar structural process, like *Seven Shrinking Machines, Cataclysm,* and *The Old Cataclysm Blues)* are essentially about the structure and little else. Consequently, these pieces may lack the artistic depth present in a more multifaceted work. The research undertaken to create *In Absence of the Smoky God* (ranging from science fiction film and literature to Sheffield folksong and speech impediments) provided me with a cultural and aesthetic framework on which to build the piece. With *Filling Rubin's Vase* (and other similar pieces), I began with a structural concept and a series of mathematical calculations, which was perhaps too restrictive.
- I consider *Cataclysm, The Old Cataclysm Blues,* and especially *Seven Shrinking Machines* to be successful, engaging pieces. Perhaps *Filling Rubin's Vase* is less satisfying because the processes and restrictions are too audible (for example, the 3/4/5 interval palette used from bars 33 to 50, or the 2/3/5 palette used from bars 51 to 65, may be too clearly stated and therefore too predictable). It is possible I have fallen foul of a compositional version of The Peter Principle[16]; I have elevated a process, using it more and more frequently, until it is no longer serving its purpose. Generally, processes and restrictions are conducive to creativity, and there is little scarier for a composer than starting a new piece with a blank page and nothing to aid you. Processes can become too restrictive if overused, however, and can stunt the development of the piece. I strive to make my music clear and intelligible, but there is an argument that too much clarity and too much intelligibility may beget predictability: an undesirable attribute.
- During the early stages of *In Absence of the Smoky God*, it became clear that the structure was not going to work. I made a conscious decision to sacrifice structural clarity in favour of allowing the performers to express themselves more deeply. In *Filling Rubin's Vase,* expression may have been sacrificed in favour of the structural process.

I anticipate these realisations are going to inform my future work. I intend to continue using the techniques devised during my doctorate (singular structures, interval palettes etc.) but not to the extent where I feel I am sacrificing other elements of the piece (the way the structure of *Filling Rubin's Vase* may have inhibited expression). I am going to obfuscate these techniques somewhat in order to make pieces less predictable. There are two ways of doing this; I can either 'soften' the techniques by using them less frequently or with less concern for mathematical precision (e.g. if I occasionally use a 3 in a 2/4/5 palette), or I can expand upon these techniques by adding more layers of mathematical complexity. It is likely I will explore both approaches, perhaps even in the same work, but I am currently fascinated by the level of mathematical rigour in Richard Barrett's analysis of his 1994 orchestral work, *Vanity*.

I found the research that I undertook whilst composing *In Absence of the Smoky God* to be an enjoyable, enriching experience, certainly something that helped the creation of the piece. Particularly fruitful was the breadth of research: film, literature, art, music, speech therapy, psychology, and more.

[16] Lawrence Peter, *The Peter Principle: Why Things Always Go wrong* (New York: HarperCollins, 2009) p. 9.

8. Conclusion

Throughout my doctoral studies, I have devised, refined and implemented a number of compositional techniques that have been used to create the majority of pieces in the accompanying portfolio.

I am satisfied with these techniques (particularly interval palettes, singular structures and independent ostinati) which, when combined with a mathematical approach to time proportion, have provided me with the capability to write competent, engaging music. Thus, I intend to continue using these techniques in my upcoming pieces. In evaluating my doctoral compositions, however, I feel there are a number of improvements that could be made to these techniques and my music in general. Whilst singular structures engender clarity and a sense of inevitability, they can also lead to predictability and over-simplicity (particularly apparent in *The Inflation Ritual* and *Filling Rubin's Vase*). Perhaps the most effective use of singular structures occurs in *The Old Cataclysm Blues*, where both contracting and expanding processes are employed, resulting in a piece that is simultaneously intelligible and unpredictable. Consequently, I believe discovering new ways of manipulating singular structures will enable me to write music with more complexity and depth. For example, superimposing singular structures of varying durations, or accompanying a procedural part with a simultaneous non-procedural part might yield musically satisfying results. Additionally, the experiments I have conducted into time proportion and structural processes have been realised in pieces of only a relatively short duration, and my upcoming compositions might test whether these techniques are effective over larger periods of time.

Before and during my doctoral studies, I had been heavily influenced by Gérard Grisey's quotation: 'We are musicians and our model is sound not literature, sound not mathematics, sound not theatre, visual arts, quantum physics, geology, astrology or acupuncture.[17]' The titles of my pieces usually refer to the structural processes involved (e.g. *Seven Shrinking Machines* refers to the seven distinct sections and how they reduce in duration as the piece progresses, *Three Catalysts* refers to the three movements and how the percussion material has a catalytic effect on the trumpet melody etc.), and rarely do they give an indication of the aesthetic quality the work possesses or any extra-musical stimuli that influenced the composition. This is because, during the doctorate at least, I considered structure to be the most important aspect of my music. As a result, elements of certain pieces have been sacrificed in order to service the structural process (e.g. to facilitate the sense of expansion in *The Inflation Ritual,* the material itself does not develop, and thus the sense of drama suffers). I have decided, then, that while I desire all my pieces to have a clear structure, this should not come at a detriment to other aspects of the composition, and it is important I devise forms that result in (or at least allow) interesting surface material. To aid this, I am going to start employing extra-musical stimuli, allowing them to inform both the structural processes and aesthetic content of my upcoming pieces.

I have begun to reconsider my opinions on improvisation and indeterminate notation, with regards to my music. In my initial sketches for *Seven Shrinking Machines*, the box notation, graphic notation and improvisation compromised the structure, and resulted in music that lacked a sense of narrative

[17] Joshua Fineberg, *Classical Music, Why Bother?: Hearing the World of Contemporary Culture Through a Composer's Ears* (New York: Routledge, 2006) p. 105.

urgency. Since then, I have further developed my singular structure technique, and devised five time proportion principles that will enable me to compose indeterminate or improvisatory music that is simultaneously carefully structured.

I hope, by combining the techniques developed during my doctorate, using them in increasingly complex and innovative ways, and by engaging with extra-musical stimuli, I can continue improving as a composer.

Bibliography

Books

Bergson, Henri, *Time and Free Will: An Essay on the Immediate Data of Consciousness* (New York: Dover, 2001).

Caplin, William, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven* (New York: Oxford University Press, 1998).

Fineberg, Joshua, *Classical Music, Why Bother?: Hearing the World of Contemporary Culture Through a Composer's Ears* (New York: Routledge, 2006).

Forte, Allen, *The Structure of Atonal Music* (New Haven: Yale University Press, 1973).

Frederick, Matthew, *101 Things I Learned in Architecture School* (London: The MIT Press, 2007).

Griffiths, Paul, *Modern Music and After* (New York: Oxford University Press, 2010).

Hawking, Stephen, *A Brief History of Time: From the Big Bang to Black Holes* (London: Bantam Press, 1988).

Lendvai, Ernő, *Béla Bartók: An Analysis of his Music* (London: Kahn & Averill, 2000).

Messiaen, Olivier, *Technique de mon langage musical* (Paris: Alphonse Leduc, 1994).

Peter, Lawrence, *The Peter Principle: Why Things Always Go wrong* (New York: HarperCollins, 2009).

Pritchett, James, *The Music of John Cage* (Cambridge: Cambridge University Press, 1996).

Schat, Peter, *The Tone Clock* (London: Routledge, 1993).

Schiffman, Harvey, *Sensation and Perception: An Integrated Approach* (New York: John Wiley & Sons, 1996).

Schoenberg, Arnold, *Structural Functions of Harmony* (London: Faber, 1983).

Journal Articles

Alperson, Philip, '"Musical Time" and Music as an "Art of Time"', *The Journal of Aesthetics and Art Criticism*, Summer 1980.

Fox, Douglas, 'The time machine inside your head', *New Scientist,* October 2009.

Hoerl, Christoph, 'The Perception of Time and the Notion of a Point of View', *European Journal of Philosophy*, 6/2, August 1998.

Morgan, Robert, ‘Musical Time/Musical Space’, *Critical Inquiry,* 6/3, Spring 1980.

Stockhausen, Karlheinz, ‘Structure and Experiential Time’, English edition of *Die Reihe* musical journal, 1958.

Ben Gaunt

Steamhouse Noir

for flute and cello

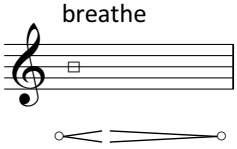
Steamhouse Noir was commissioned by cellist Michelle So, and premiered at a Sounds of the Engine House event at IABF, Manchester on 26th April 2012.

Steamhouse Noir is inspired by Steampunk art, Victorian machinery, and black-and-white film noir. Initially jazz-influenced and sleazy, both the flute and cello parts become more mechanical as the piece progresses.

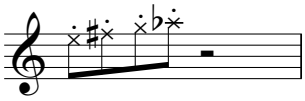
Year of Composition: 2011
Duration: c. 5'

Techniques

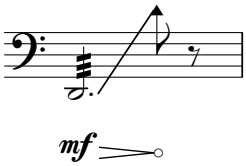
breathe



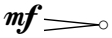
[flute] produce unpitched air sound



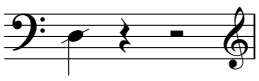
[flute] key clicks with a little pitch



[cello] perform pizzicato tremolando and glissando upwards as high as possible



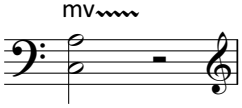
tamb.



[cello] slap strings with palm

mf

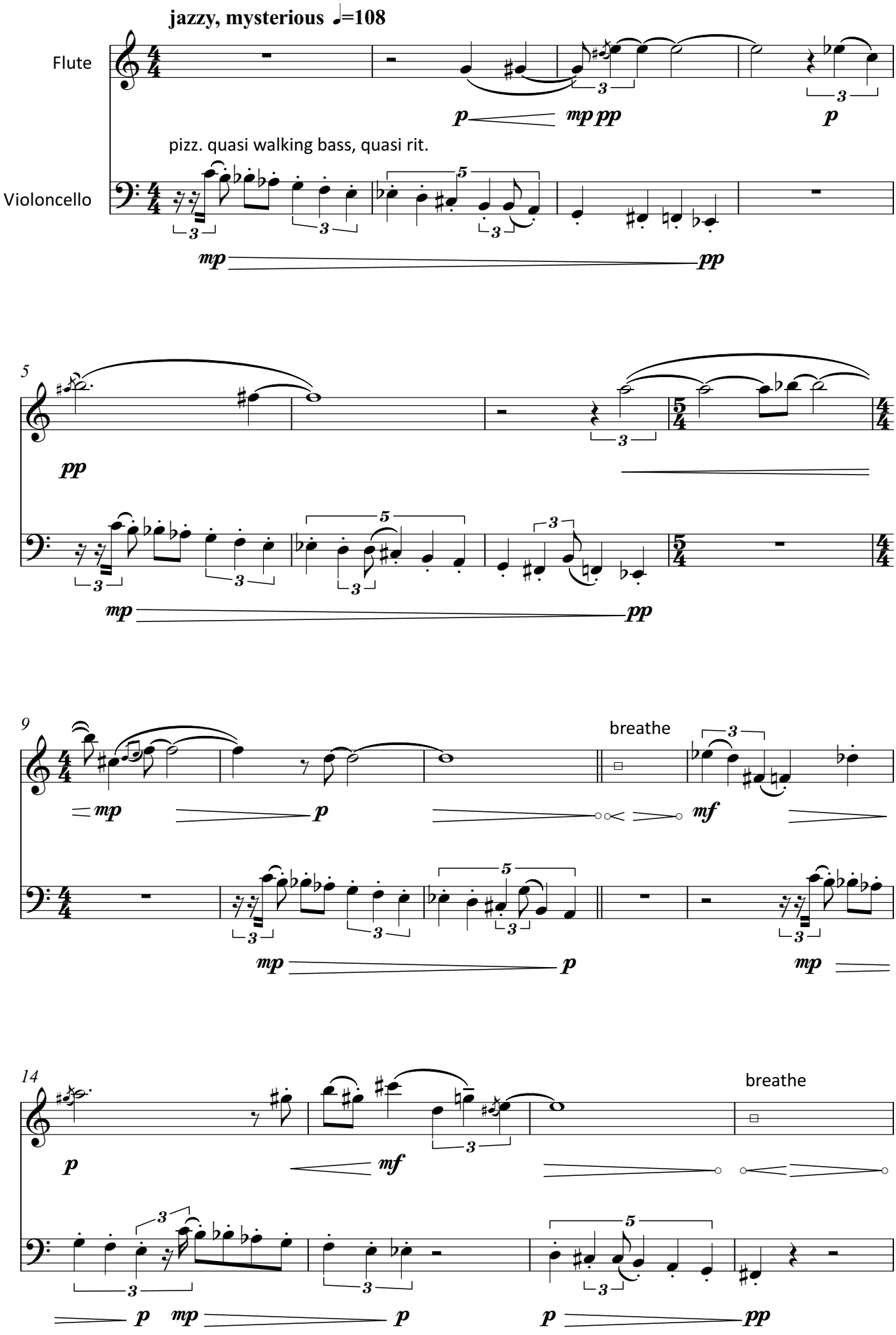
mv

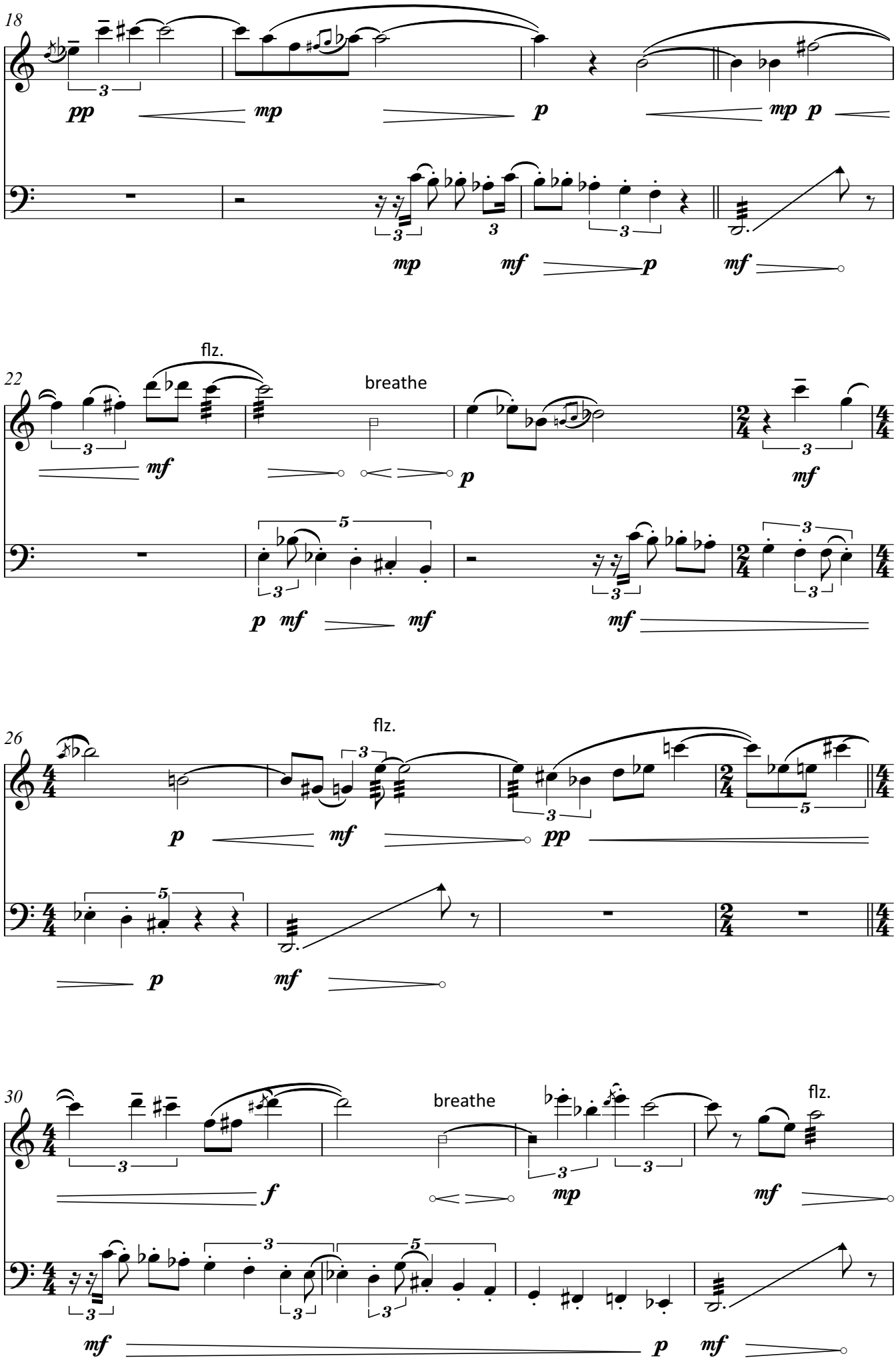


[cello] molto vibrato

Steamhouse Noir

Ben Gaunt

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pp
mp
p
mp p
mp
mf
p
mf
22
flz.
breathe
mf
p
mf
p mf
mf
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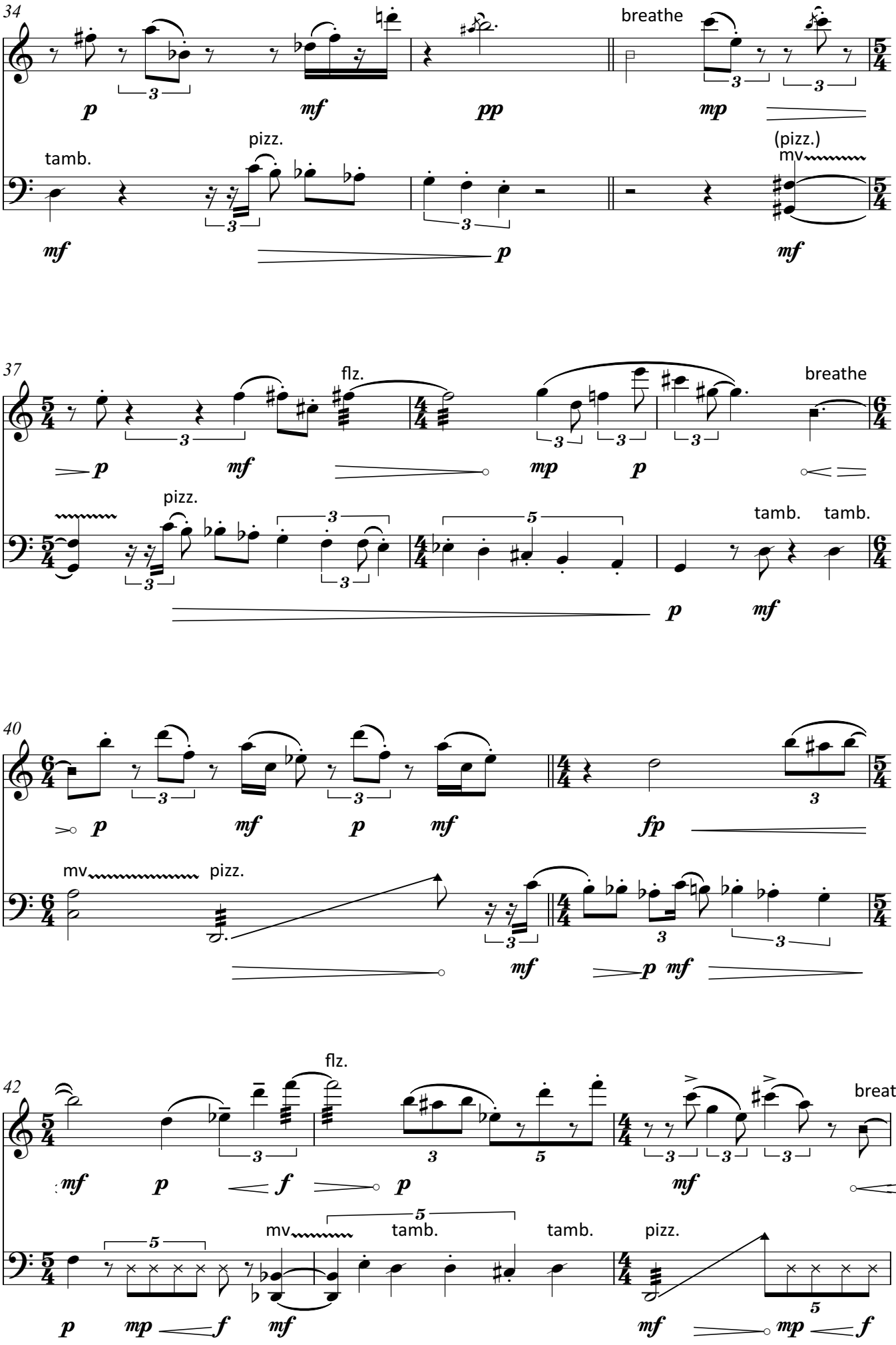
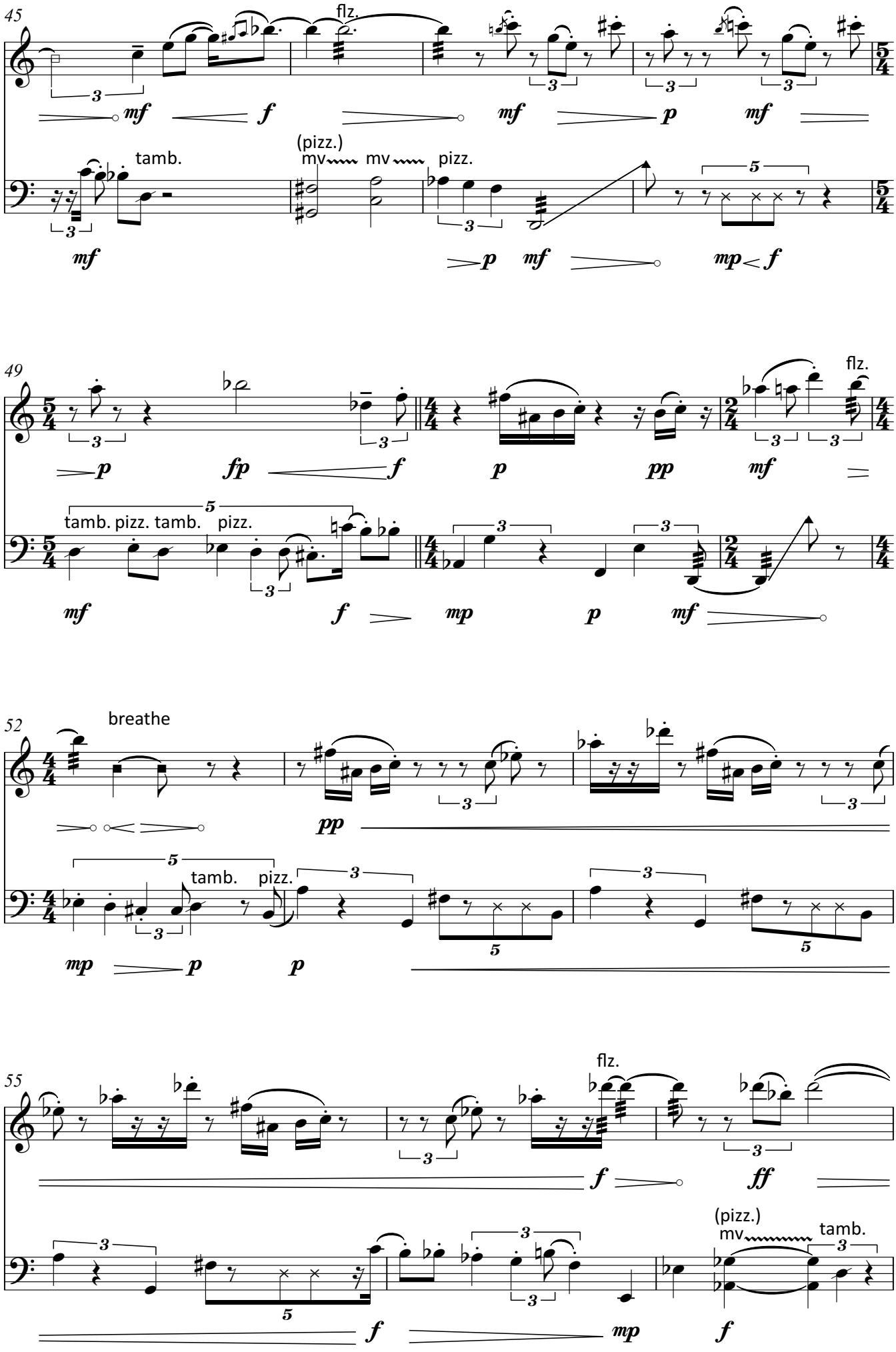
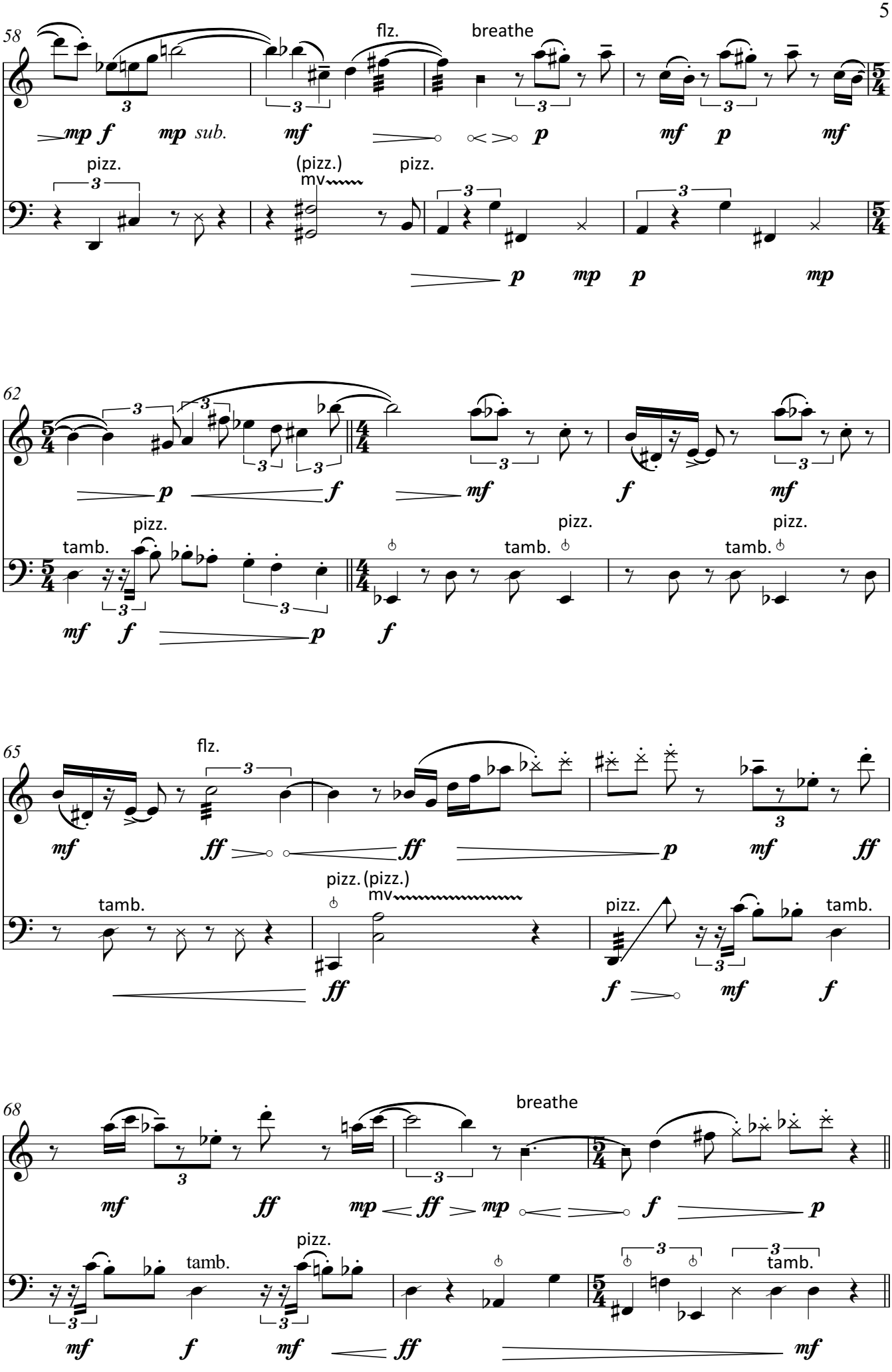
breathe
flz.
f
mp
mf
mf
p
mf


34
breathe
pizz.
tamb.
(pizz.)
mv
37
flz.
breathe
pizz.
tamb.
tamb.
40
mv
pizz.
42
flz.
breathe
mv
tamb.
tamb.
pizz.


45
flz.
tamb.
(pizz.)
mv
mv
pizz.
49
flz.
tamb. pizz. tamb.
pizz.
52
breathe
tamb.
pizz.
55
flz.
(pizz.)
mv
tamb.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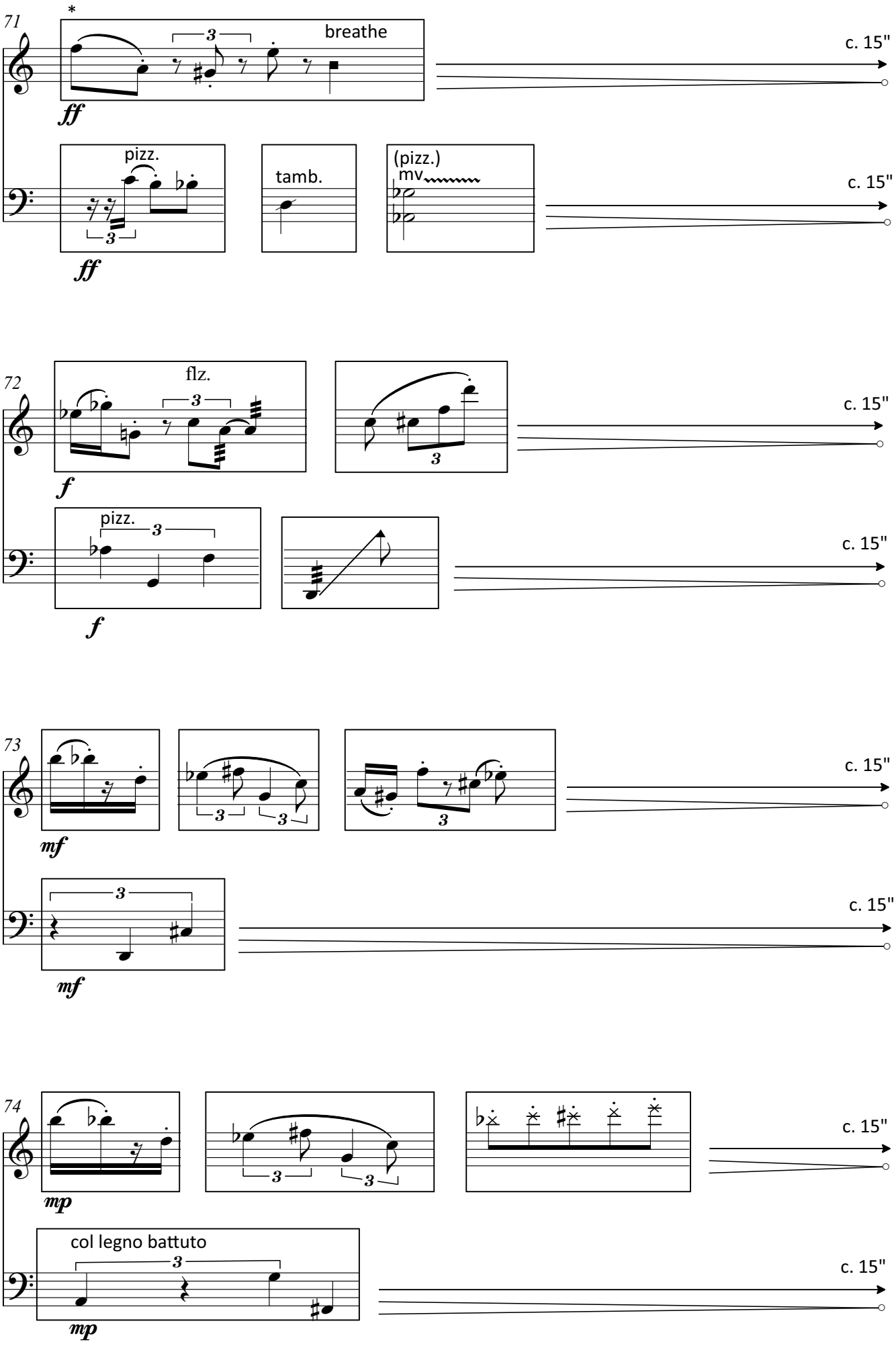
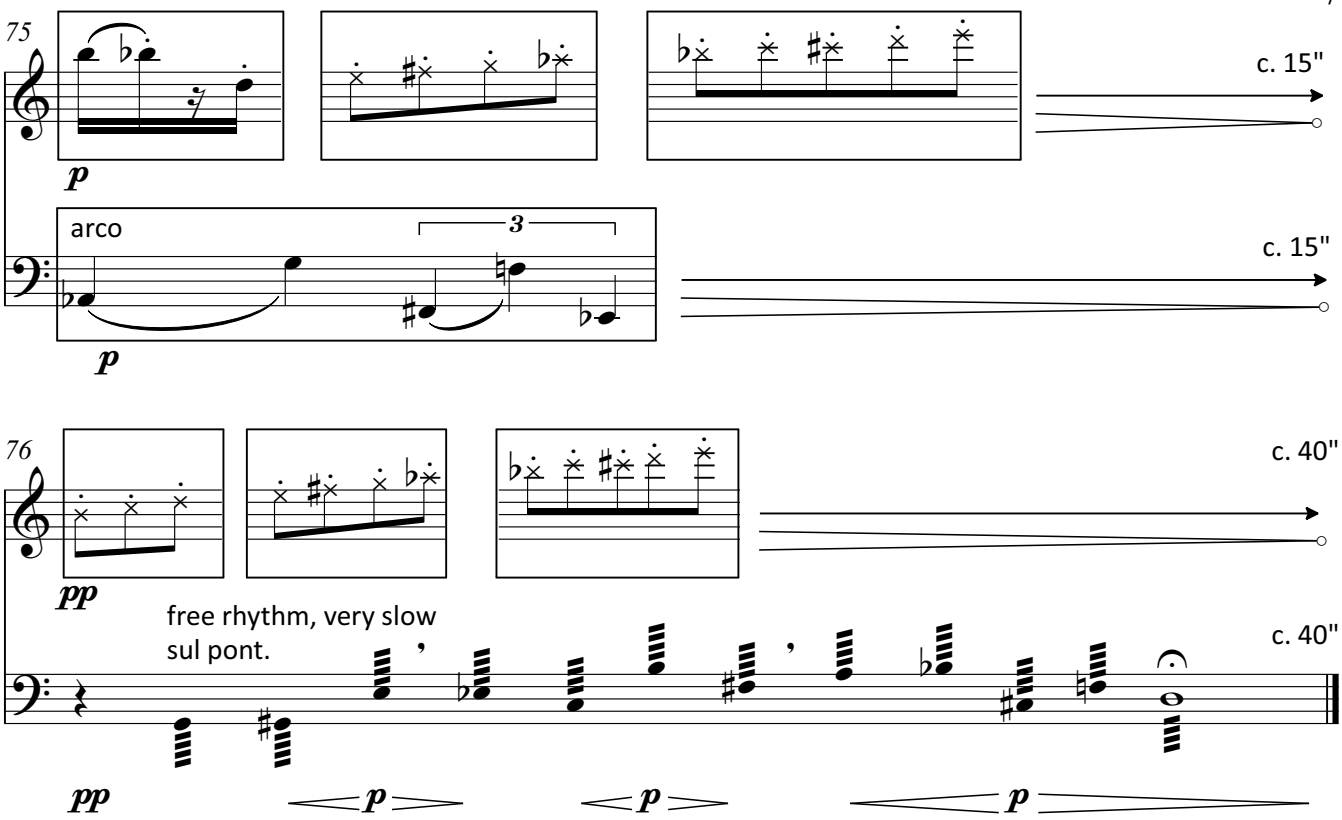
flz.
breathe
mp f mp sub.
mf
p
mf p mf
pizz.
(pizz.)
pizz.
mv
p mp p mp
62
p f
mf
f
mf
pizz.
pizz.
pizz.
tamb.
tamb.
tamb.
mf f p
f
65
flz.
mf
ff ff
p
mf
ff
pizz. (pizz.)
mv
tamb.
pizz.
tamb.
ff
f
mf
f
68
breathe
mf
ff
mp ff mp
f
p
pizz.
tamb.
tamb.
mf f mf ff
mf

senza misura





* The flautist and cellist are to repeat the cells for the given duration, with no rest in between each repetition. When there are multiple cells presented in a line, the instrumentalist is to randomly and independently swap between them. Although instrumentalists should make no attempt to synchronise rhythmically, they should diminuendo at the same rate.

Ben Gaunt

The Dust of Long Dead Stars

for flute trio

The Dust of Long Dead Stars

The Dust of Long Dead Stars was commissioned by Tempest Flute Trio for a concert at the International Anthony Burgess Foundation, Manchester, curated by Sounds of the Engine House, on 26th April 2012.

The title is taken from an interview with Sir Martin Rees in the New York Times where he described humanity:

"We are the dust of long dead stars. Or, if you want to be less romantic, we are nuclear waste."

Year of Composition: 2011
Duration: c. 4'

Techniques

obs - overblow and sing whilst playing, resulting in an aggressive, raucous sound (the pitch of the singing is unimportant, as long as it follows the contours of the flute melody)

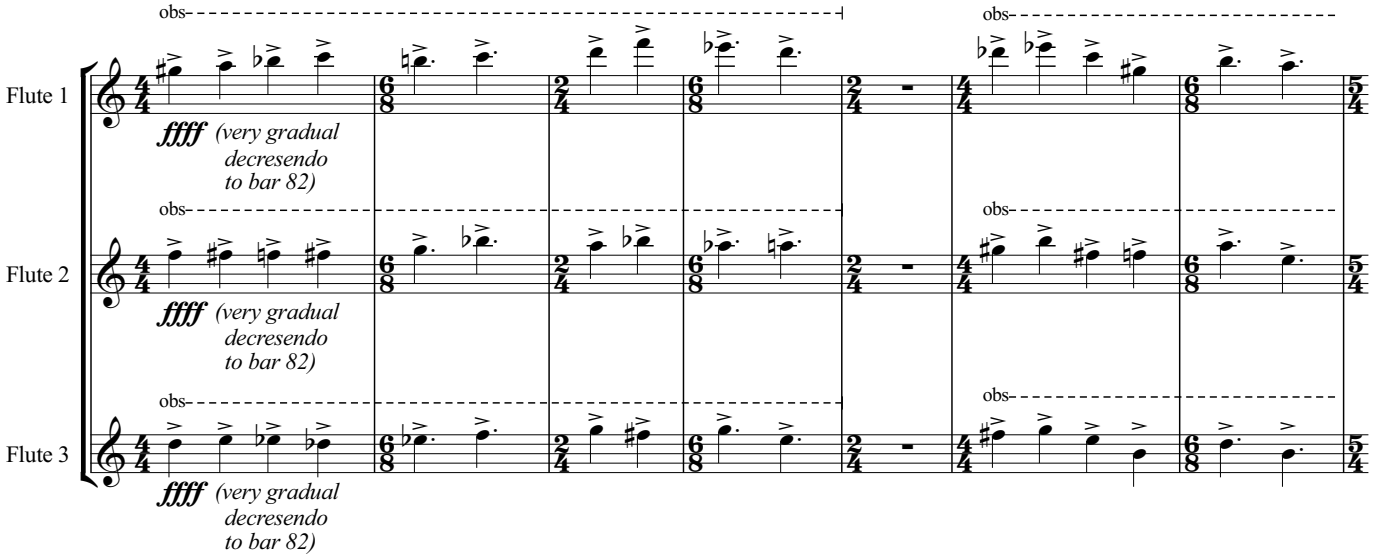
Improvisation Section

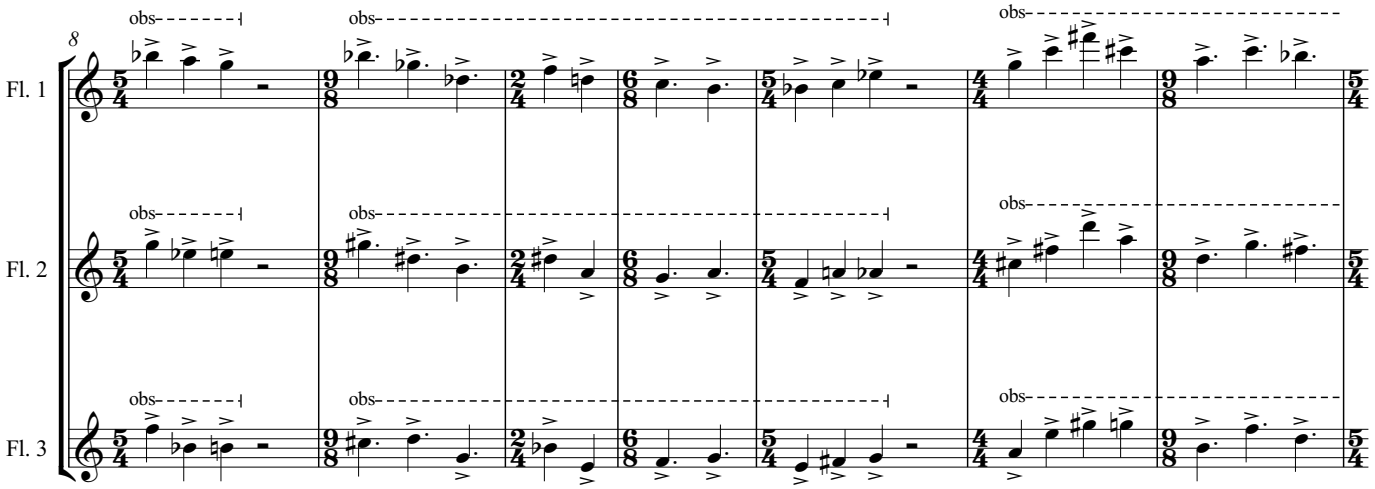
The improvisation section should follow on smoothly from the notated material. Each flautist has a different set of instructions to follow, and the transition from one instruction to the next should also be as smooth as possible. The duration of the improvisation section should last approximately 2 minutes. The audience should not be able to detect when the improvisation section begins and the notated material ends.

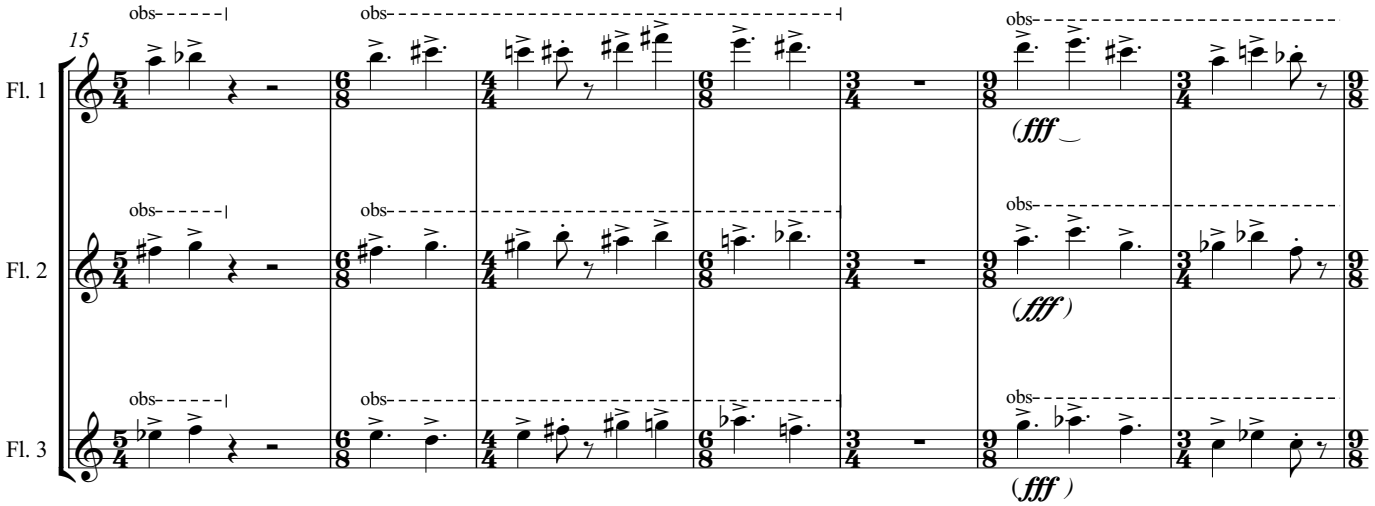
The Dust of Long Dead Stars

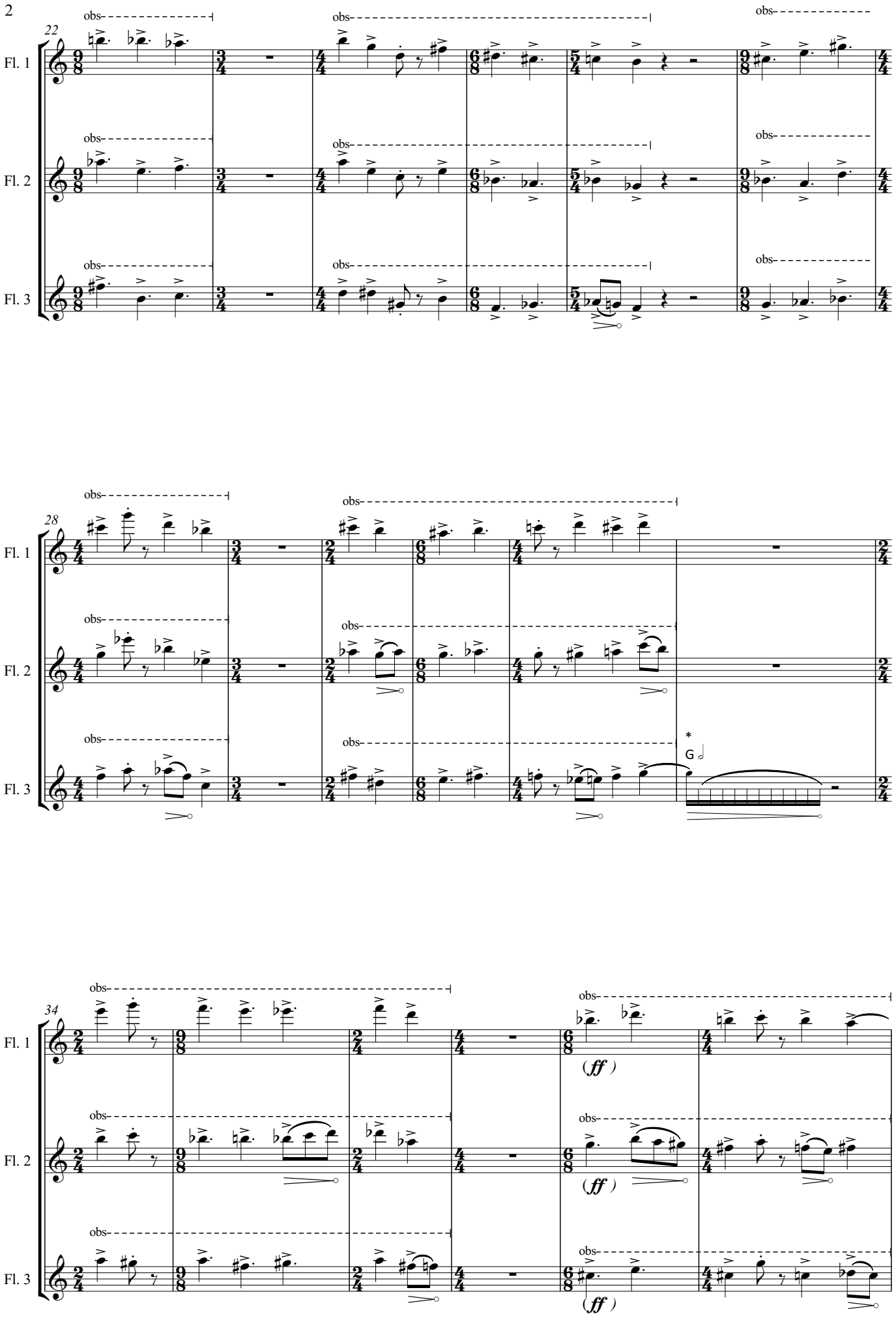
fiery, energetic ♩=220

Ben Gaunt

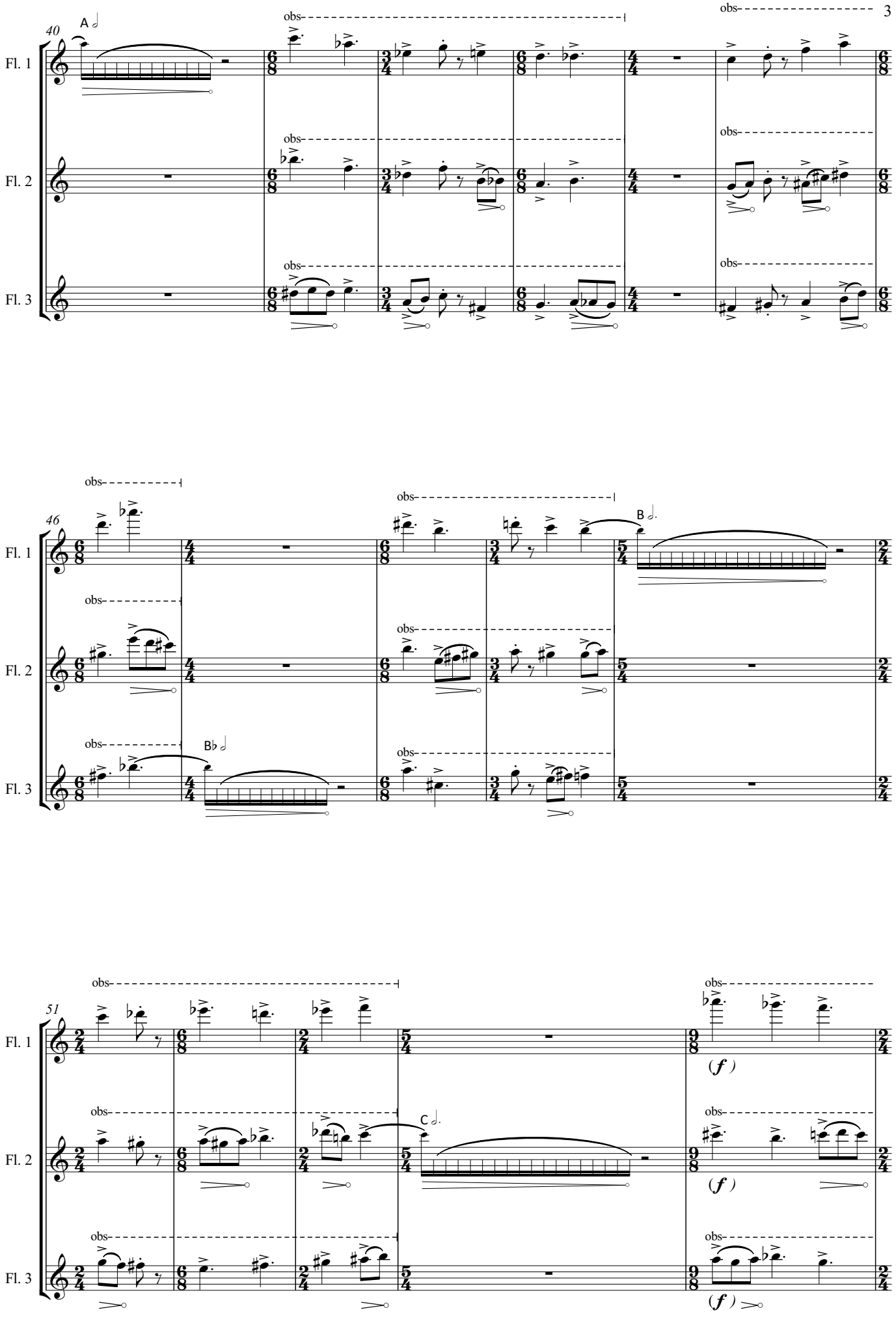


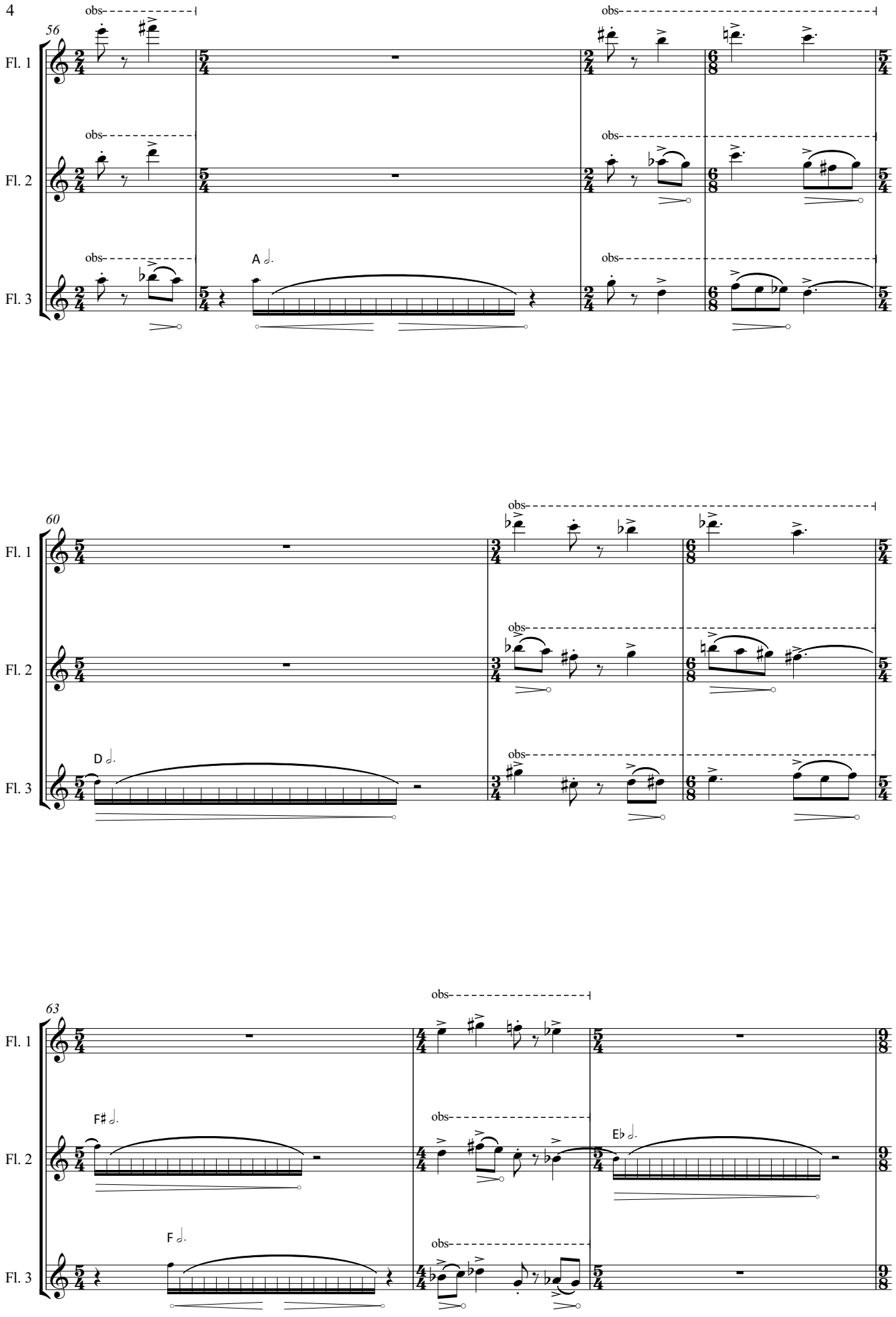


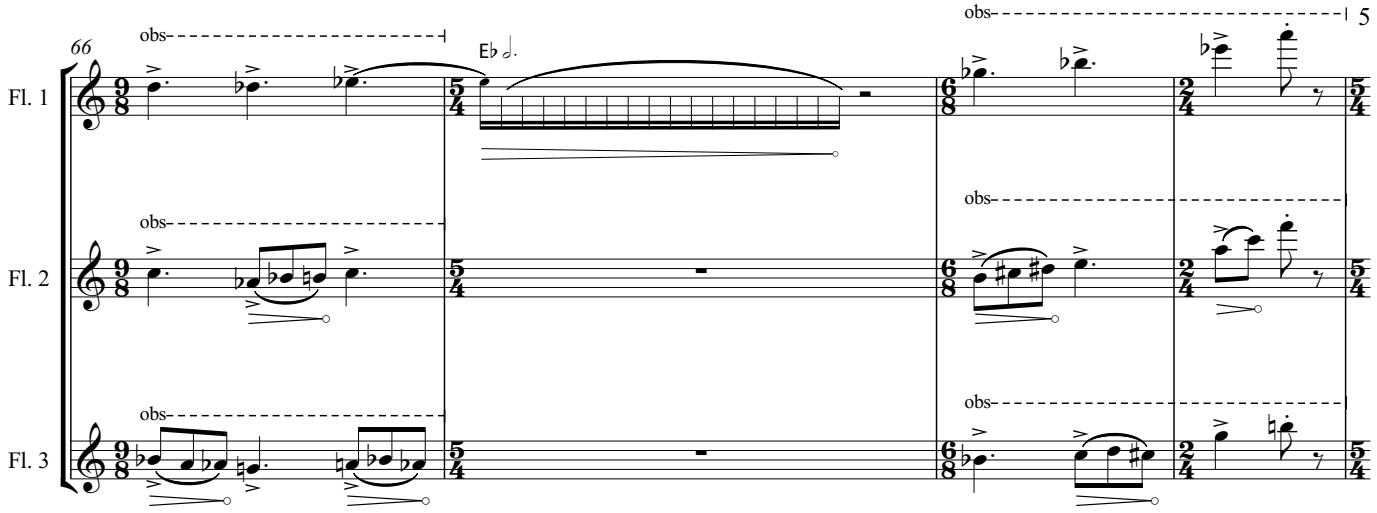


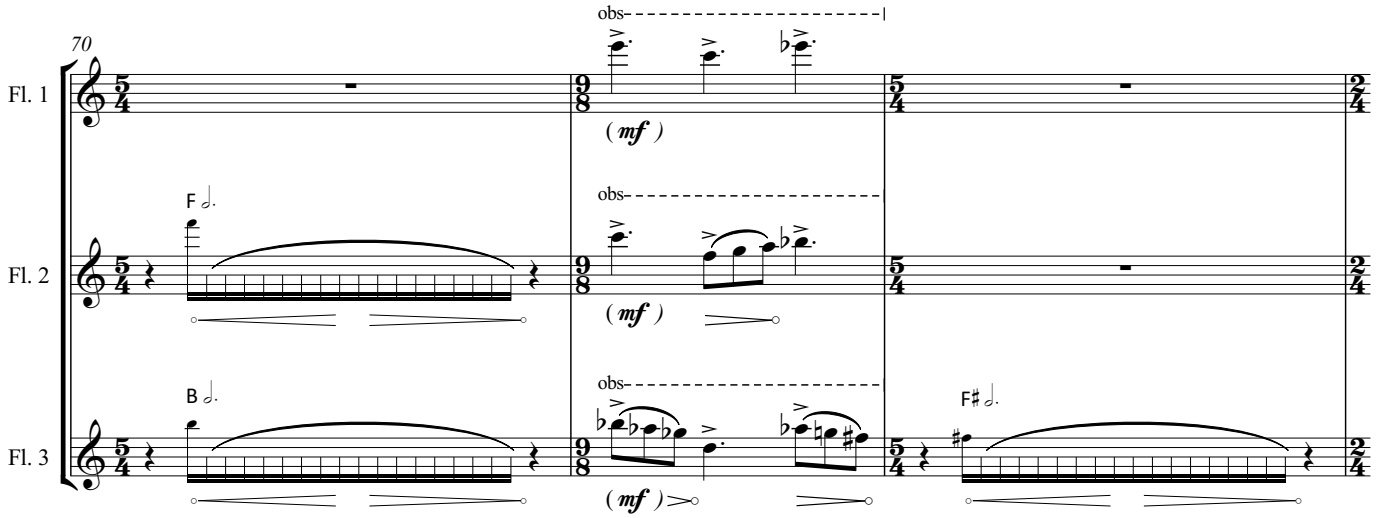


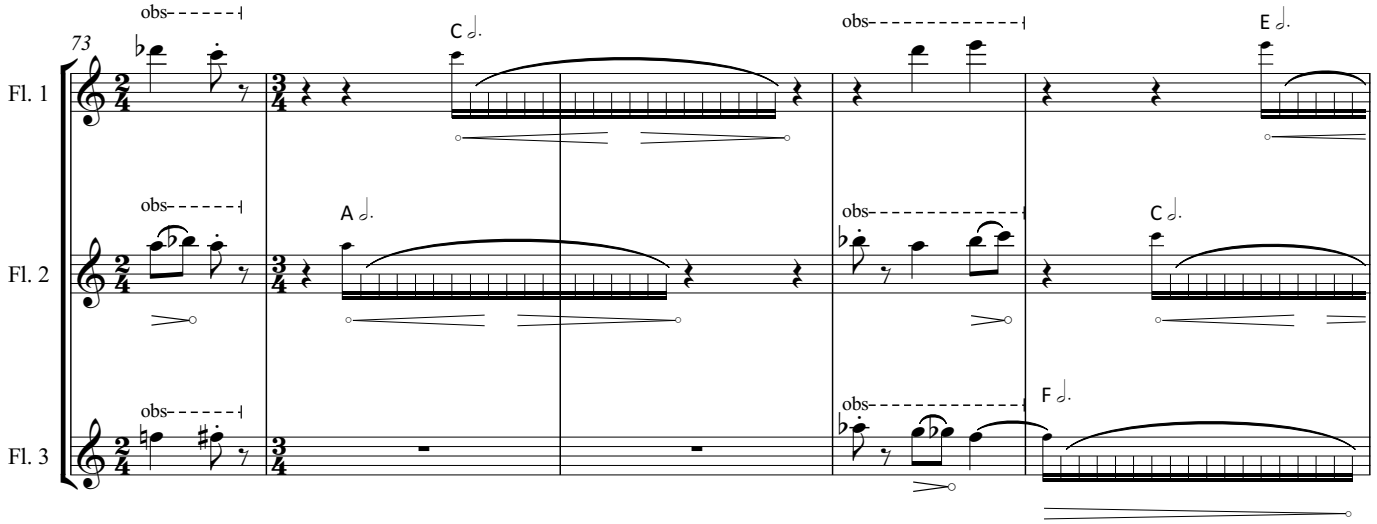
* play a G major arpeggio, as quickly as possible, for a duration of two minims
arpeggios can ascend, descend, or both

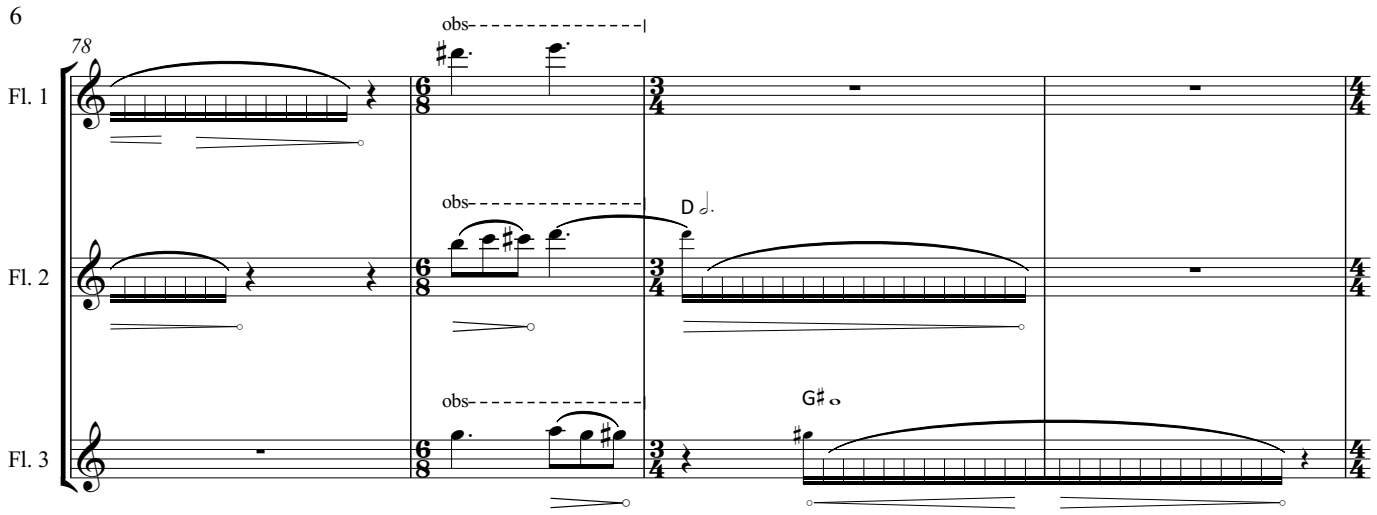

40
A
obs
Fl. 1
Fl. 2
Fl. 3
46
B
B♭
51
C
(f)

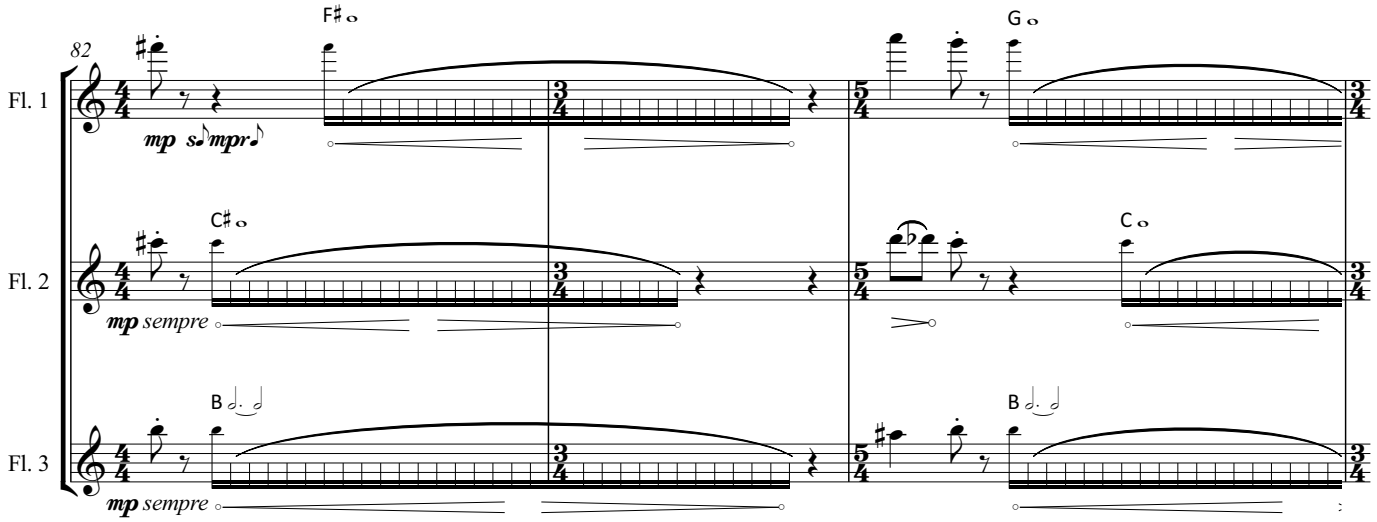

56
Fl. 1
Fl. 2
Fl. 3
obs
A
60
D
63
F♯
F
E♭

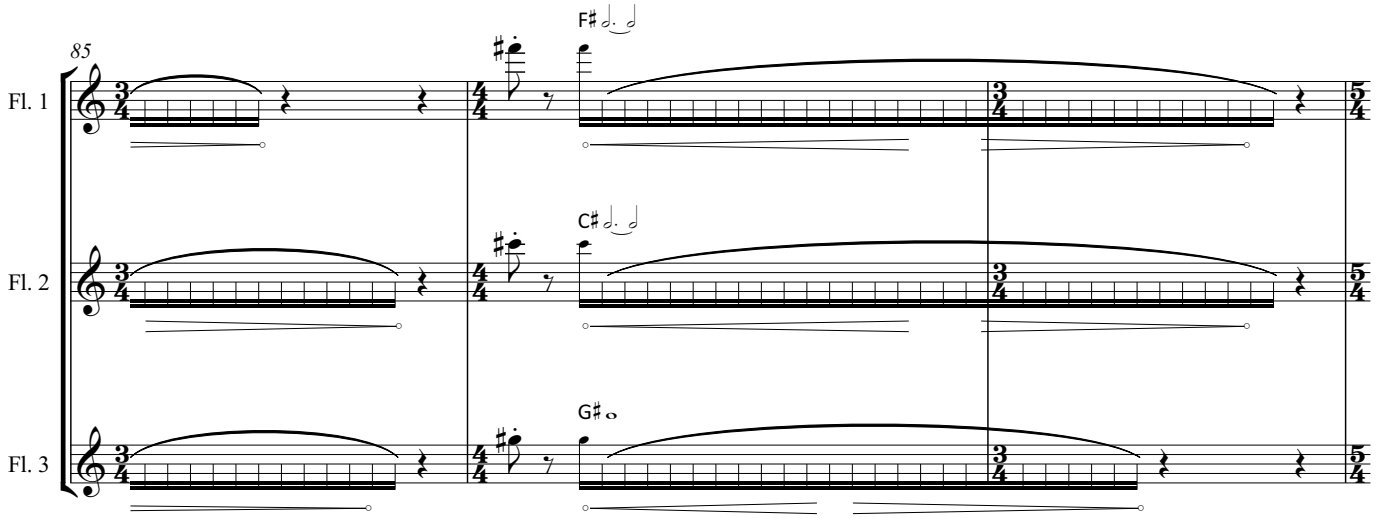

66
Fl. 1
Fl. 2
Fl. 3
obs
E♭

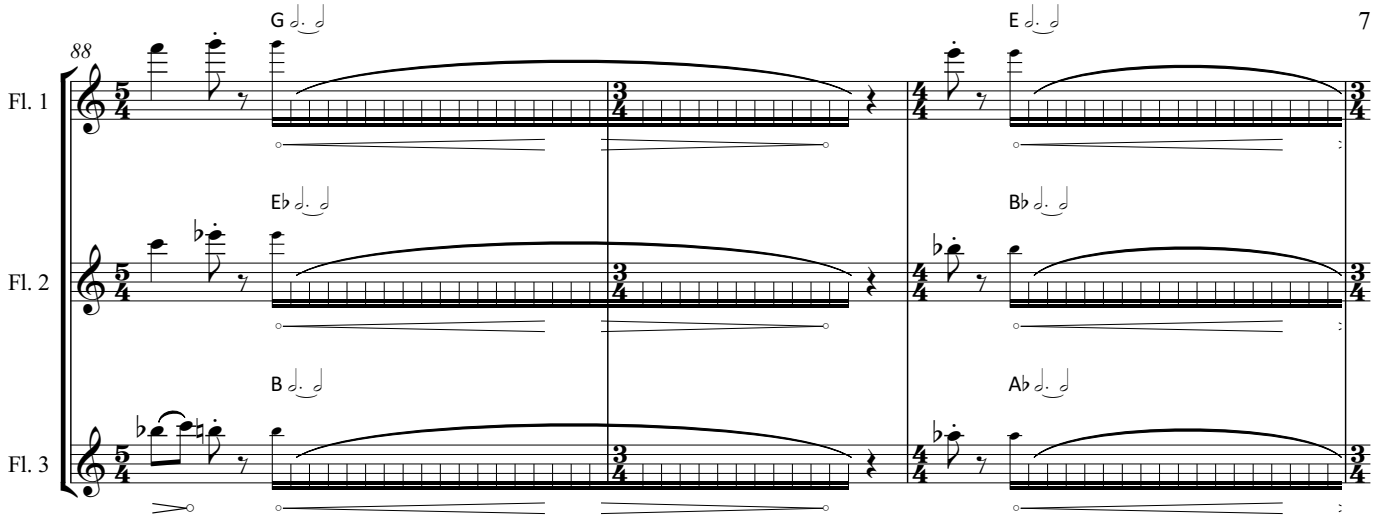

70
Fl. 1
Fl. 2
Fl. 3
obs
F
B
F♯
(mf)

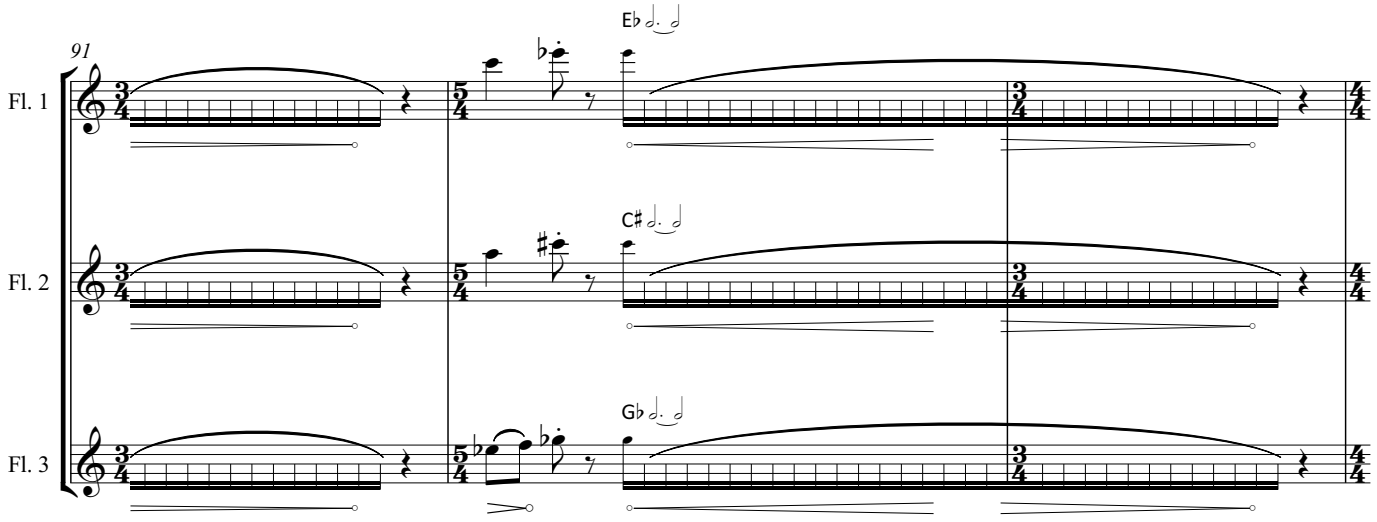

73
Fl. 1
Fl. 2
Fl. 3
obs
C
A
E
F

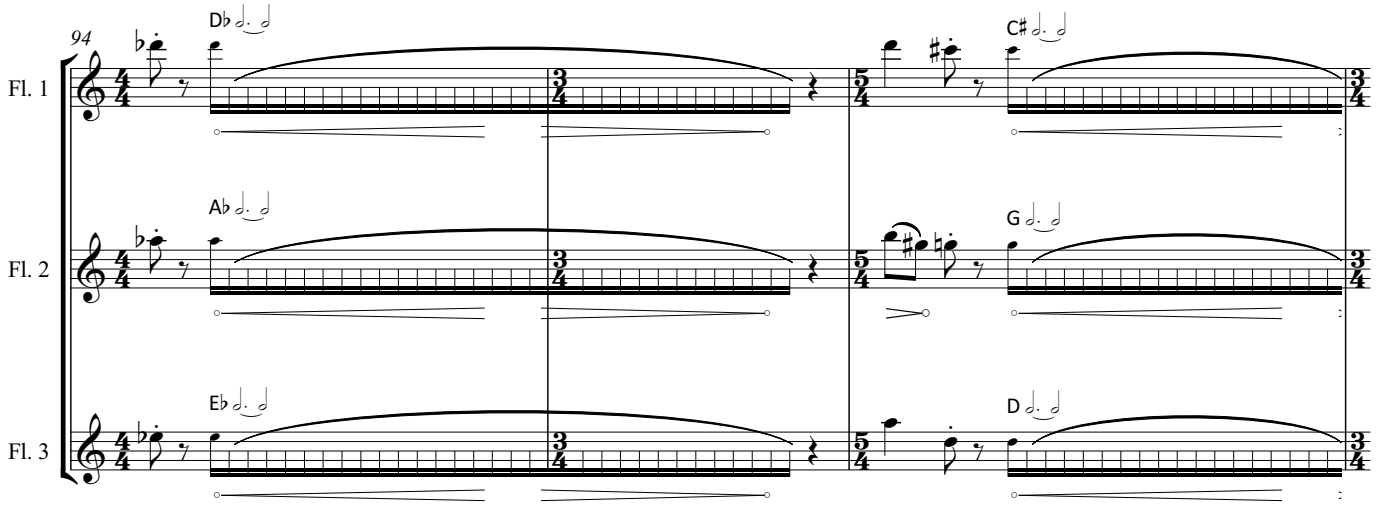

78
Fl. 1
Fl. 2
Fl. 3
obs
obs
obs
D
G♯ o

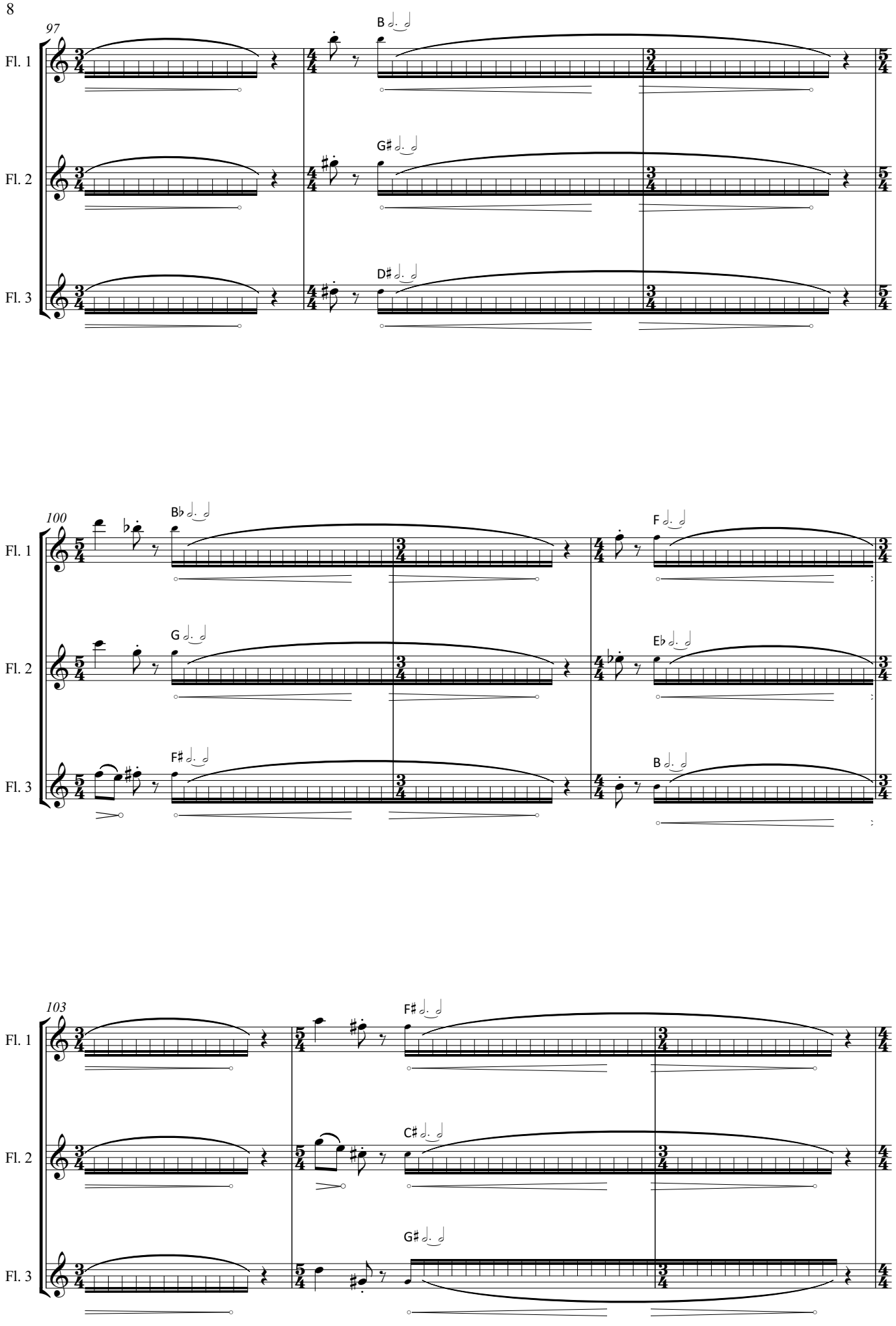

82
Fl. 1
Fl. 2
Fl. 3
F♯ o
G o
C♯ o
C o
B
B
mp sempre
mp sempre

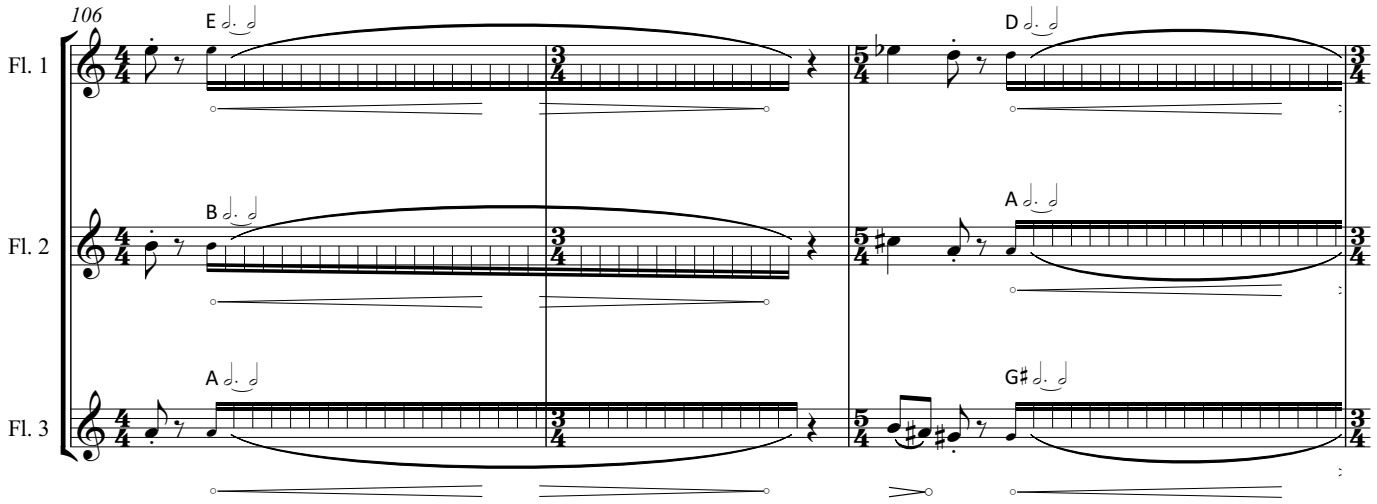

85
Fl. 1
Fl. 2
Fl. 3
F♯
C♯
G♯ o

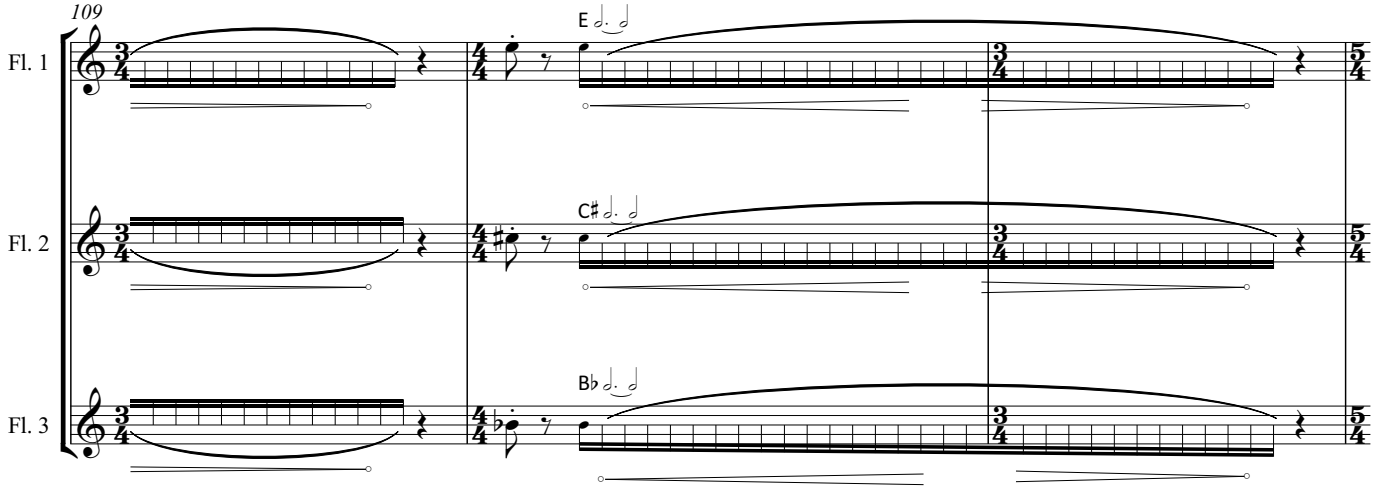

88
Fl. 1
Fl. 2
Fl. 3
G
E
E♭
B♭
B
A♭

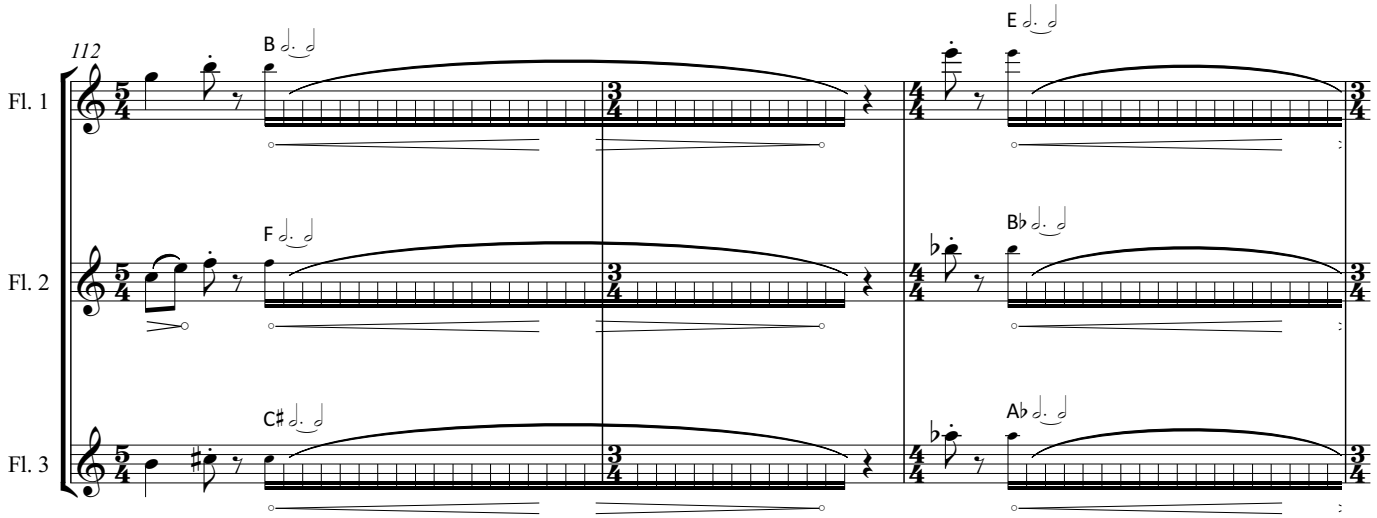

91
Fl. 1
Fl. 2
Fl. 3
E♭
C♯
G♭

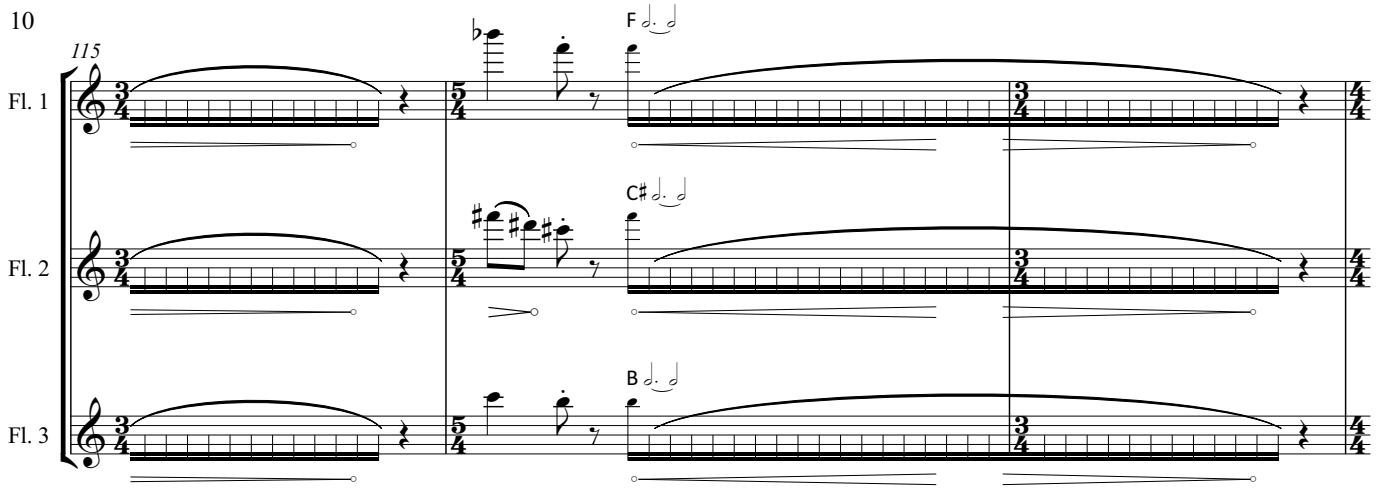

94
Fl. 1
Fl. 2
Fl. 3
D♭
C♯
A♭
G
E♭
D

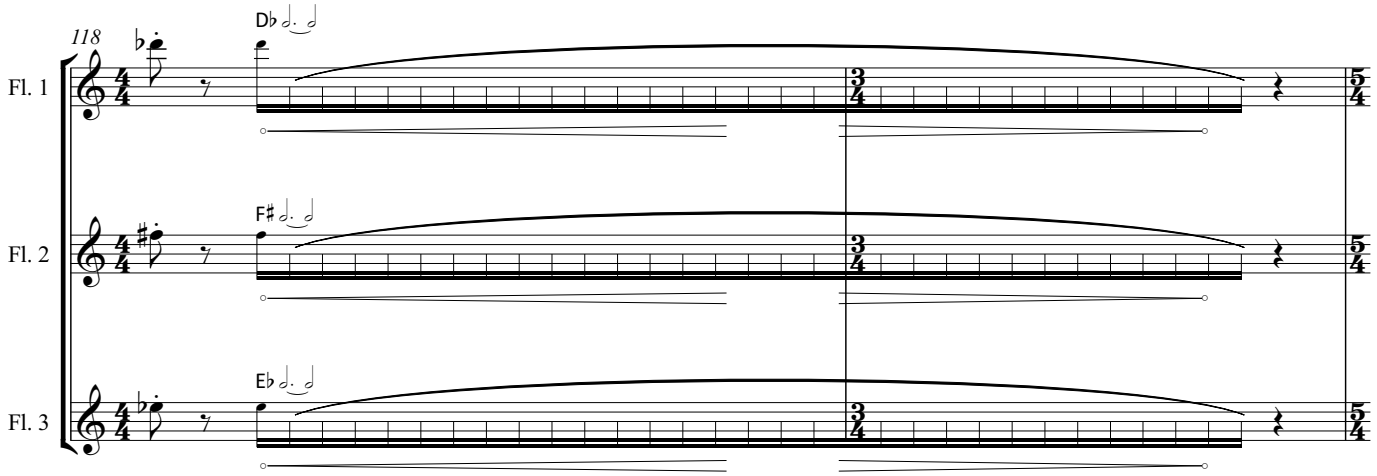

97
Fl. 1
Fl. 2
Fl. 3
B
G♯
D♯
100
B♭
G
F♯
F
E♭
B
103
F♯
C♯
G♯

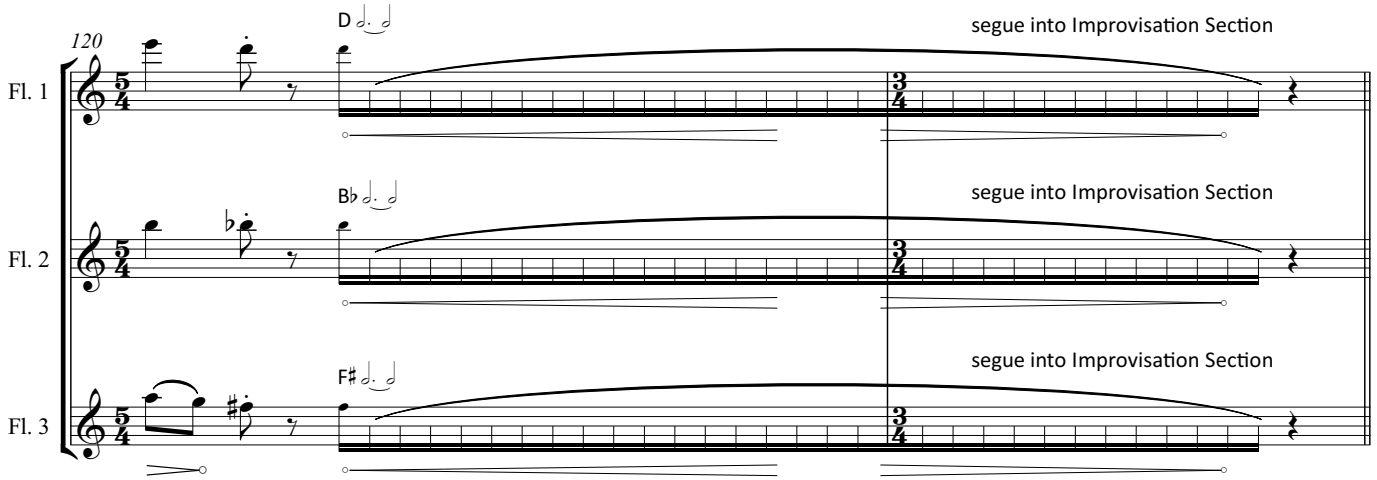

106
Fl. 1
Fl. 2
Fl. 3
E
D
B
A
A
G♯


109
Fl. 1
Fl. 2
Fl. 3
E
C♯
B♭

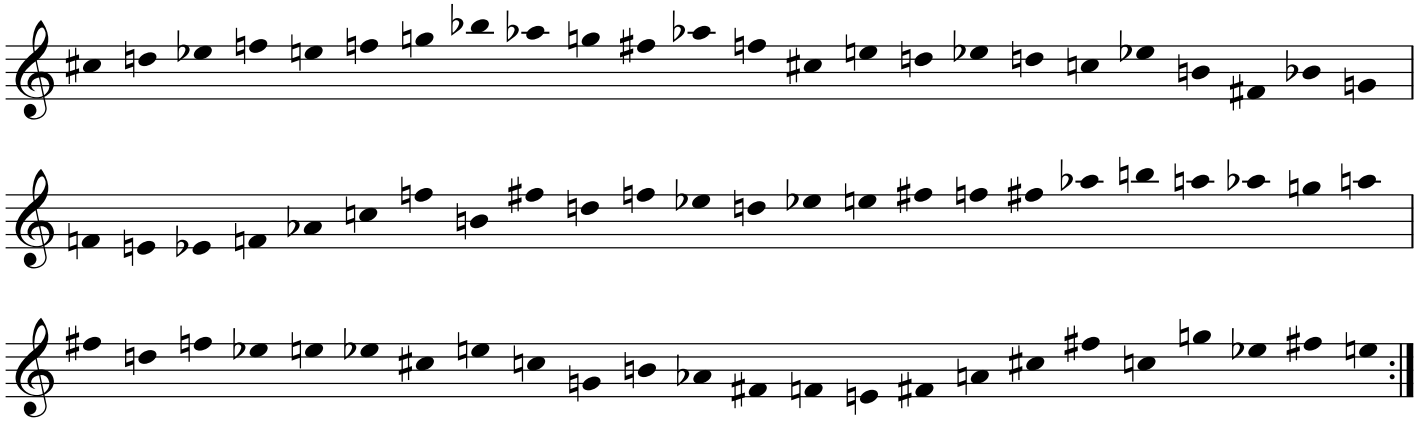

112
Fl. 1
Fl. 2
Fl. 3
B
E
F
B♭
C♯
A♭


115
Fl. 1
Fl. 2
Fl. 3
F
C♯
B


118
Fl. 1
Fl. 2
Fl. 3
D♭
F♯
E♭


120
Fl. 1
Fl. 2
Fl. 3
D
B♭
F♯
segue into Improvisation Section
segue into Improvisation Section
segue into Improvisation Section

Flute 1 - Improvisation Section

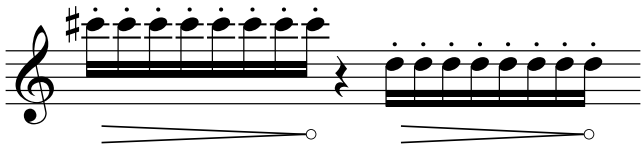


Use the list of notes above to aid improvisation. The notes must be used in order, but you do not need to finish the entire list of notes. If you finish the list of notes, but are still improvising, you may return to the start of the list. Notes can be selected at any octave, at the player's discretion. Gradually decrescendo throughout improvisation section. The entire improvisation section should last approximately 2 minutes. All three flautists should move from one instruction to the next at approximately the same time.

1. Construct very fast major arpeggios, using the list of notes to provide the tonic (e.g. C♯ major arpeggio, D major arpeggio, E♭ major arpeggio etc.) Arpeggios can ascend, descend or both. Fade in and out of each arpeggio. Ensure there is very little space in between each arpeggio. Between the three flutes, the effect should be of continuous, interweaving arpeggios. (c. 20 seconds)

1a. Smooth transition from 1 to 2. Occasionally, instead of performing an arpeggio (1) perform a rapidly tongued single pitch (2). Gradually, allow the tongued pitches to become more frequent than the arpeggios. (c. 20 seconds)

2. Rapidly tongue a single pitch, staccato, and fade out. Use the list of notes to provide the pitch (at any octave.) Leave a reasonably small space in between each pitch. (c. 20 seconds)



2a. Smooth transition from 2 to 3. Every so often allow the rapidly tongued notes (2) to turn into a long, single note (3). Gradually, ensure long notes occur more frequently. (c. 20 seconds)

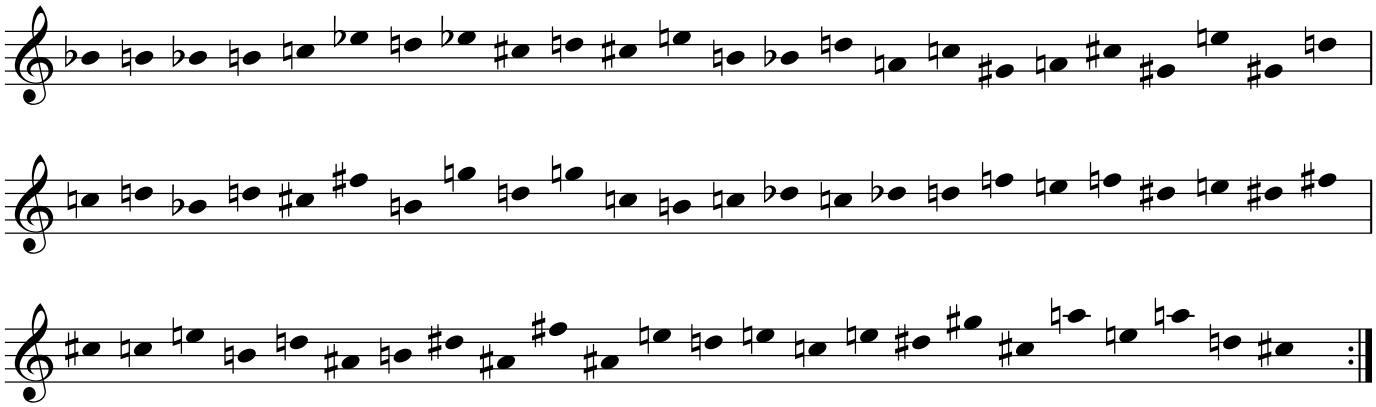
3. Use the list of notes to construct a melody that is as beautiful and ethereal as possible. The melody should be very quiet, but the player is allowed some freedom of expression, to facilitate a convincing melodic contour. The player has the freedom to choose to play each note for any length, as long as the melody is generally slow. (Flute 2 and Flute 3 do not have this instruction, and move straight onto 4.) (c. 20 seconds)

3a. Smooth transition from 3 to 4. Gradually allow the melody to become faster, more quiet, and less distinct (by using an ever looser embouchure.) (c. 10 seconds)

4. Improvise extremely quiet chromatic runs in the lower register of the flute. Use a loose embouchure to produce an indistinct tone. Between the three flutes, the effect should be of a continuous burbling.
(c. 10 seconds)

All three flutes should suddenly stop (as if cut off) simultaneously, to end the piece.

Flute 2 - Improvisation Section

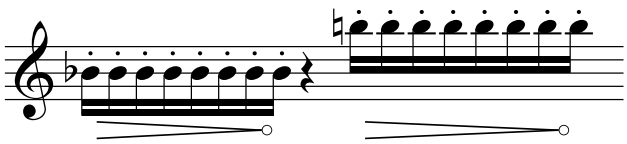


Use the list of notes above to aid improvisation. The notes must be used in order, but you do not need to finish the entire list of notes. If you finish the list of notes, but are still improvising, you may return to the start of the list. Notes can be selected at any octave, at the player's discretion. Gradually decrescendo throughout improvisation section. The entire improvisation section should last approximately 2 minutes. All three flautists should move from one instruction to the next at approximately the same time

1. Construct very fast major arpeggios, using the list of notes to provide the tonic (e.g. B major arpeggio, Bb major arpeggio, B major arpeggio etc.) Arpeggios can ascend, descend or both. Fade in and out of each arpeggio. Ensure there is very little space in between each arpeggio. Between the three flutes, the effect should be of continuous, interweaving arpeggios. (c. 20 seconds)

1a. Smooth transition from 1 to 2. Occasionally, instead of performing an arpeggio (1) perform a rapidly tongued single pitch (2). Gradually, allow the tongued pitches to become more frequent than the arpeggios. (c. 20 seconds)

2. Rapidly tongue a single pitch, staccato, and fade out. Use the list of notes to provide the pitch (at any octave.) Leave a reasonably small space in between each pitch. (c. 20 seconds)



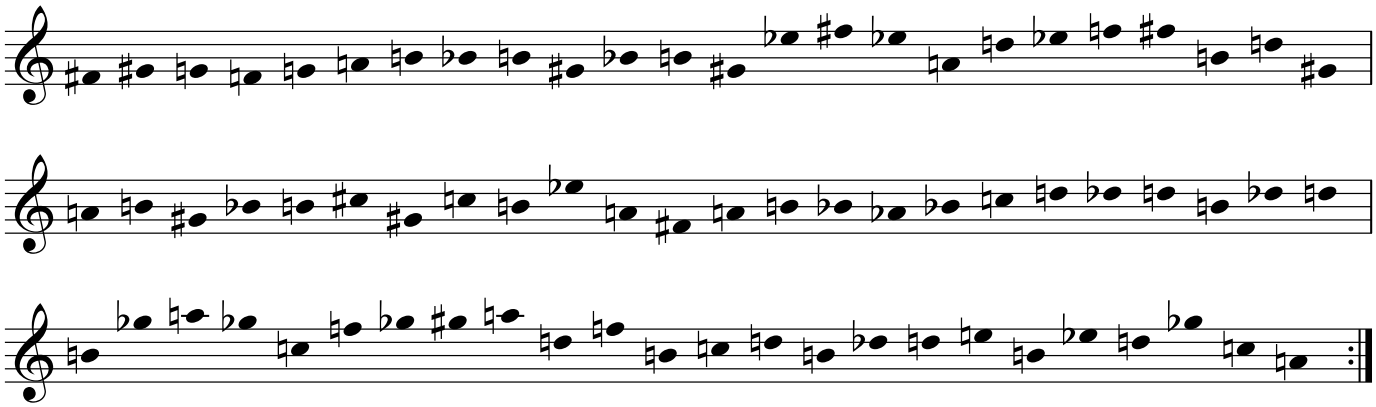
2a. Smooth transition from 2 to 4. Intersperse the rapidly tongued single pitches (2) with small passages of indistinct chromatic runs (4). Gradually, allow the passages of chromatic runs to become more frequent than the rapidly tongued pitches. (c. 20 seconds)

(Note that there is no instruction 3 in the parts for both Flute 2 and Flute 3. This is intentional.)

4. Improvise extremely quiet chromatic runs in the lower register of the instrument. Use a loose embouchure to produce an indistinct tone. Initially, Flute 1 will be playing a melody, before joining Flute 2 and Flute 3. Between the three flutes, the effect should be of a continuous burbling. (c. 40 seconds)

All three flutes should suddenly stop (as if cut off) simultaneously, to end the piece.

Flute 3 - Improvisation Section

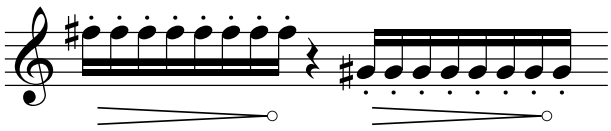


Use the list of notes above to aid improvisation. The notes must be used in order, but you do not need to finish the entire list of notes. If you finish the list of notes, but are still improvising, you may return to the start of the list. Notes can be selected at any octave, at the player's discretion. Gradually decrescendo throughout improvisation section. The entire improvisation section should last approximately 2 minutes. All three flautists should move from one instruction to the next at approximately the same time

1. Construct very fast major arpeggios, using the list of notes to provide the tonic (e.g. F♯ major arpeggio, G♯ major arpeggio, G major arpeggio etc.) Arpeggios can ascend, descend or both. Fade in and out of each arpeggio. Ensure there is very little space in between each arpeggio. Between the three flutes, the effect should be of continuous, interweaving arpeggios. (c. 20 seconds)

1a. Smooth transition from 1 to 2. Occasionally, instead of performing an arpeggio (1) perform a rapidly tongued single pitch (2). Gradually, allow the tongued pitches to become more frequent than the arpeggios. (c. 20 seconds)

2. Rapidly tongue a single pitch, staccato, and fade out. Use the list of notes to provide the pitch (at any octave.) Leave a reasonably small space in between each pitch. (c. 20 seconds)



2a. Smooth transition from 2 to 4. Intersperse the rapidly tongued single pitches (2) with small passages of indistinct chromatic runs (4). Gradually, allow the passages of chromatic runs to become more frequent than the rapidly tongued pitches. (c. 20 seconds)

(Note that there is no instruction 3 in the parts for both Flute 2 and Flute 3. This is intentional.)

4. Improvise extremely quiet chromatic runs in the lower register of the instrument. Use a loose embouchure to produce an indistinct tone. Initially, Flute 1 will be playing a melody, before joining Flute 2 and Flute 3. Between the three flutes, the effect should be of a continuous burbling. (c. 40 seconds)

All three flutes should suddenly stop (as if cut off) simultaneously, to end the piece.

Ben Gaunt

Drenched in Neon and Endless Rain

for large ensemble

Drenched in Neon and Endless Rain

Drenched in Neon and Endless Rain was commissioned by Tony Houghton and the Sheffield Hadyn Ensemble, and premiered on 26th February 2012, at Firth Hall, Sheffield.

Drenched in Neon and Endless Rain is a line taken from Empire Magazine's review of the film Blade Runner (1982). I have always had an interest in sci-fi films from this era, especially ones set in huge metropolises. Although this piece is not programmatic, I have attempted to recreate an impression of the movie's city; glistening with chords that fall as rain (much like my hometown of Manchester.)

Year of Composition: 2012
Duration: c. 7'
Score in C

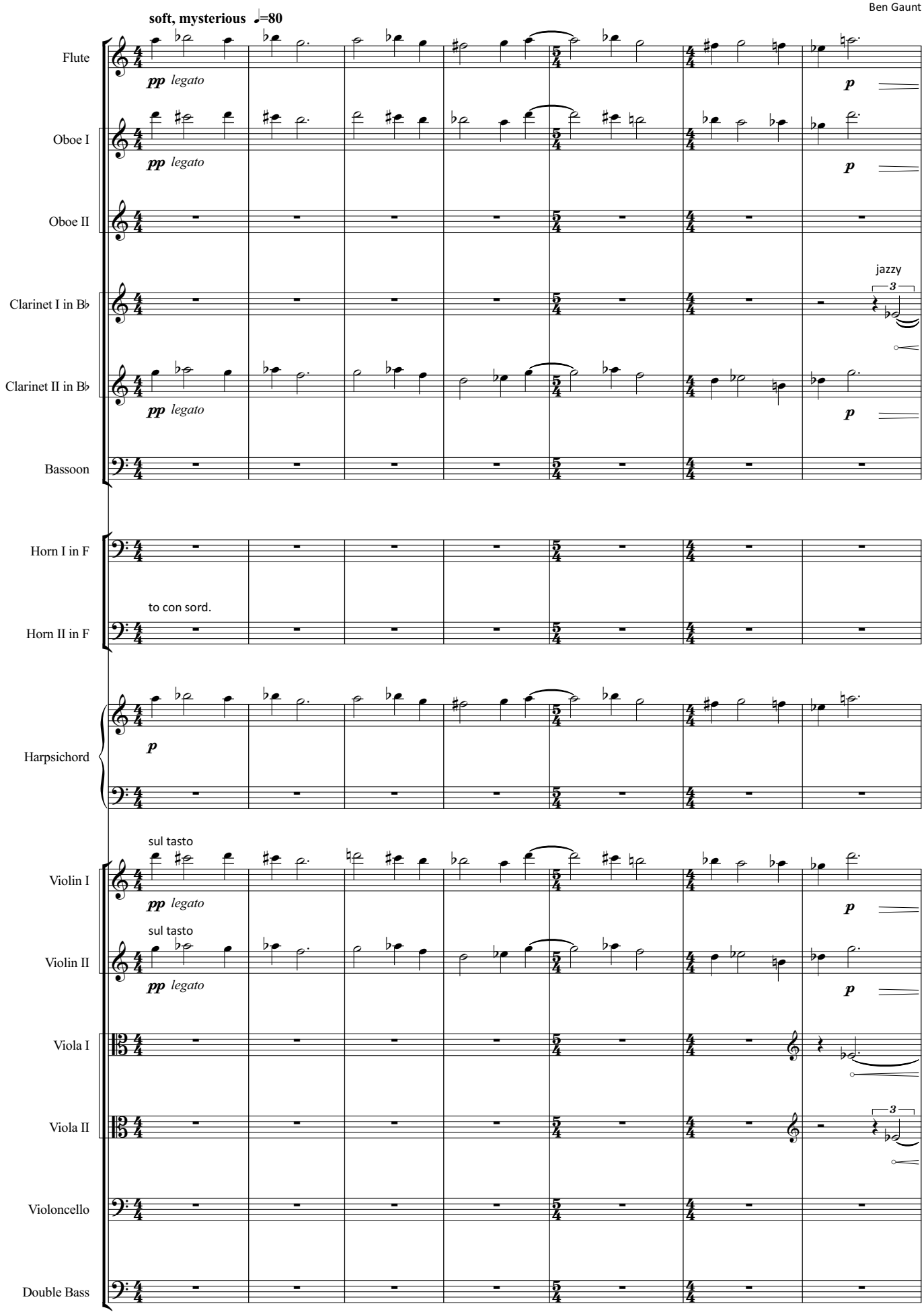
Instrumentation

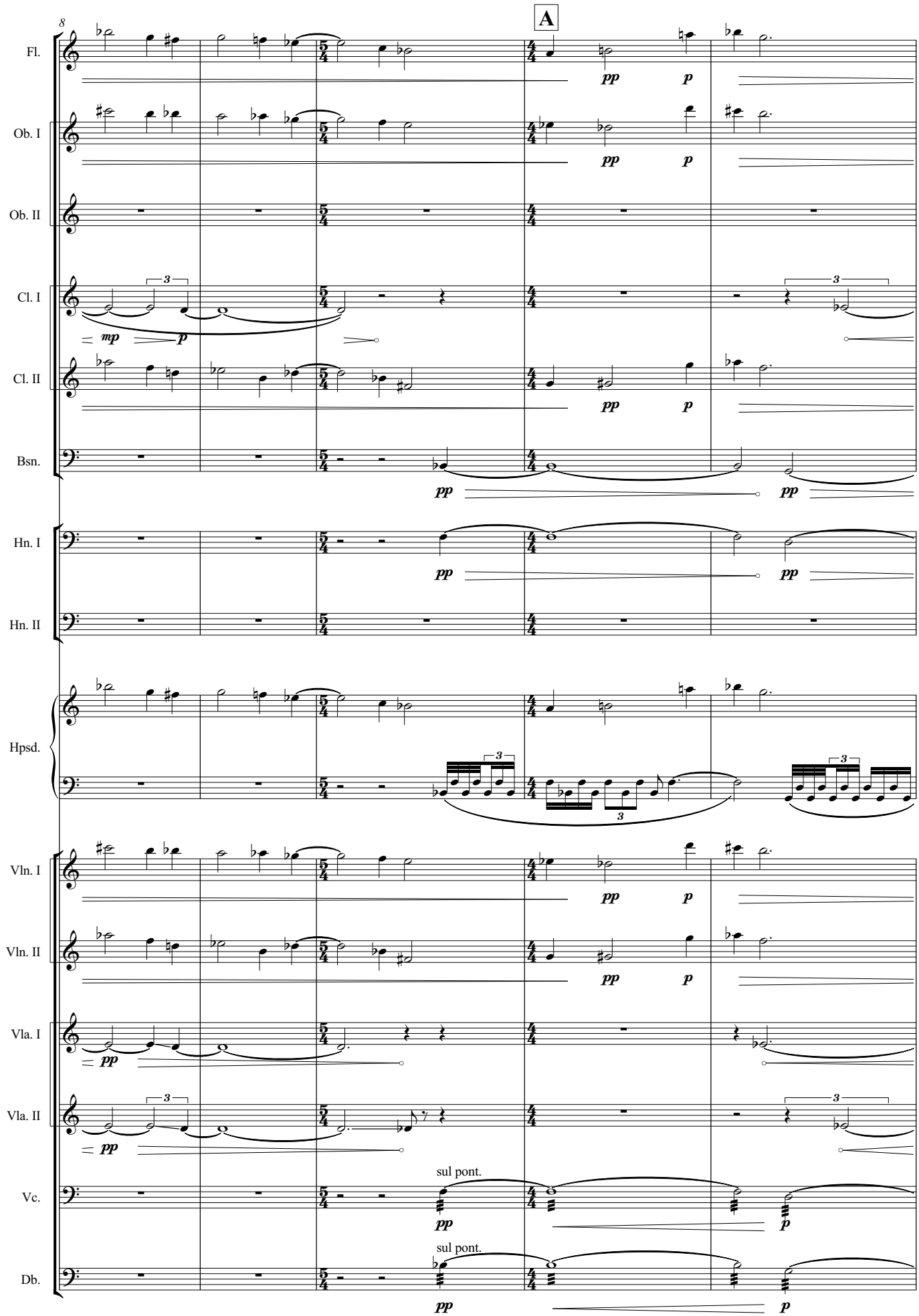
fl
2ob
2cl
bn
2hn
hpd
2vln
2vla
2vcl
2db

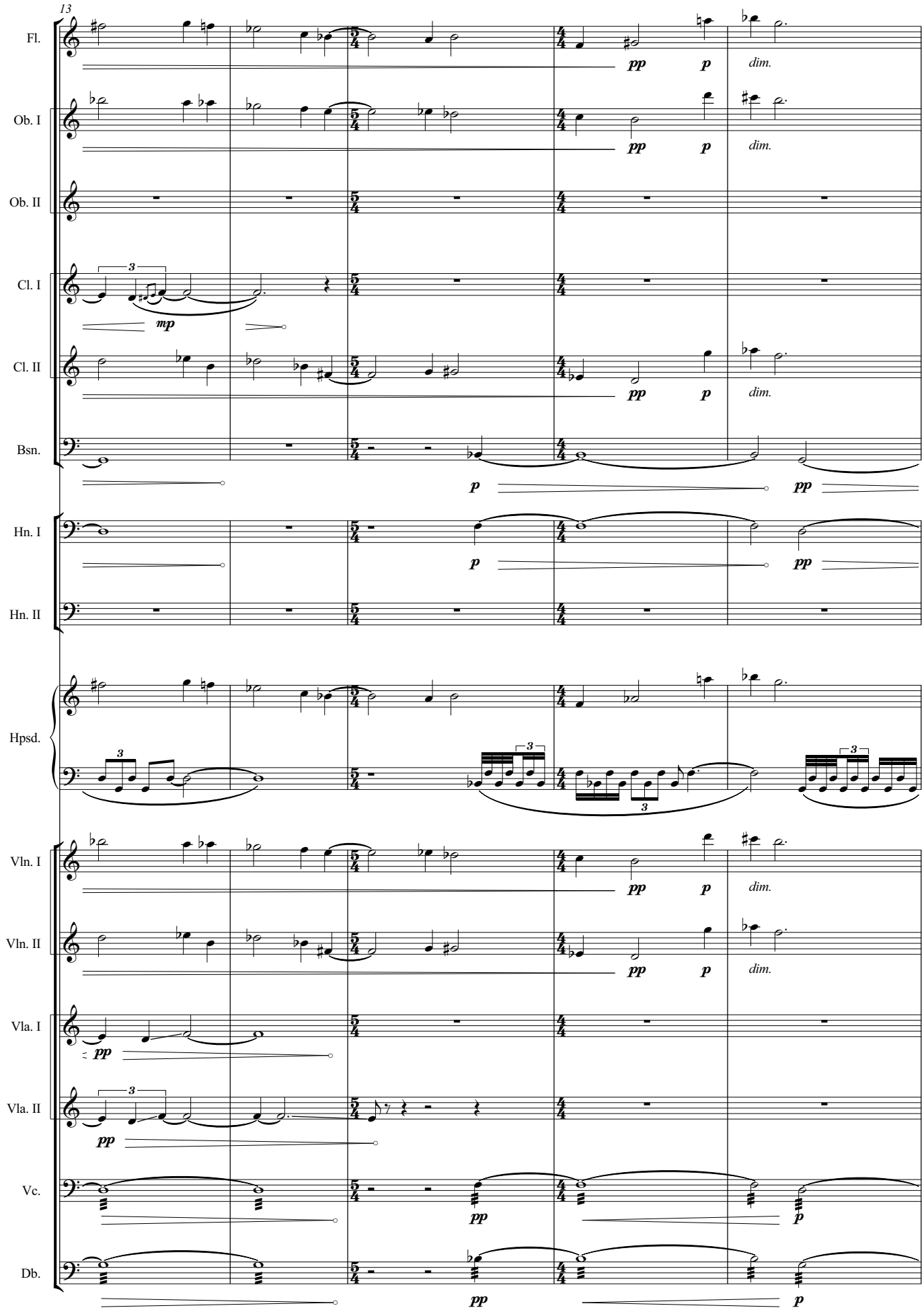
(single strings)

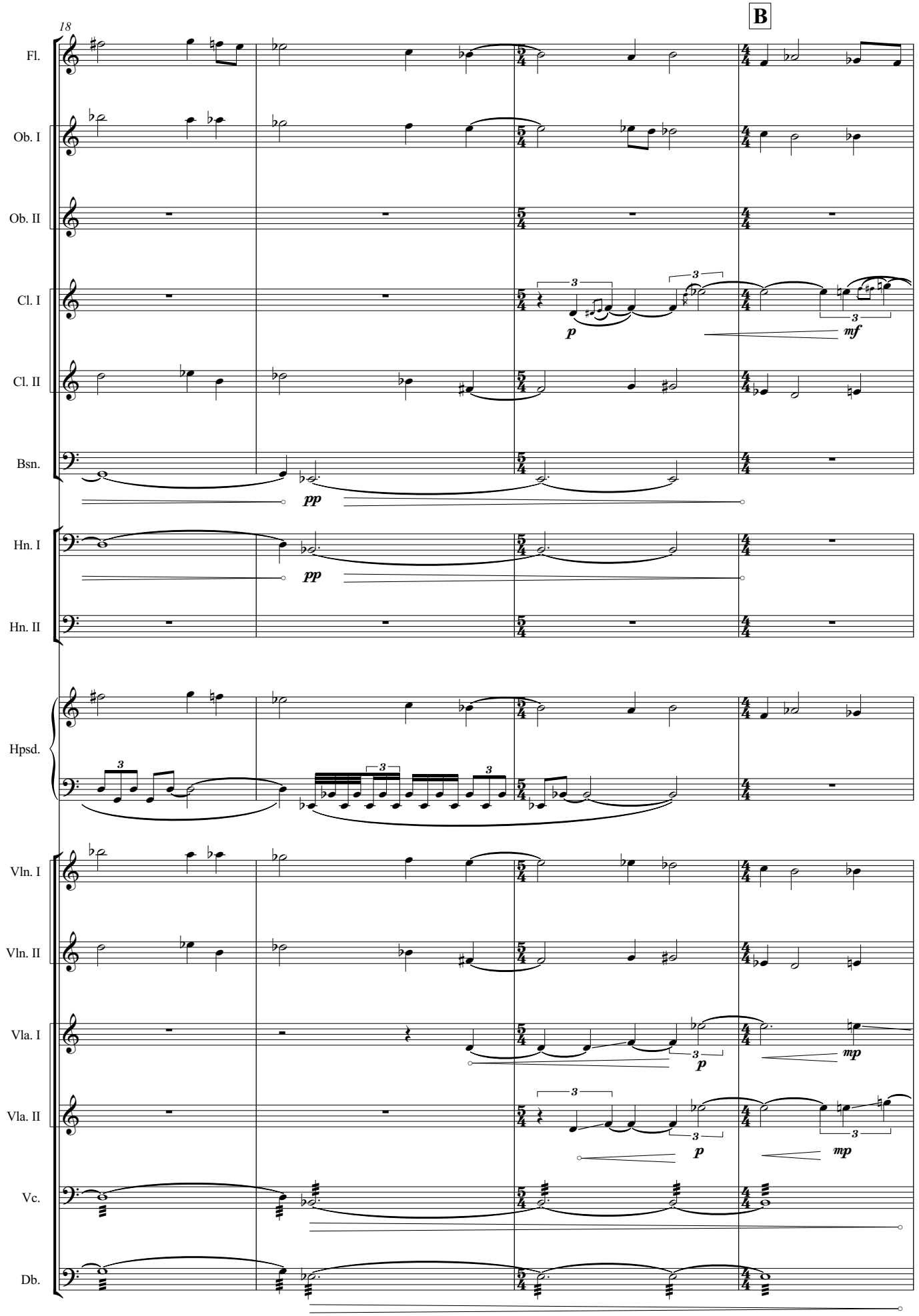
Drenched in Neon and Endless Rain

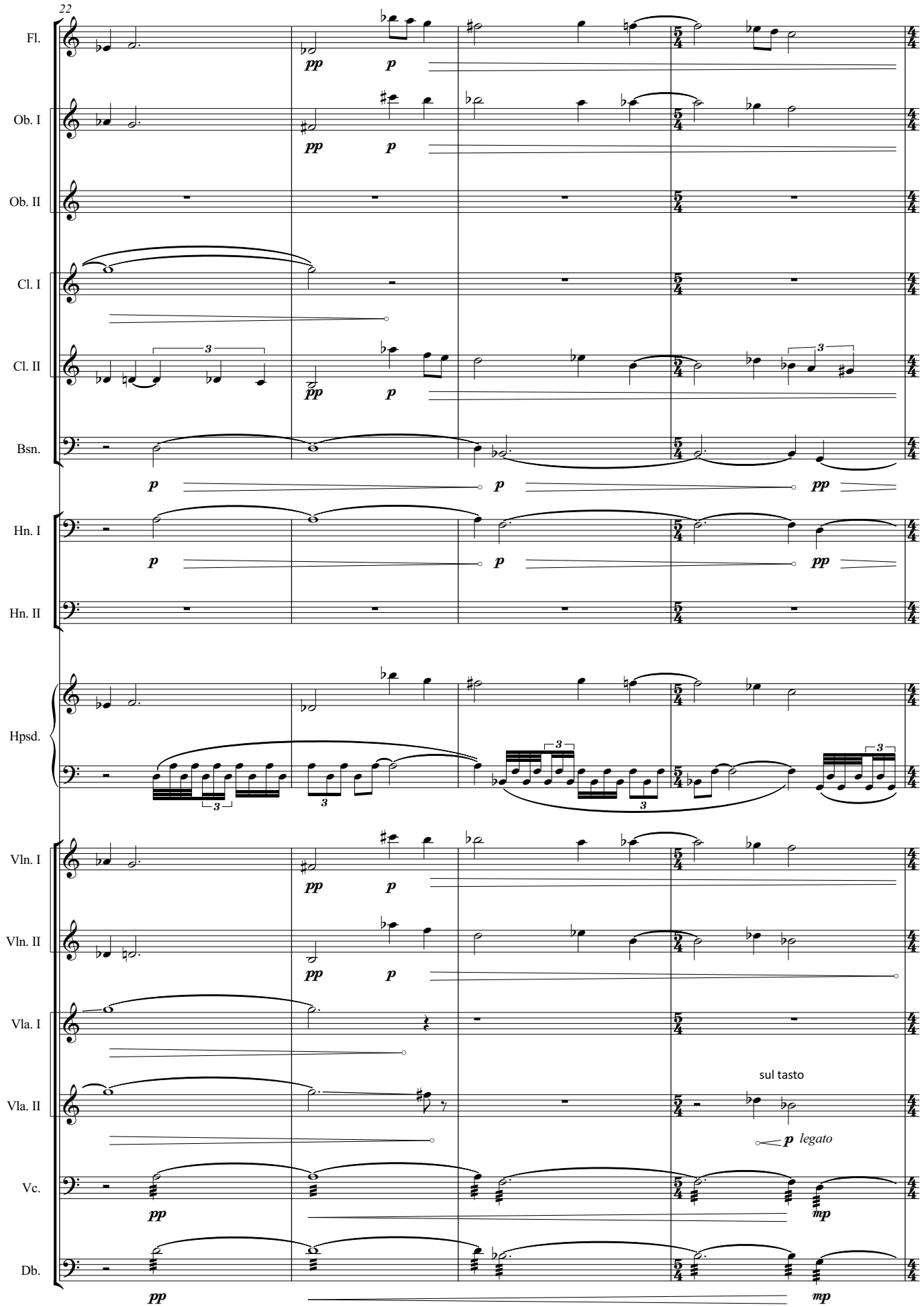
Ben Gaunt

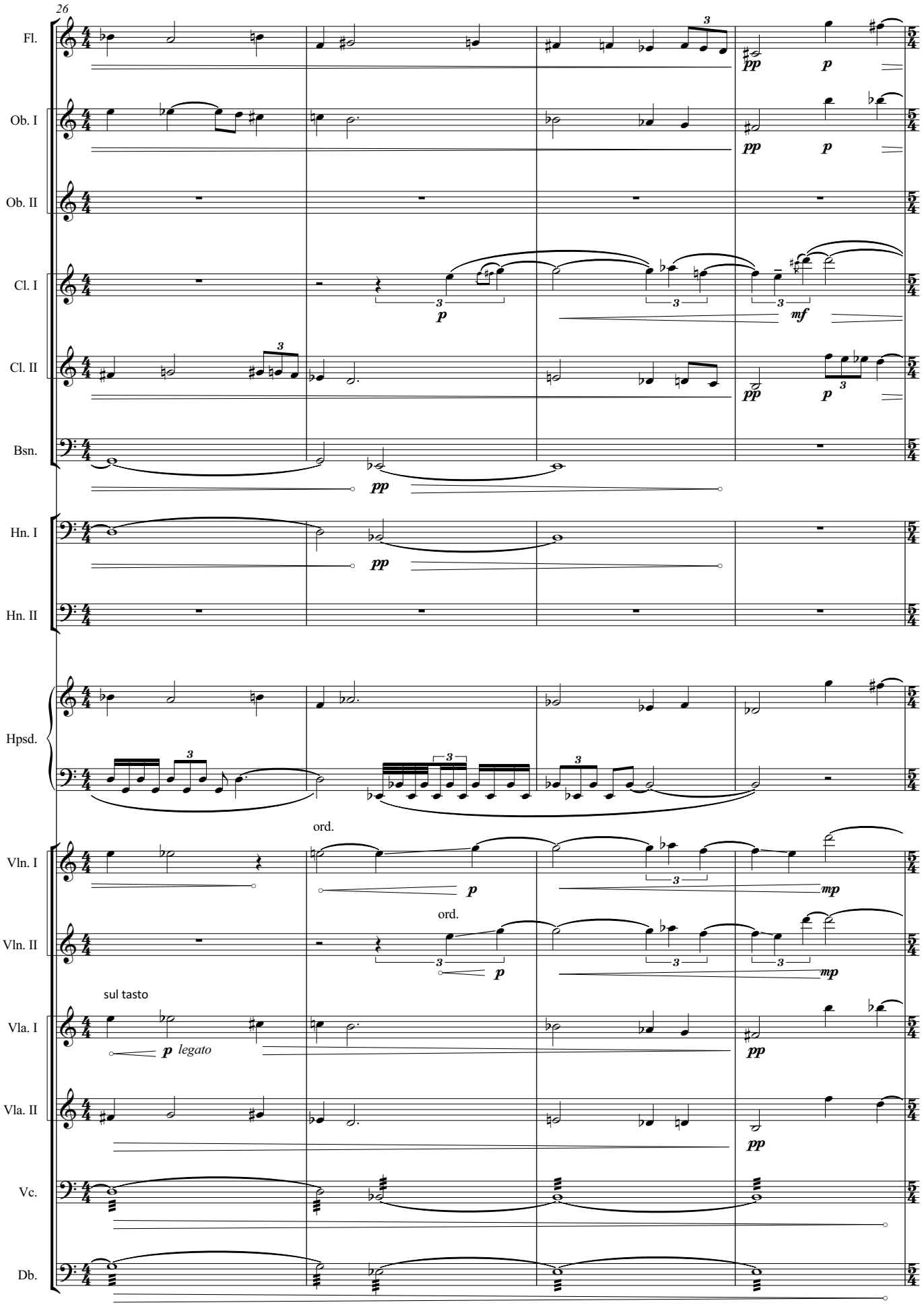


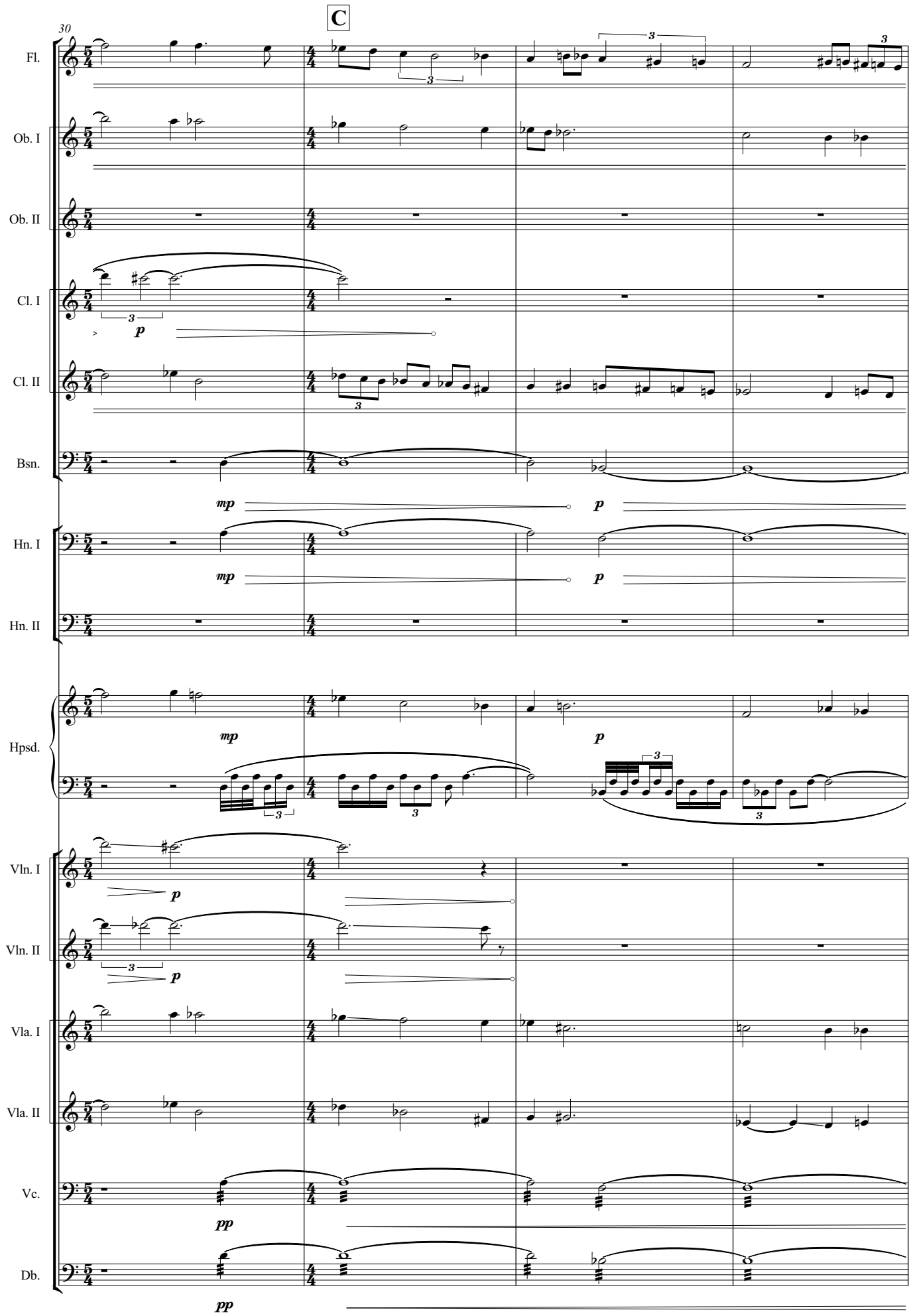

8
A
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
sul pont.
sul pont.

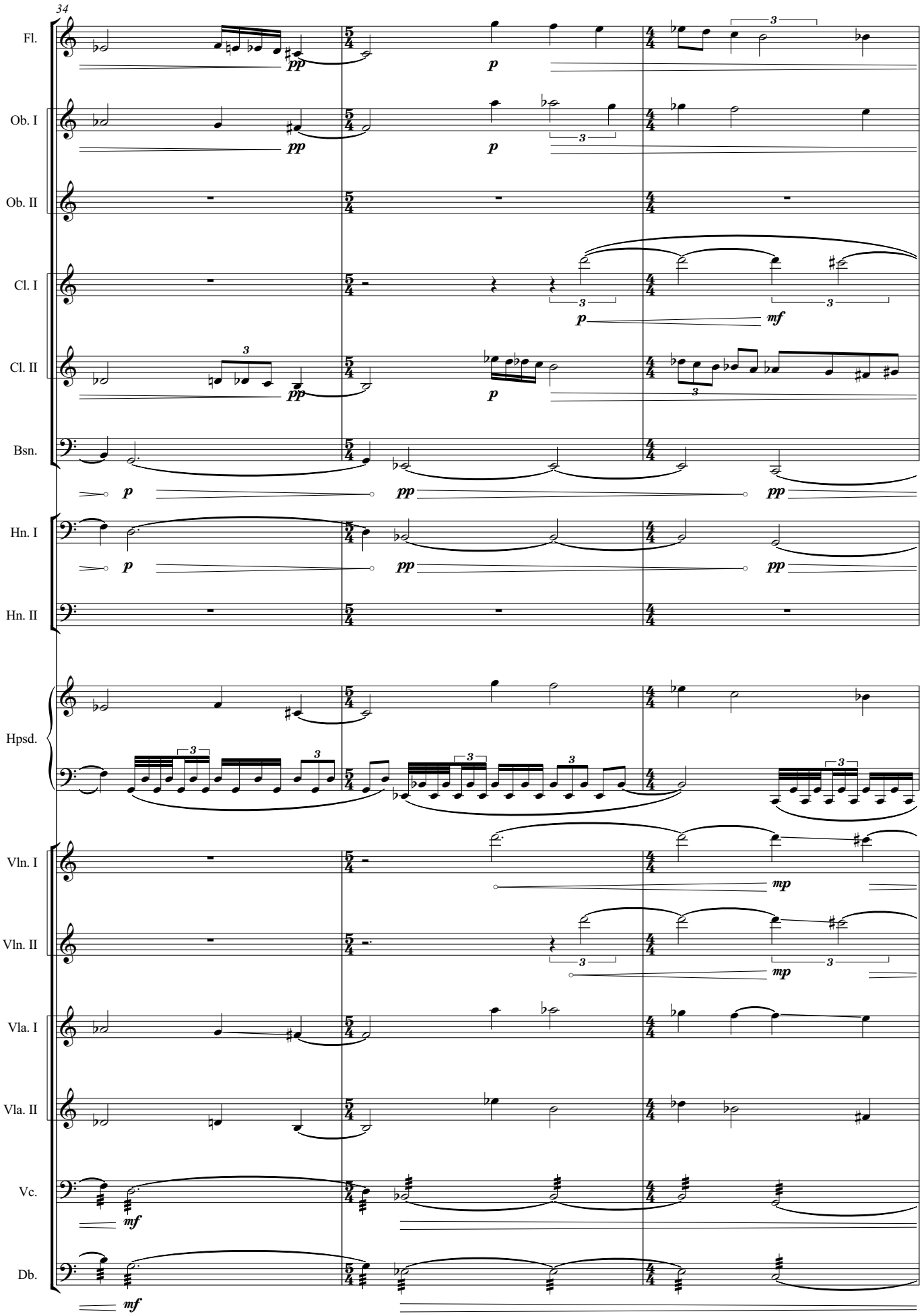

13
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
p
mp
dim.

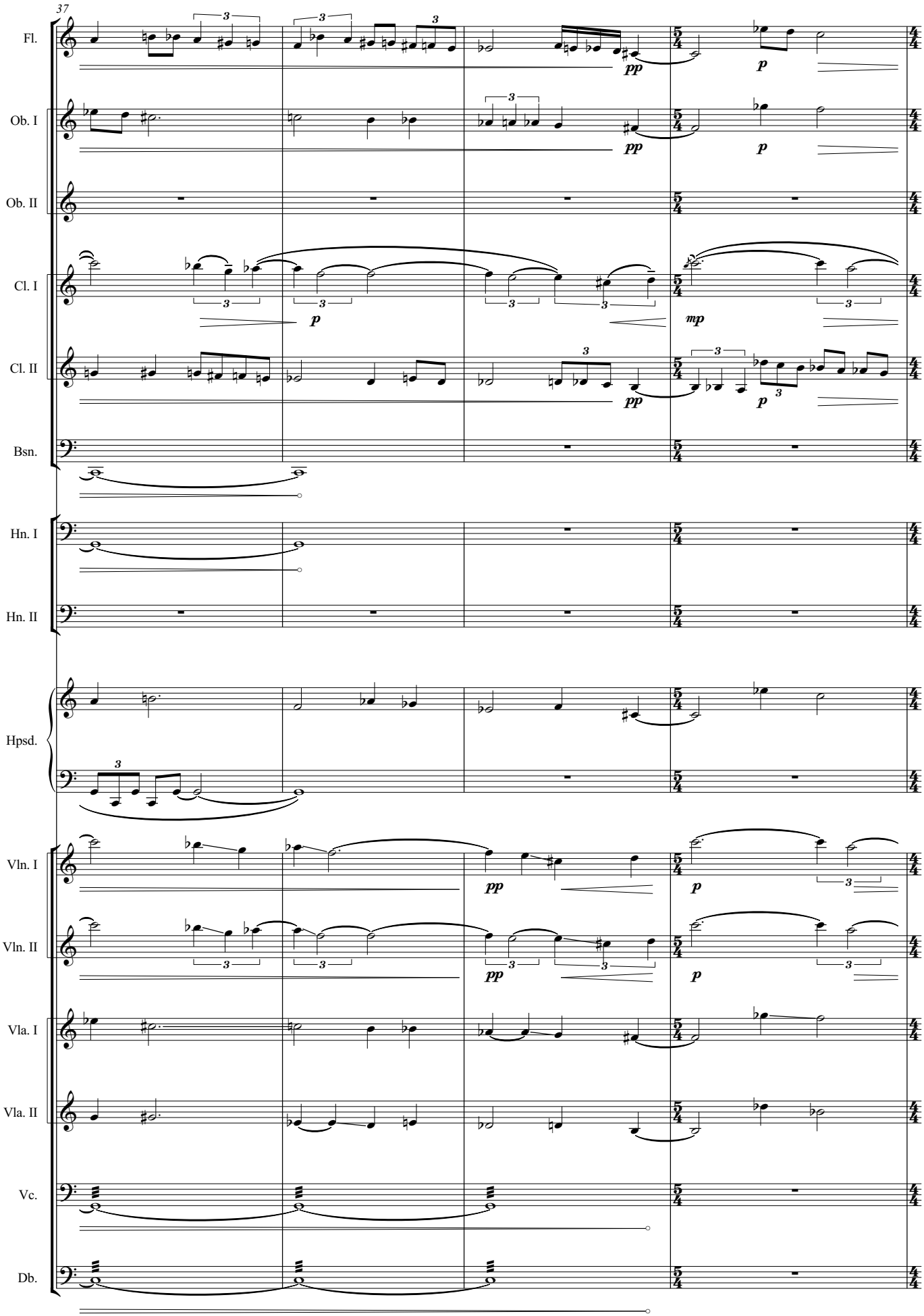

18
B
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
p
mf
mp

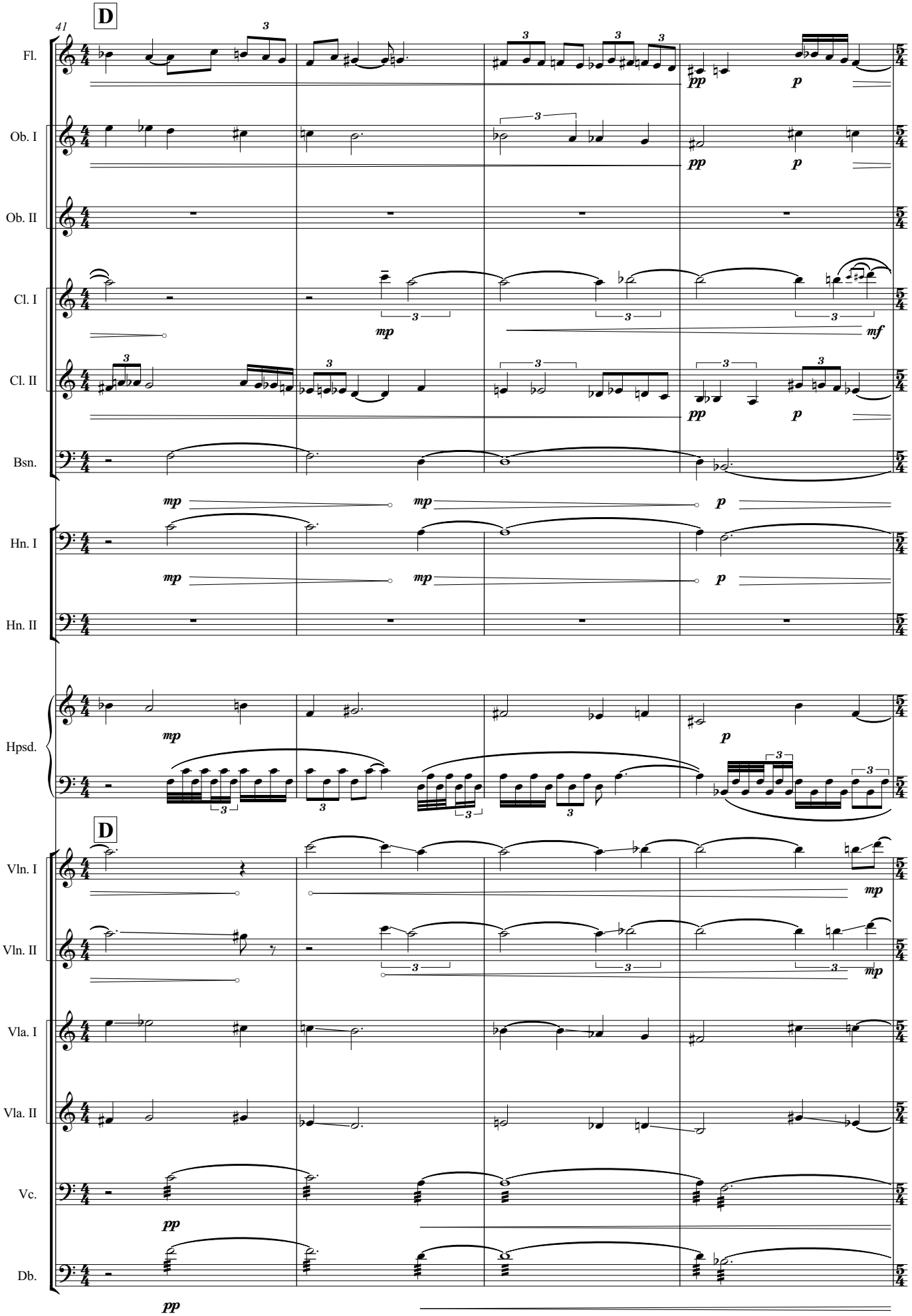

22
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
p
mp
sul tasto
legato

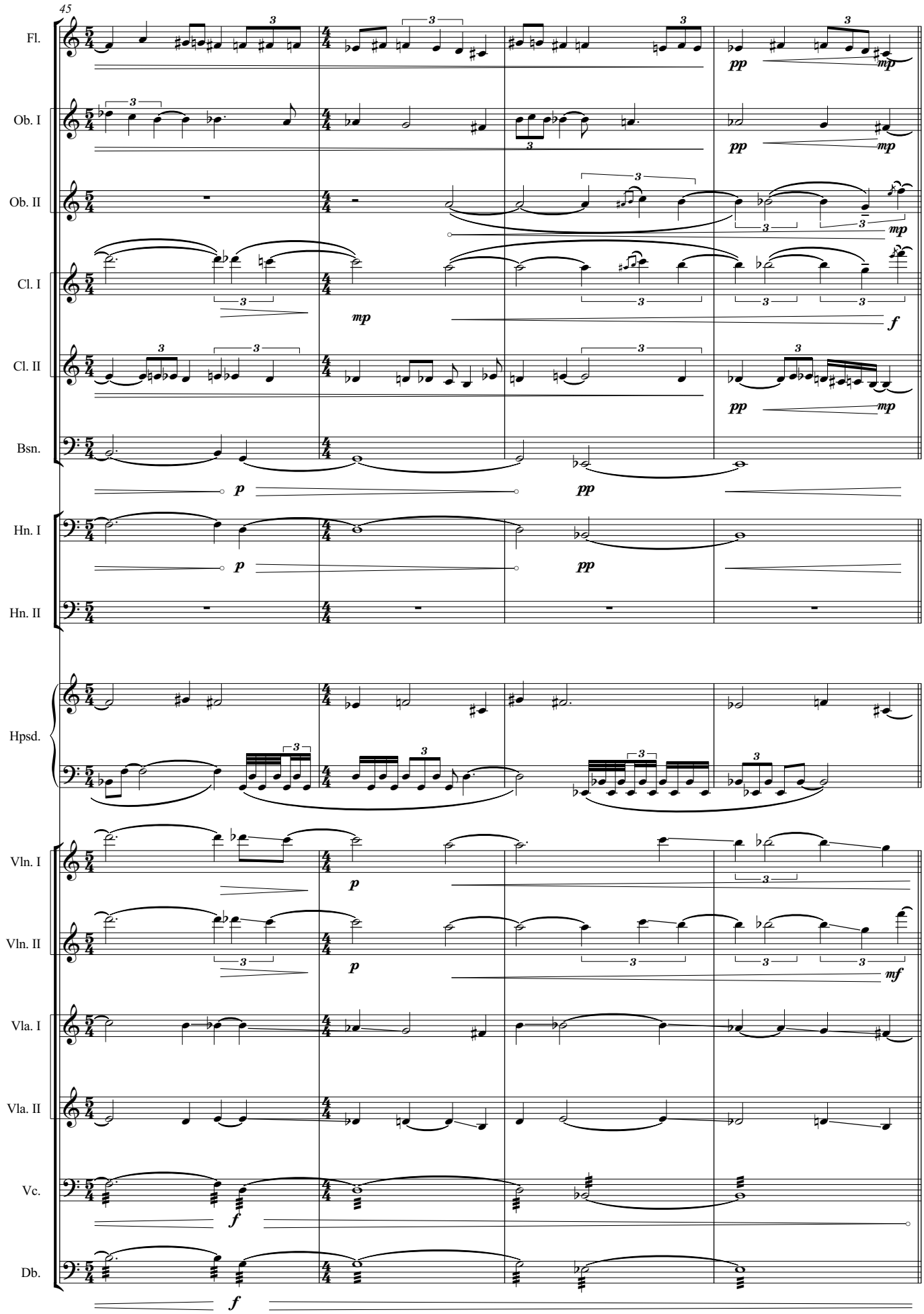

26
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
ord.
ord.
sul tasto
legato

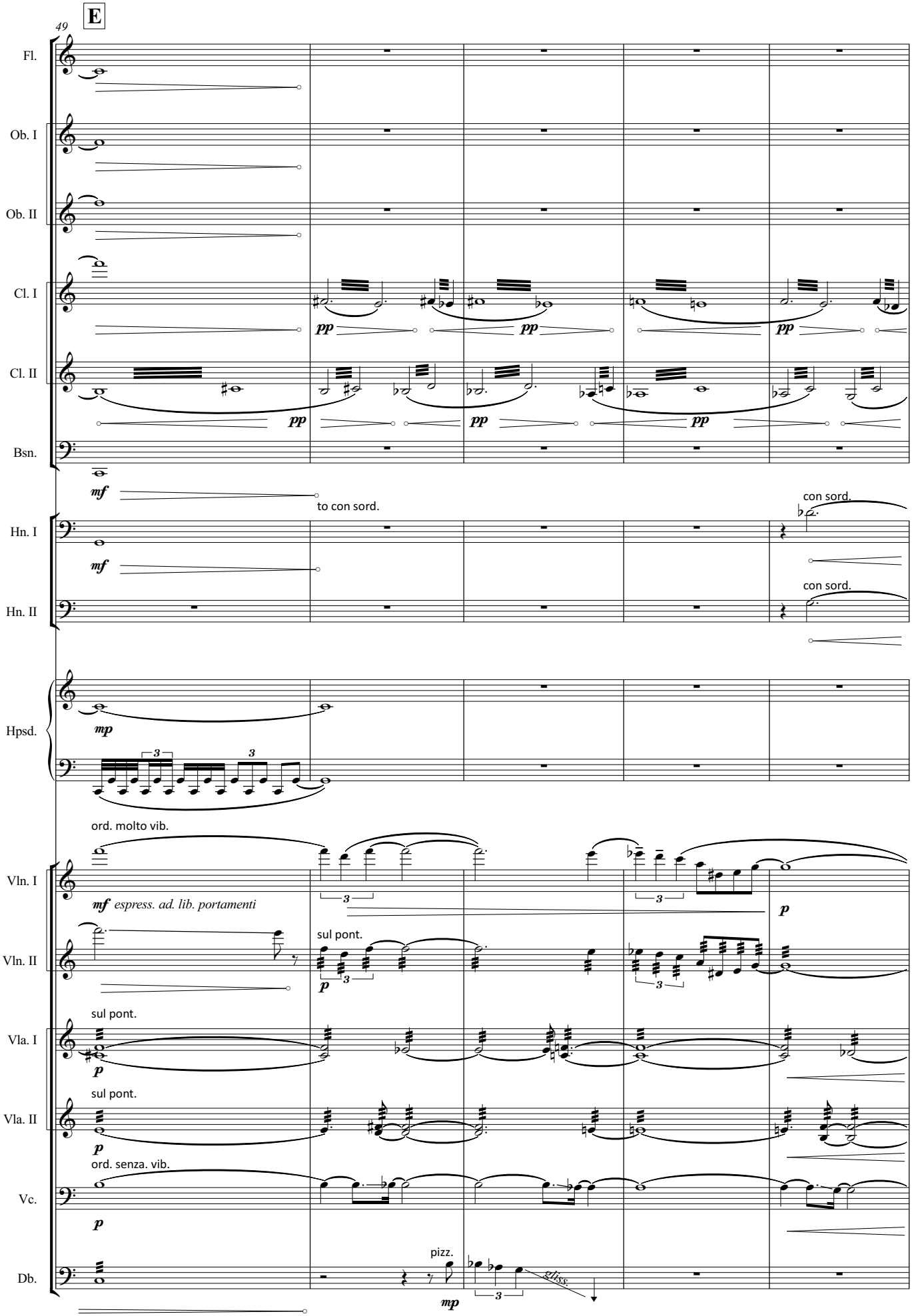

C
30
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
p
mp
pp
3

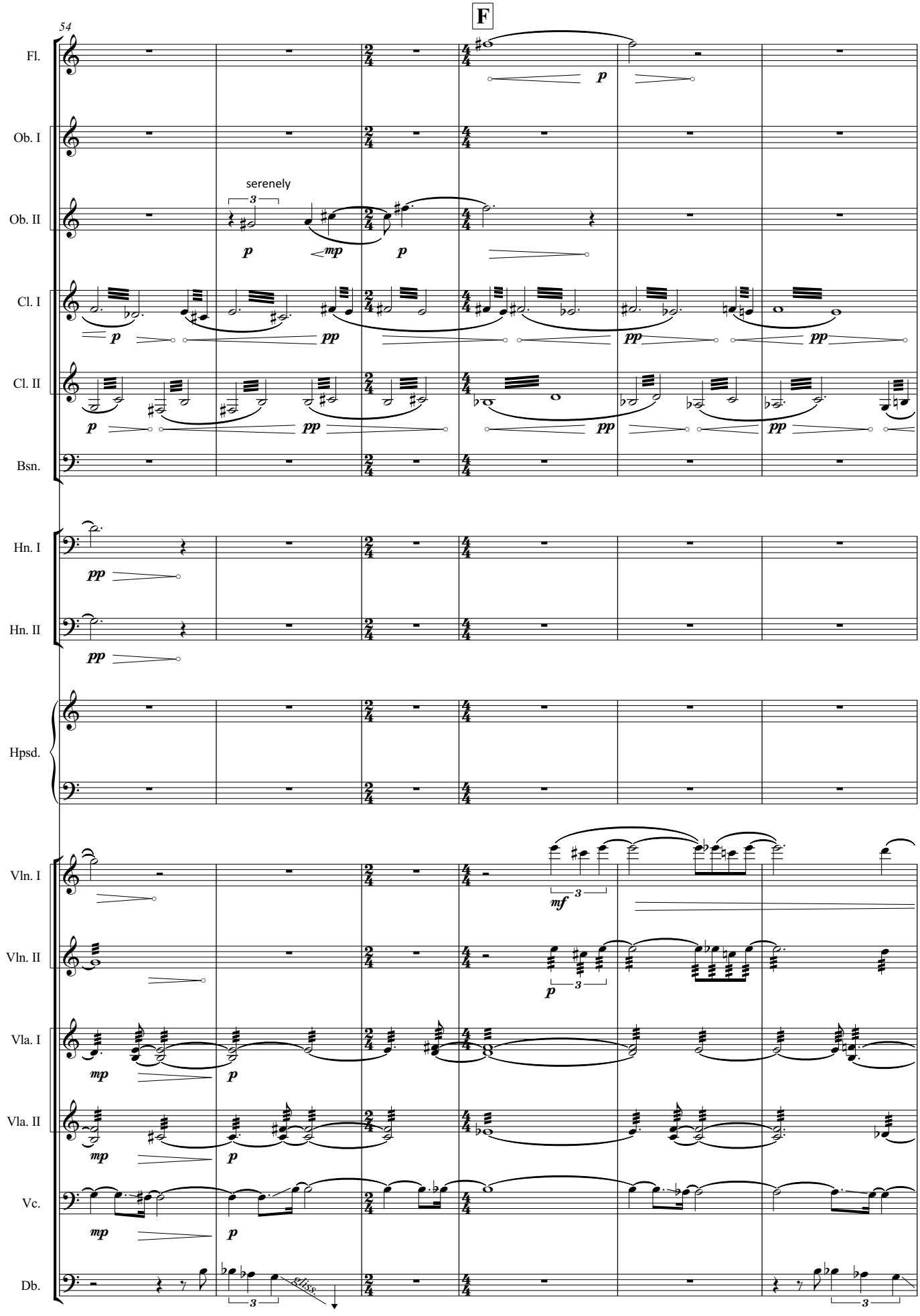

34
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
p
mf
mp

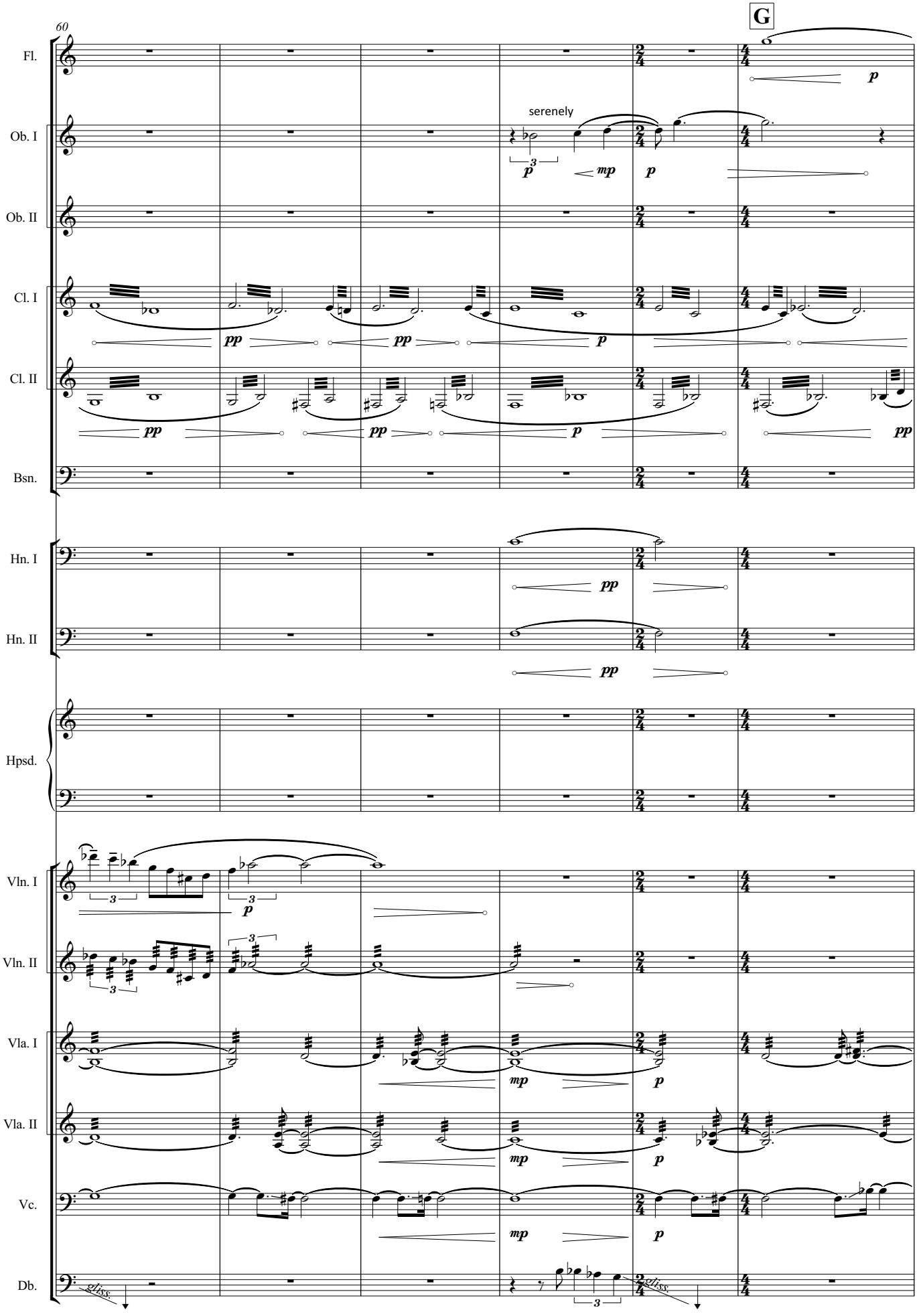

37
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
p
mp

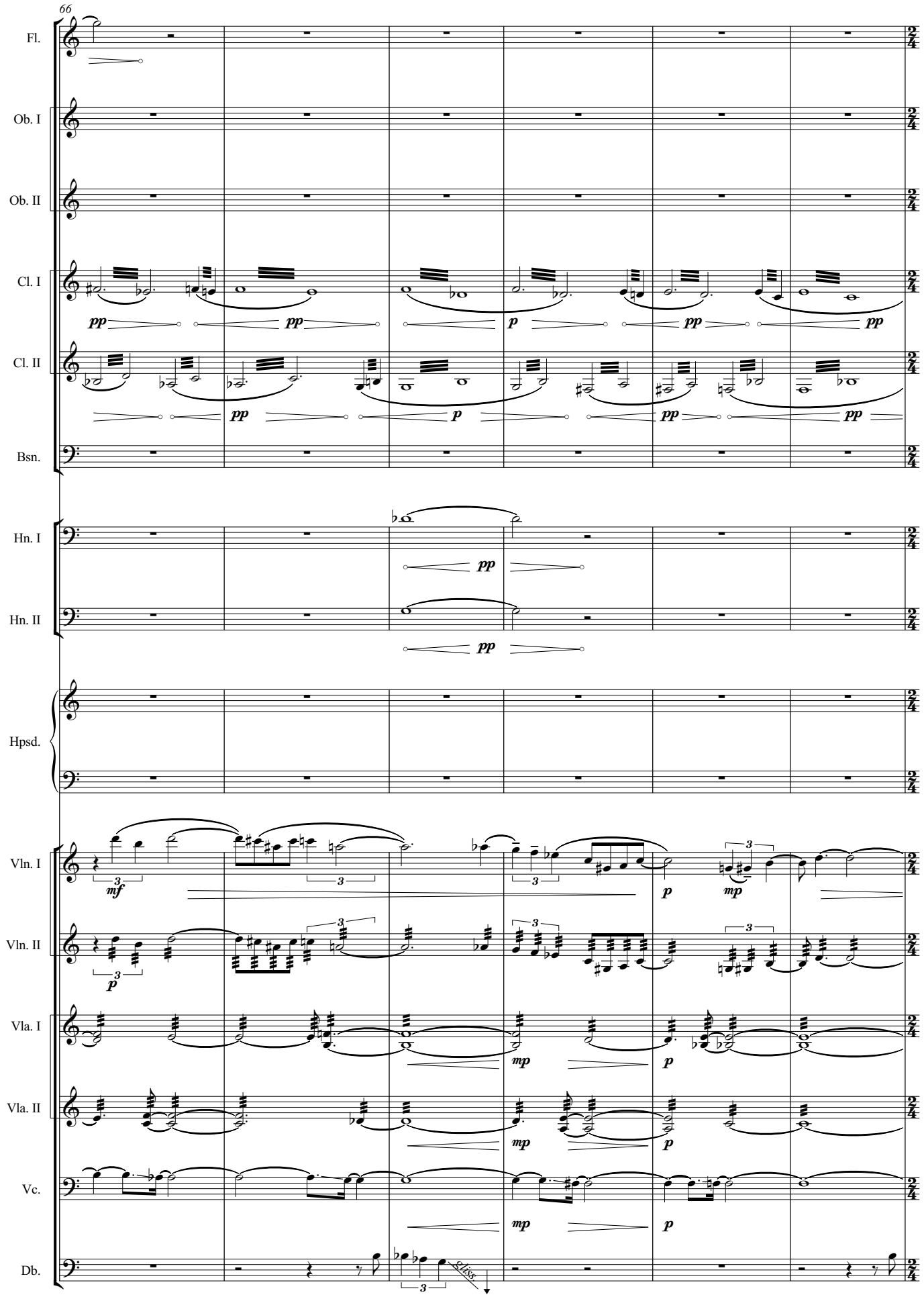

41
D
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
D
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
p
mp
mf

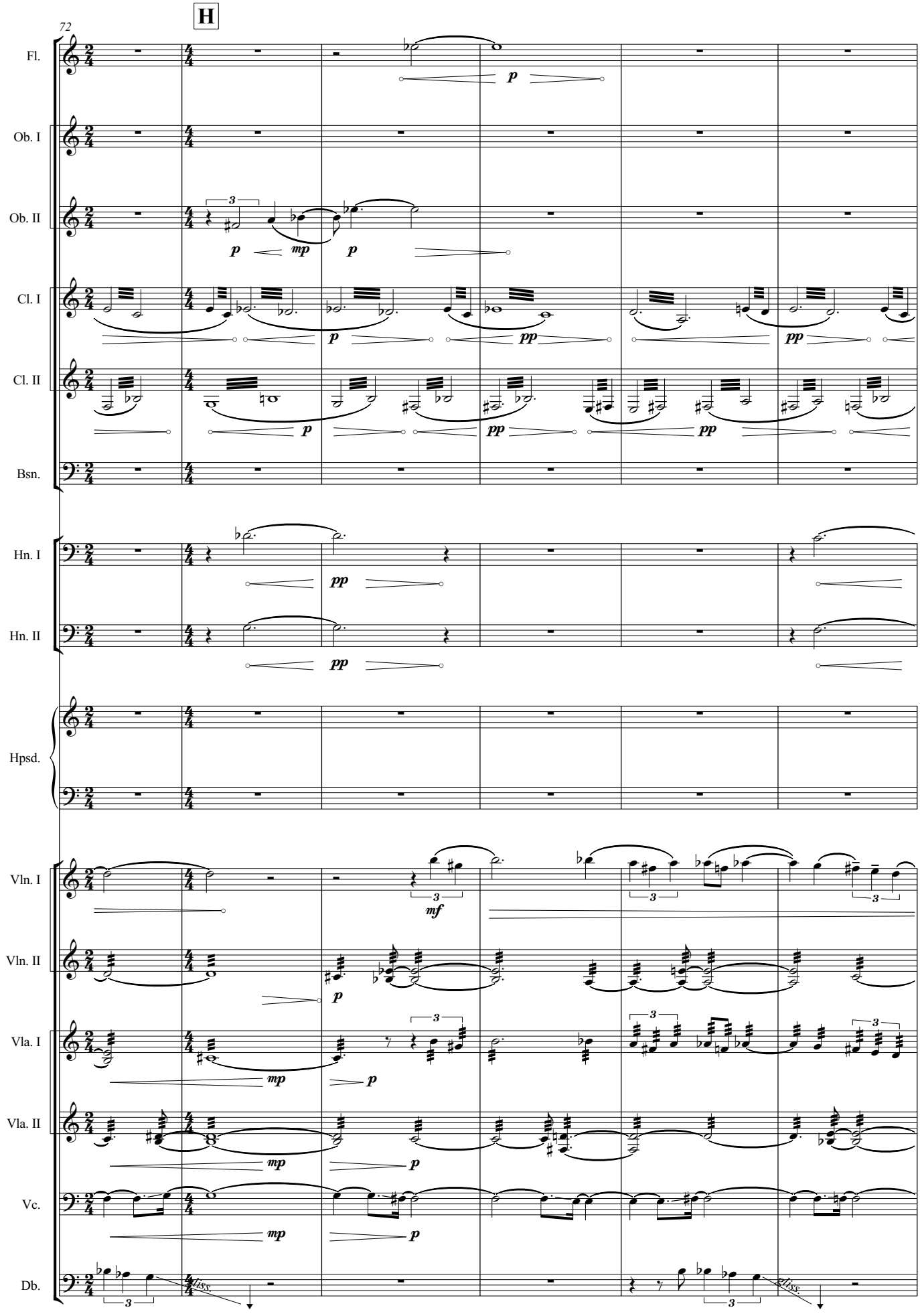

45
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.

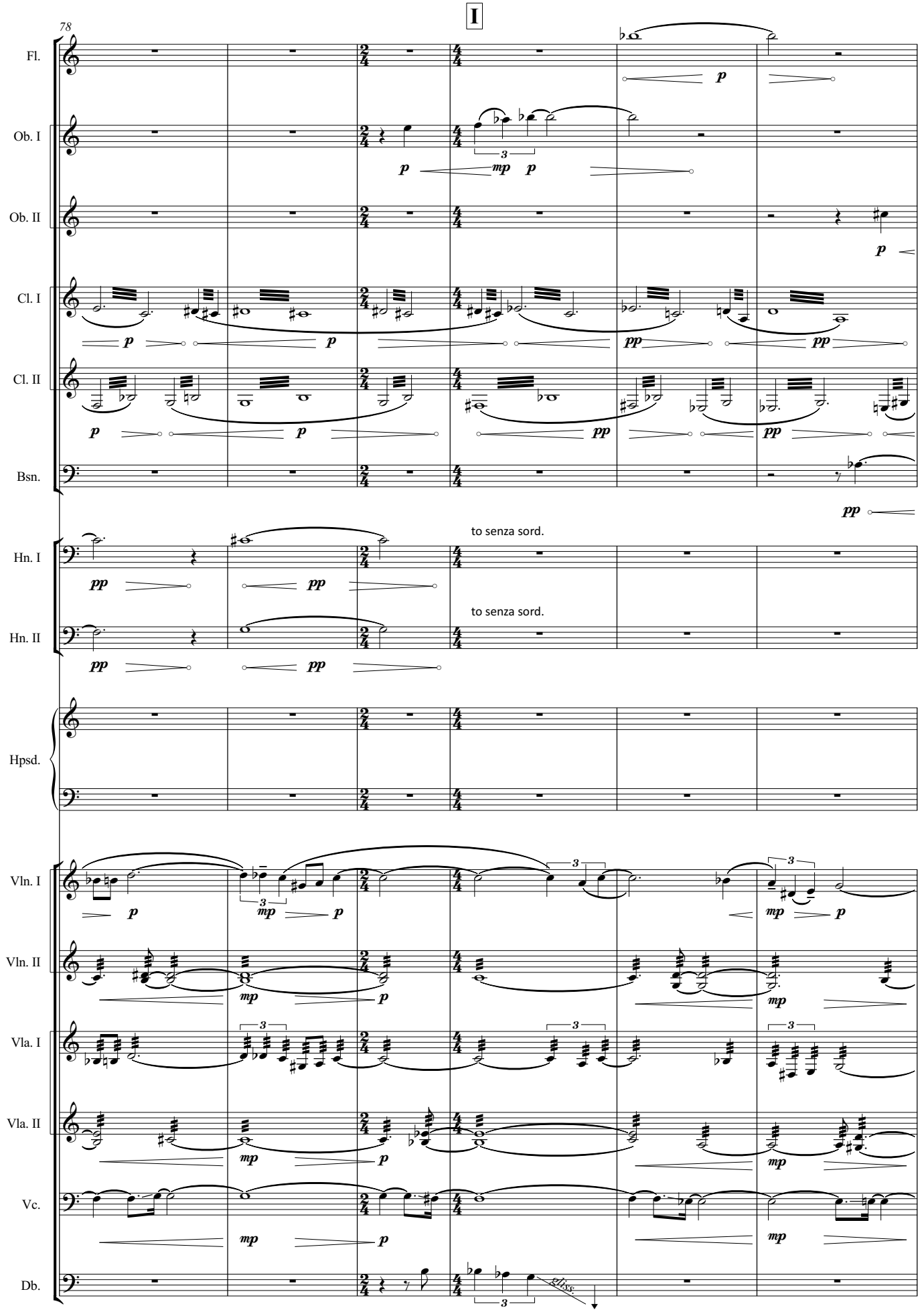

E
49
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
mf
to con sord.
con sord.
mp
ord. molto vib.
mf espress. ad. lib. portamenti
p
sul pont.
ord. senza. vib.
pizz.
gliss.

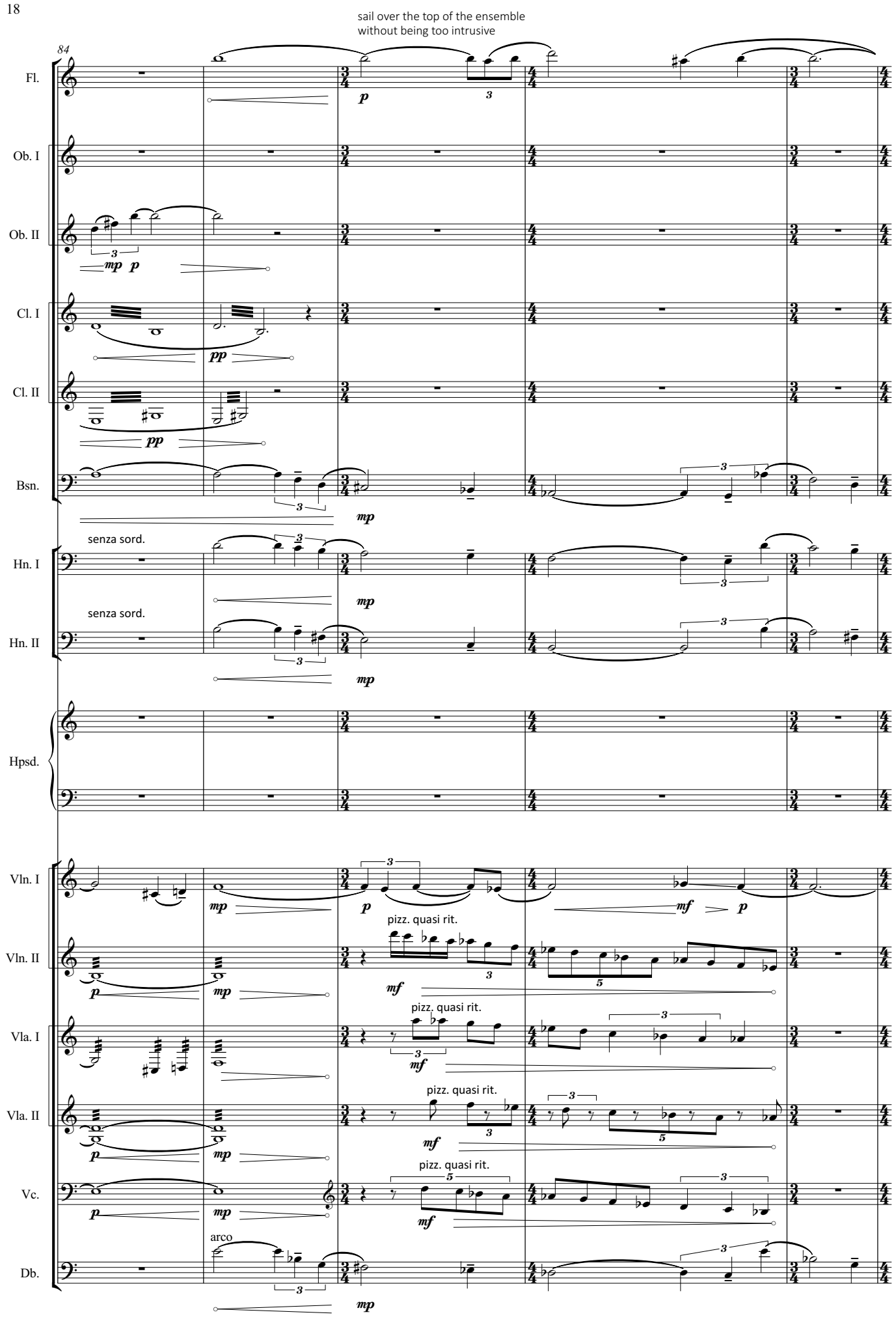

F
54
Fl.
Ob. I
Ob. II
serenely
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
arco

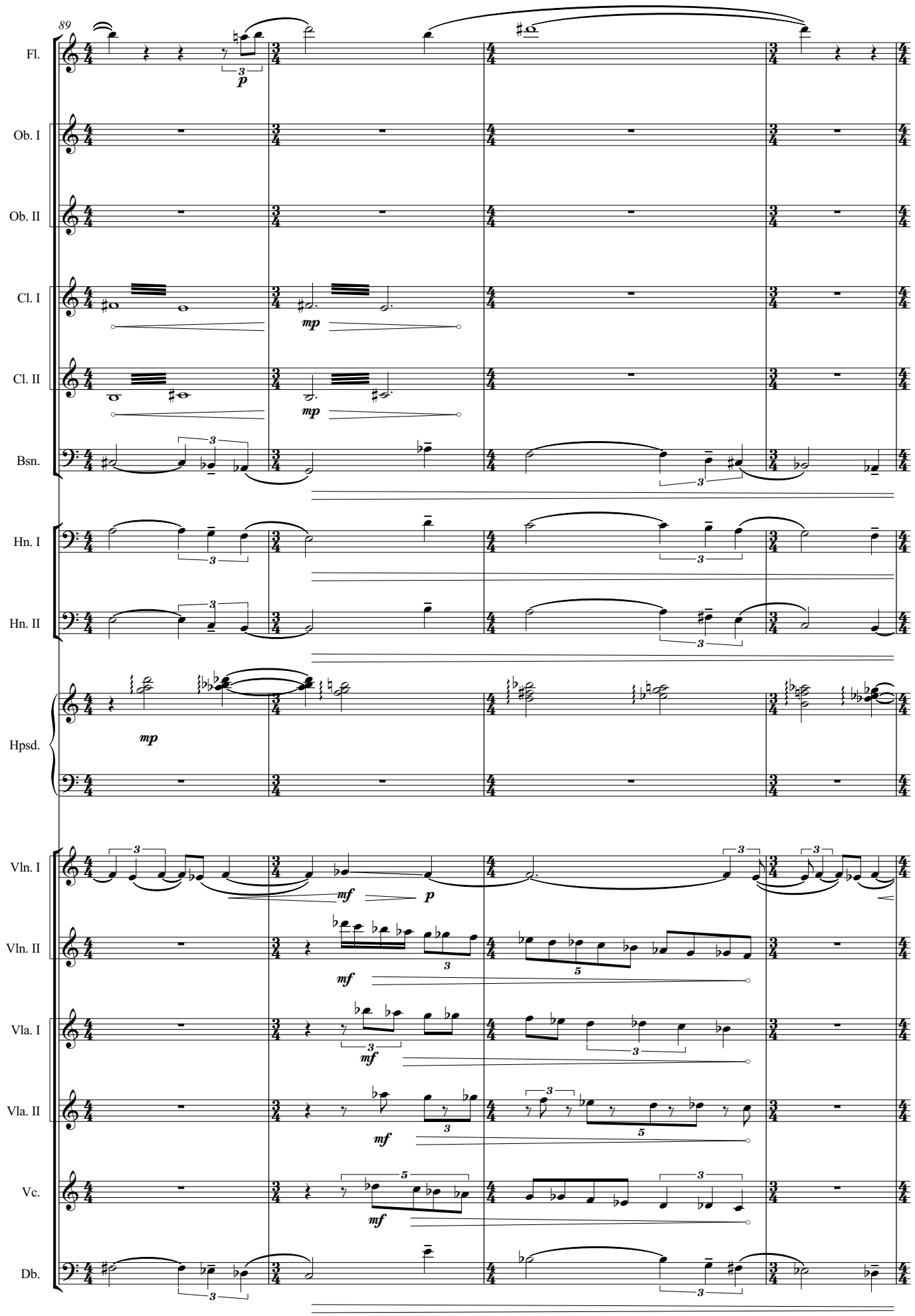

60
G
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
serenely
p
mp
pp
gliss.

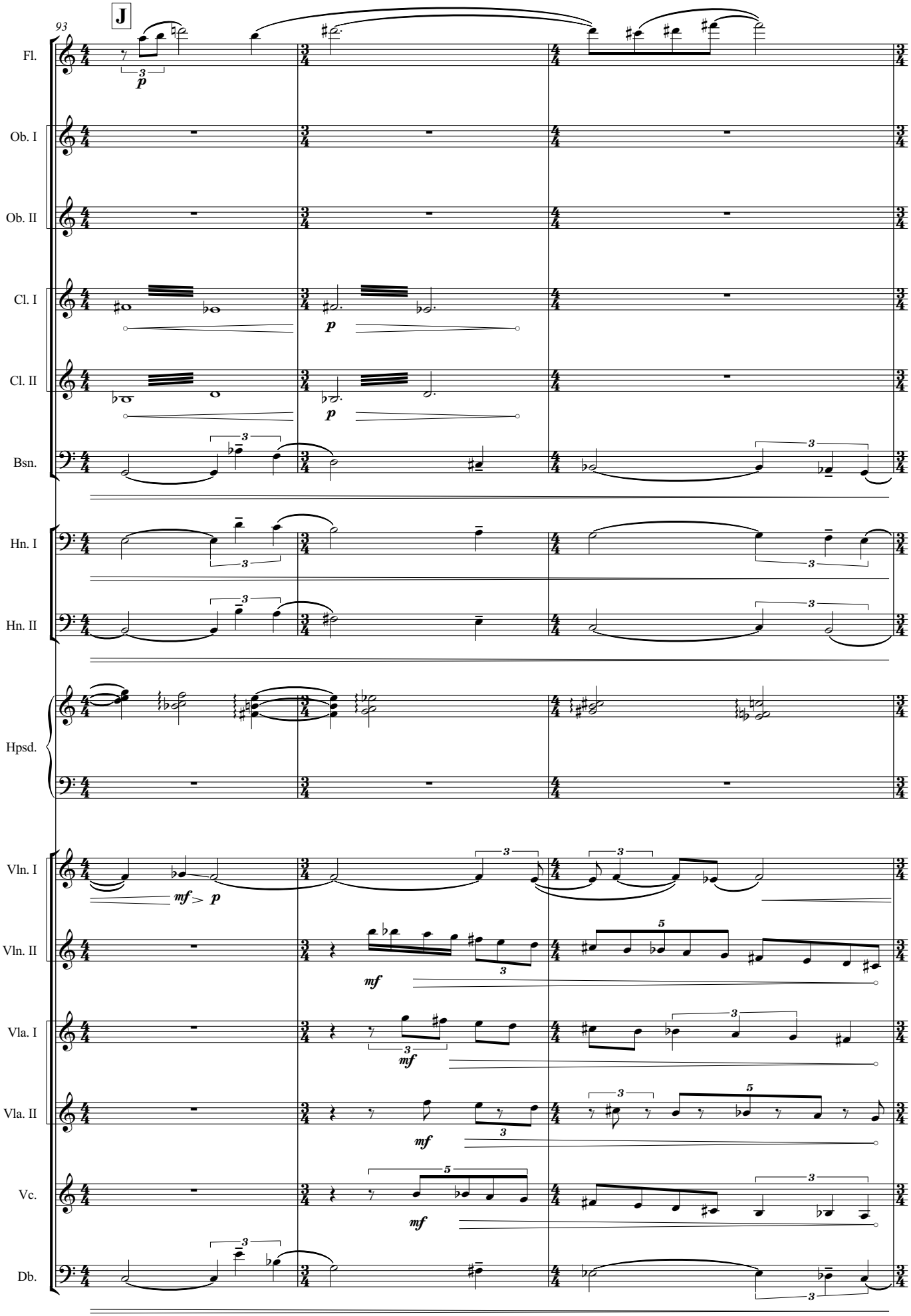

66
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pp
p
mf
mp
3
gliss.

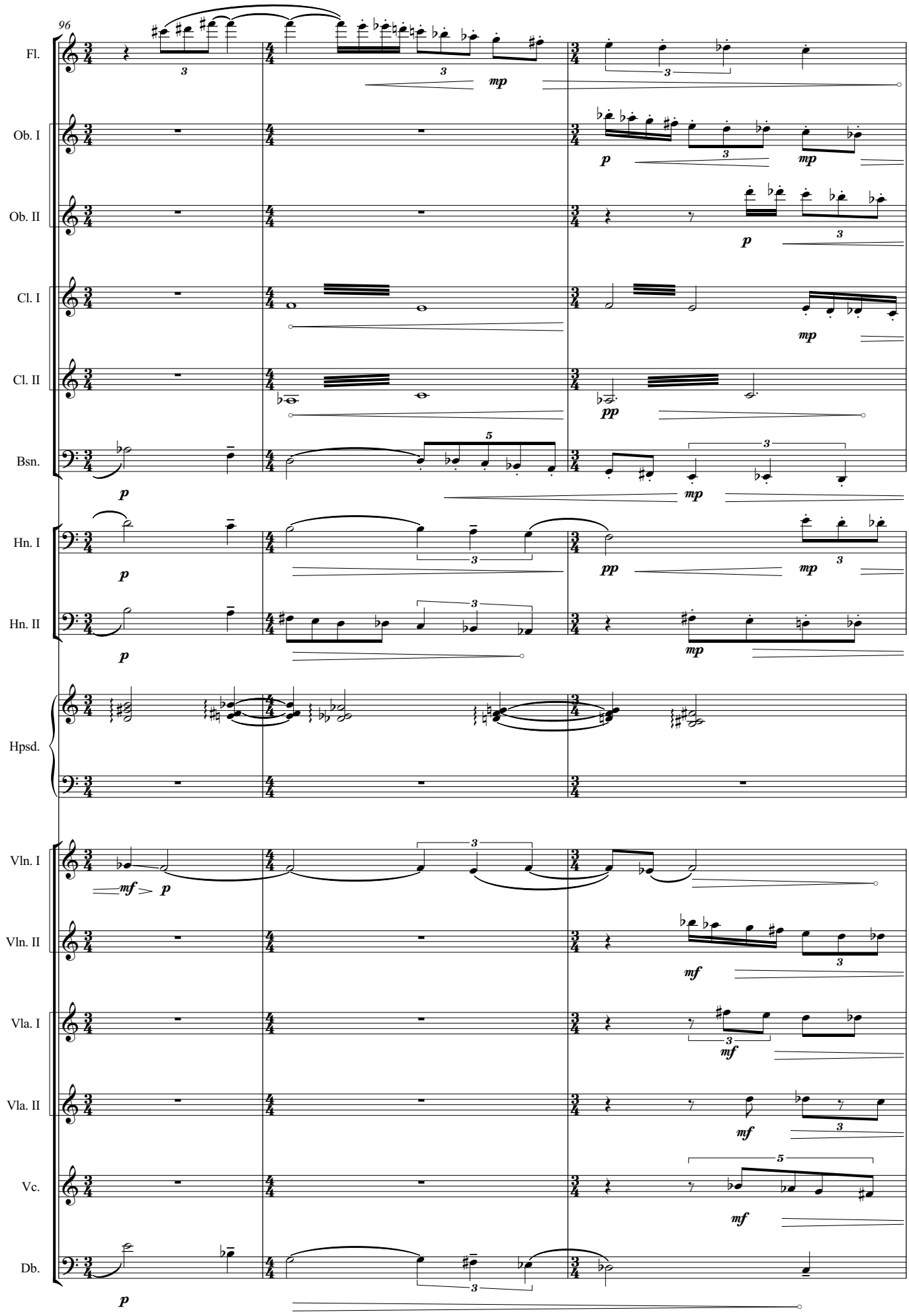

H
72
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
p
mp
pp
mf
3
lliss.

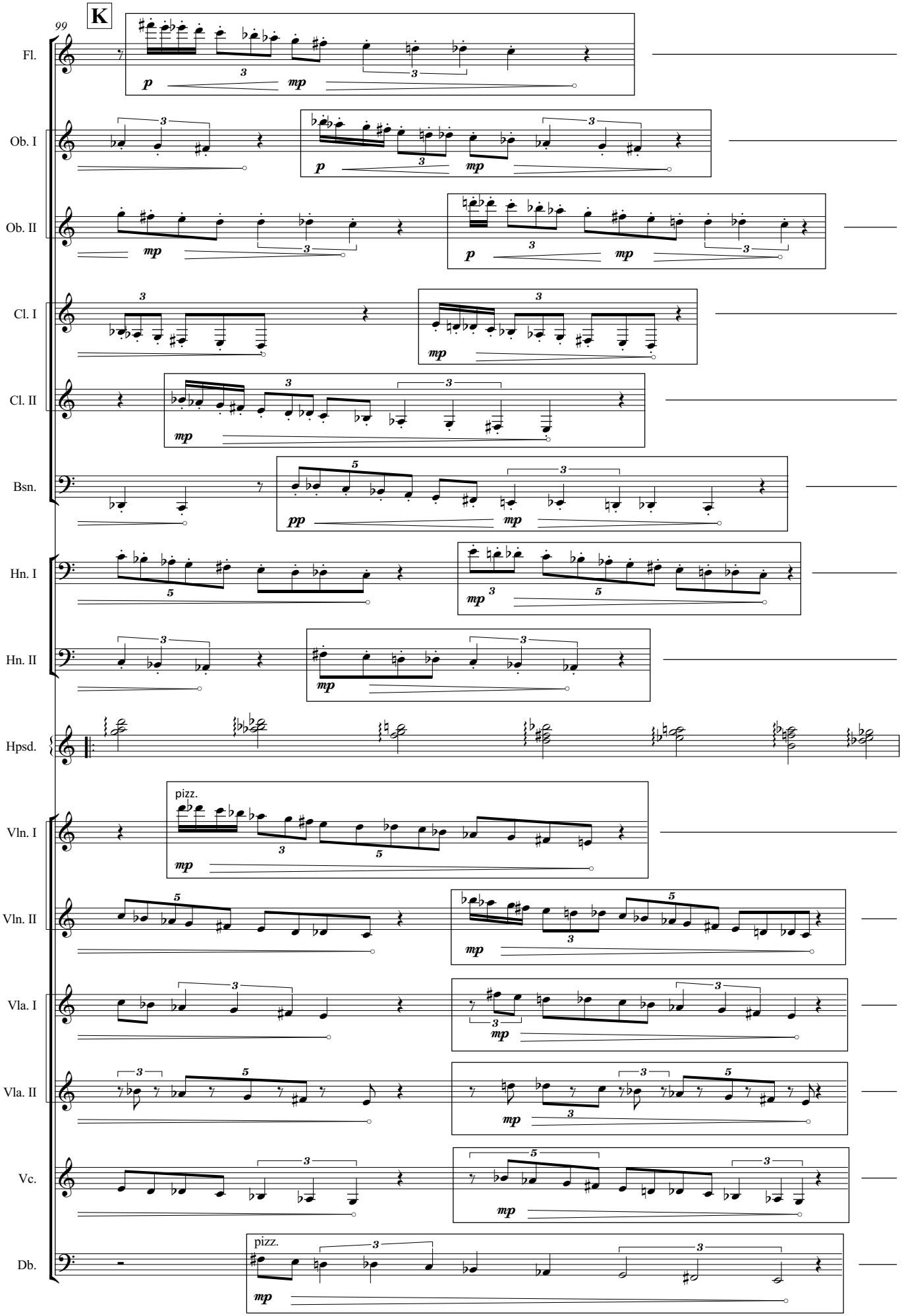

I
78
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
to senza sord.
to senza sord.
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
gliss.


sail over the top of the ensemble
without being too intrusive
84
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
senza sord.
Hn. I
senza sord.
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
arco
pizz. quasi rit.
pizz. quasi rit.
pizz. quasi rit.
pizz. quasi rit.


89
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
p
mp
mf


J
93
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
p
mf > p
mf


96
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.


K
99
Fl.
Ob. I
Ob. II
Cl. I
Cl. II
Bsn.
Hn. I
Hn. II
Hpsd.
Vln. I
Vln. II
Vla. I
Vla. II
Vc.
Db.
pizz.
pizz.

CONDUCTOR - after c. 40" of repetition of cells, point at the performer furtherst to your left. That performer stops playing.
Slowly move your hand, from left to right, across the ensemble (c. 30"). When your hand reaches a performer they stop playing, except for the Harpsichord, which continues after you finish conducting, and stops of its own accord.

poco a poco rit. with each repetition — stop when conductor's hand has reached you

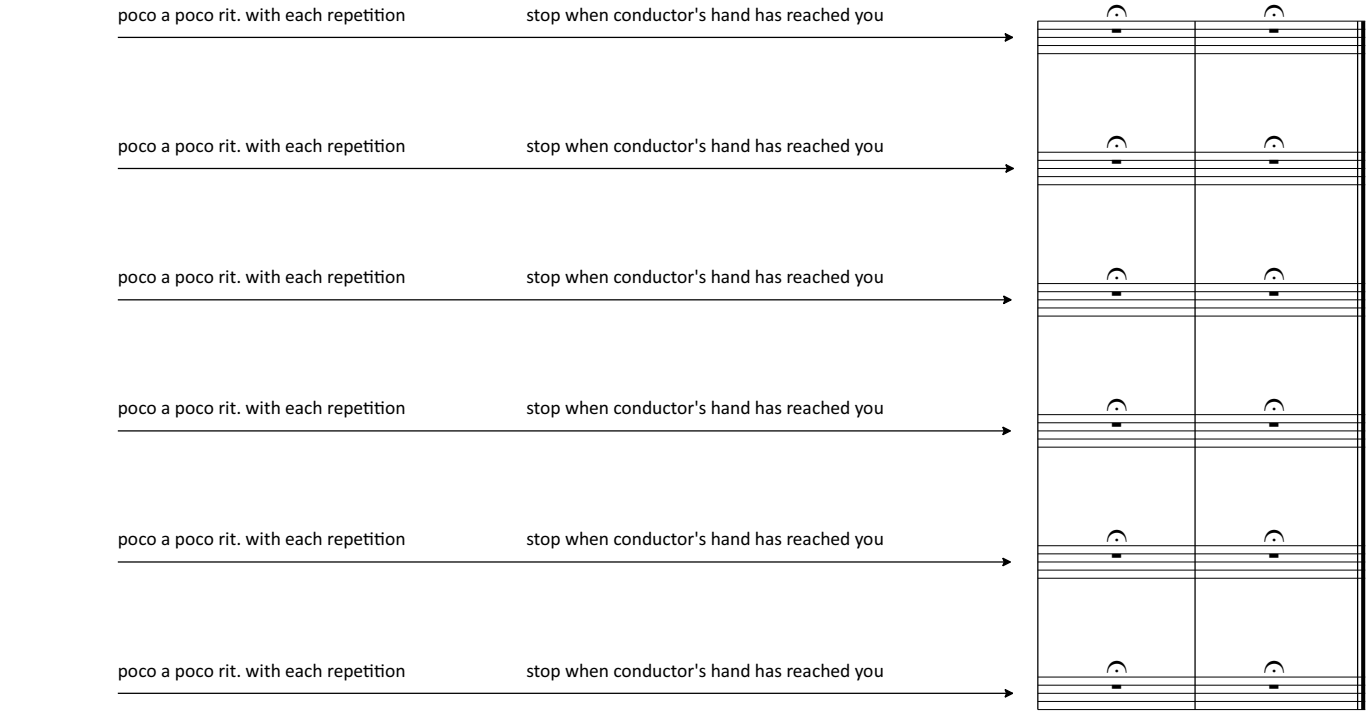
poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you

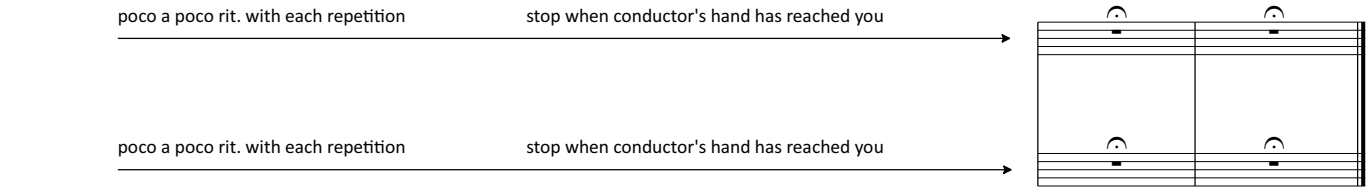
poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you



poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you

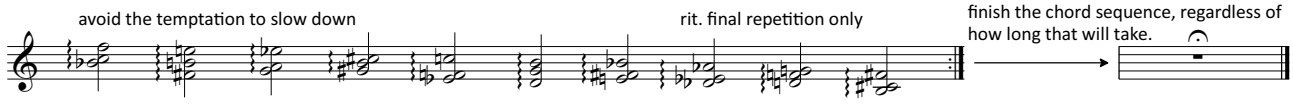


Hpsd.

avoid the temptation to slow down

rit. final repetition only

Once everyone else has stopped playing, finish the chord sequence, regardless of how long that will take.



poco a poco rit. with each repetition — stop when conductor's hand has reached you

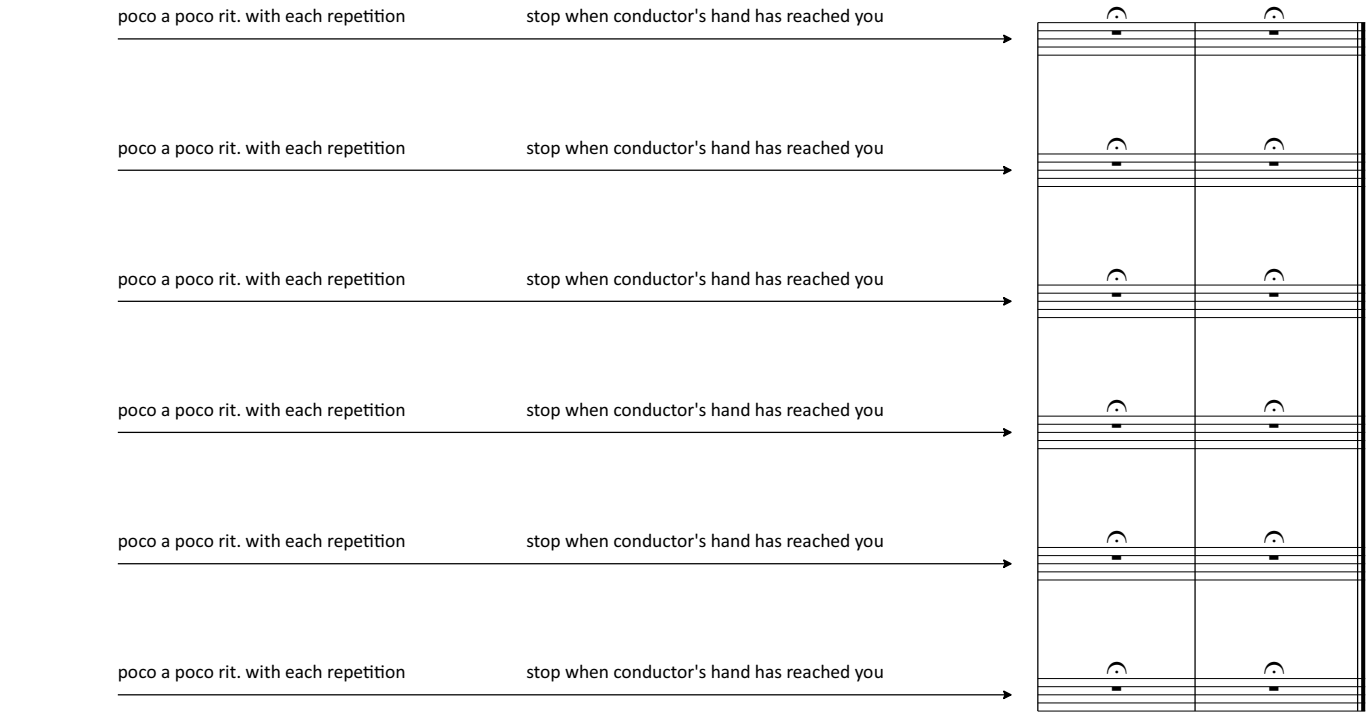
poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you

poco a poco rit. with each repetition — stop when conductor's hand has reached you



Ben Gaunt

Residuum VI for Oboe

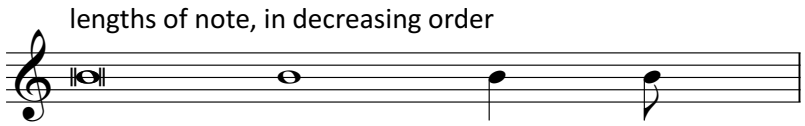
Infected

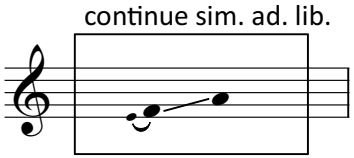
Infected was workshopped by Christopher Redgate at The University of Sheffield, and received its première at the Upper Chapel, Sheffield on 6th June 2012.

Infected opens with a simple, quiet melody. Occasionally, this melody is interrupted by an event, which subsequently infects the melody. As the piece progresses, the melody undergoes an increasing number of infections, and gradually becomes more complex and raucous, reaching a manic climax before dying away.

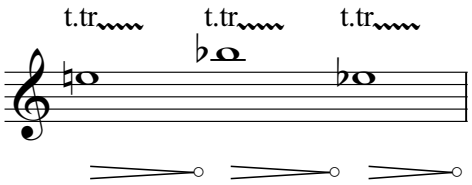
Year of Composition: 2012
Duration: c. 5'

Techniques

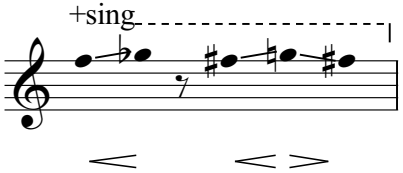




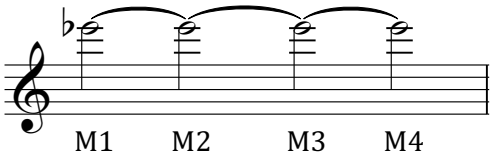
The box indicates to improvise in a similar manner to the previous material. The notes within the box indicate the range you can use when improvising. In this example, you can improvise between the notes F and A, and you are also permitted E acciaccaturas.



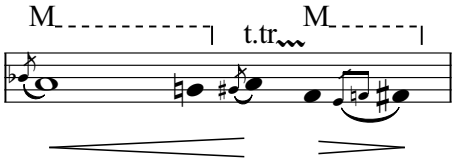
Timbral trills. Use alternate fingering to trill on the same pitch.



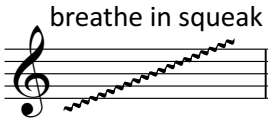
Sing and play simultaneously. Play the notes as indicated, and sing either in unison or in similar motion at any interval.



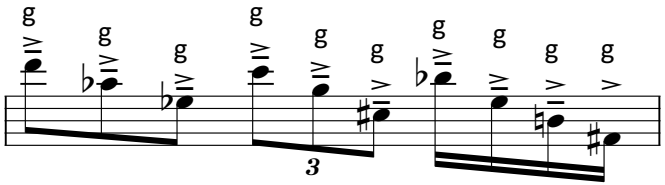
Four different multiphonics, all containing E♭.



Notes contained within M brackets are to be played as multiphonics.



Breathe in to create a squeak.



Notes cotained within growl brackets are to be played as one continuous growl. A lower case g indicates separate growls for each note.

for Christopher Redgate

Residuum VI for Oboe

Infected

Ben Gaunt

slow
sensa misura

c. 10"

continue sim. ad. lib.

c. 50"

pppp

mp

slightly faster

c. 10"

c. 45"

ppp

mp

slightly faster

c. 10"

t.tr t.tr t.tr

c. 40"

pp

sim. sempre

c. 10"

t.tr t.tr t.tr t.tr t.tr t.tr

+sing

c. 35"

p

c. 10"

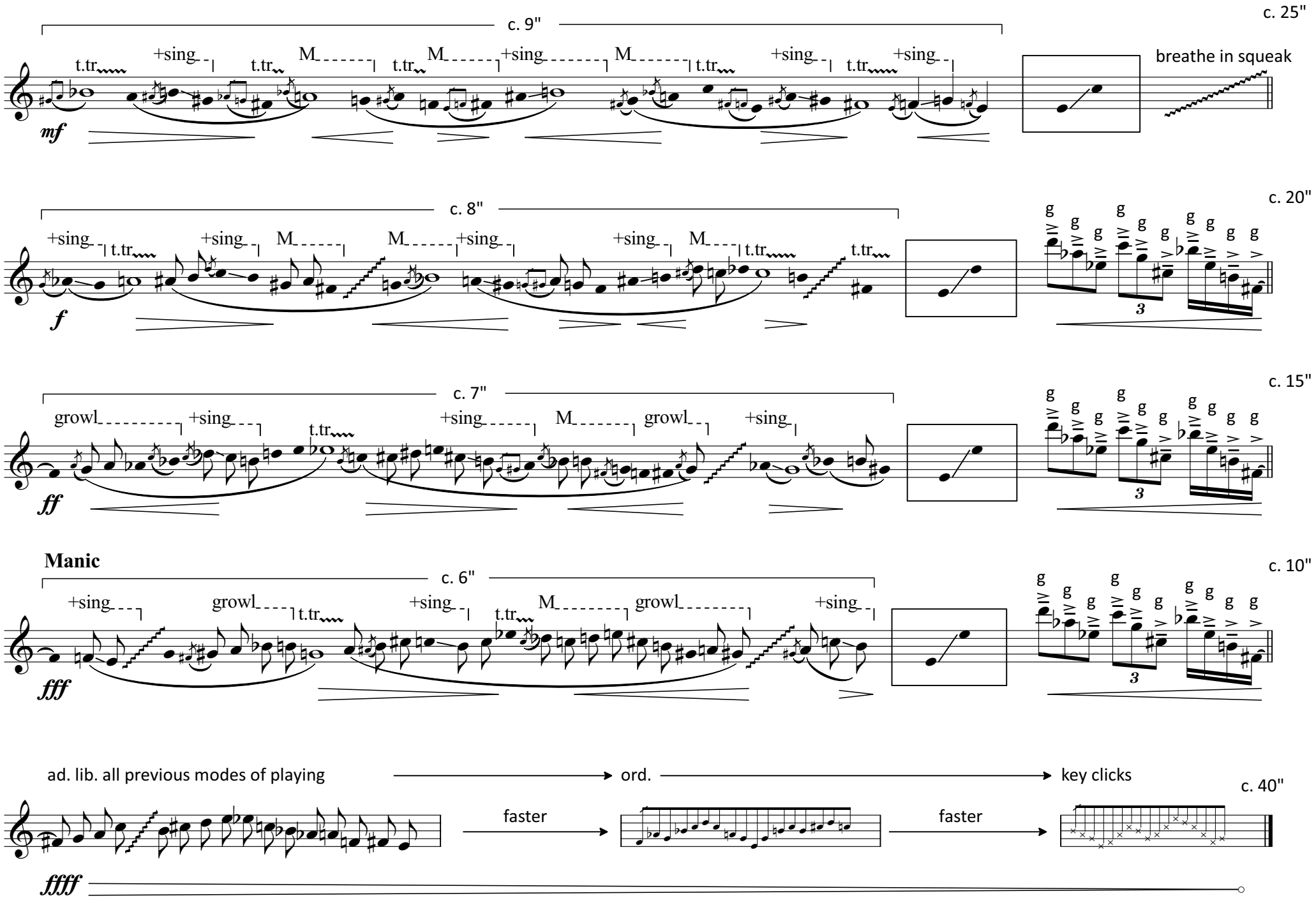
+sing t.tr +sing t.tr +sing t.tr +sing +sing t.tr t.tr +sing t.tr

c. 30"

mp

M1 M2 M3 M4

f


c. 9"
c. 25"
t.tr
+sing
M
breathe in squeak
mf
c. 8"
c. 20"
f
c. 7"
c. 15"
growl
ff
Manic
c. 6"
c. 10"
fff
ad. lib. all previous modes of playing
ord.
key clicks
c. 40"
faster
faster
ffff

for Icarus Ensemble

Ben Gaunt

Seven Shrinking Machines

for amplified ensemble

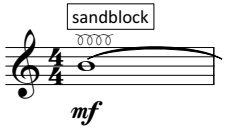
Seven Shrinking Machines

Seven Shrinking Machines was written for Icarus Ensemble as part of the European Composers' Professional Development Programme 2012.
It received its world première at Spazio Icarus, Reggio Emilia, Italy on the 19th November 2012. It received its UK première at Bates Mill, Huddersfield, UK on the 21st November 2012, as part of the Huddersfield Contemporary Music Festival.

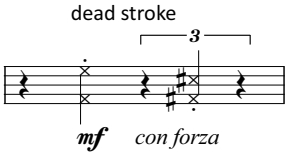
Seven Shrinking Machines is a study in proportion and memory. Seven distinct musical sections are presented, each with their own identity and set of rules; each with their own 'DNA'. One section is removed, and the remaining six sections are presented, each retaining their unique 'DNA'. Again, one section is removed, and the remaining five sections are presented. This process continues until there is only one section remaining. The structural pattern is ABCDEFG/BCDEFG/BCDEF/CDEF/CDE/DE/D resulting in a total of 28 sections. The first of these is long, and low. Each successive section starts a semitone higher and is one second shorter than the previous section. This gives structural cohesion to a work that is otherwise fragmented in construction.

The piece is approximately seven minutes long.

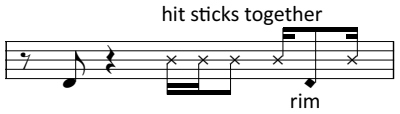
Techniques



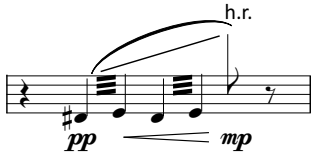
Rub two sandblocks together in a circular motion, aiming for constant 'white noise' with no breaks.



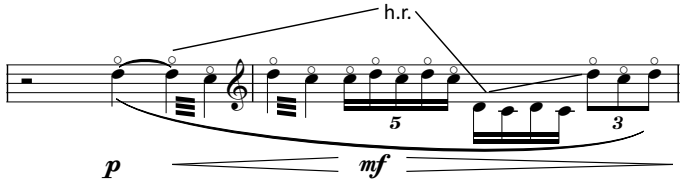
Strike the vibraphone as normal, with the mallet. Leave the mallet on the vibraphone bars, to 'deaden' the sound.



The 'rim' marking indicates to play only on the rim of the muted tom. Do not perform a rim shot.



Whilst performing a tremolando between the two given notes, increase the air pressure. This will result in a 'harmonic rip', alternating between the harmonic series of D# and E (in this example.) 'Rip' has high as possible.



As before, 'harmonic rip' whilst performing a tremelando between C and D. However, on this occasion, start on the first partial, 'harmonic rip' as high as possible, fall back down to the fundamental, then 'rip' back up to the first partial.

Seven Shrinking Machines

Transposed score

Ben Gaunt

airy, ethereal ♩=120

Flute

breath (no pitch)

breath

breath

Clarinet in Bb

Percussion

sandblock

Vibraphone

motor:
on full

Electric Guitar

(drop D tuning) harmoniser

Bass Guitar

(drop D tuning)

Synthesiser

white noise

Accordion

air (out - no pitch)

air (out)

air (out)

A *15* **dark, menacing (l'istesso tempo al fine)**

Fl.

Cl.

Perc.

Vib.

E. Gtr.

Bass

Synth.

Accord.

bell plate, sizzle cymbal

bell plate

sizzle cymbal

motor: off

dead stroke

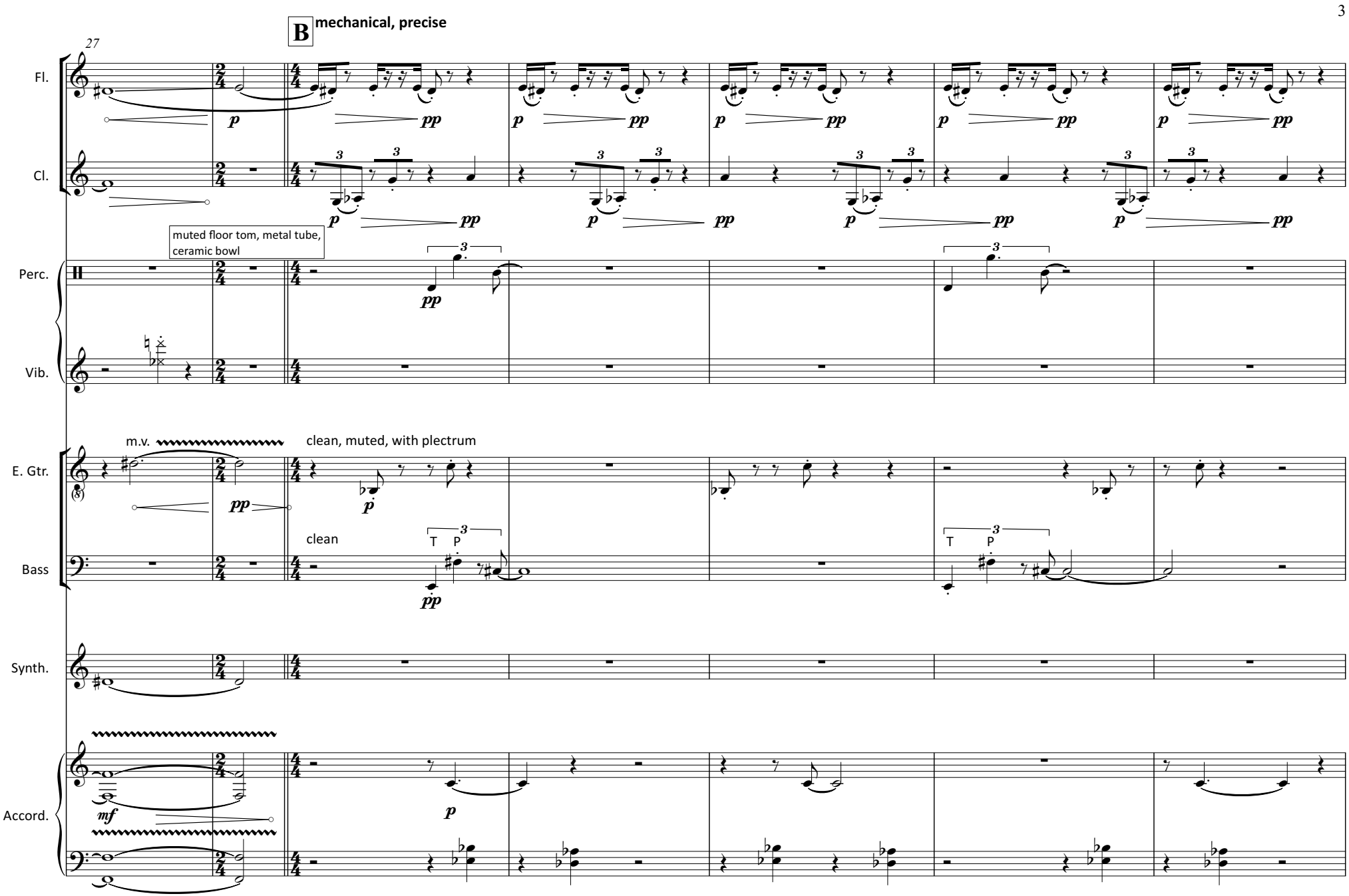
mf con forza

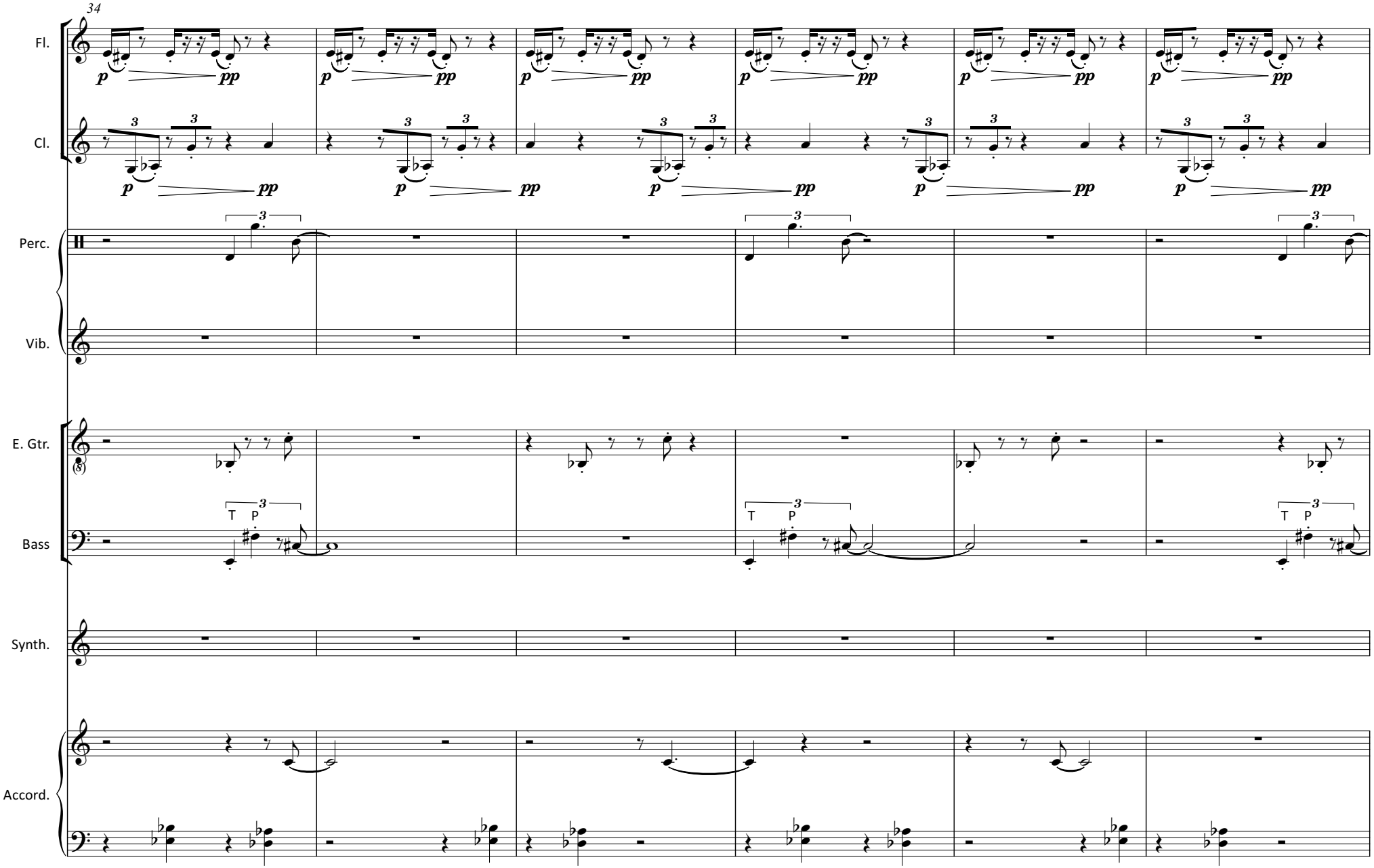
overdrive (max)
no harmoniser

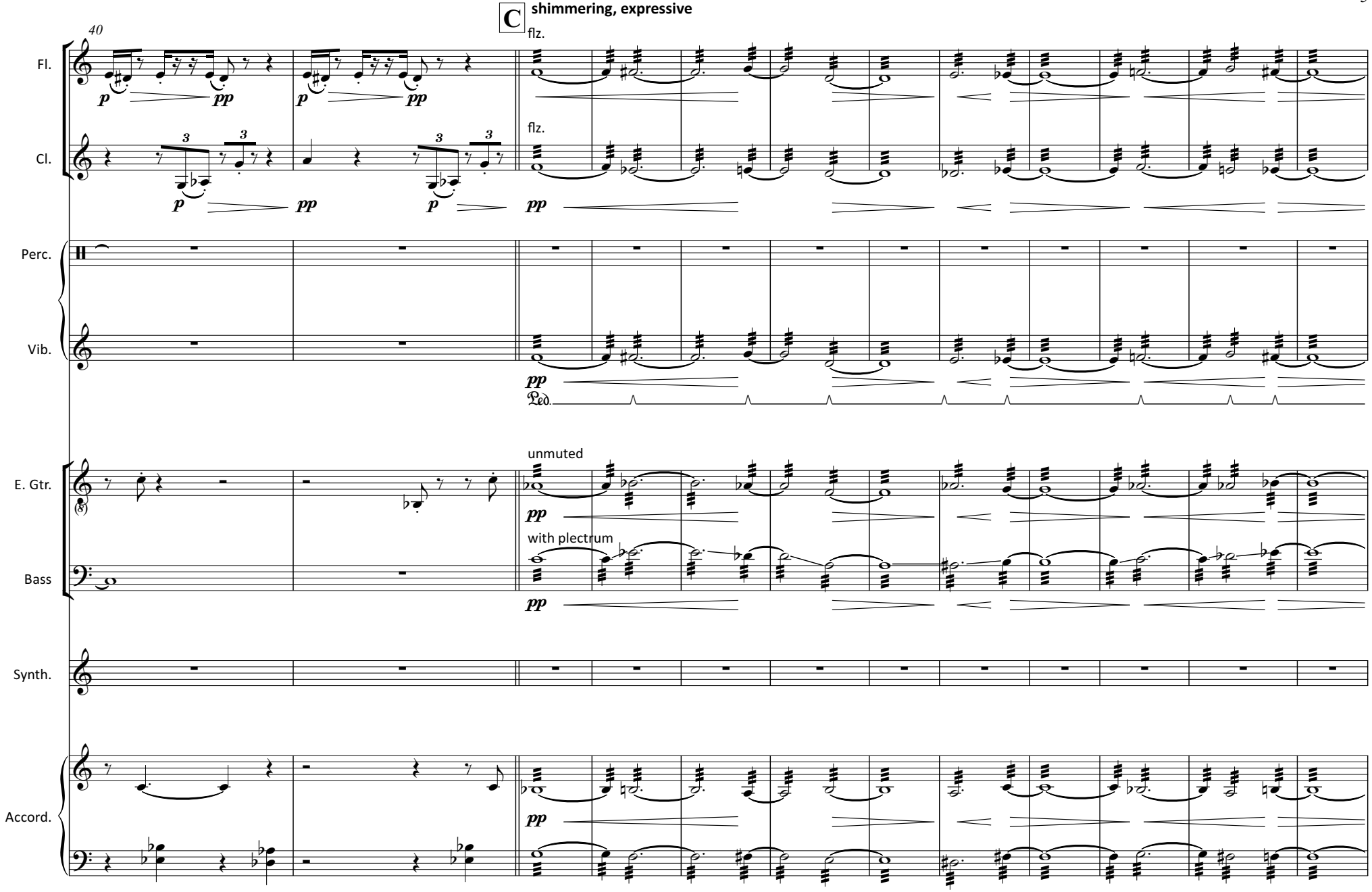
distortion (max)

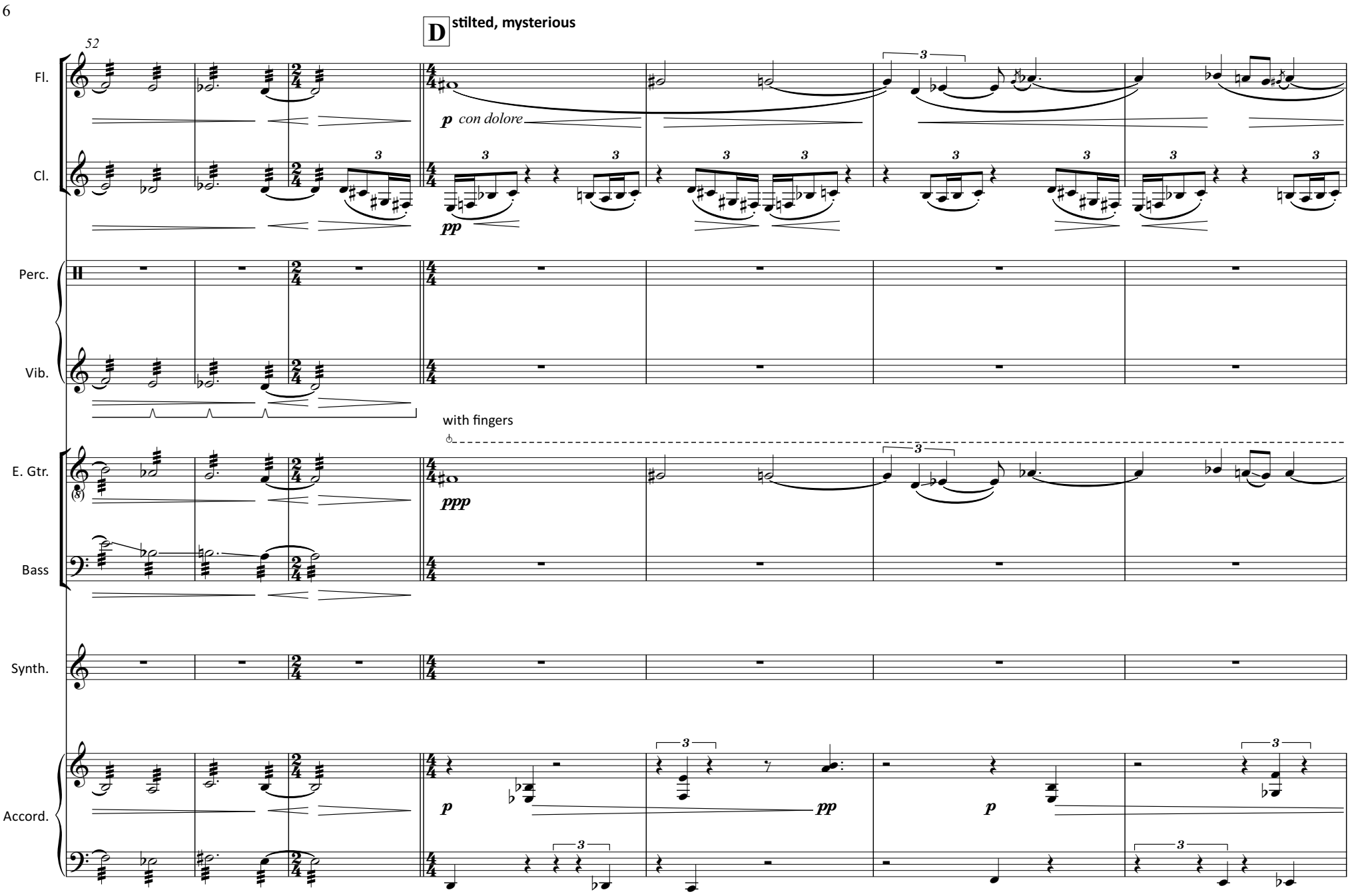
m.v.

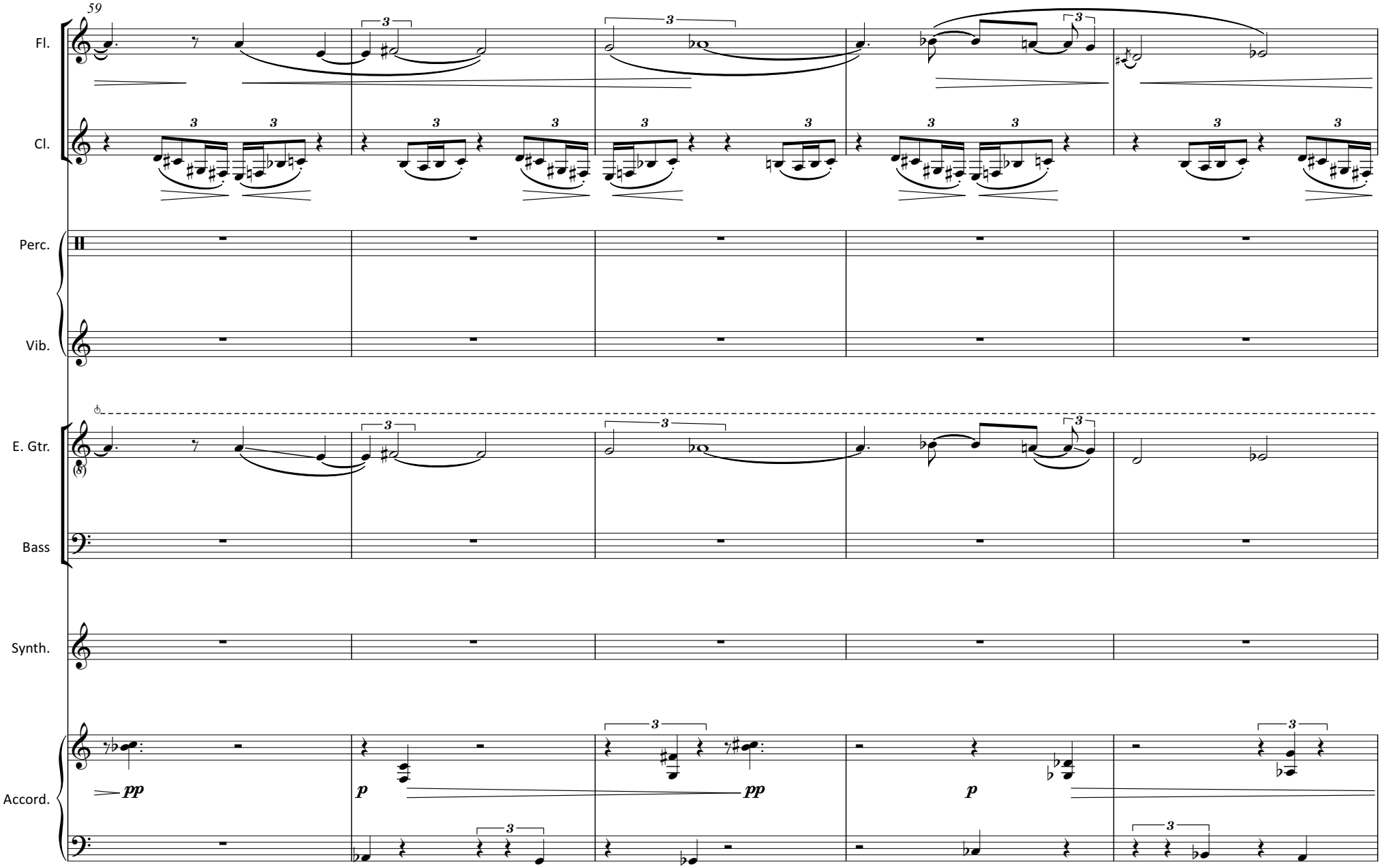
pure sine wave

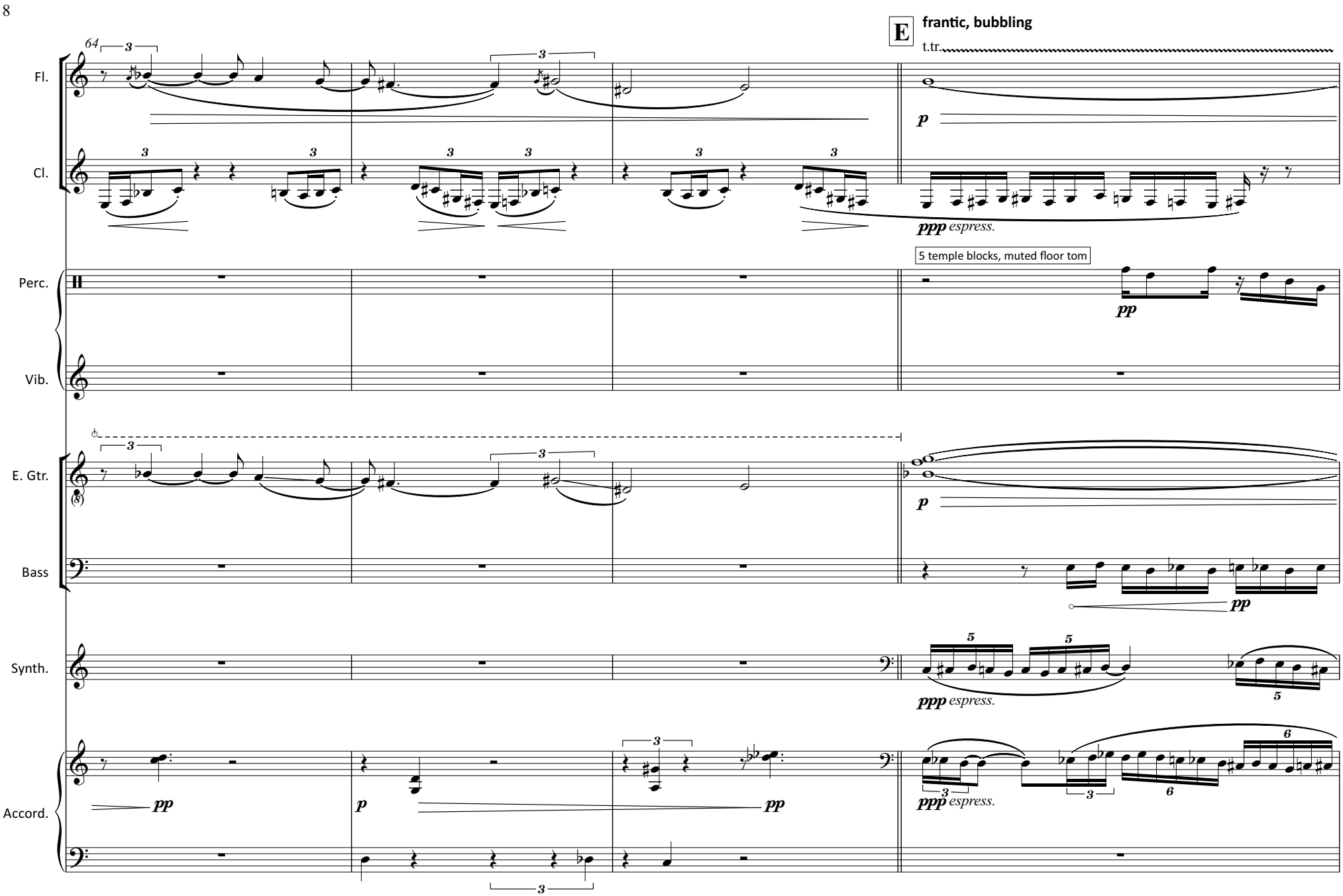

27
B
mechanical, precise
Fl.
Cl.
muted floor tom, metal tube, ceramic bowl
Perc.
Vib.
m.v.
clean, muted, with plectrum
E. Gtr.
clean
T P
Bass
Synth.
Accord.

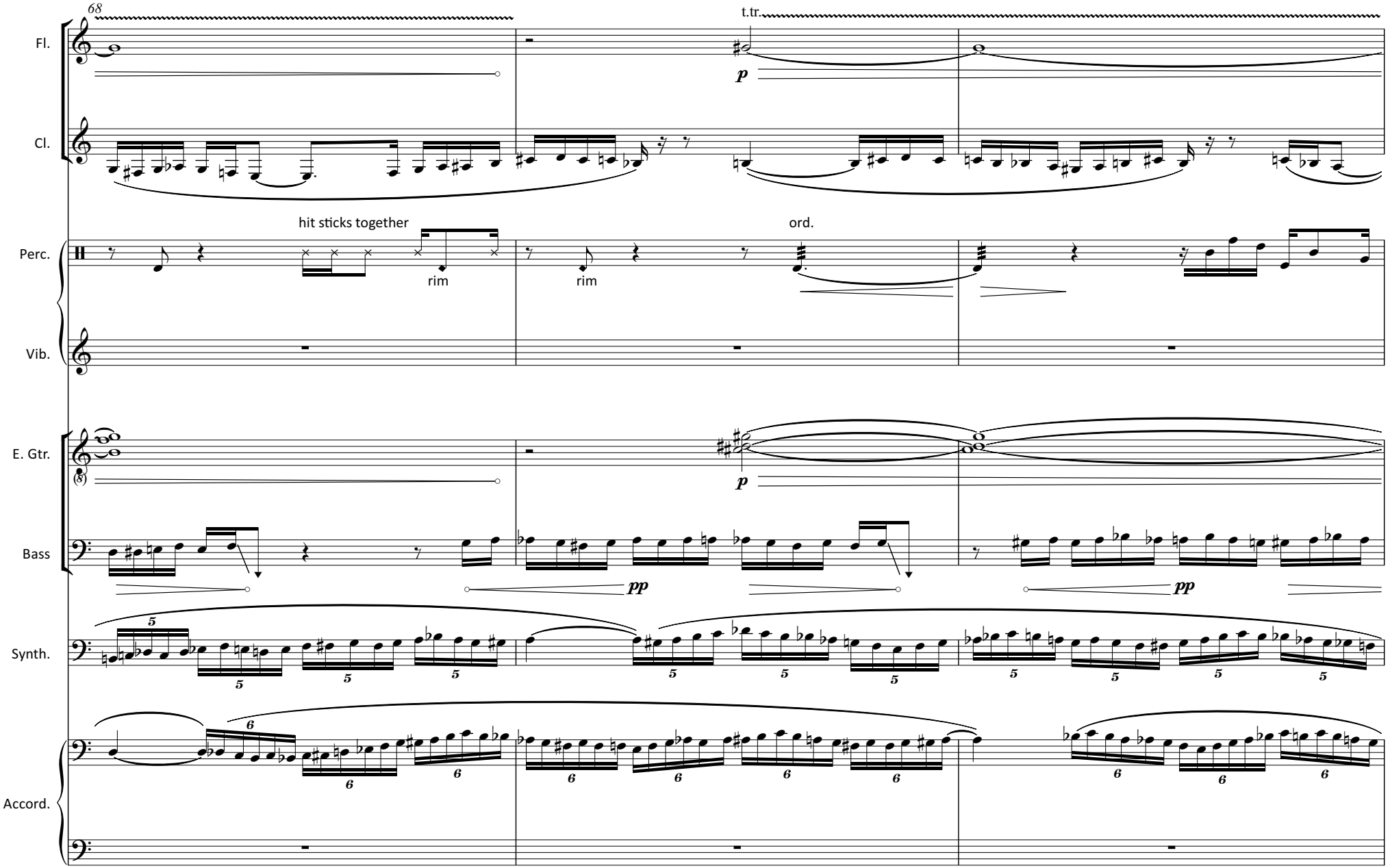

34
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
p
pp
3
T P

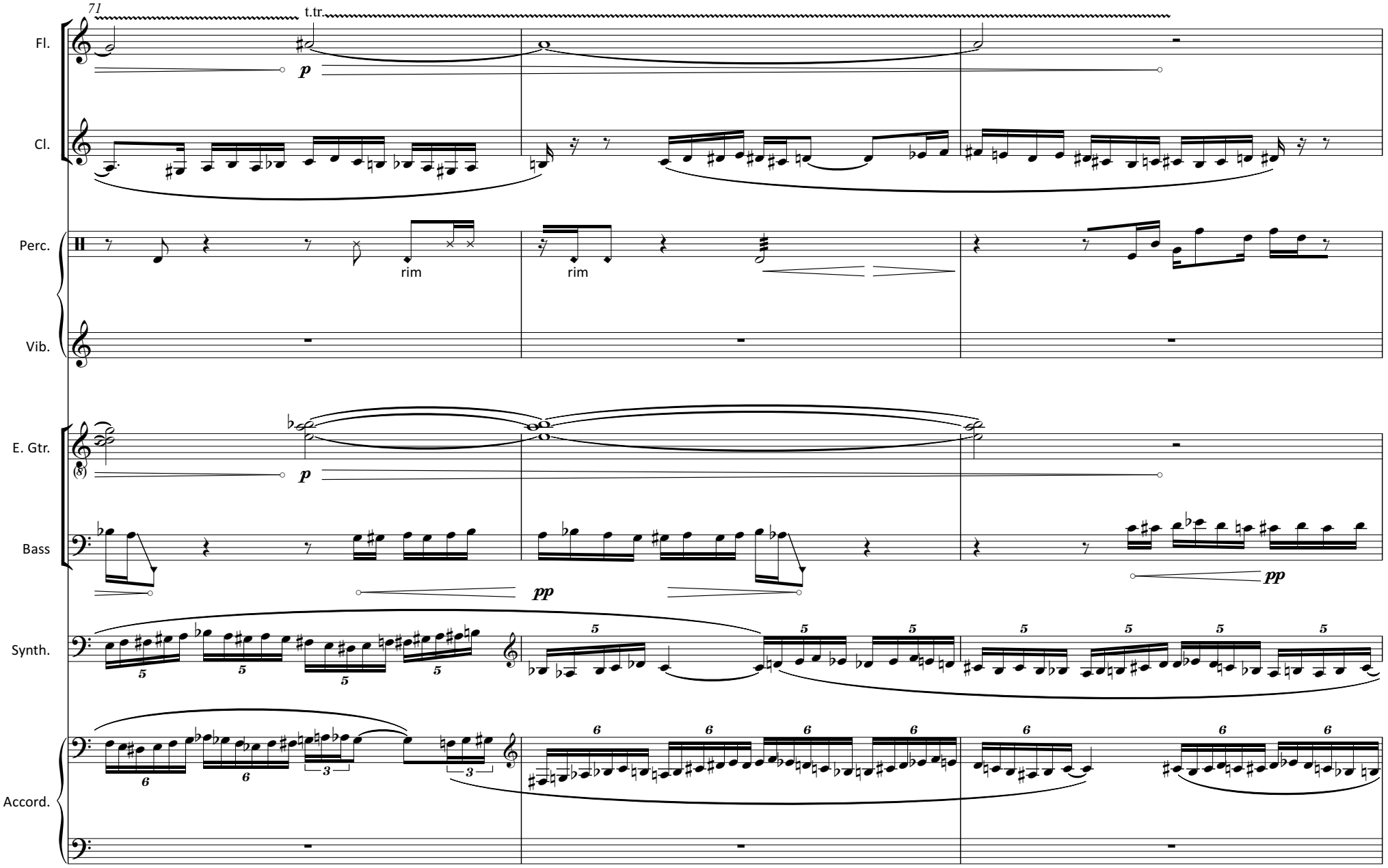

C
shimmering, expressive
40
Fl.
flz.
Cl.
flz.
Perc.
Vib.
Ped.
E. Gtr.
unmuted
with plectrum
Bass
Synth.
Accord.

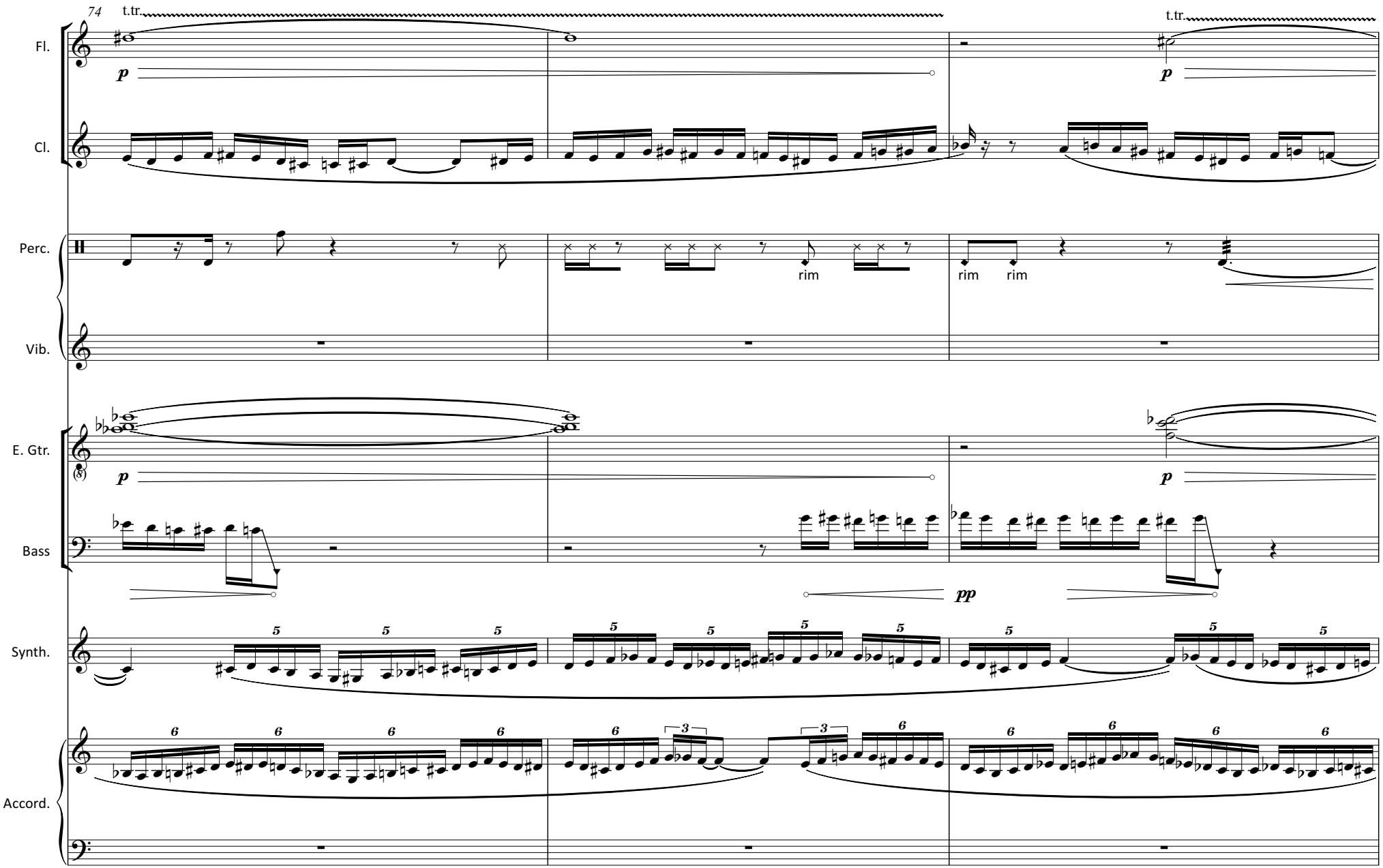

52
D
stilted, mysterious
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
p con dolore
pp
with fingers
ppp
p
pp
p

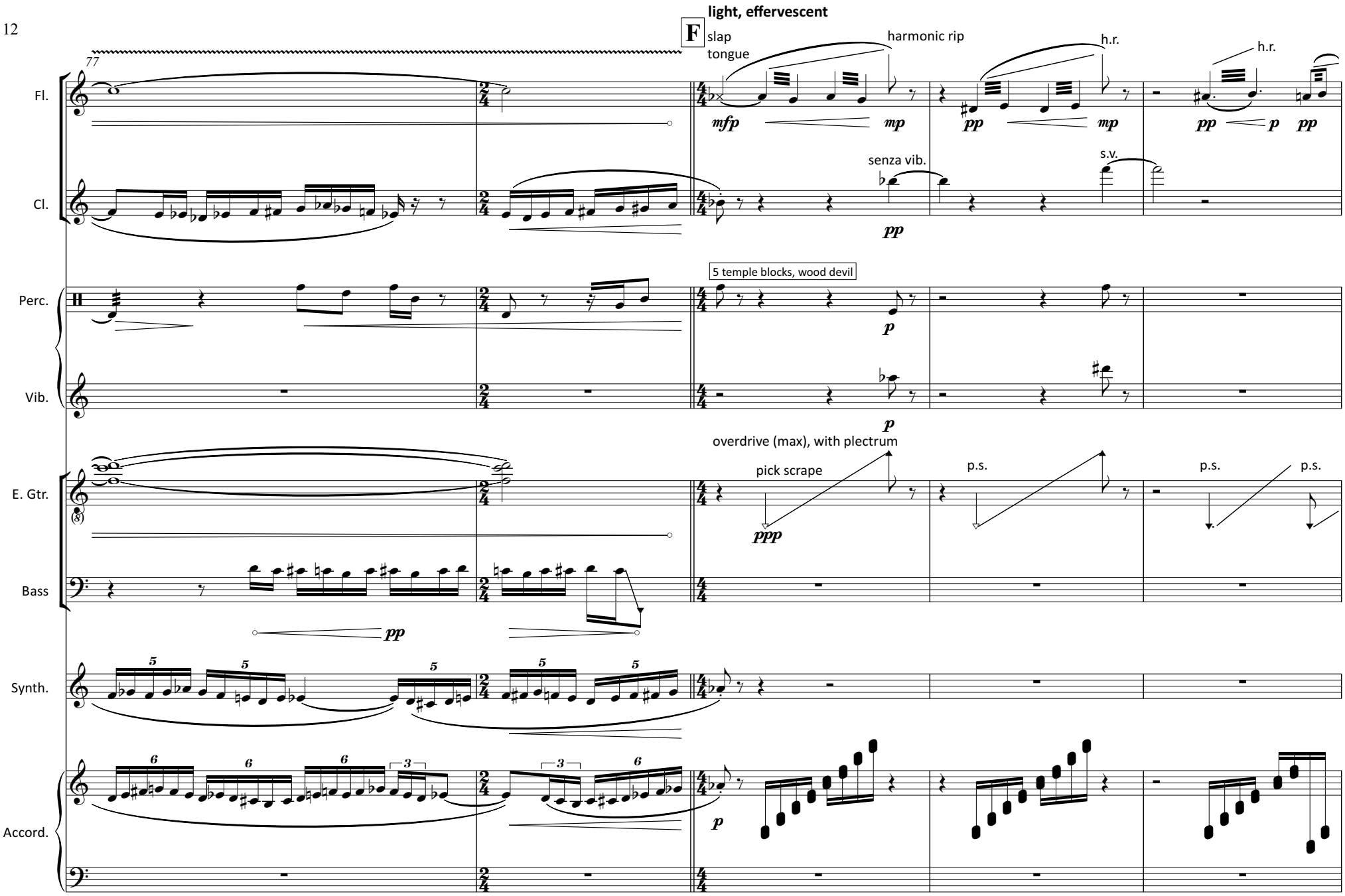

59
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
pp
p
pp
p

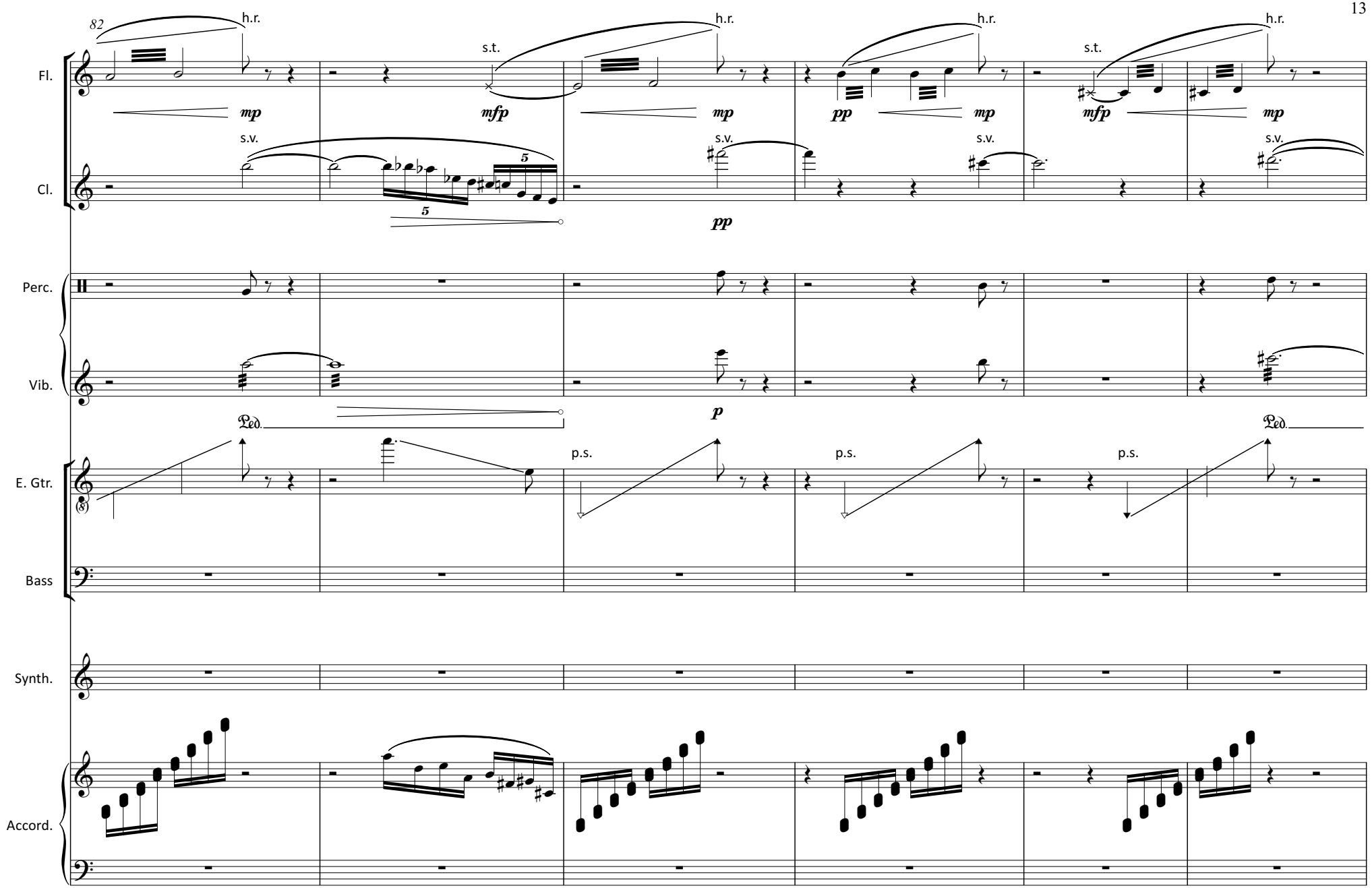

E
frantic, bubbling
t.tr.
Fl.
Cl.
ppp espress.
Perc.
5 temple blocks, muted floor tom
pp
Vib.
E. Gtr.
Bass
Synth.
Accord.

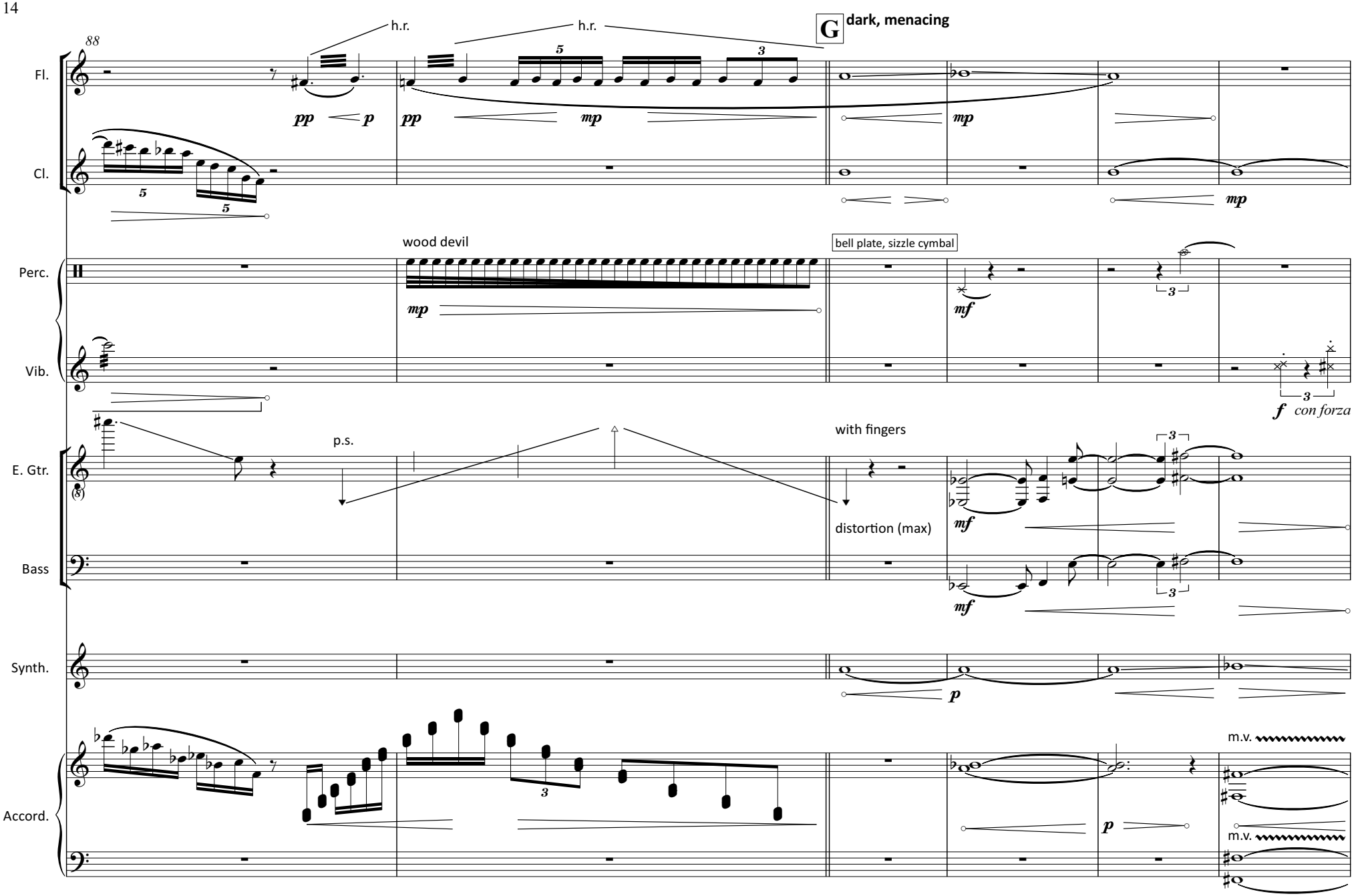

68
t.tr.
Fl.
Cl.
hit sticks together
rim
rim
ord.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
p
p
pp
pp

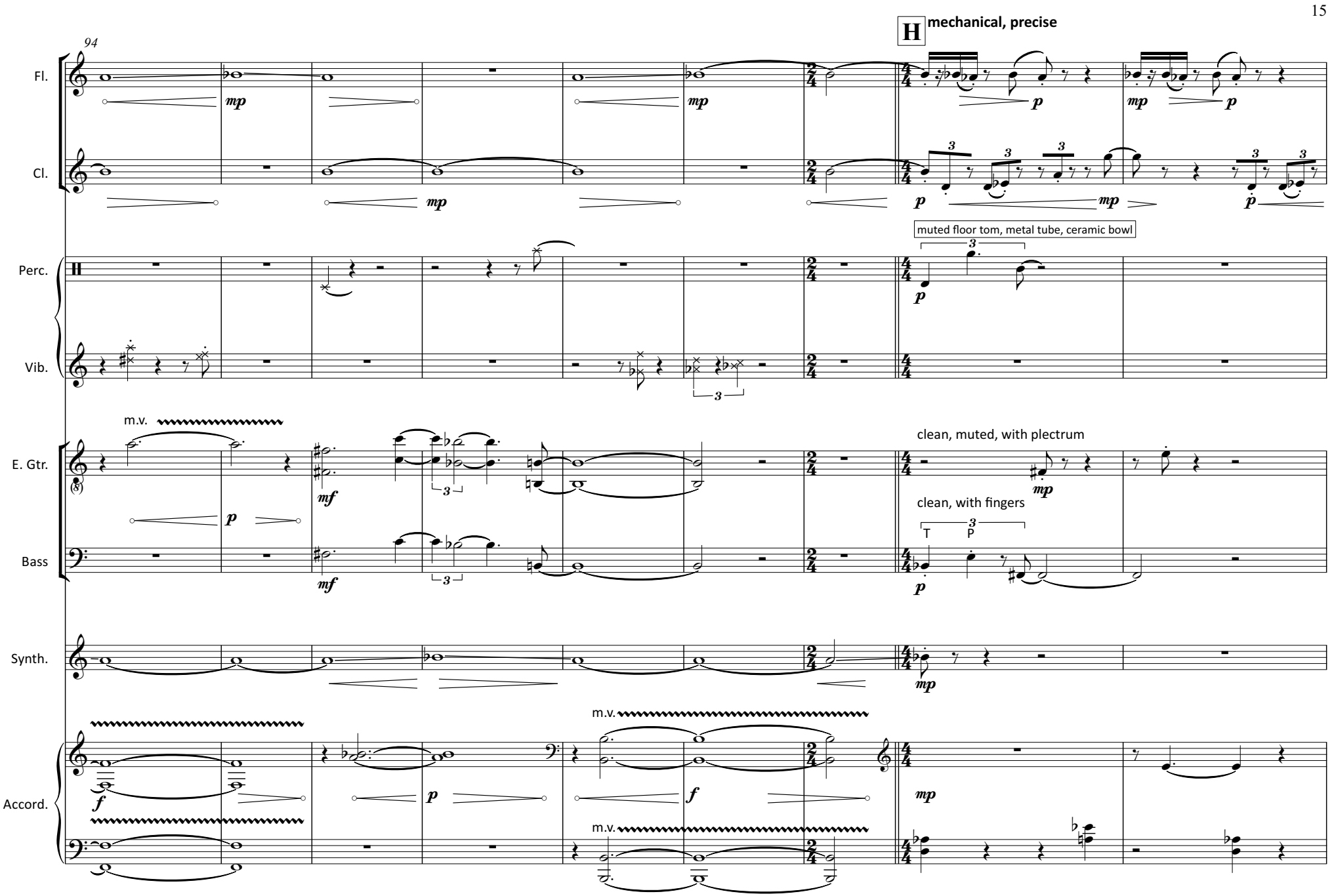

71
t.tr.
Fl.
p
Cl.
Perc.
rim
rim
Vib.
E. Gtr.
p
Bass
pp
pp
Synth.
Accord.

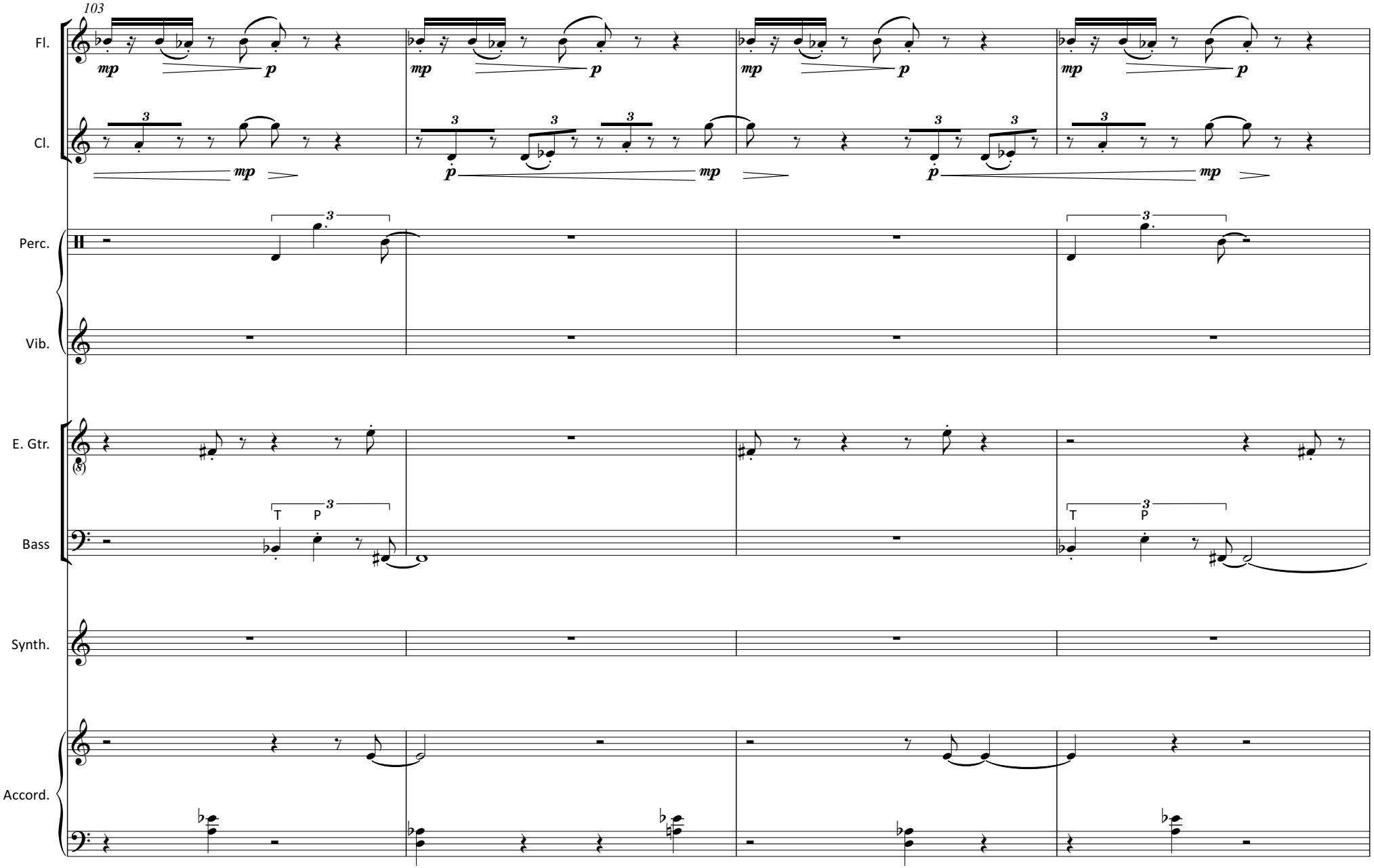

74
t.tr.
t.tr.
Fl.
Cl.
Perc.
rim
rim
rim
Vib.
E. Gtr.
Bass
Synth.
Accord.
p
pp

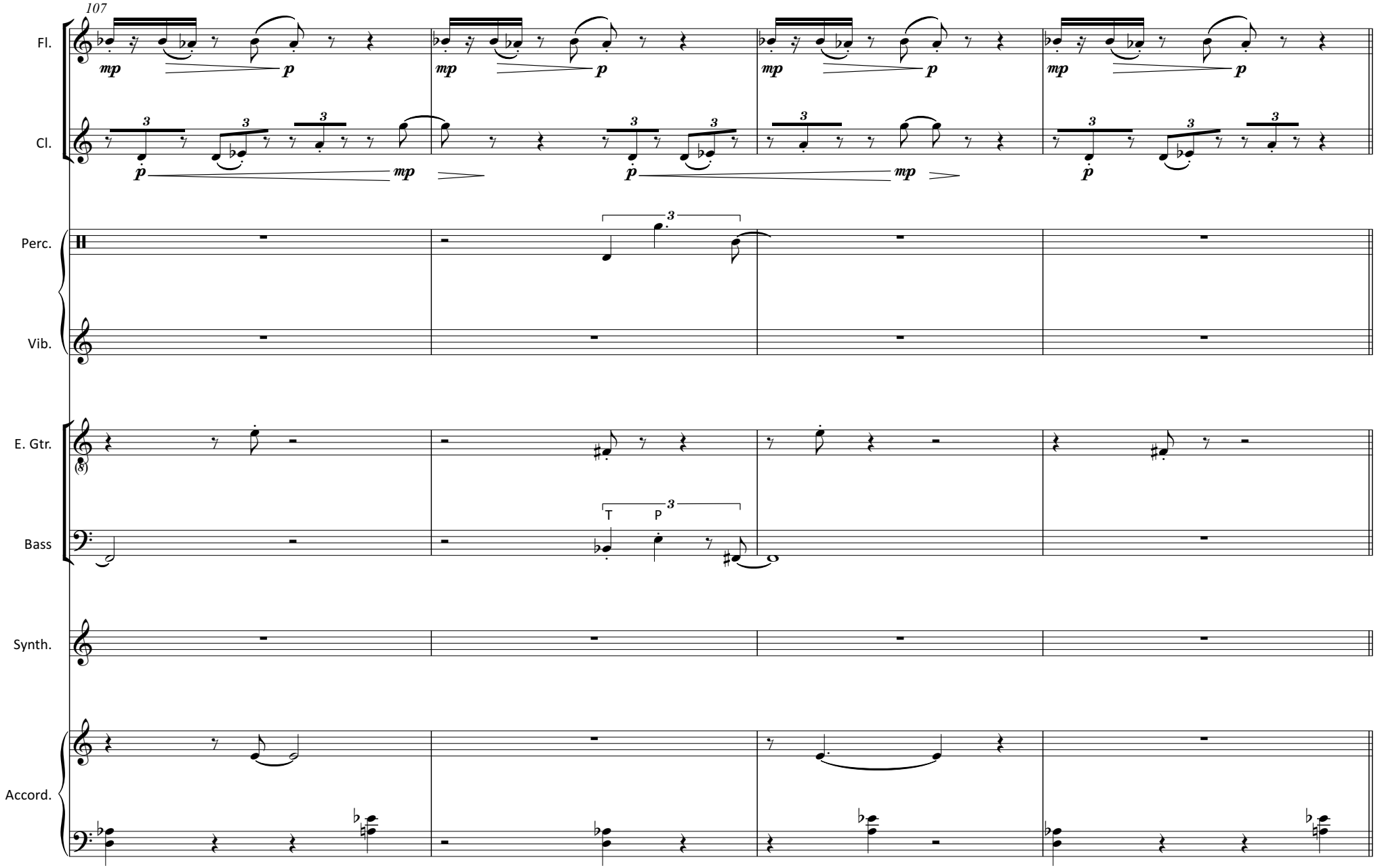

light, effervescent
F
77
slap
tongue
harmonic rip
h.r.
h.r.
Fl.
mfp
mp
pp
mp
pp
p
pp
senza vib.
s.v.
Cl.
pp
5 temple blocks, wood devil
Perc.
p
Vib.
p
overdrive (max), with plectrum
pick scrape
p.s.
p.s.
p.s.
E. Gtr.
ppp
Bass
pp
Synth.
Accord.
p

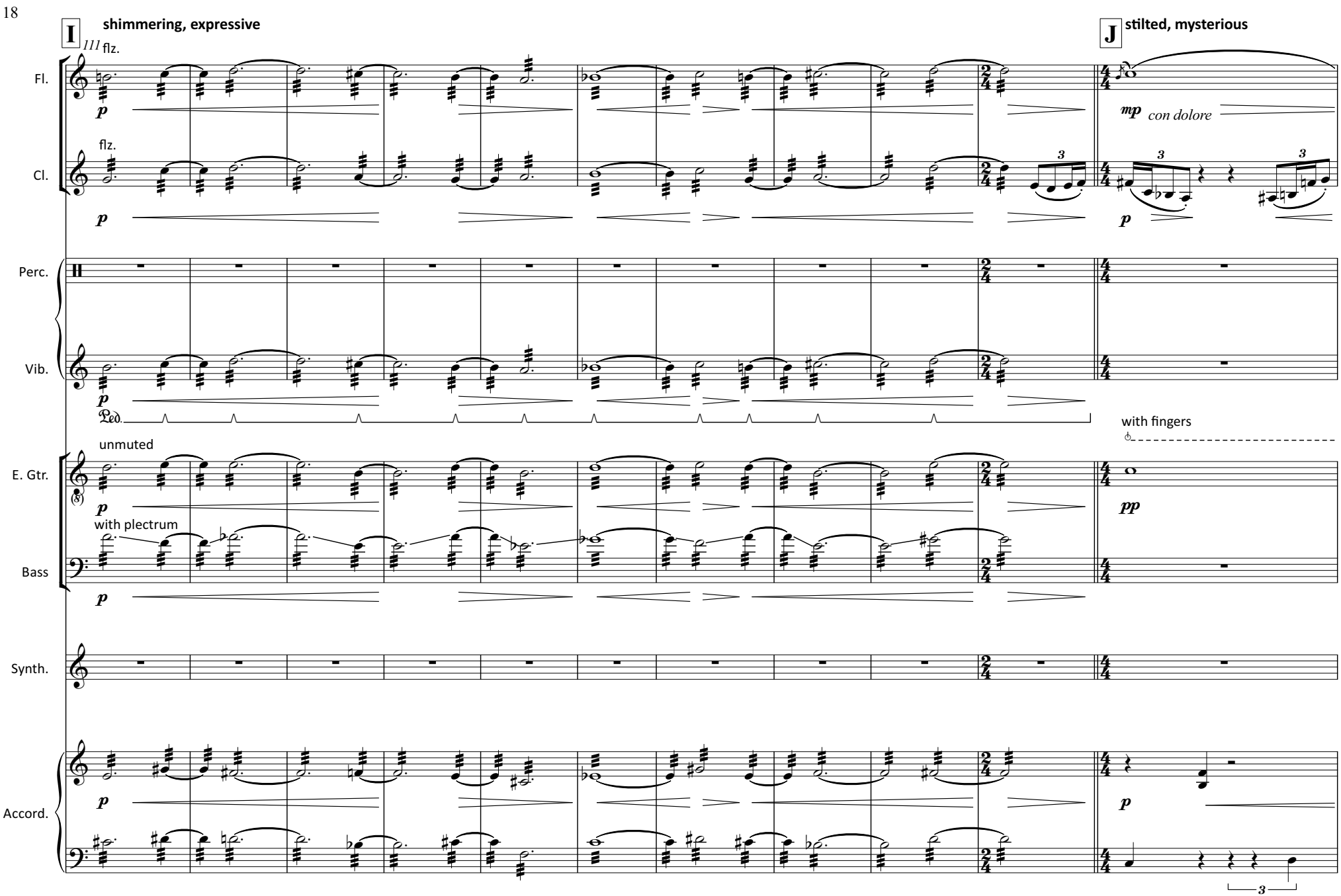

82
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
h.r.
s.t.
s.v.
p.s.
mp
mfp
pp
p
Ped.
5

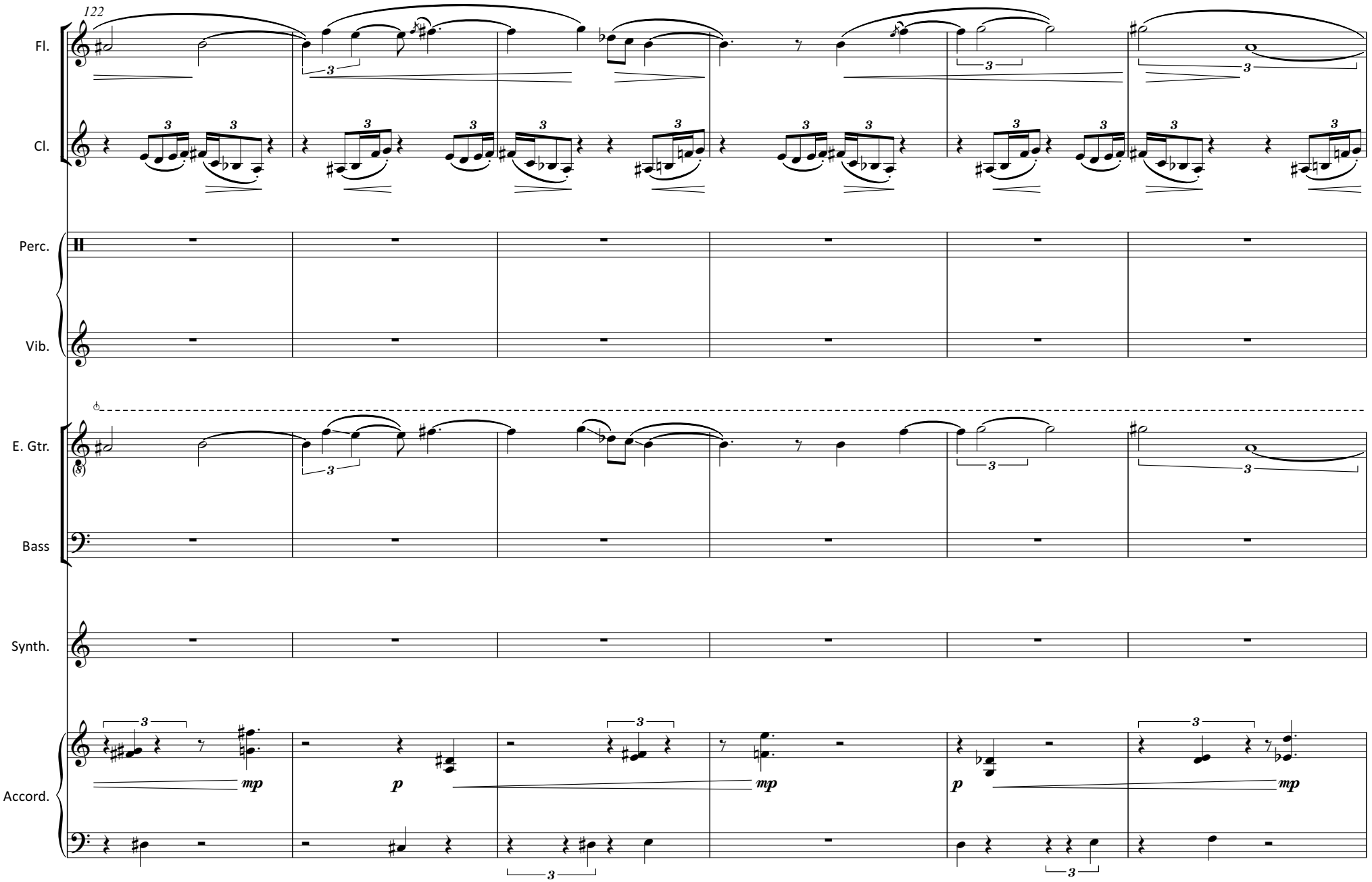

88
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
h.r.
h.r.
G
dark, menacing
pp
p
pp
mp
mp
mp
wood devil
bell plate, sizzle cymbal
mp
mf
f
con forza
p.s.
with fingers
distortion (max)
mf
mf
p
m.v.
p
m.v.

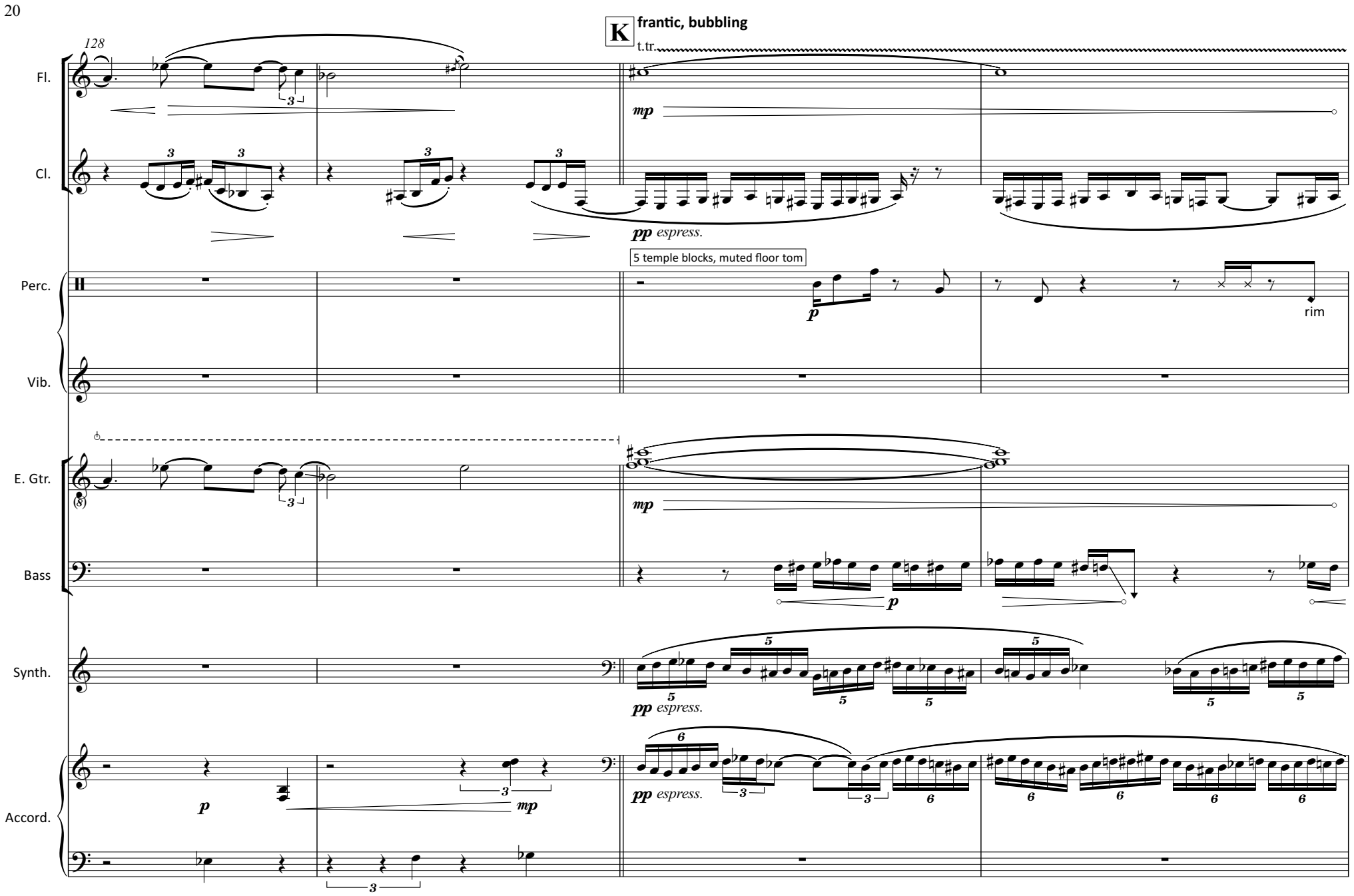

94
H
mechanical, precise
Fl.
Cl.
Perc.
muted floor tom, metal tube, ceramic bowl
Vib.
m.v.
E. Gtr.
clean, muted, with plectrum
clean, with fingers
Bass
Synth.
m.v.
Accord.
m.v.

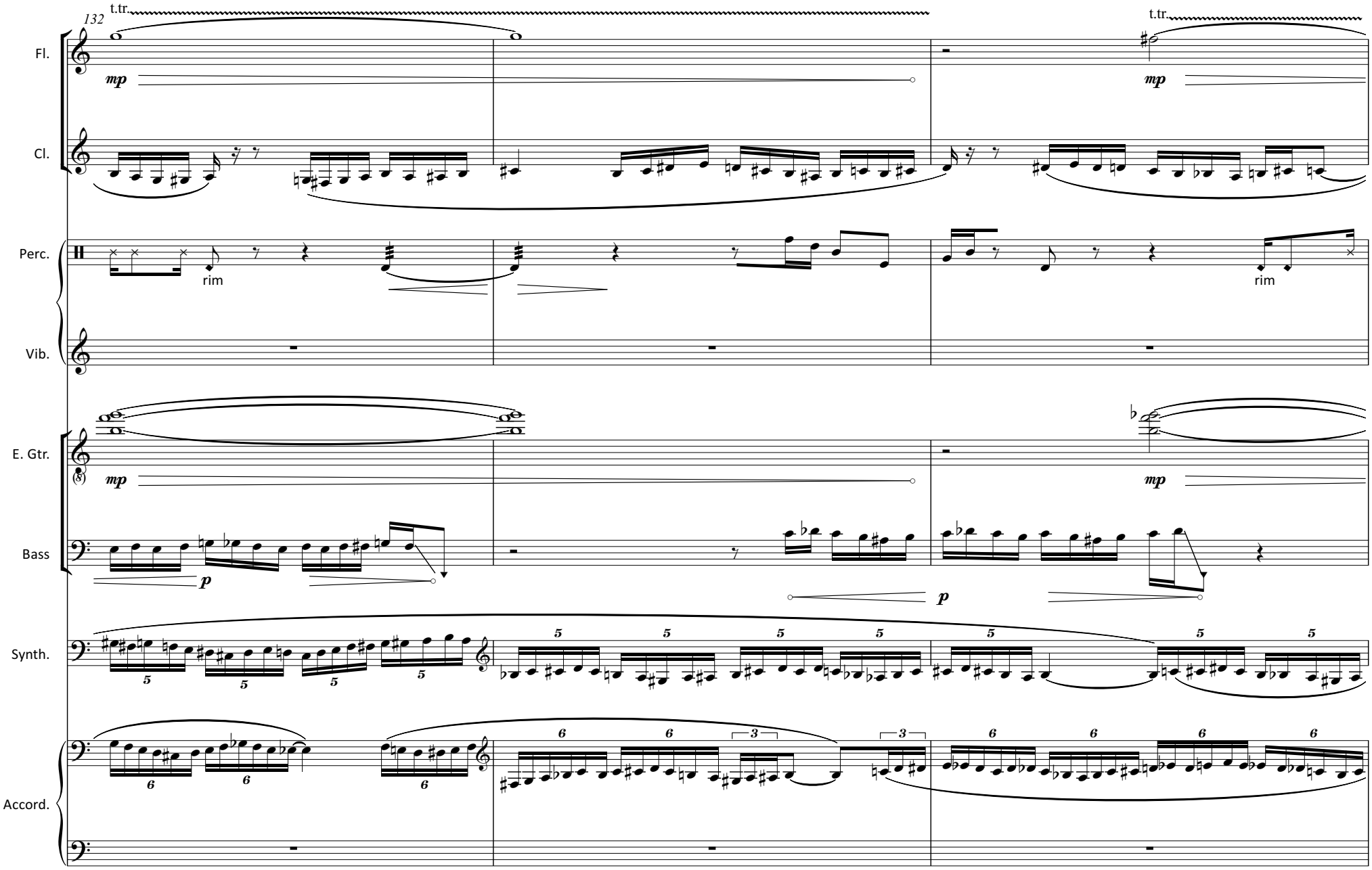

103
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
mp
p
T
P

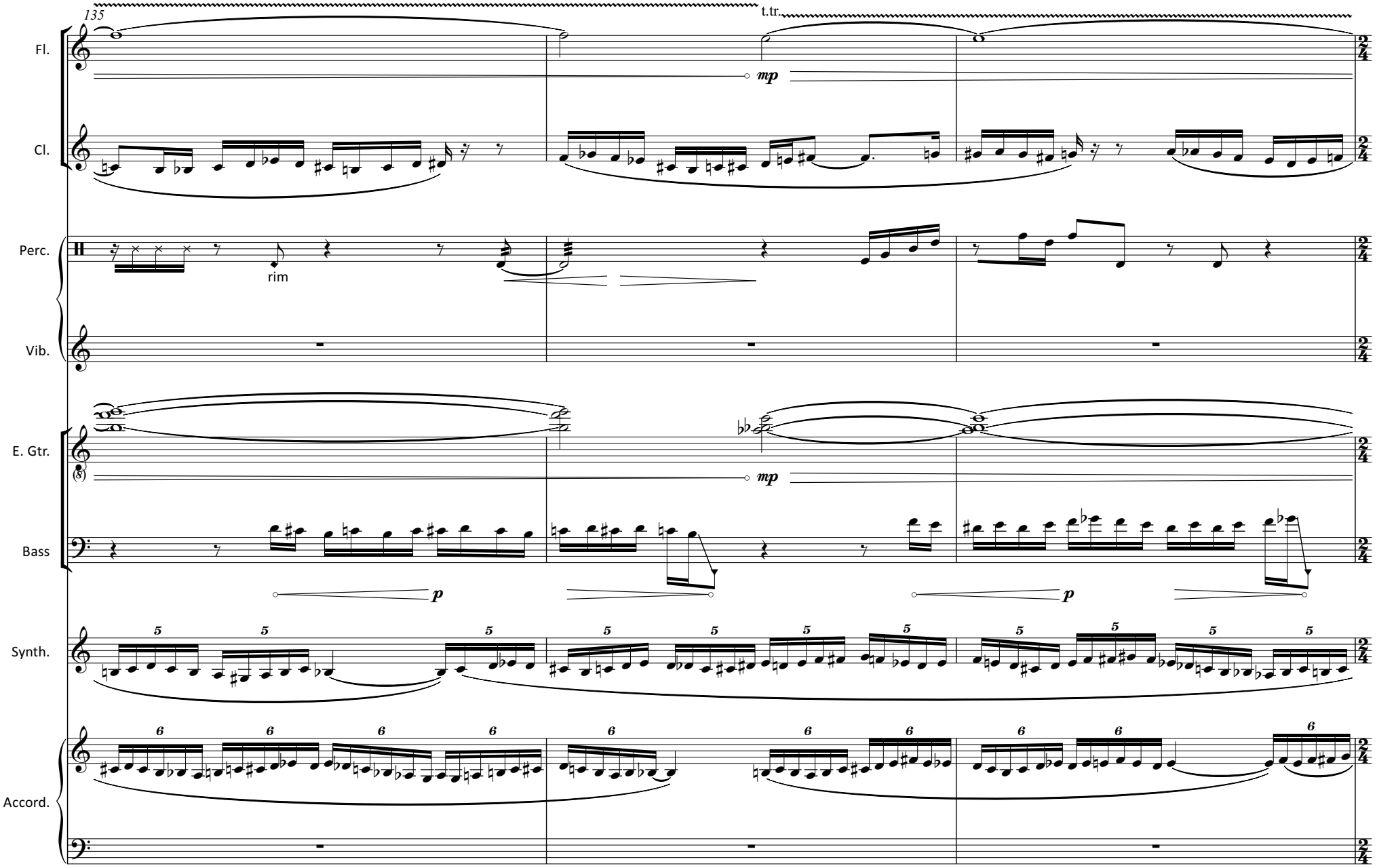

107
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
mp
p
T
P


I
shimmering, expressive
111 flz.
J
stilted, mysterious
Fl.
Cl.
flz.
p
mp con dolore
3
Perc.
Vib.
Ped.
with fingers
unmuted
E. Gtr.
with plectrum
Bass
pp
Synth.
Accord.


122
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
mp
p
mp
p
mp


128
K
frantic, bubbling
t.tr.
Fl.
Cl.
mp
pp espress.
Perc.
5 temple blocks, muted floor tom
p
rim
Vib.
E. Gtr.
(8)
mp
Bass
p
Synth.
pp espress.
Accord.
p
mp
pp espress.


132
t.tr.
t.tr.
Fl.
mp
mp
Cl.
Perc.
rim
rim
Vib.
E. Gtr.
mp
mp
Bass
p
p
Synth.
Accord.


135
t.tr.
Fl.
Cl.
Perc.
rim
Vib.
E. Gtr.
Bass
Synth.
Accord.
mp
mp
p
p

L light, effervescent

138

Fl.

Cl.

Perc.

5 temple blocks, wood devil

Vib.

Ped.

E. Gtr.

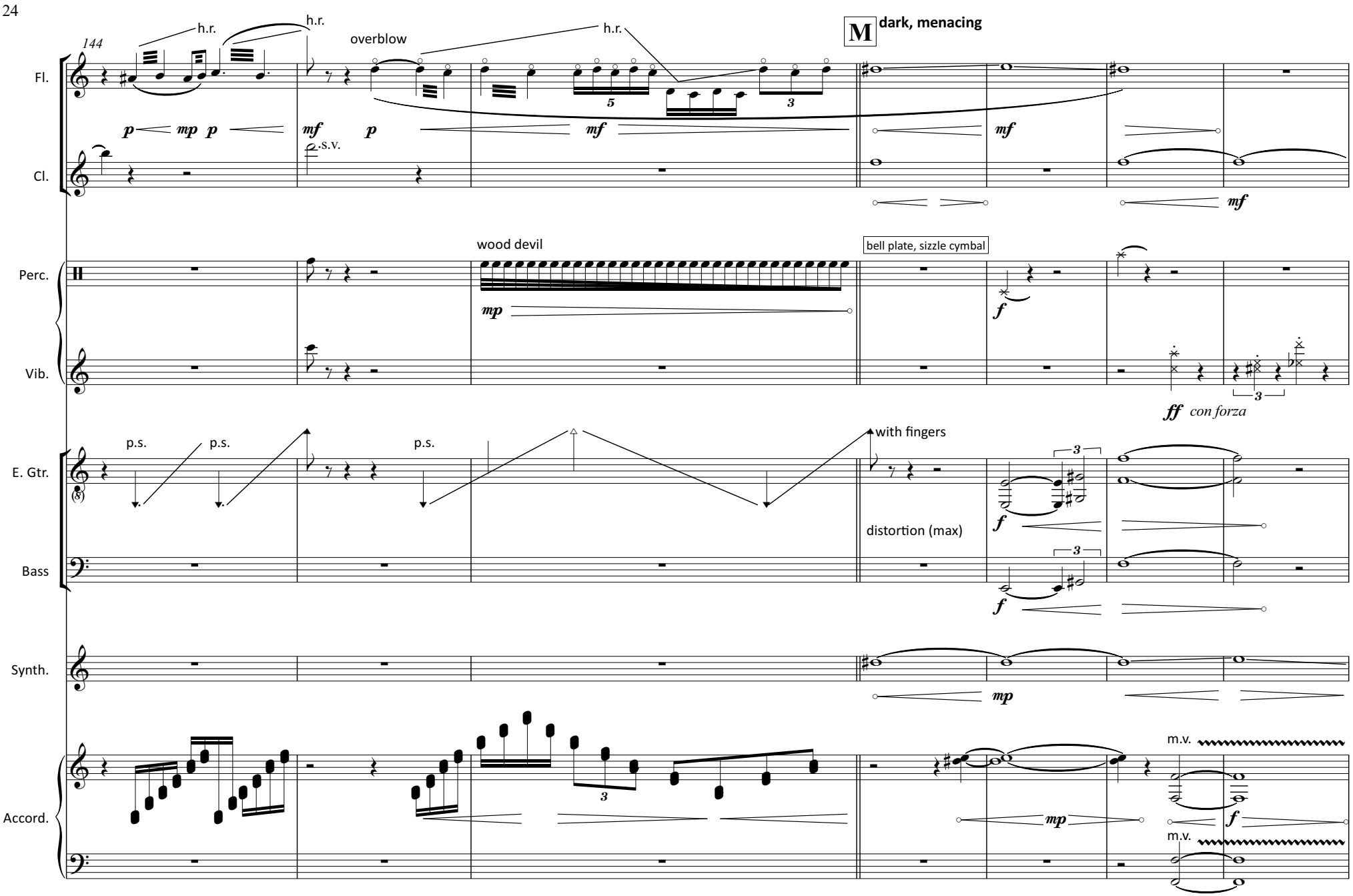
overdrive (max), with plectrum

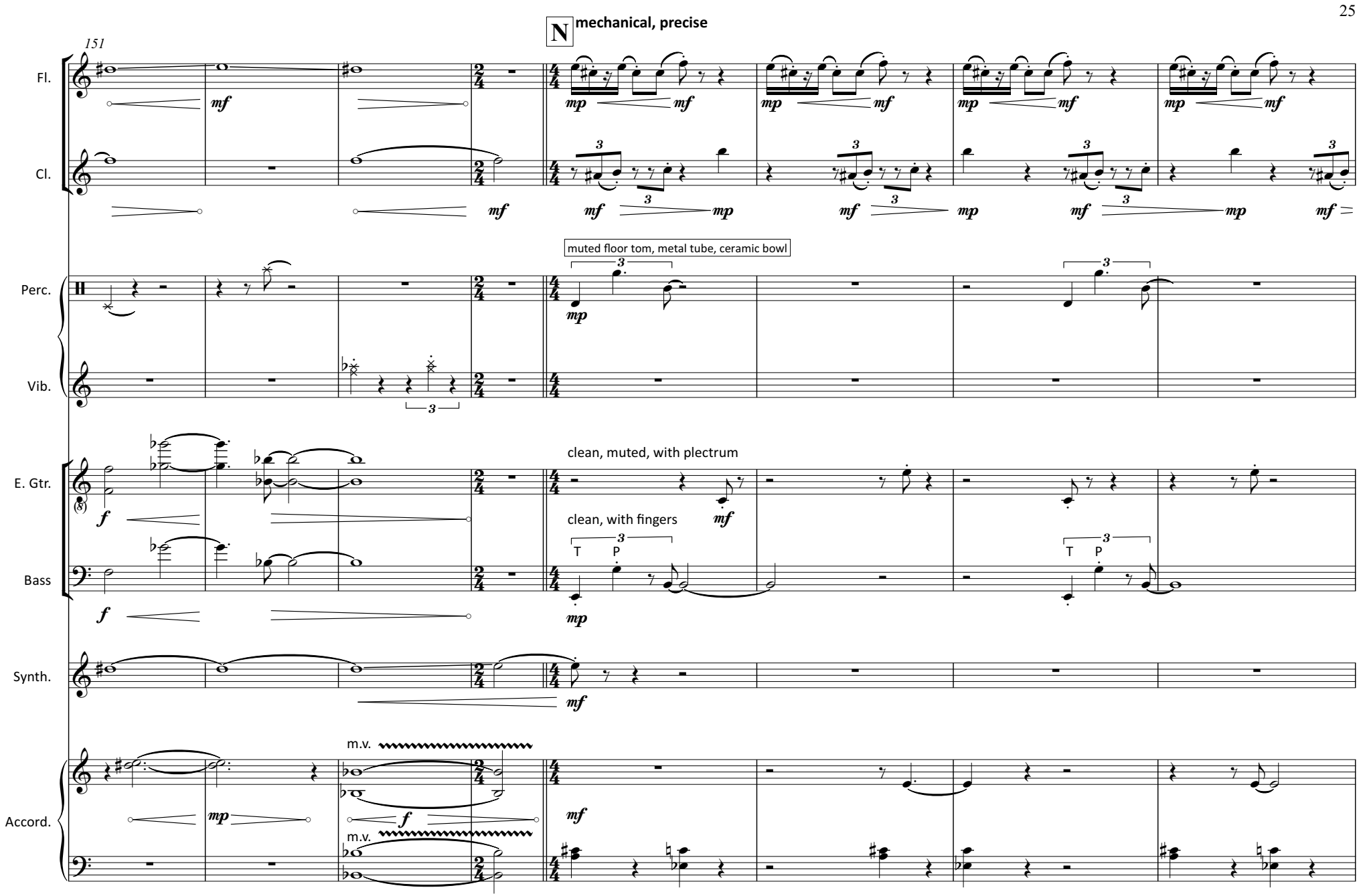
Bass

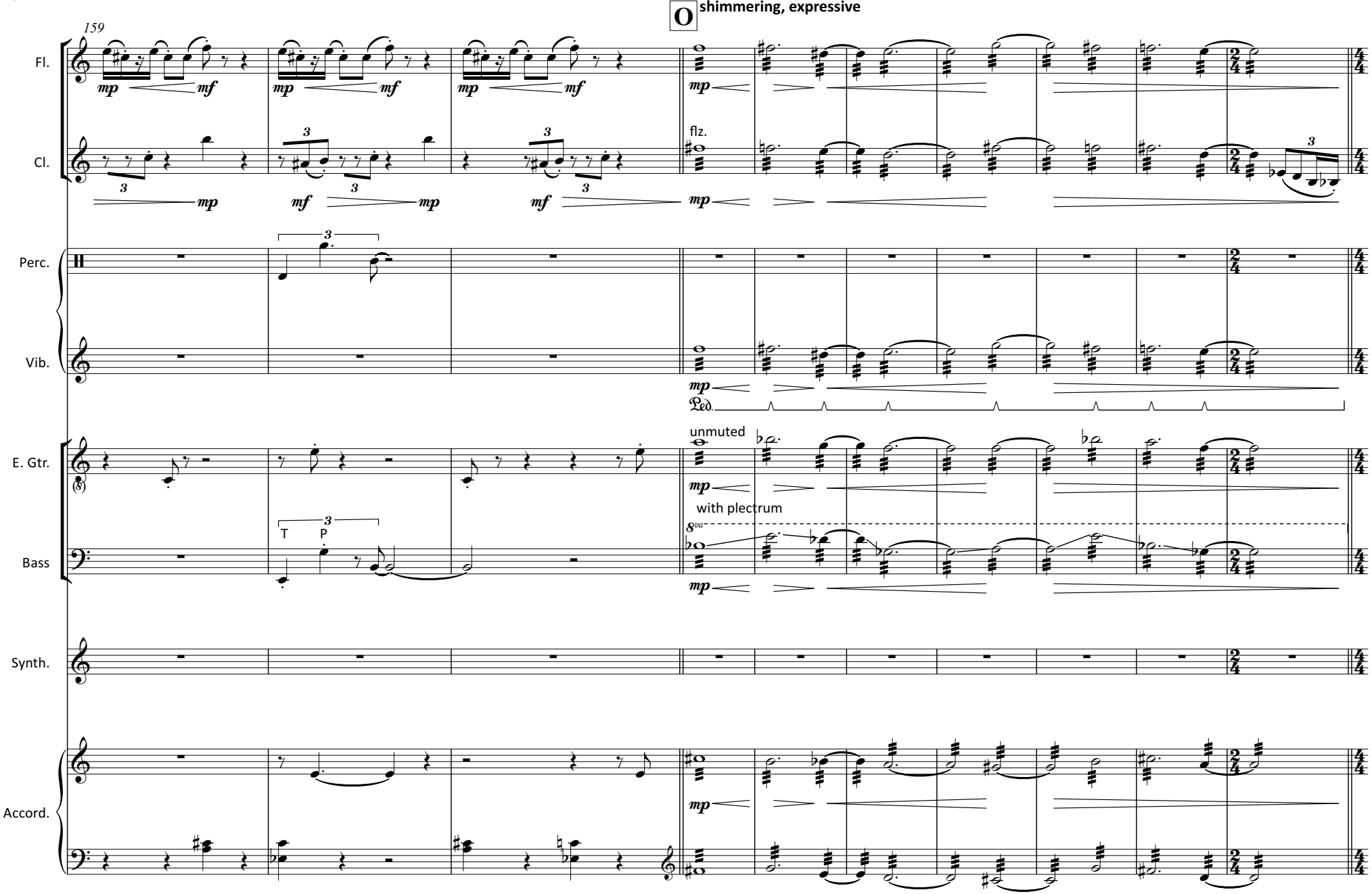
Synth.

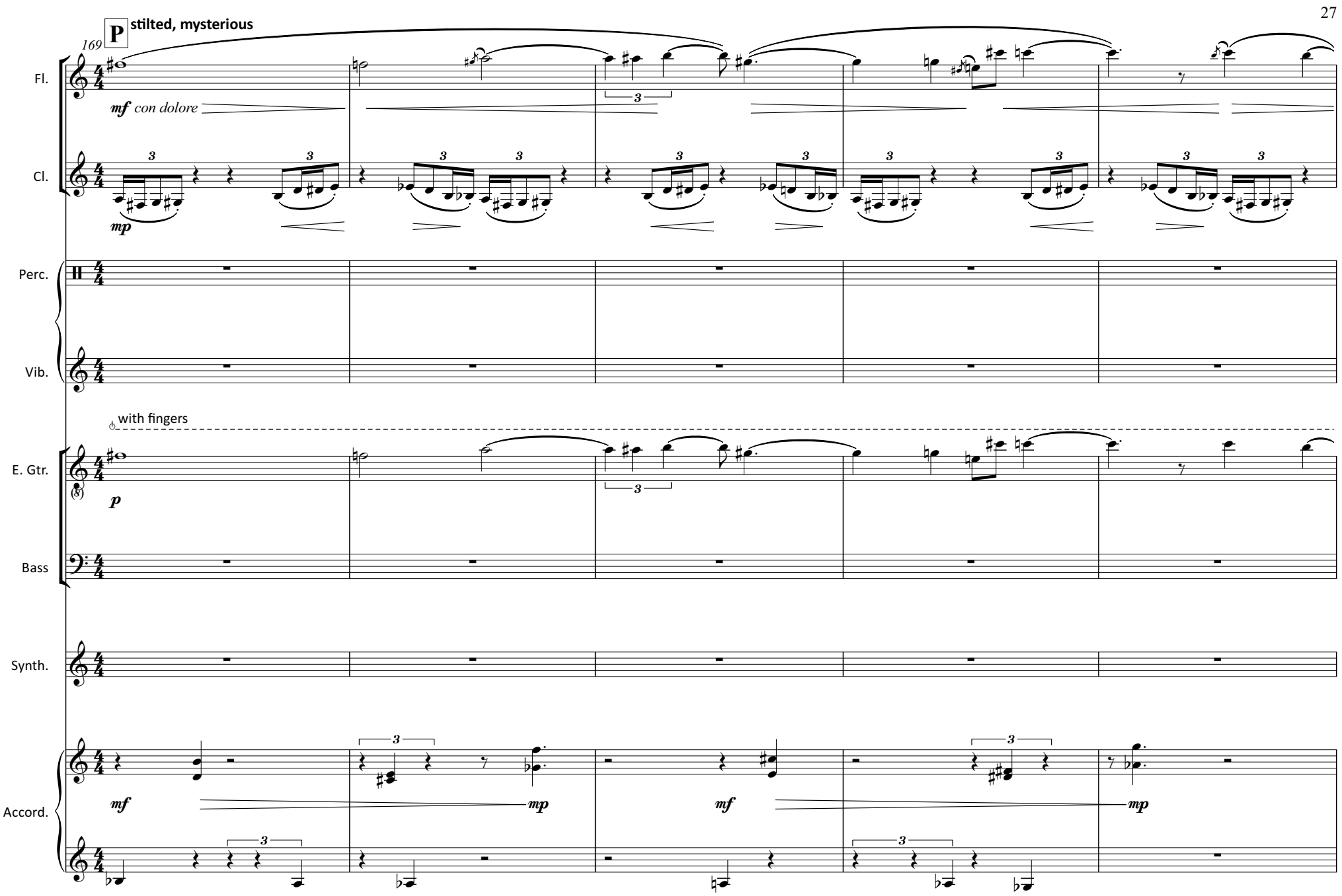
Accord.

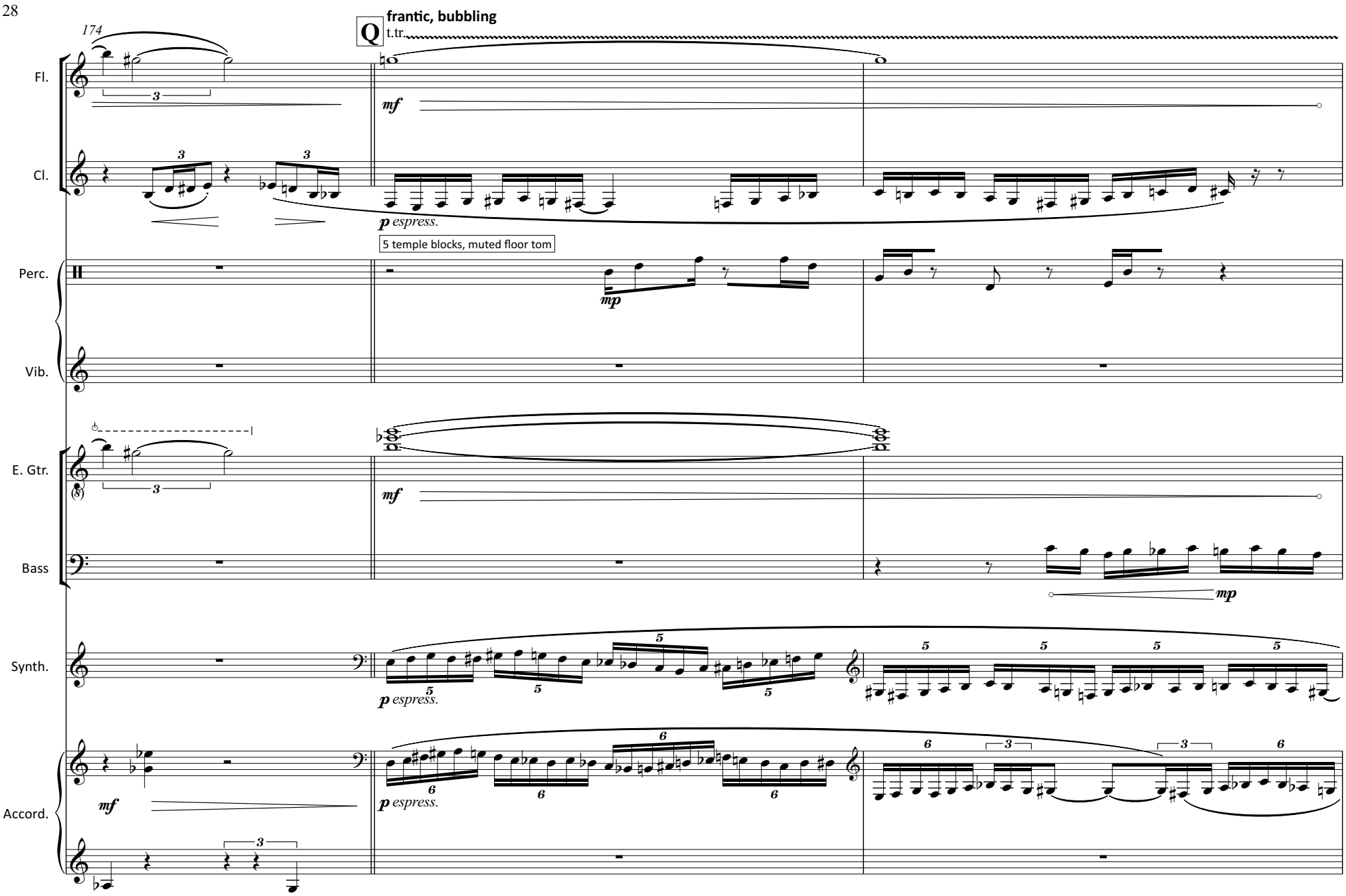
h.r. s.t. s.v. p.s.

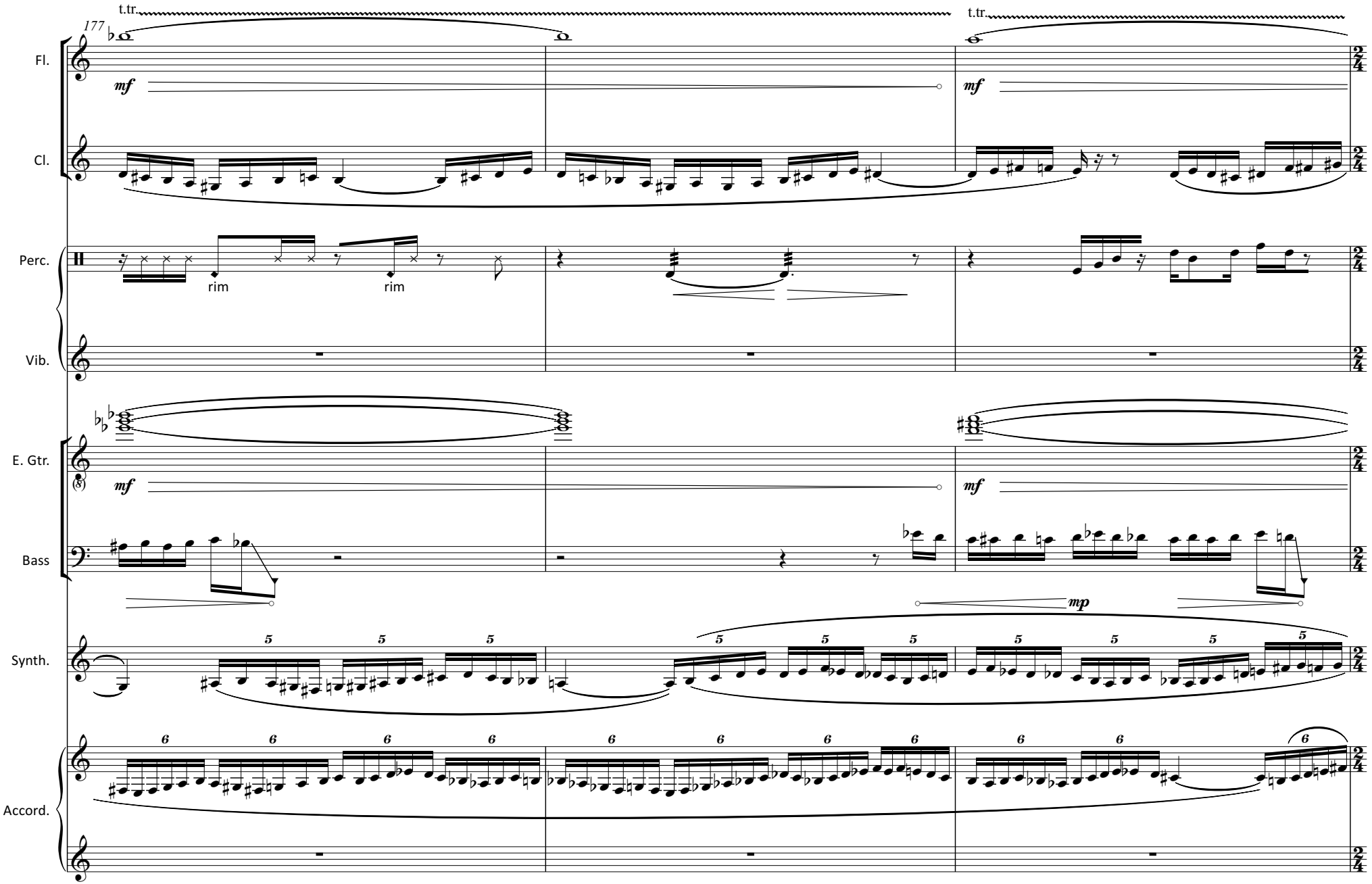

144
h.r.
h.r.
overblow
h.r.
M
dark, menacing
Fl.
Cl.
p
mp
p
mf
p
s.v.
mf
mf
mf
Perc.
Vib.
wood devil
mp
bell plate, sizzle cymbal
f
ff
con forza
E. Gtr.
Bass
p.s.
p.s.
p.s.
with fingers
distortion (max)
f
f
Synth.
mp
Accord.
mp
m.v.
f
m.v.

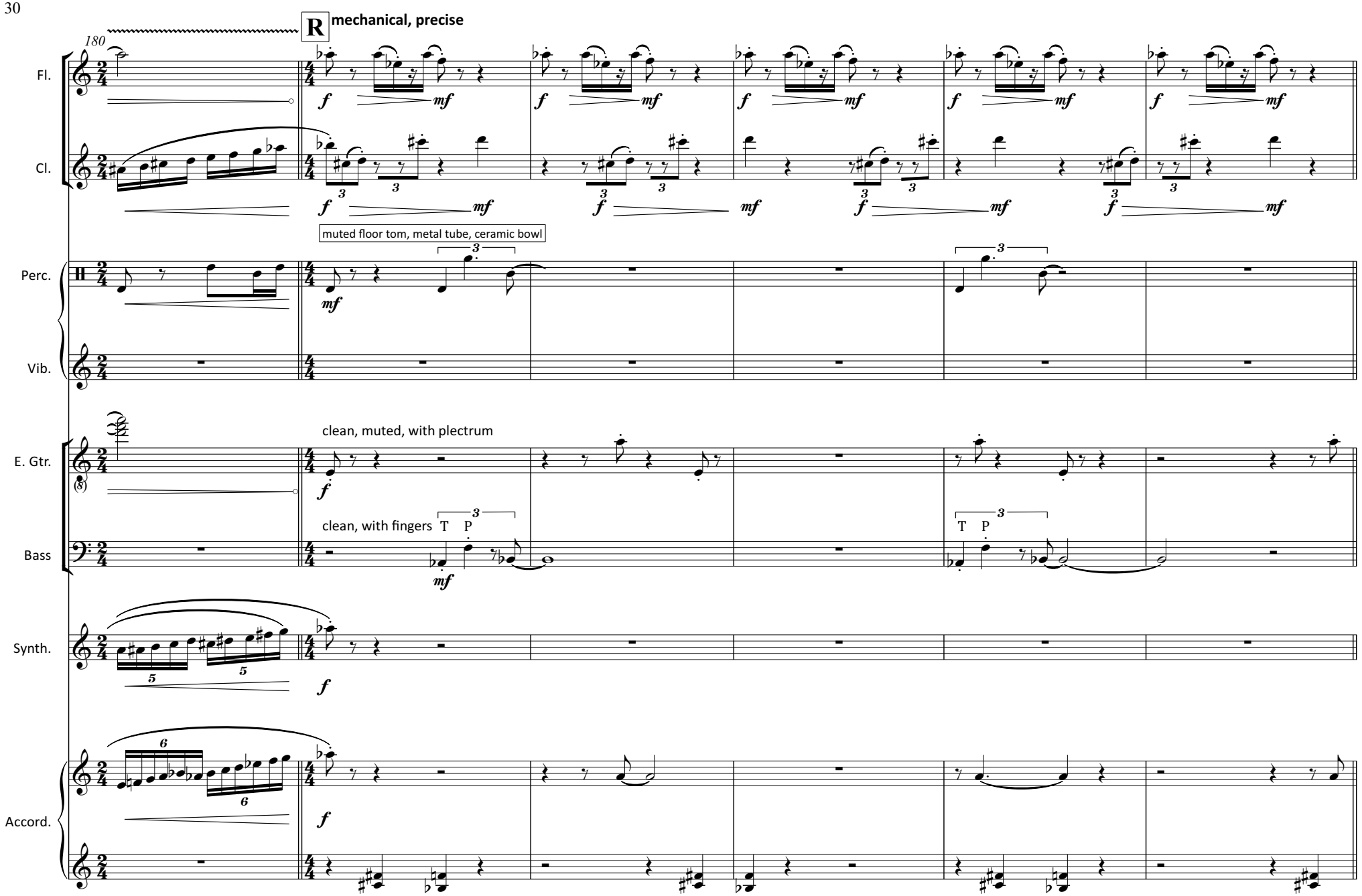

N
mechanical, precise
151
Fl.
Cl.
Perc.
muted floor tom, metal tube, ceramic bowl
Vib.
E. Gtr.
clean, muted, with plectrum
clean, with fingers
Bass
Synth.
Accord.
m.v.
m.v.

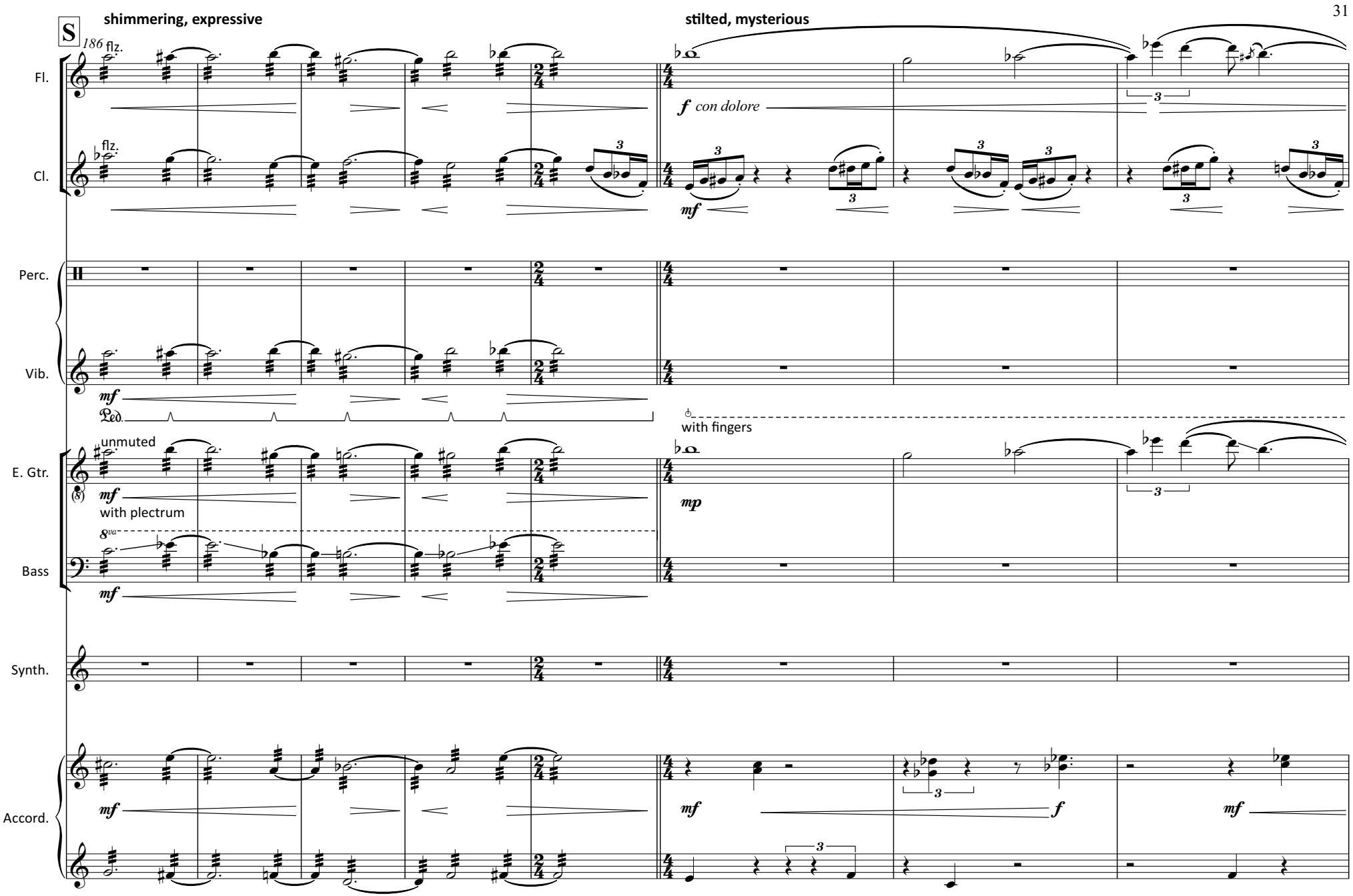

159
O
shimmering, expressive
Fl.
Cl.
flz.
Perc.
Vib.
Ped.
E. Gtr.
unmuted
with plectrum
8va
Bass
T
P
Synth.
Accord.

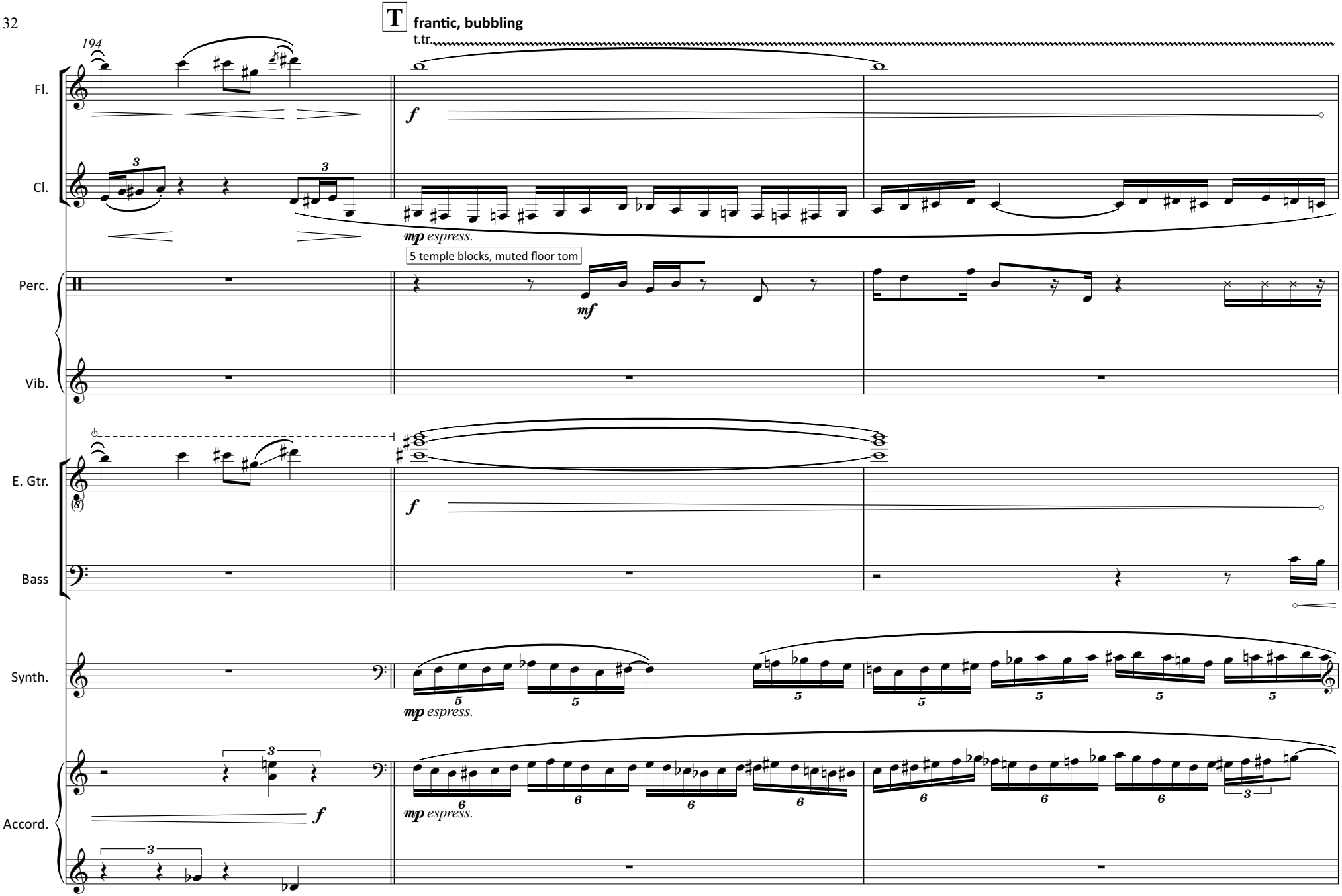

169
P
stilted, mysterious
Fl.
mf con dolore
Cl.
mp
Perc.
Vib.
with fingers
E. Gtr.
p
Bass
Synth.
Accord.
mf
mp
mf
mp

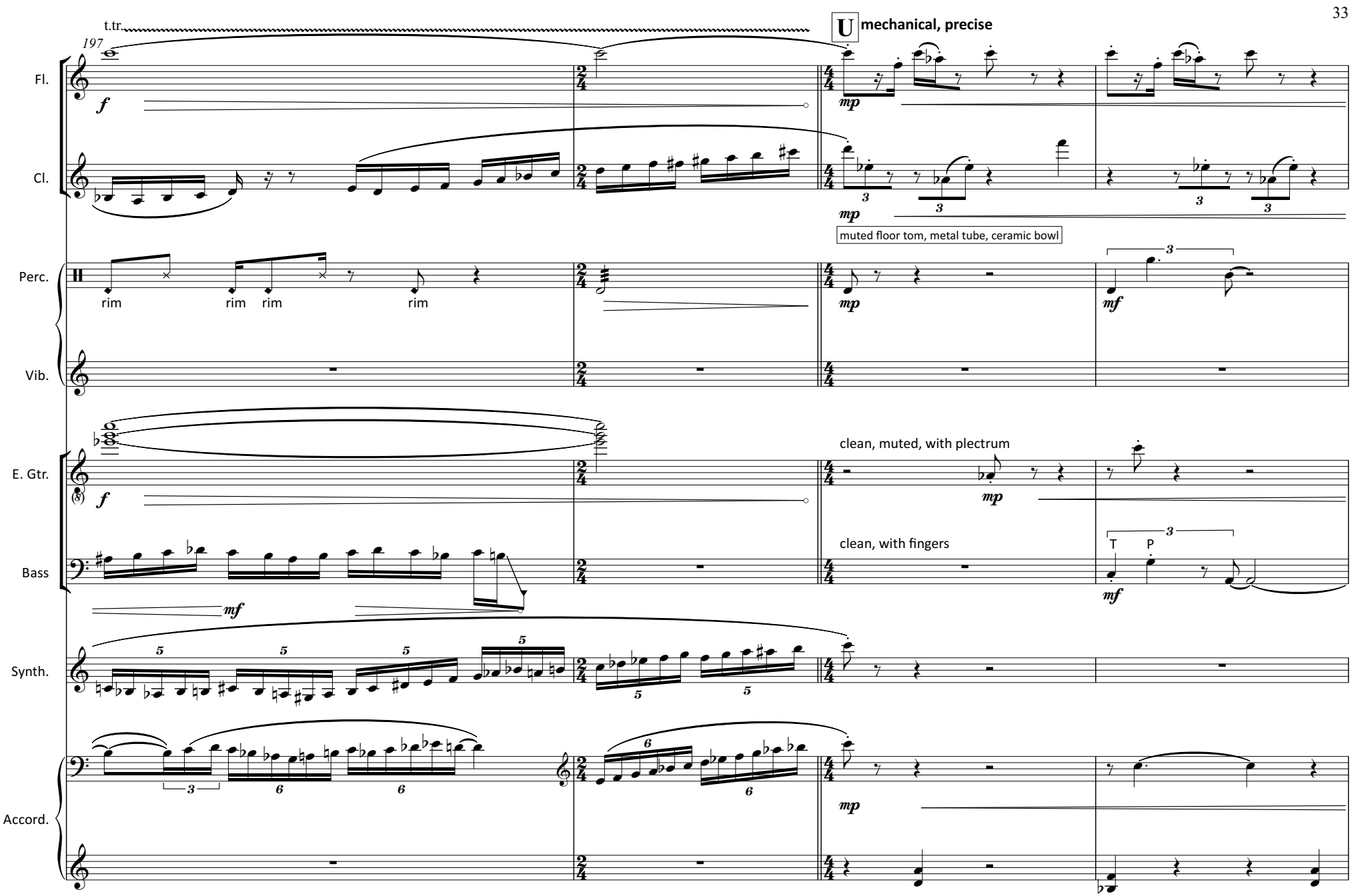

174
Q
frantic, bubbling
t.tr.
Fl.
Cl.
mf
p espress.
5 temple blocks, muted floor tom
Perc.
mp
Vib.
E. Gtr.
mf
Bass
mp
Synth.
p espress.
Accord.
mf
p espress.

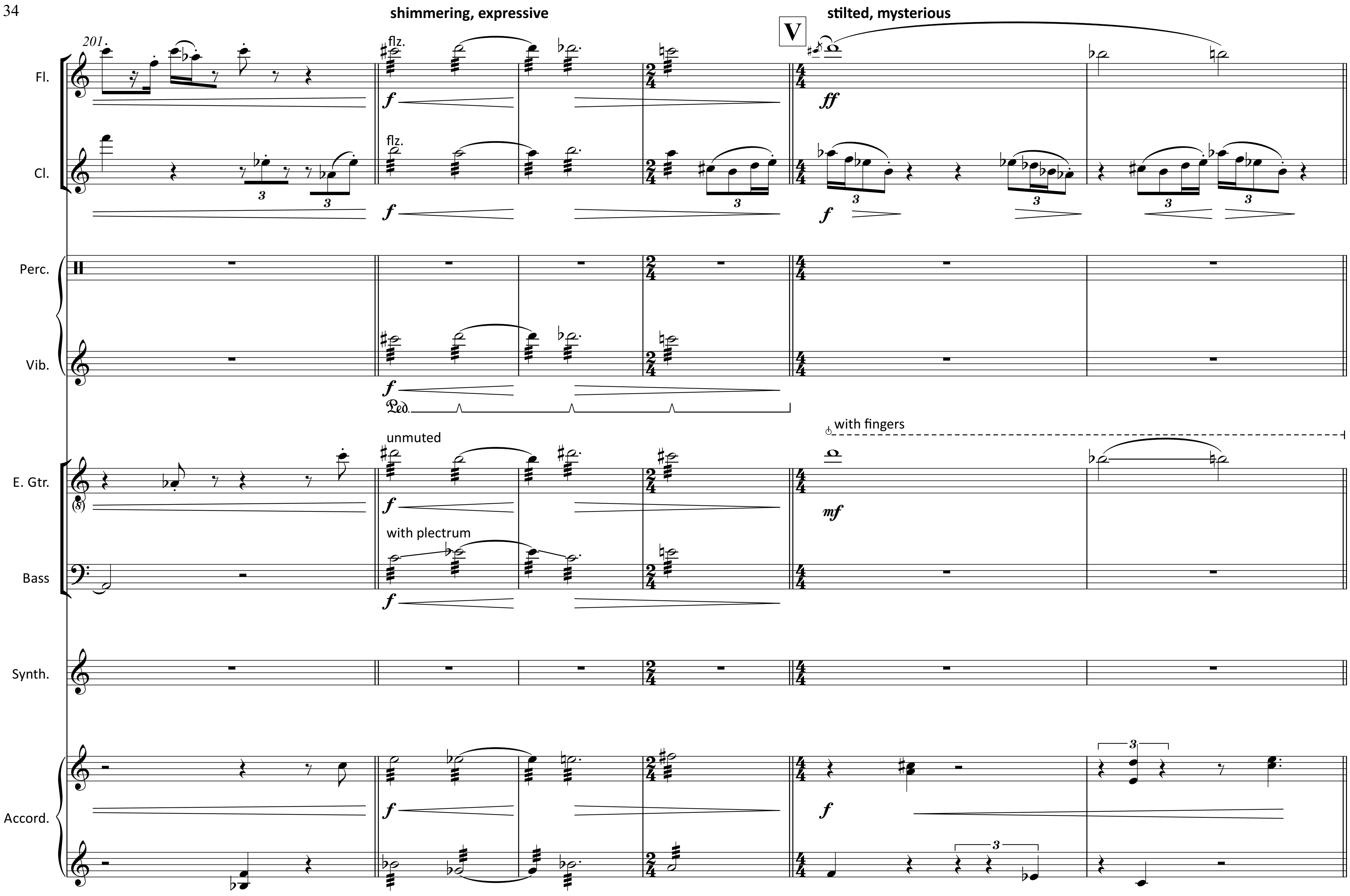

177
t.tr.
t.tr.
Fl.
Cl.
Perc.
rim
rim
Vib.
E. Gtr.
Bass
Synth.
Accord.
mf
mp

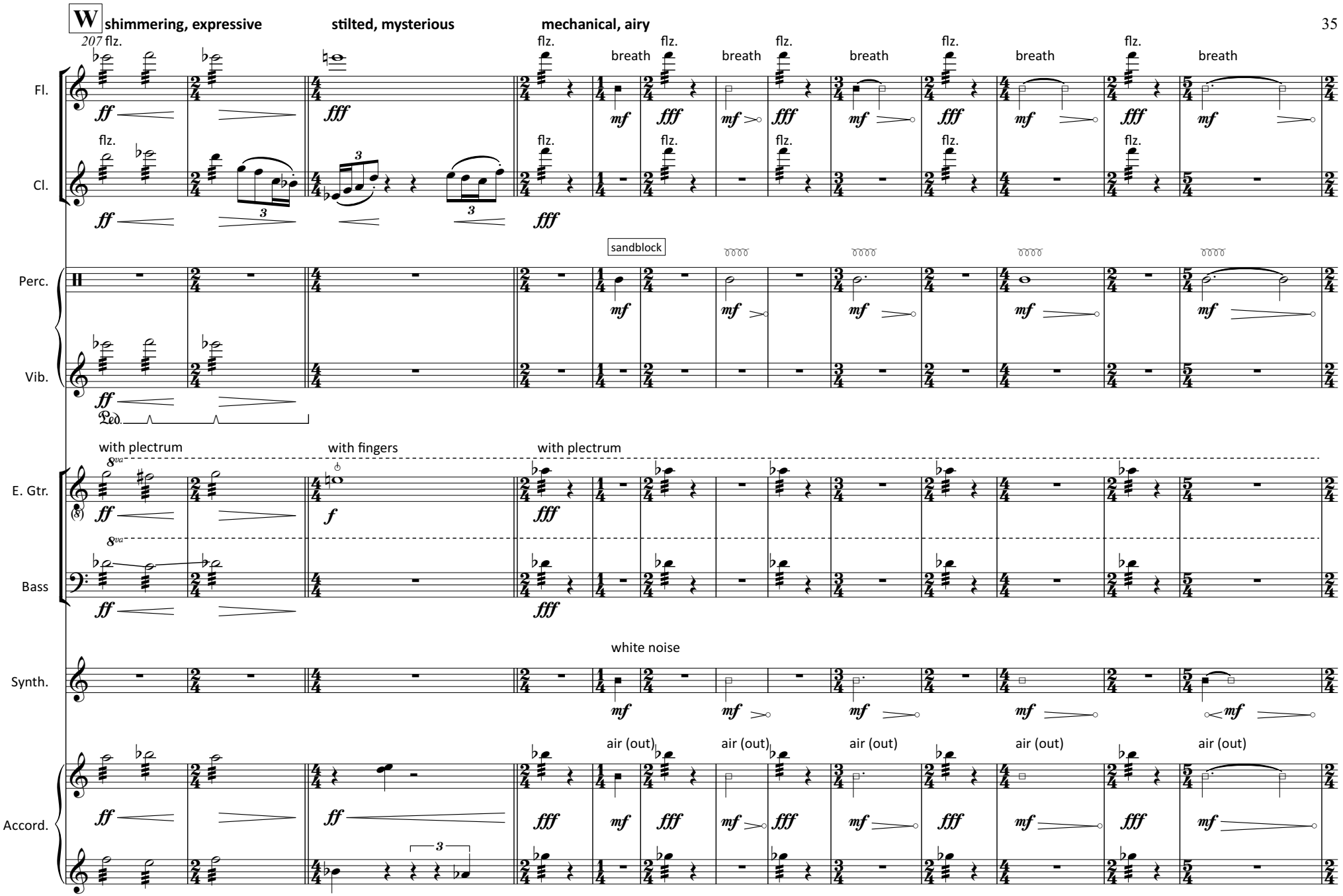

R
mechanical, precise
180
Fl.
Cl.
muted floor tom, metal tube, ceramic bowl
Perc.
Vib.
clean, muted, with plectrum
E. Gtr.
clean, with fingers
T P
Bass
Synth.
Accord.

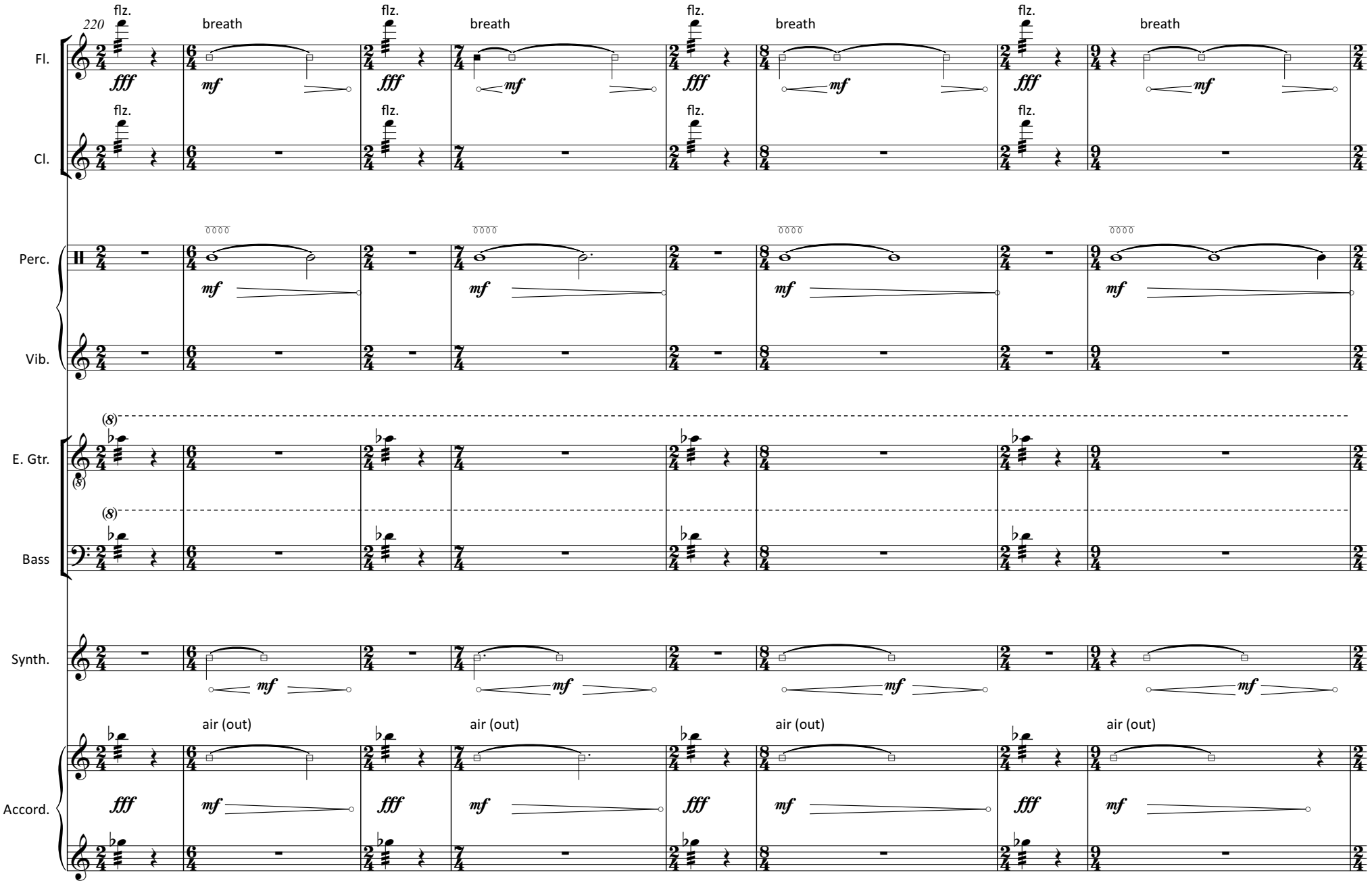

S
shimmering, expressive
stilted, mysterious
186
flz.
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
f con dolore
mf
mp
Ped.
unmuted
with plectrum
with fingers
8va

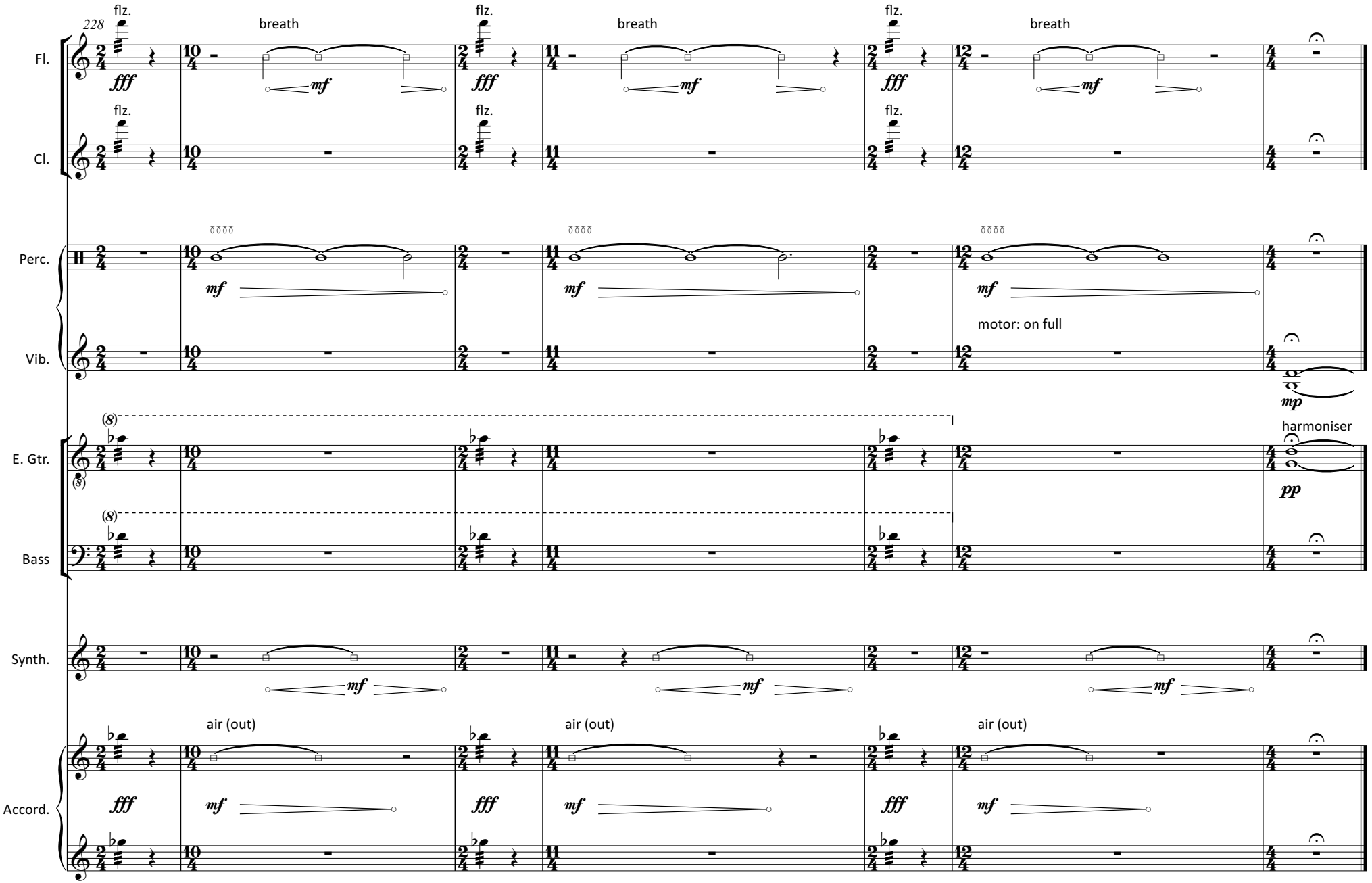

194
T
frantic, bubbling
t.tr.
Fl.
Cl.
f
mp espress.
5 temple blocks, muted floor tom
Perc.
mf
Vib.
E. Gtr.
f
Bass
Synth.
mp espress.
Accord.
f
mp espress.


t.tr.
197
U
mechanical, precise
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
rim
rim
rim
rim
muted floor tom, metal tube, ceramic bowl
clean, muted, with plectrum
clean, with fingers
T
P


shimmering, expressive
stilted, mysterious
V
201
flz.
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
unmuted
with fingers
with plectrum


W
shimmering, expressive
stilted, mysterious
mechanical, airy
207
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
flz.
breath
sandblock
with plectrum
with fingers
white noise
air (out)
ff
fff
mf
f
Ped.


220
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
flz.
breath
air (out)
fff
mf


228
Fl.
Cl.
Perc.
Vib.
E. Gtr.
Bass
Synth.
Accord.
flz.
breath
fff
mf
motor: on full
mp
harmoniser
pp
air (out)

Ben Gaunt

Three Catalysts

for trumpet and percussion

I - Constant

II - Changing

III - Absent

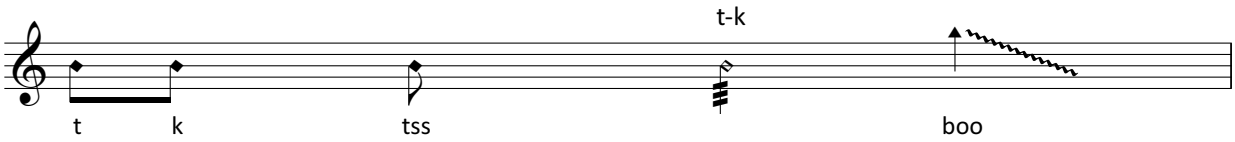
Three Catalysts was commissioned by trumpeter George Morton.

The opening trumpet material is almost identical in all three movements. In each movement, the percussion material acts as a catalyst, transforming the trumpet melody to unexpected conclusions.

Year of Composition: 2012
Duration: c. 6'
Transposed Score

Techniques

Trumpet

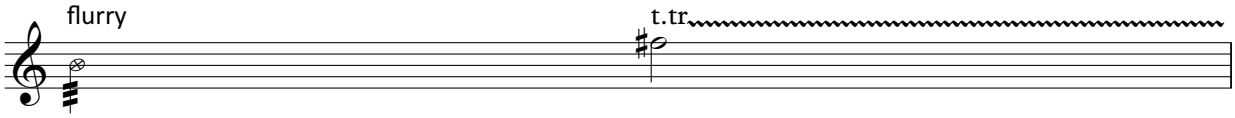


"t" and "k" vocal consonants through trumpet
should sound mechanical

vocal sound through trumpet
should sound like steam

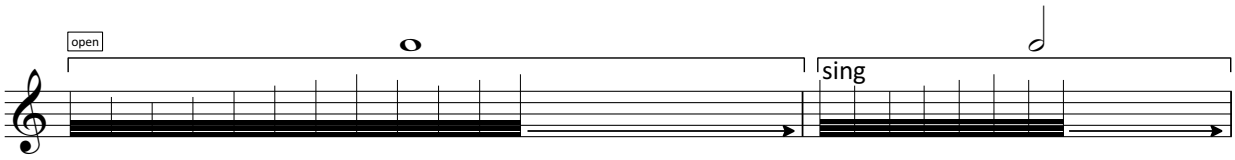
rapid alteration between "t" and "k" vocal consonants

sing "boo" through trumpet
start at a high pitch and descend



cross note heads indicate key clicks
flurry indicates rapid tremolando

timbral/microtonal trill



rapid, high, undefined notes using harmonic series
as short and fast as possible
box text indicates fingering (and hence, which harmonic series)
note above bracket indicates length

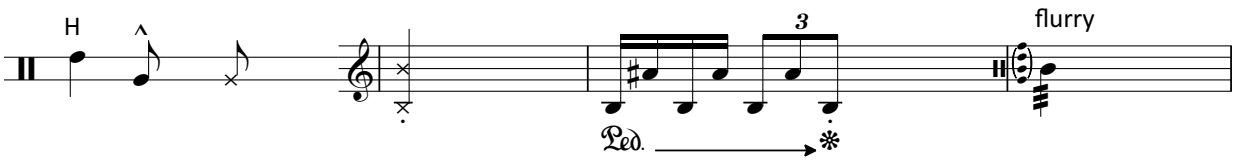
imitate previous technique whilst singing down the trumpet
use "t" and "k" consonant sounds

Percussion

Congas

Vibraphone

Temple Blocks



H indicates heel of hand in centre

marcato indicates slap on rim

cross note head indicates scrape skin with fingers

deadstroke

smooth transition from pedal to no pedal

flurry indicates rapid alteration between different temple blocks

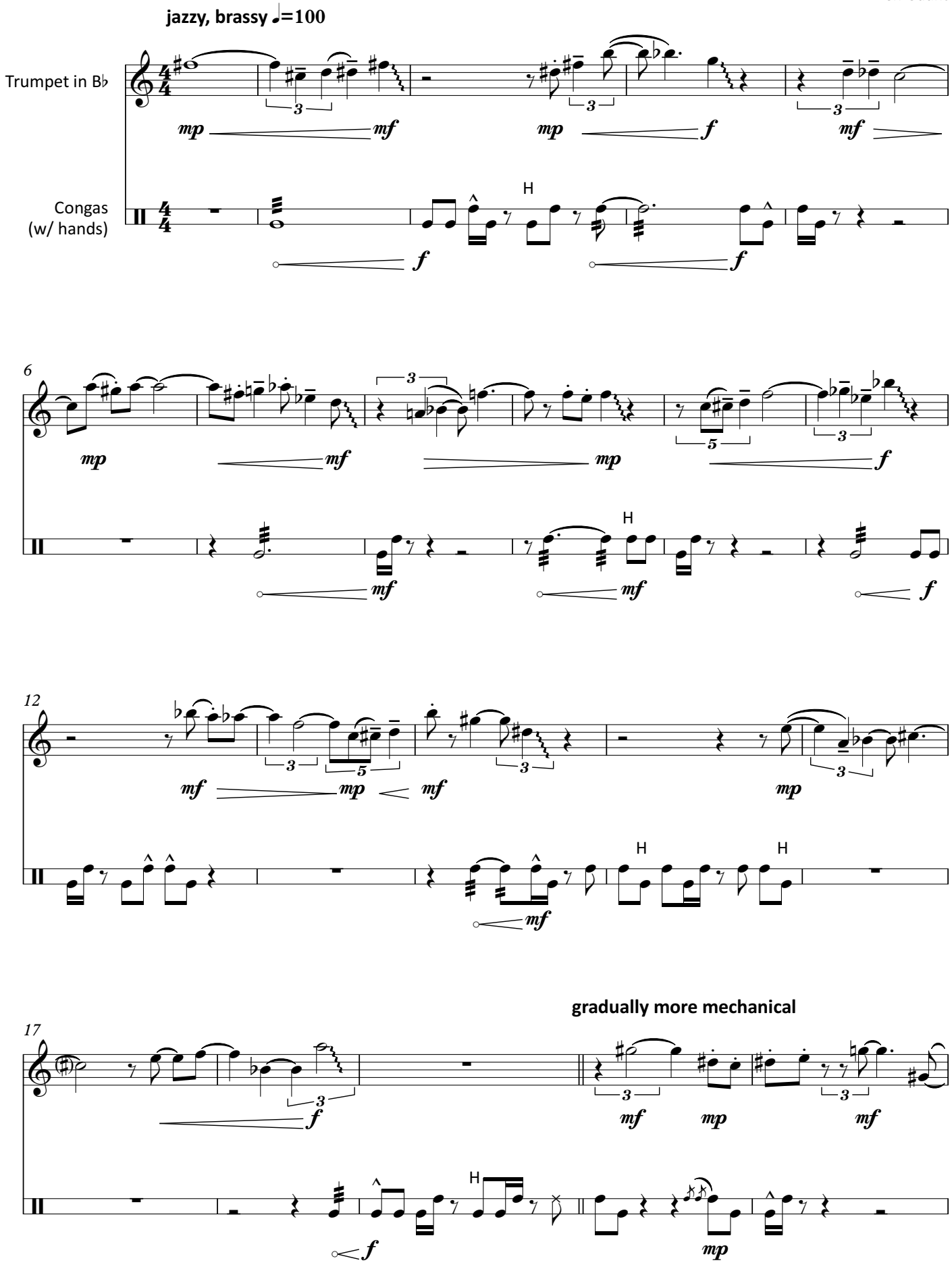
the brackets indicate which temple blocks to play

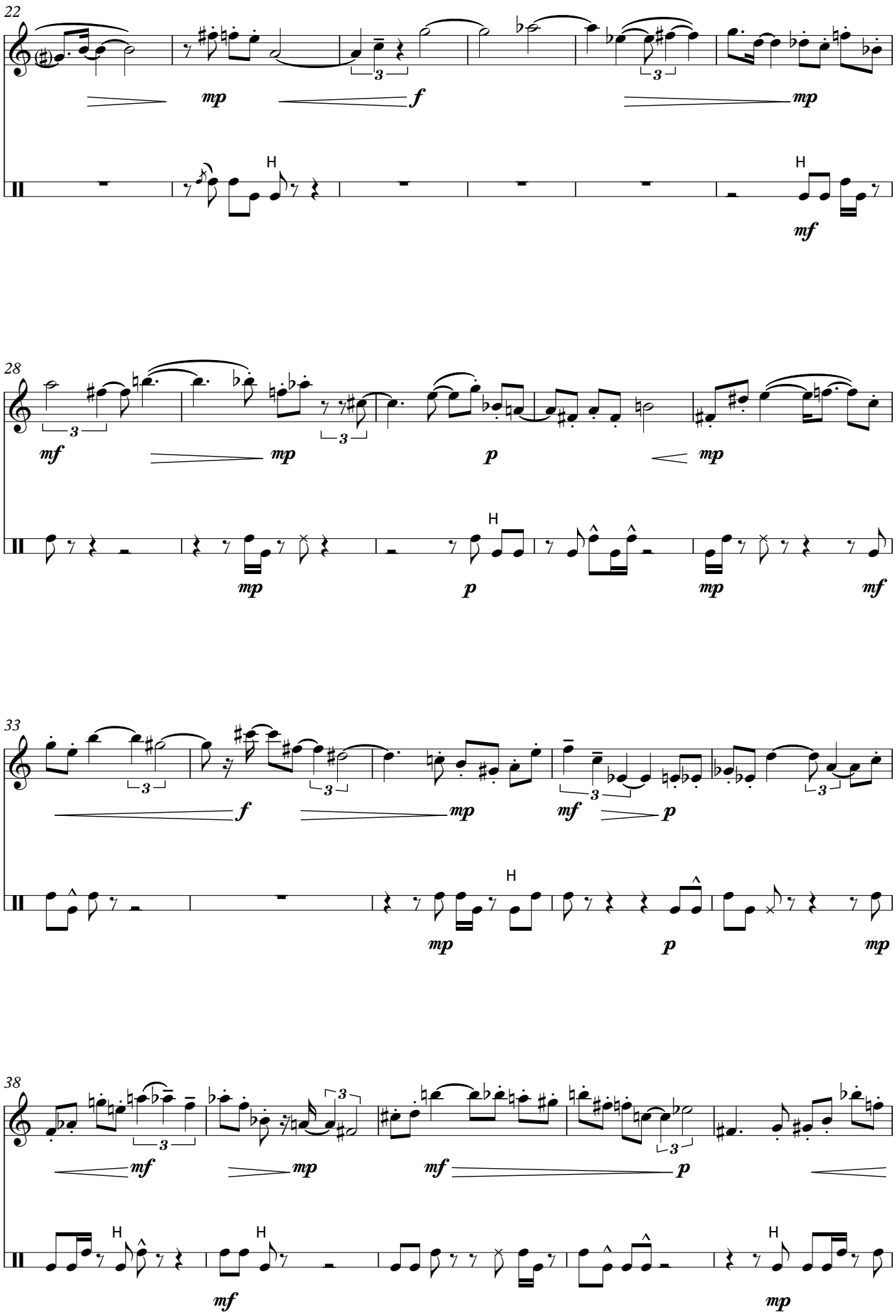
Transposed score

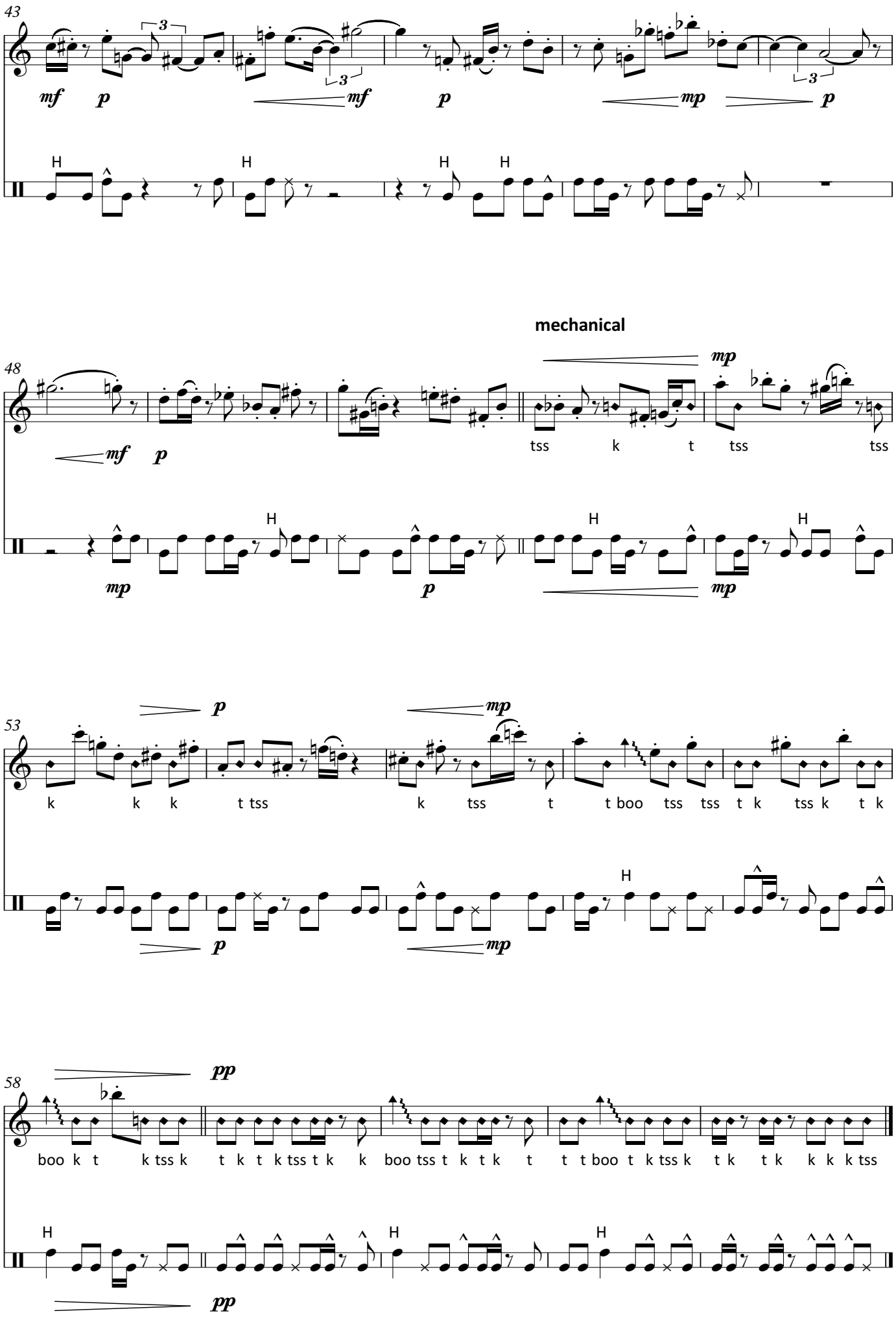
Three Catalysts
I - Constant

Ben Gaunt

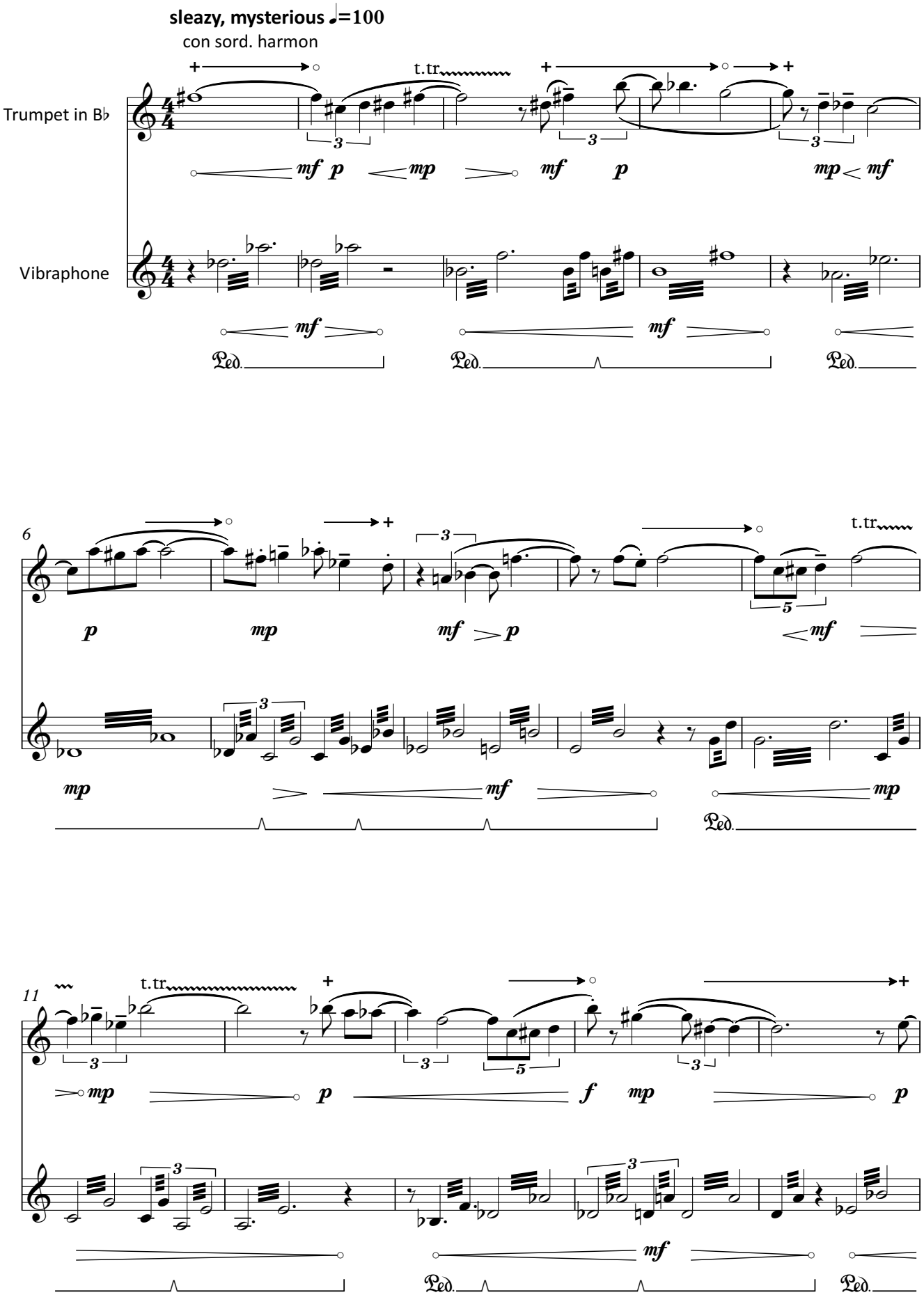
jazzy, brassy ♩=100

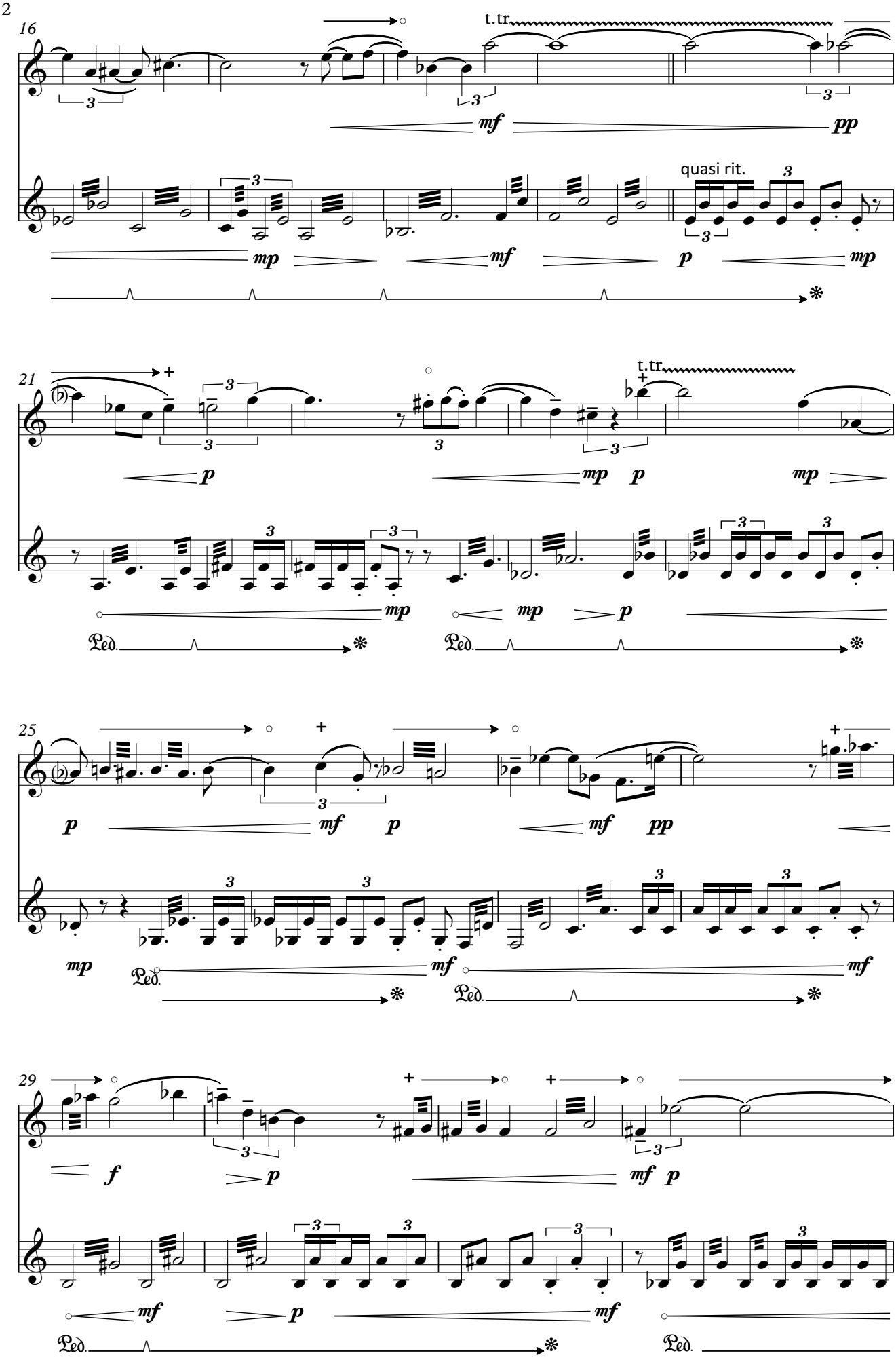


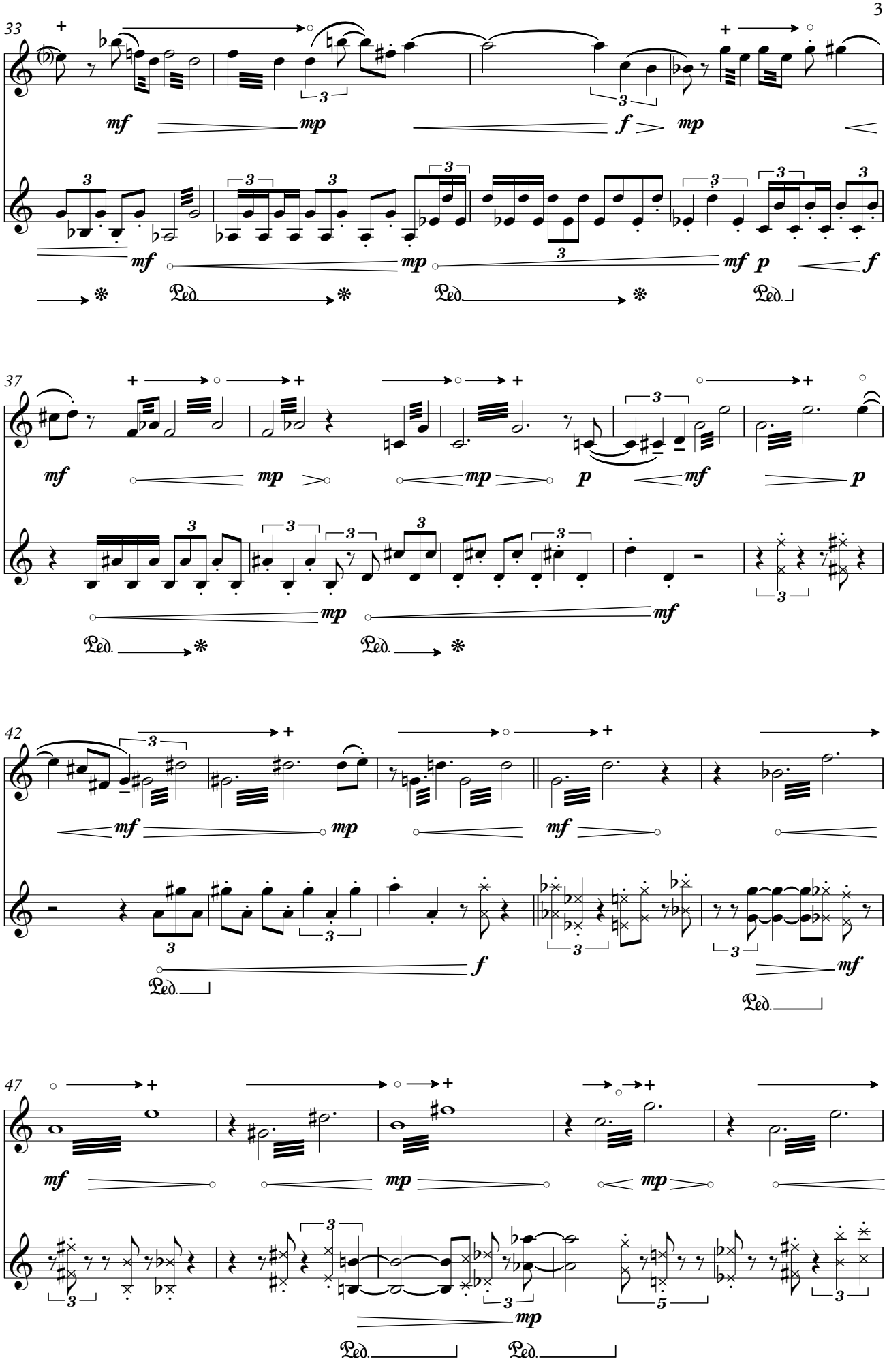

22
mp
f
mp
H
mf
28
mf
mp
p
mp
H
mp
p
mp
mf
33
f
mp
mf
p
H
mp
p
mp
38
mf
mp
mf
p
H
mf
H
mp

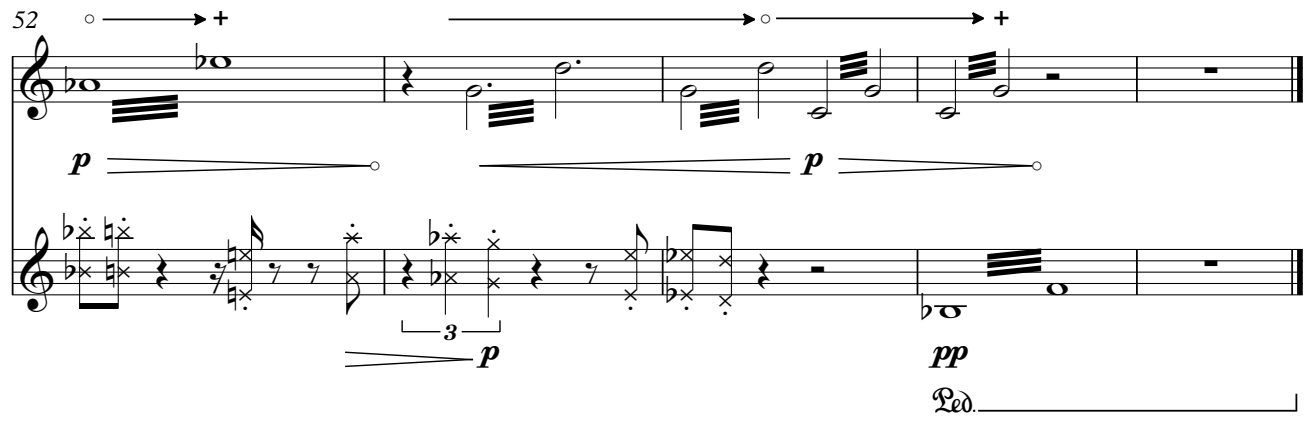

43
mf
p
mf
p
mp
p
H
48
mechanical
mf
p
mp
tss k t tss tss
p
mp
53
p
mp
k k k t tss k tss t t boo tss tss t k tss k t k
p
mp
58
pp
boo k t k tss k t k t k tss t k k boo tss t k t k t t t boo t k tss k t k t k k k k tss
pp

II - Changing

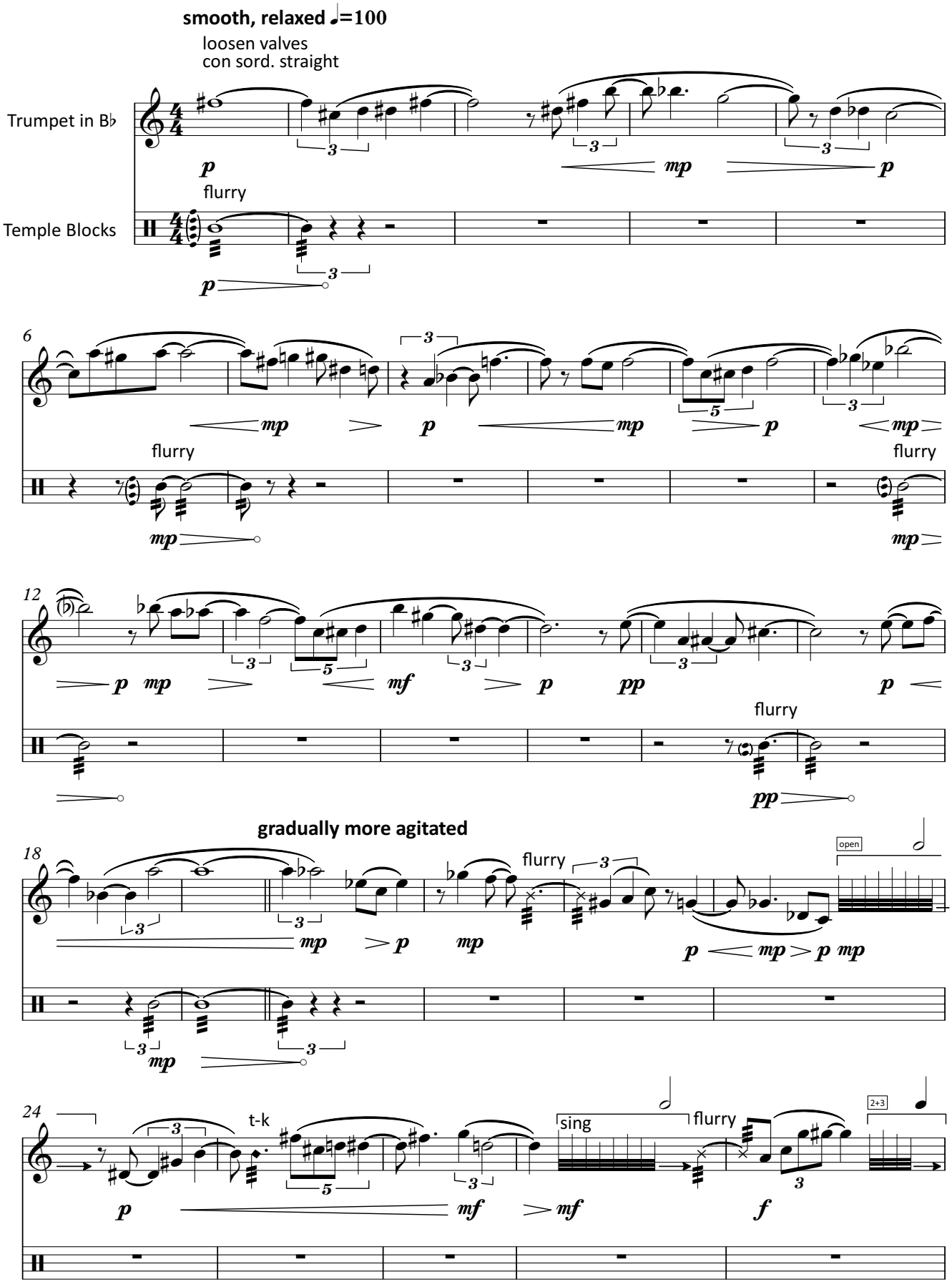

sleazy, mysterious ♩=100
con sord. harmon
Trumpet in B♭
Vibraphone
t.tr
Ped.
6
11

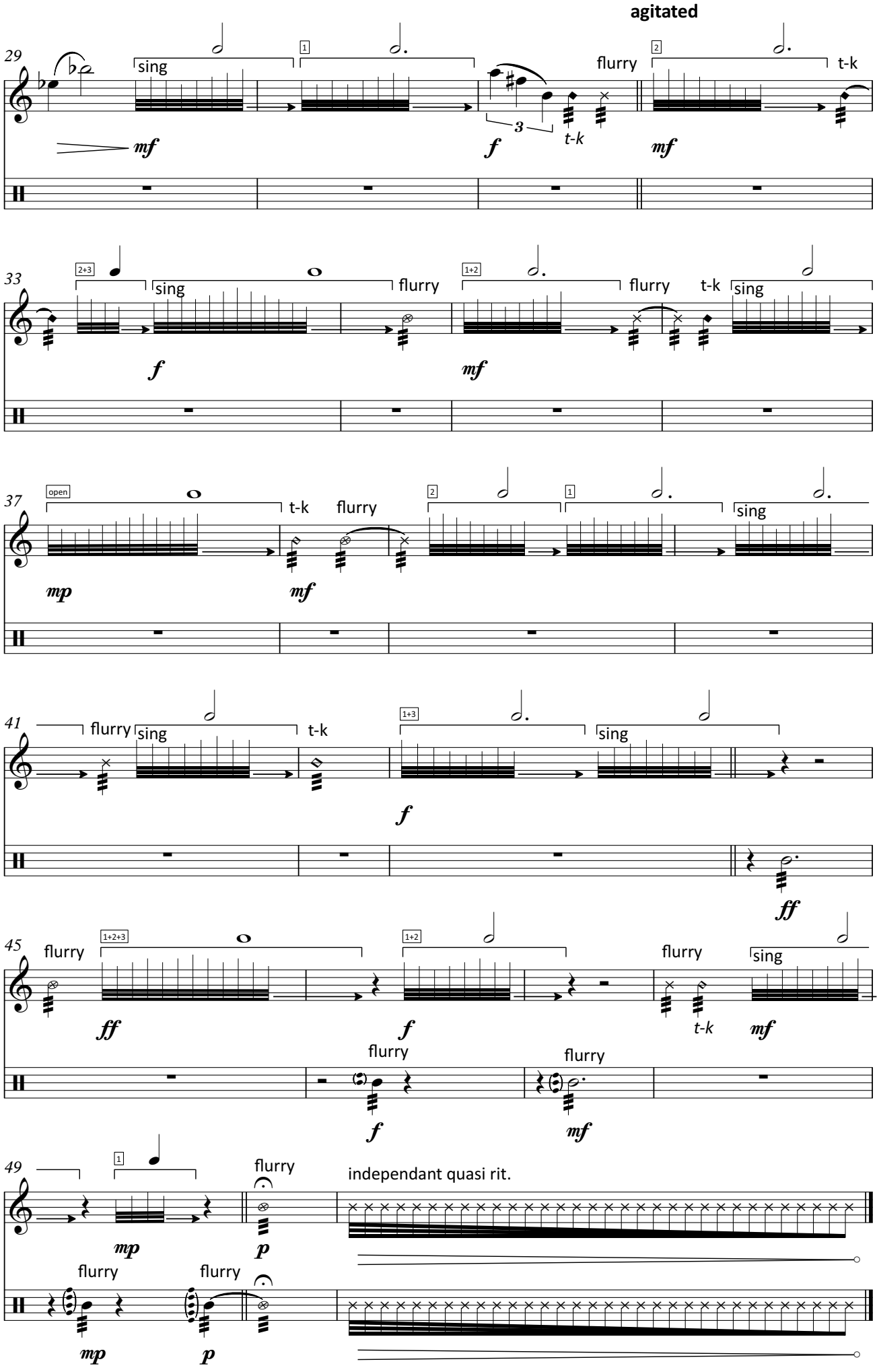

16
t.tr
quasi rit.
21
t.tr
25
29


33
mf
mp
f
mp
mf
mp
mf
p
f
Ped.
37
mf
mp
mp
p
mf
p
mp
mf
Ped.
42
mf
mp
mf
f
mf
Ped.
47
mf
mp
mp
mp
Ped.
Ped.


52
p
p
3
p
pp
Ped.

III - Absent


smooth, relaxed ♩=100
loosen valves
con sord. straight
Trumpet in B♭
Temple Blocks
flurry
gradually more agitated
t-k
sing
open
2+3


agitated
29
sing
flurry
t-k
mf
f
t-k
mf
33
sing
flurry
flurry
t-k
sing
f
mf
37
open
t-k
flurry
sing
mp
mf
41
flurry
sing
t-k
sing
f
ff
45
flurry
flurry
sing
ff
f
t-k
mf
flurry
flurry
f
mf
49
flurry
independant quasi rit.
mp
p
flurry
flurry
mp
p

Ben Gaunt

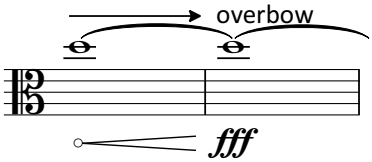
Cataclysm

for orchestra

Transposed Score

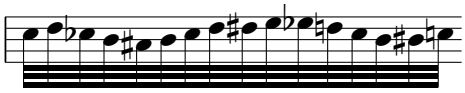
2 Fl.
2 Ob.
1 Cl. in B♭
1 B. Cl. in B♭
2 Bsn.
4 Hn. in F
3 Tpt.in B♭
3 Tbn.
1 Tba.
Percussion 1 - Bass Drum, Vibraphone, 3 Suspended Cymbals
Percussion 2 - Glockenspiel, 2 Timbales
Percussion 3 - 4 Tom Toms, Tam Tam
Cel.
Vln. I
Vln. II
Vla.
Vc.
Dba.

Year of Composition: 2013
Duration: c. 7'



bow with extreme pressure to produce a violent, cracked sound
often the sound produced will be an octave below the written pitch
arrows indicate a smooth transition (from normal pressure to overbow pressure)

play as many notes as possible, around the given pitch
the aim is to create a 'burbling' effect
e.g. the E on the left will be performed as shown on the right:
move up and down as you please, but do not stray too far
from the original note



etc.

Cataclysm

Ben Gaunt

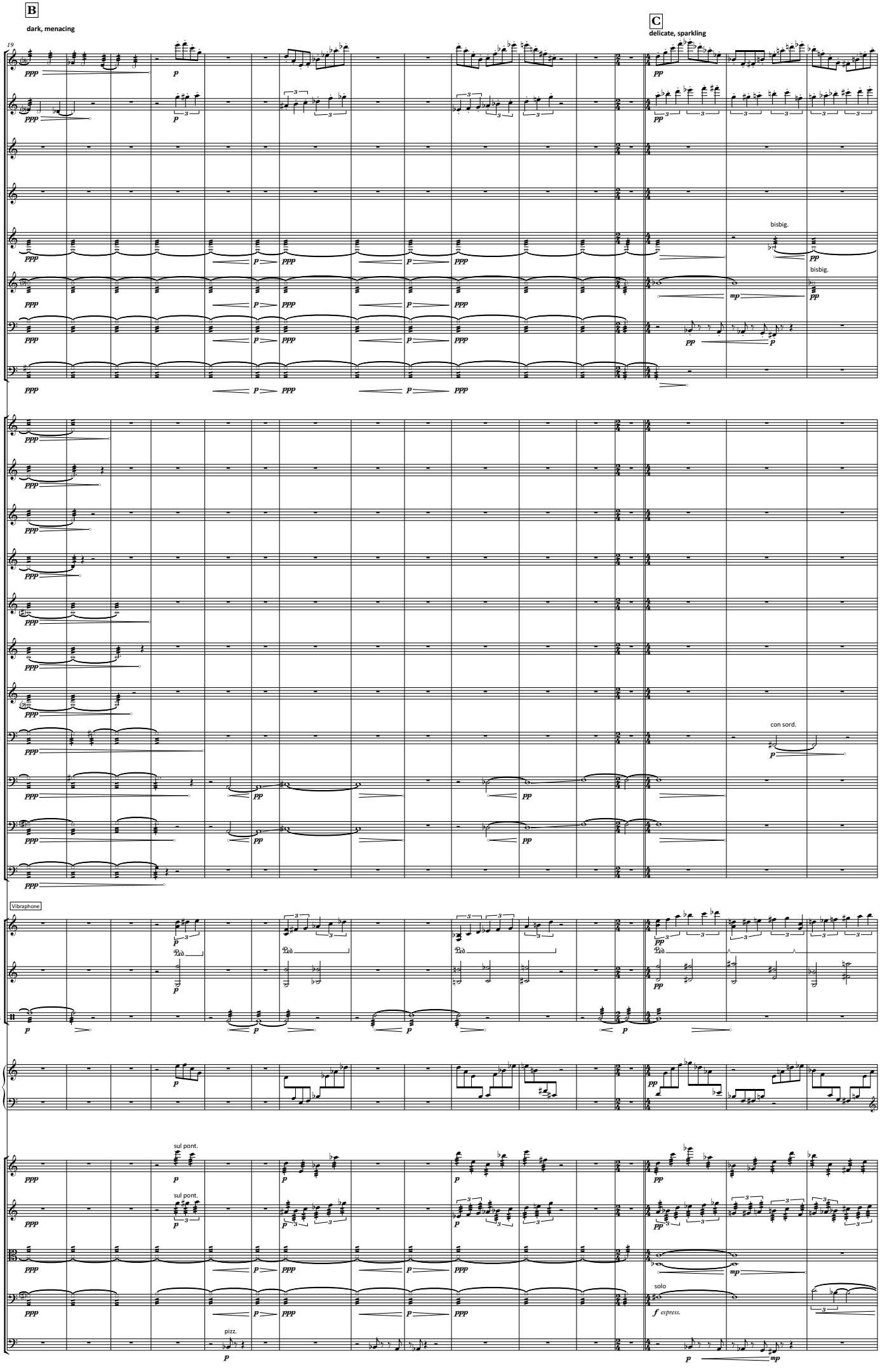
A

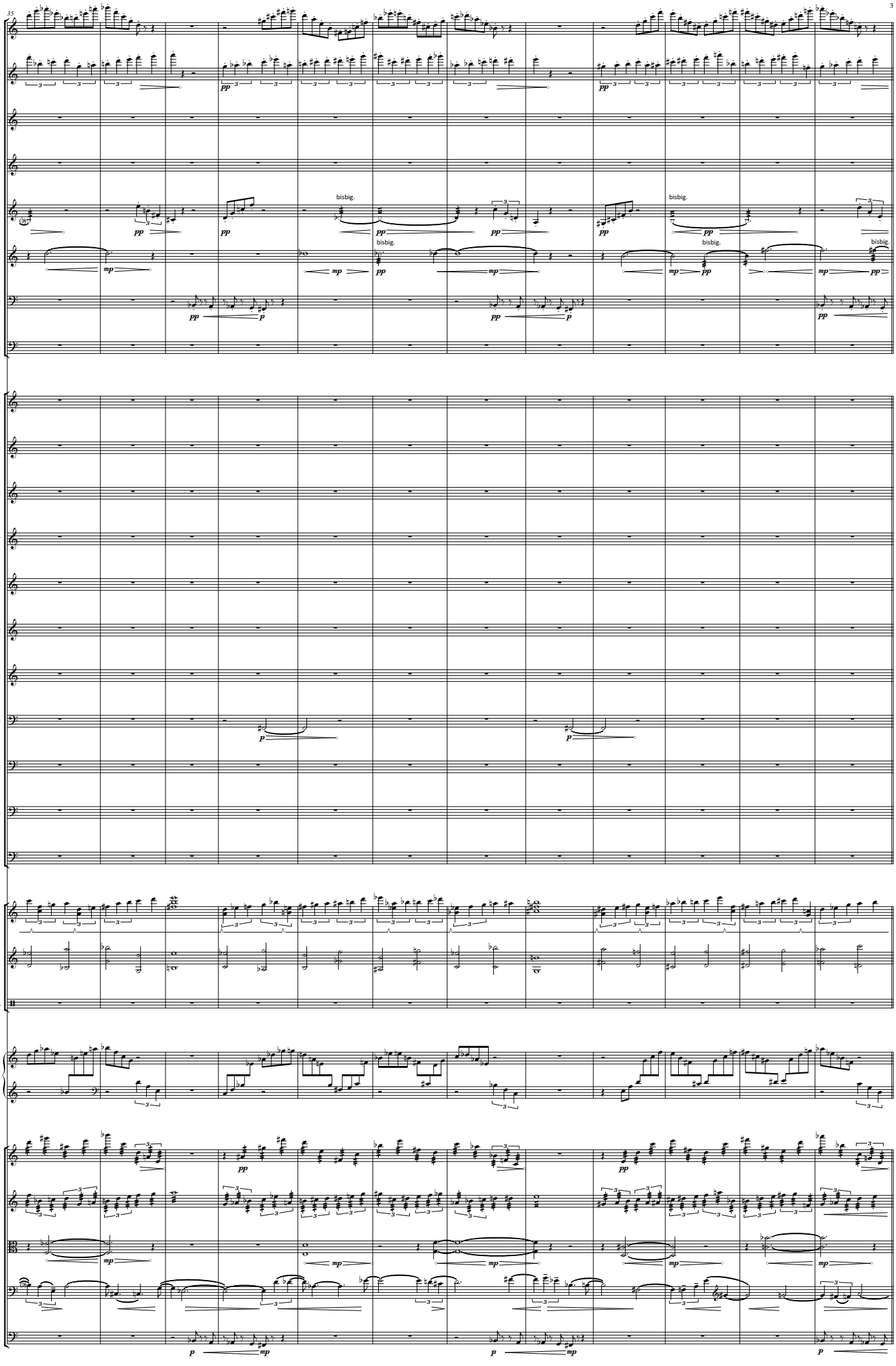
♩=108 bold, agressive

anxious, burbling (l'istesso tempo sempre)

Flute I
Flute II
Oboe I
Oboe II
Clarinet in B♭
Bass Clarinet in B♭
Bassoon I
Bassoon II
Horn in F I
Horn in F II
Horn in F III
Horn in F IV
Trumpet in B♭ I
Trumpet in B♭ II
Trumpet in B♭ III
Trombone I
Trombone II
Trombone III
Tuba
Percussion I (Bass Drum, Vibraphone, 3 Suspended Cymbals)
Percussion II (Glockenspiel, 2 Timbales)
Percussion III (4 Toms, Tam Tam)
Celesta
Violin I
Violin II
Viola
Violoncello
Double Bass

fff
flurry
Bass Drum
Glockenspiel
4 Toms
w/ soft sticks
overbow
ord.
p


B
dark, menacing
C
delicate, sparkling
19
Fl. I
Fl. II
Ob. I
Ob. II
Cl.
B. Cl.
Bsn. I
Bsn. II
bisbig.
bisbig.
Hn. I
Hn. II
Hn. III
Hn. IV
Tpt. I
Tpt. II
Tpt. III
Tbn. I
Tbn. II
Tbn. III
Tba.
con sord.
Vibraphone
Vib.
Glock.
4 Toms
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
sul pont.
sul pont.
pizz.
solo
f espress.


35
Fl. I
Fl. II
Ob. I
Ob. II
Cl.
B. Cl.
Bsn. I
Bsn. II
Hn. I
Hn. II
Hn. III
Hn. IV
Tpt. I
Tpt. II
Tpt. III
Tbn. I
Tbn. II
Tbn. III
Tba.
Vib.
Glock.
4 Toms
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
bisbig.

D

tense, malevolent

47

Fl. I

Fl. II

Ob. I

Ob. II

Cl.

B. Cl.

Bsn. I

Bsn. II

Hn. I

Hn. II

Hn. III

Hn. IV

Tpt. I

Tpt. II

Tpt. III

Tbn. I

Tbn. II

Tbn. III

Tba.

Vib.

Glock.

4 Toms

Timbales

rim

w/ hard sticks

Cel.

Vln. I

ord.

Vln. II

ord.

pizz.

Vla.

Vc.

tutti

Db.

arco

E

powerful, expansive

61

Fl. I

Fl. II

Ob. I

Ob. II

Cl.

B. Cl.

Bsn. I

Bsn. II

Hn. I

Hn. II

Hn. III

Hn. IV

Tpt. I

Tpt. II

Tpt. III

Tbn. I

senza sord.

Tbn. II

Tbn. III

Tba.

Vib.

3 Suspended Cymbals

sempre l.v.

Timb.

rim

4 Toms

rim

Cel.

Vln. I

Vln. II

arco

Vla.

Vc.

Db.

pizz.

77

F

brutal, broad

Fl. I

Fl. II

Ob. I — molto vib.

Ob. II — molto vib.

Cl.

B. Cl.

Bsn. I

Bsn. II

Hn. I

Hn. II

Hn. III

Hn. IV

Tpt. I — 1/2 v. slides

Tpt. II — con sord.

Tpt. III — con sord.

Tbn. I

Tbn. II

Tbn. III

Tba.

3 Susp. Cym.

Timb.

4 Toms

Cel.

Vln. I

Vln. II

Vla.

Vc.

Db. — arco

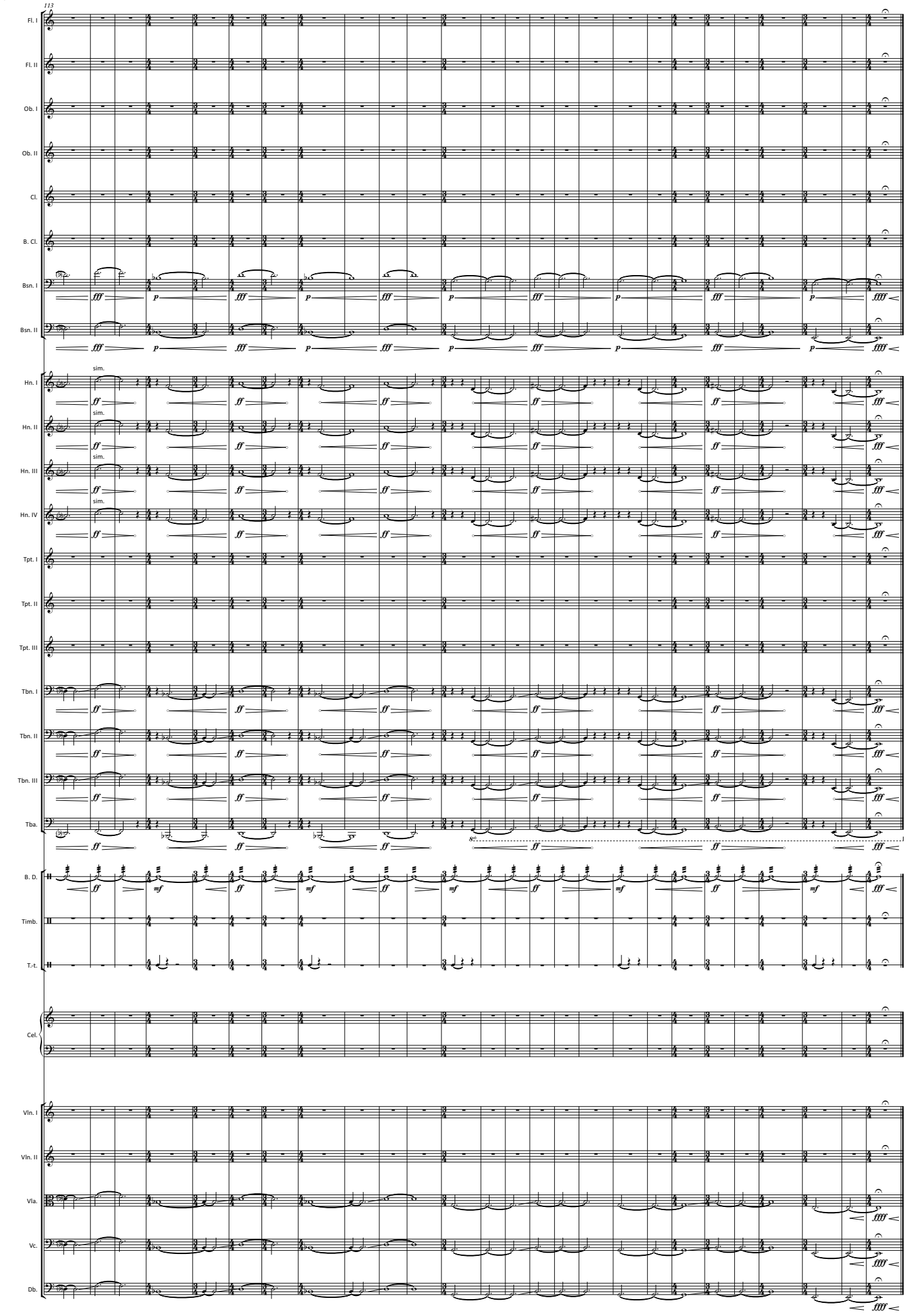
G
bold, agressive

Fl. I
Fl. II
Ob. I
Ob. II
Cl.
B. Cl.
Bsn. I
Bsn. II
Hn. I
Hn. II
Hn. III
Hn. IV
Tpt. I
Tpt. II
Tpt. III
Tbn. I
Tbn. II
Tbn. III
Tba.
3 Susp. Cym.
Timb.
4 Toms
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.

cuivré

Bass Drum

Tam-tam


113
Fl. I
Fl. II
Ob. I
Ob. II
Cl.
B. Cl.
Bsn. I
Bsn. II
Hn. I
Hn. II
Hn. III
Hn. IV
Tpt. I
Tpt. II
Tpt. III
Tbn. I
Tbn. II
Tbn. III
Tba.
B. D.
Timb.
T.-t.
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
sim.
fff
ff
mf
p
ffff
8va

Ben Gaunt

The Old Cataclysm Blues

for ensemble

The Old Cataclysm Blues

The Old Cataclysm Blues was commissioned by Ensemble 10/10 as part of the Sound and Music Portfolio programme. It received two performances in October 2013, the second of which was part of the New Music North West festival.

I've been haunted for a long time by Metropolis – not the Fritz Lang masterpiece, but an anime film that contains a particularly memorable scene: a huge explosion occurs, accompanied by Ray Charles' wonderful rendition of 'I Can't Stop Loving You' – a moment so bizarre, moving, and dramatic, I doubt I'll ever forget it. *The Old Cataclysm Blues* is inspired by that scene.

Year of Composition: 2013
Duration: c. 7'

Techniques

key click + air (unpitched) [bassoon] remove the reed and make a 'sh' air sound down the crook, whilst clicking keys as quickly as possible

valve click [trumpet] press and release valve keys as quickly as possible

tap body [double bass] tap the body of the instrument with fingers as quickly as possible

half pressure buzz [double bass] pluck the open string as normal, but press on the string with small amount of pressure, which should result in a buzzing sound as the string vibrates against the fingerboard

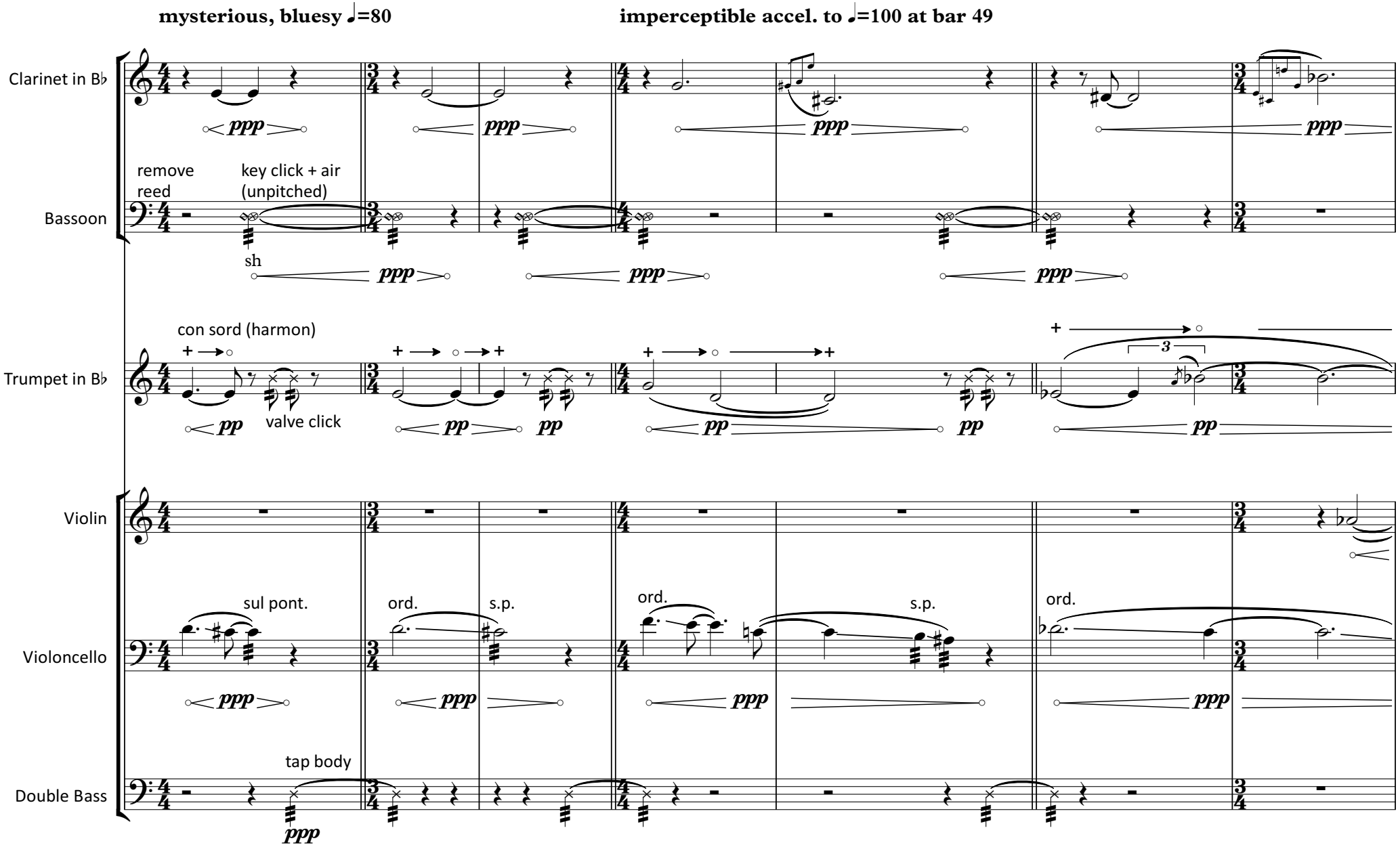
slap [double bass] slap all four strings with hand

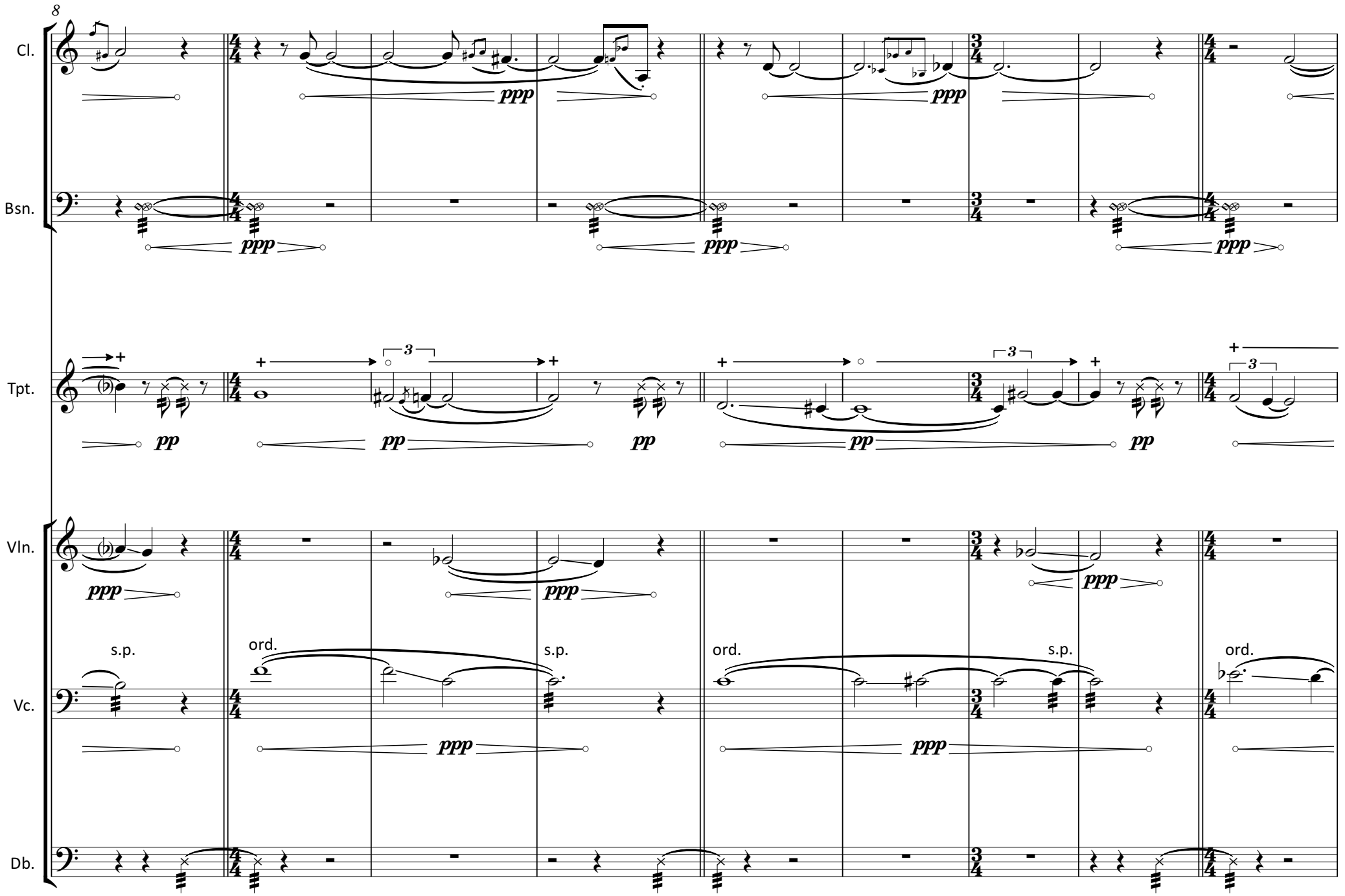
air (unpitched) [trumpet] make a *tssss* air sound

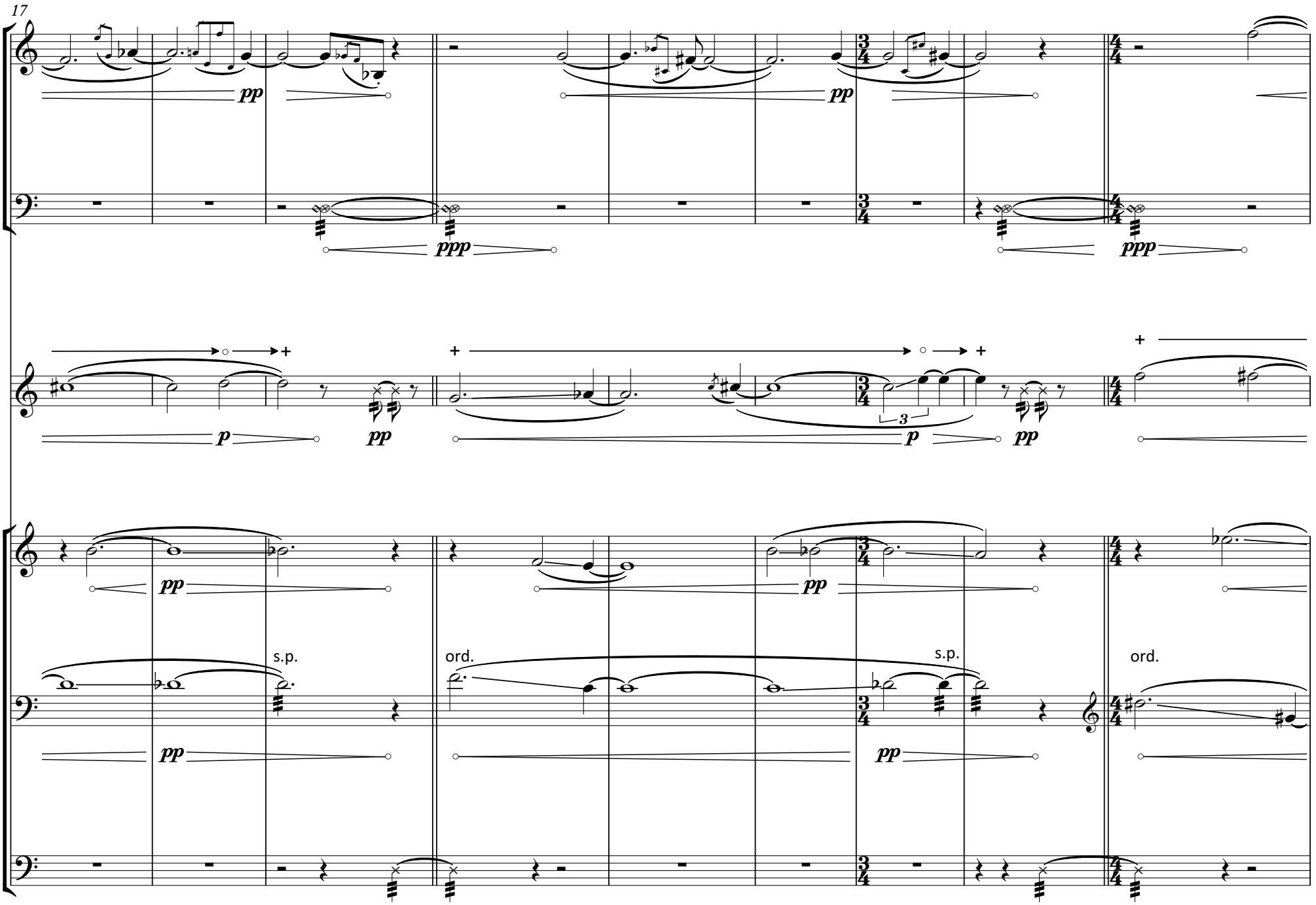
Transposed score

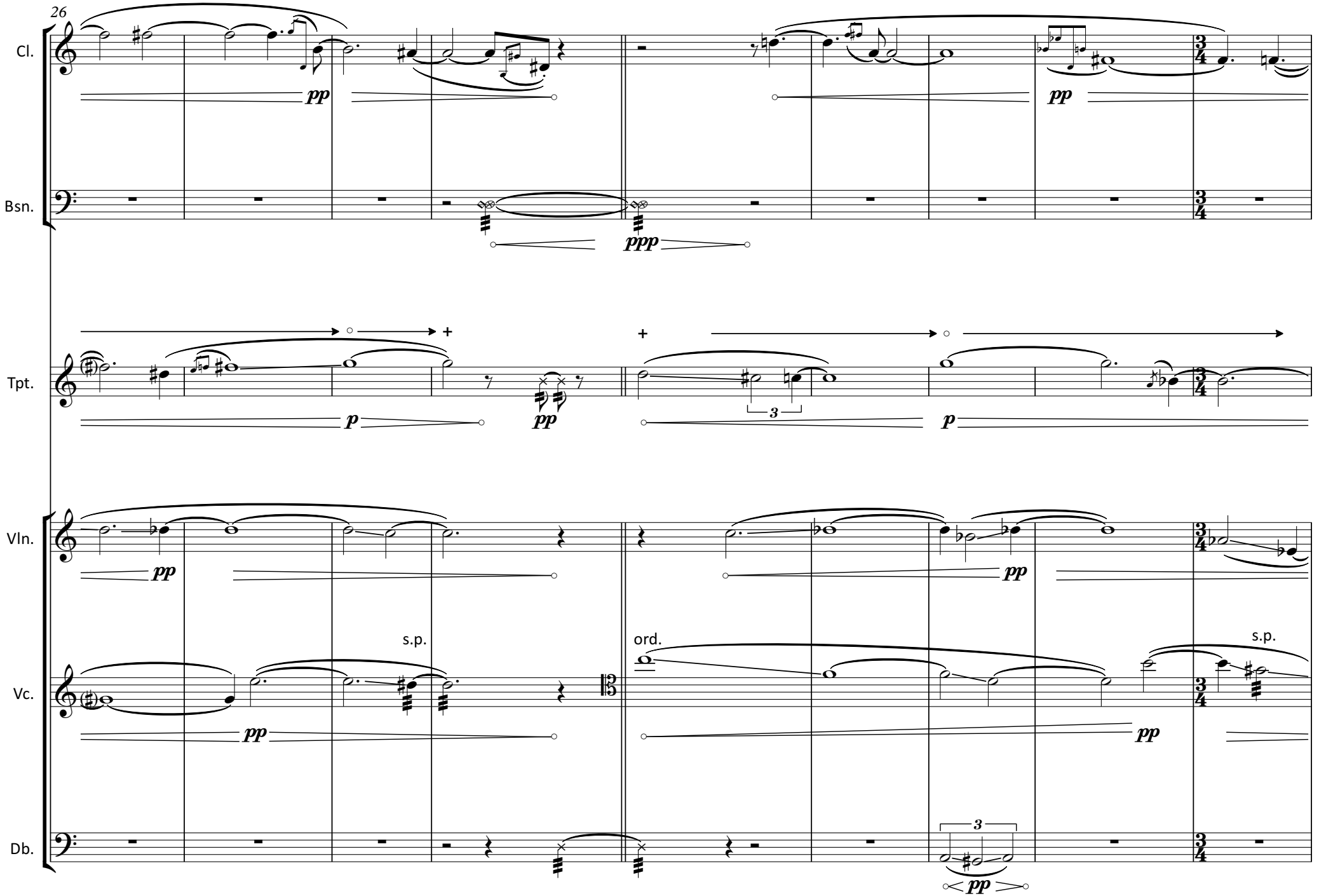
The Old Cataclysm Blues

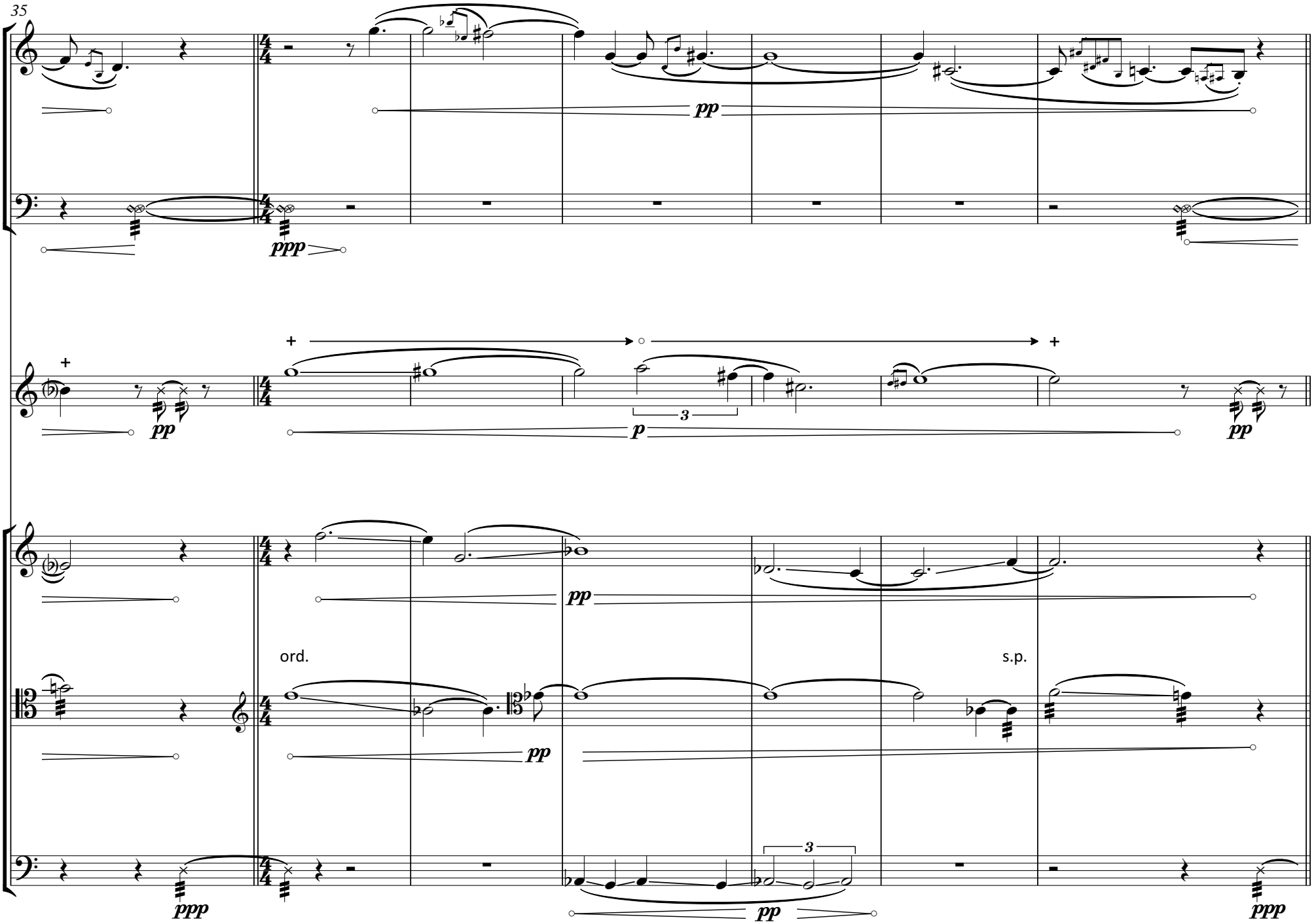
Ben Gaunt

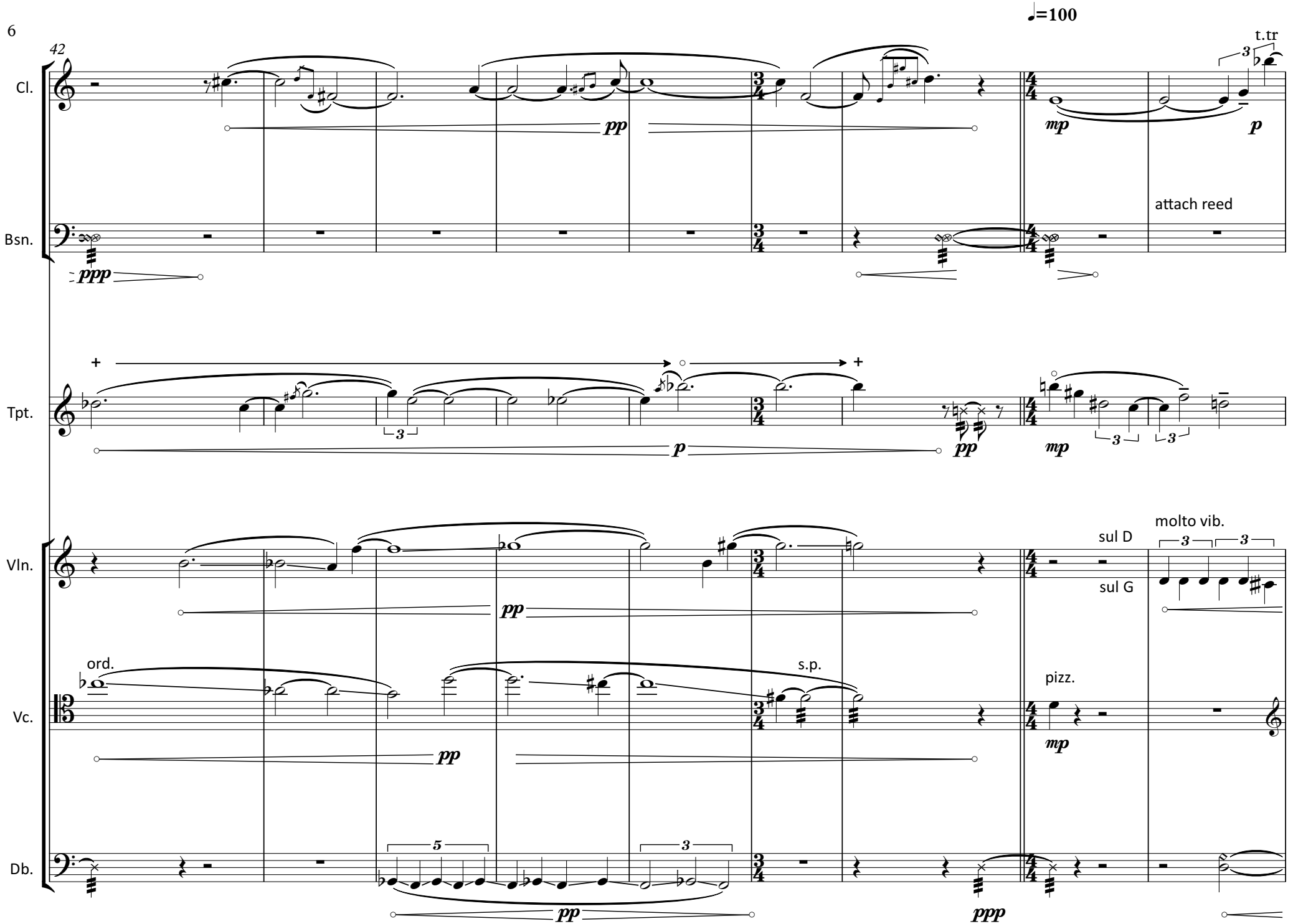


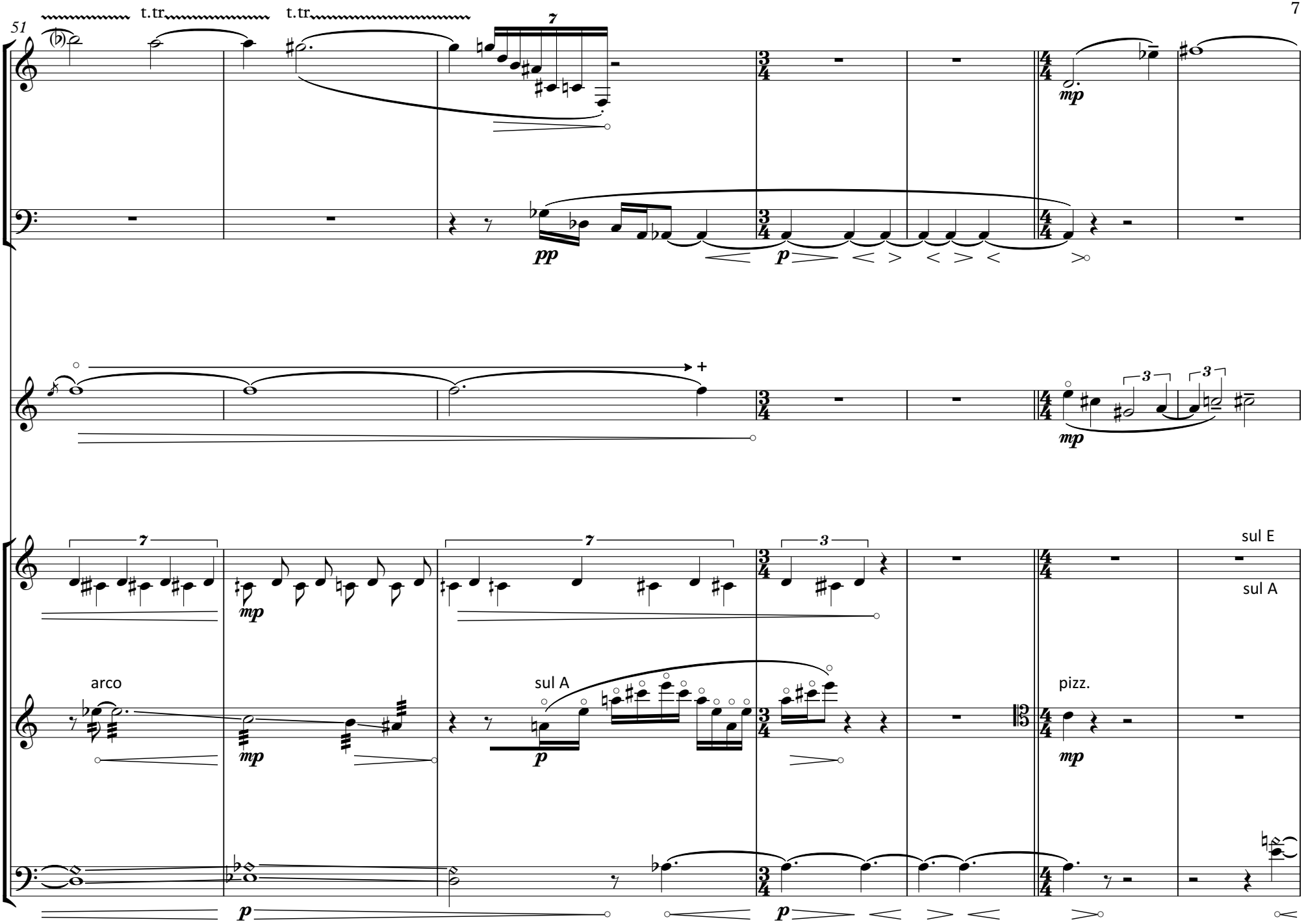

8
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
ppp
pp
s.p.
ord.
3

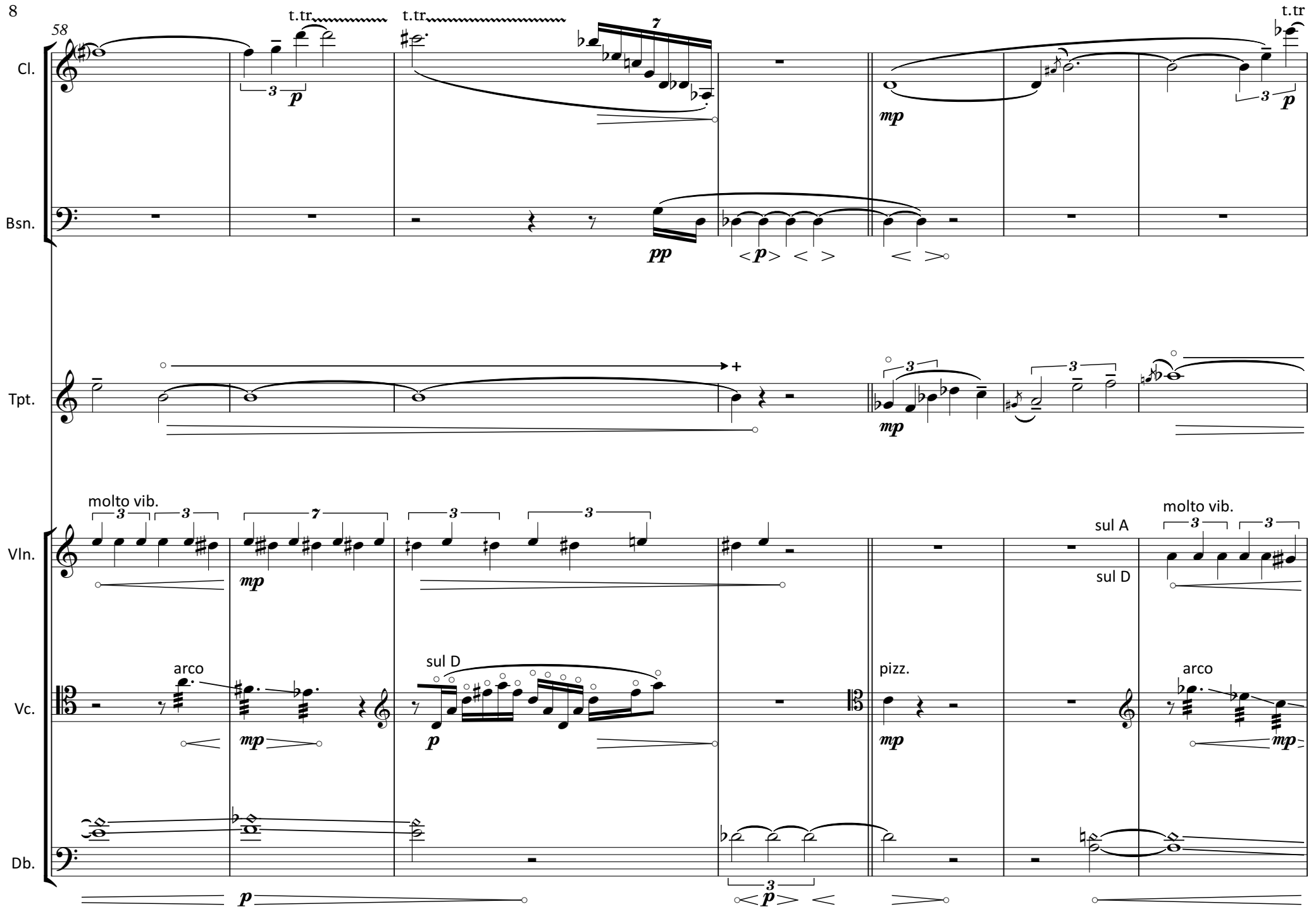

17
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
pp
ppp
p
s.p.
ord.
3

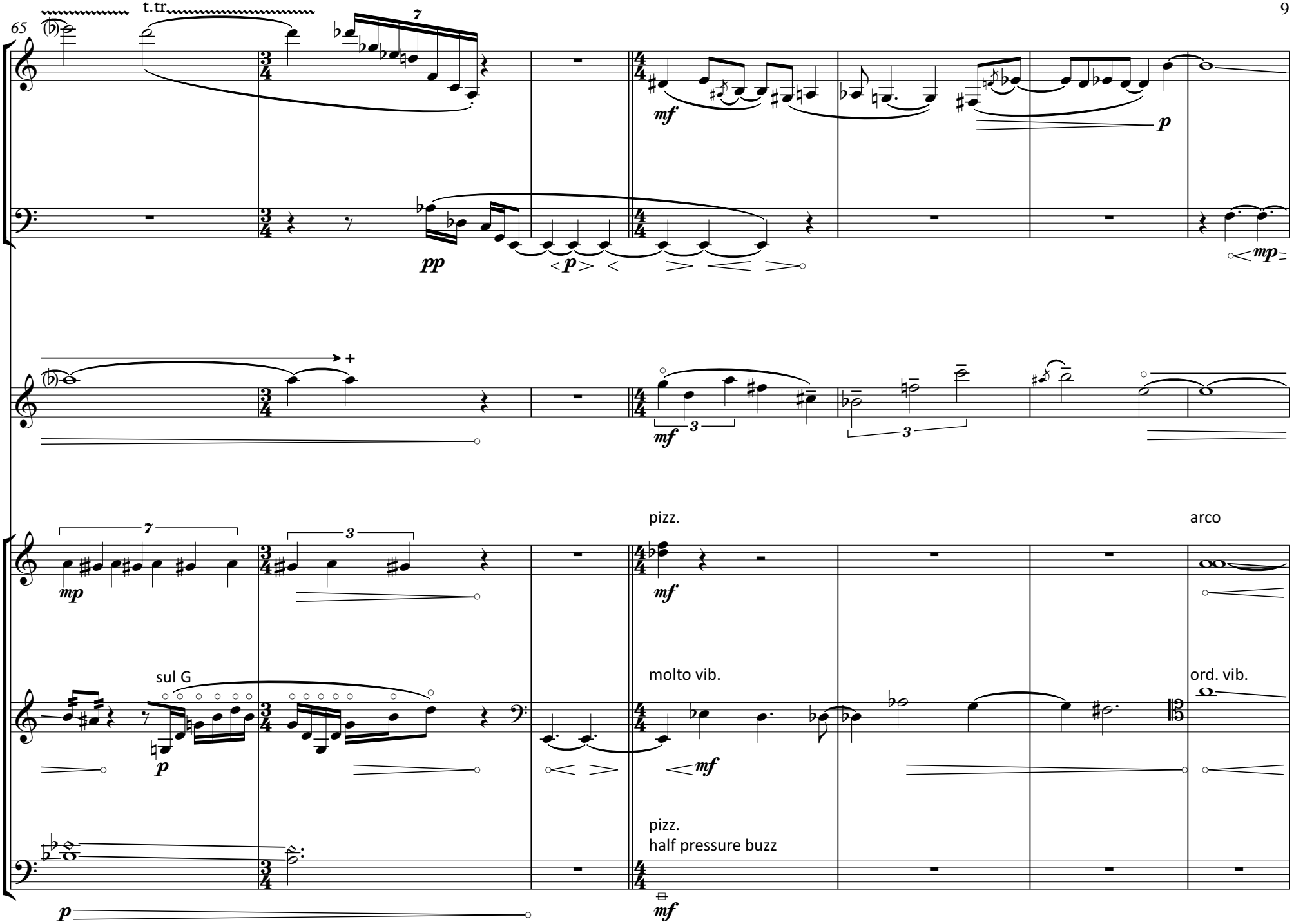

26
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
pp
ppp
p
3
s.p.
ord.
s.p.
3/4

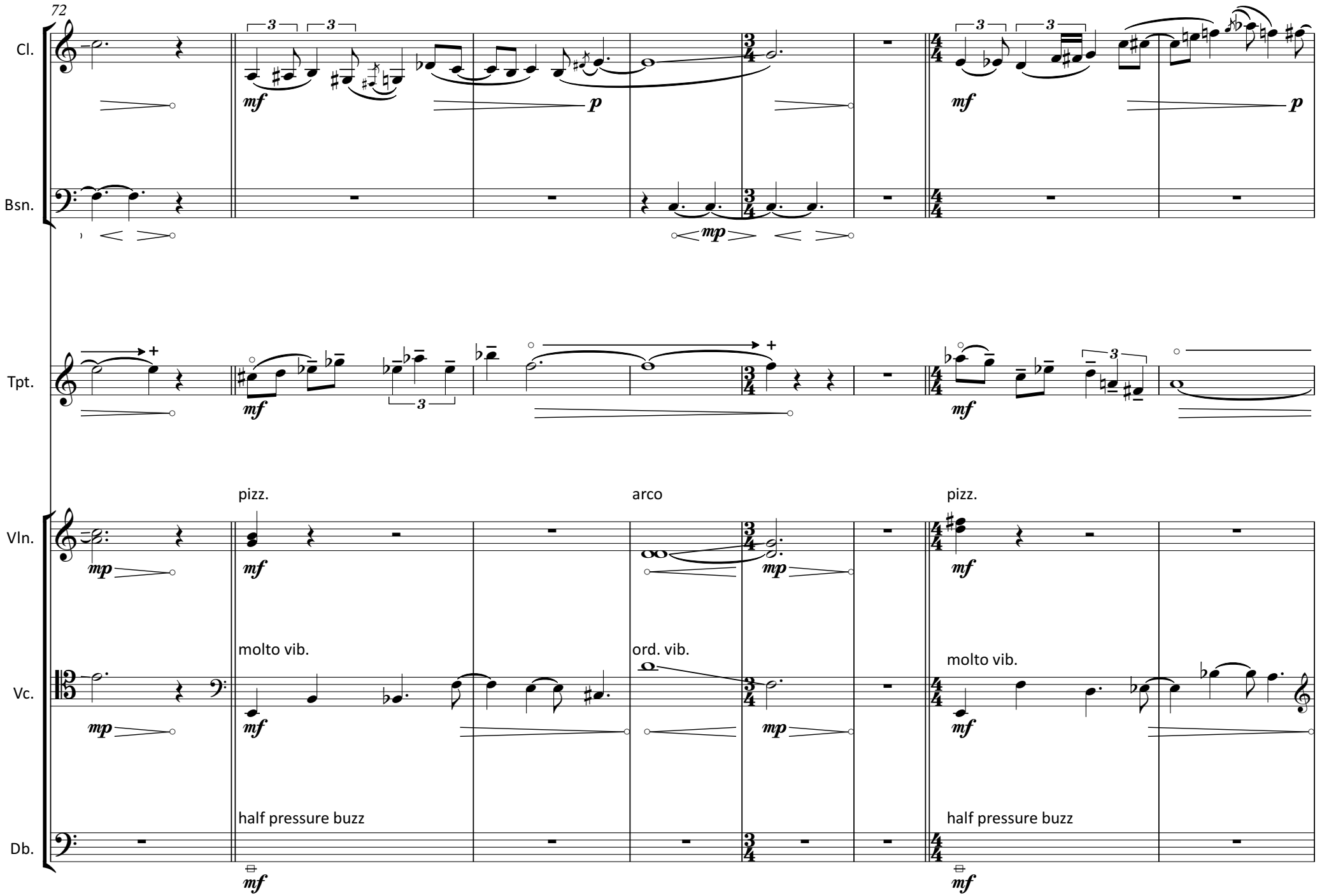

35
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
ord.
s.p.
pp
ppp
p
3

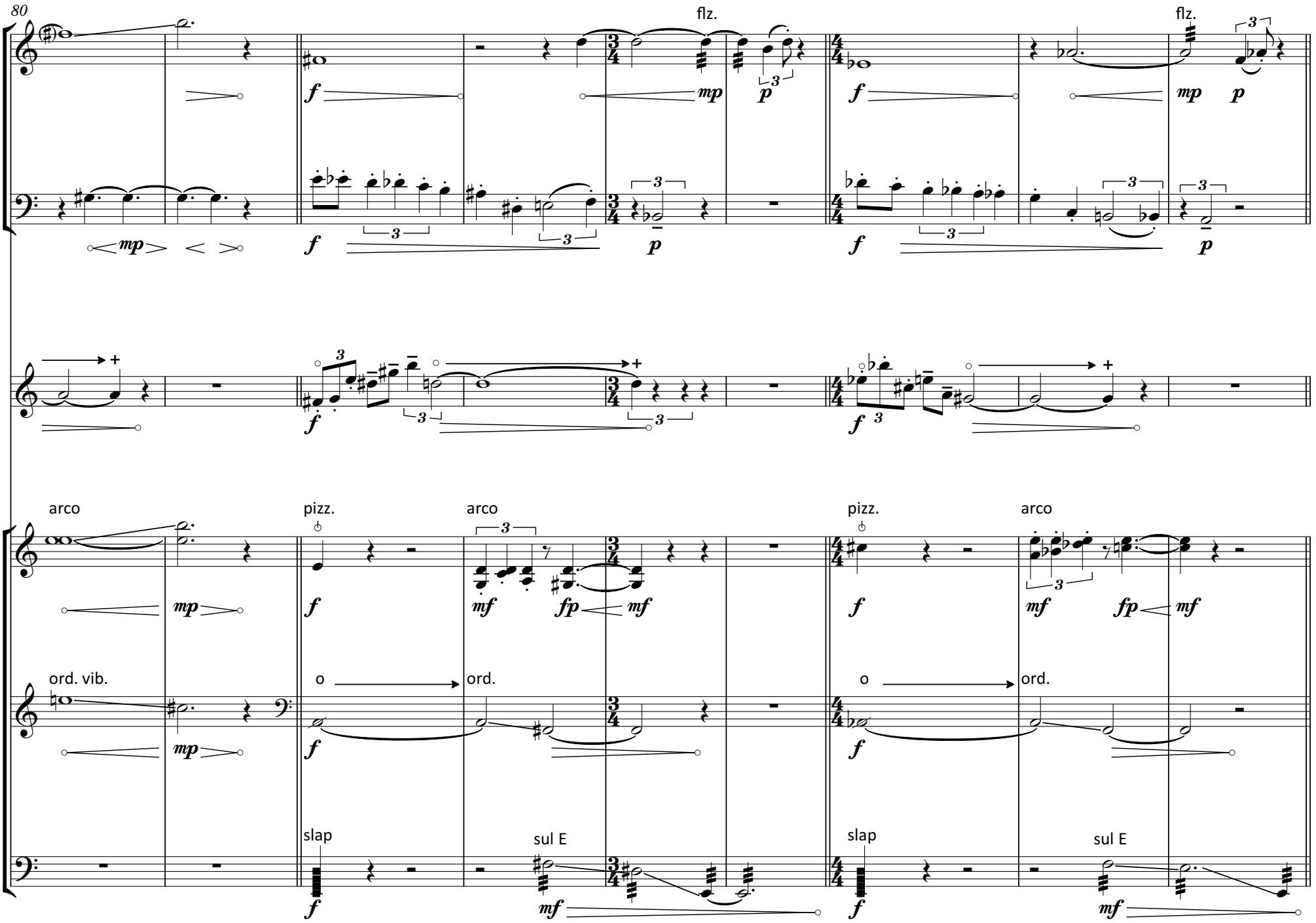

♩=100
42
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
t.tr
attach reed
molto vib.
sul D
sul G
ord.
s.p.
pizz.
ppp
pp
p
mp

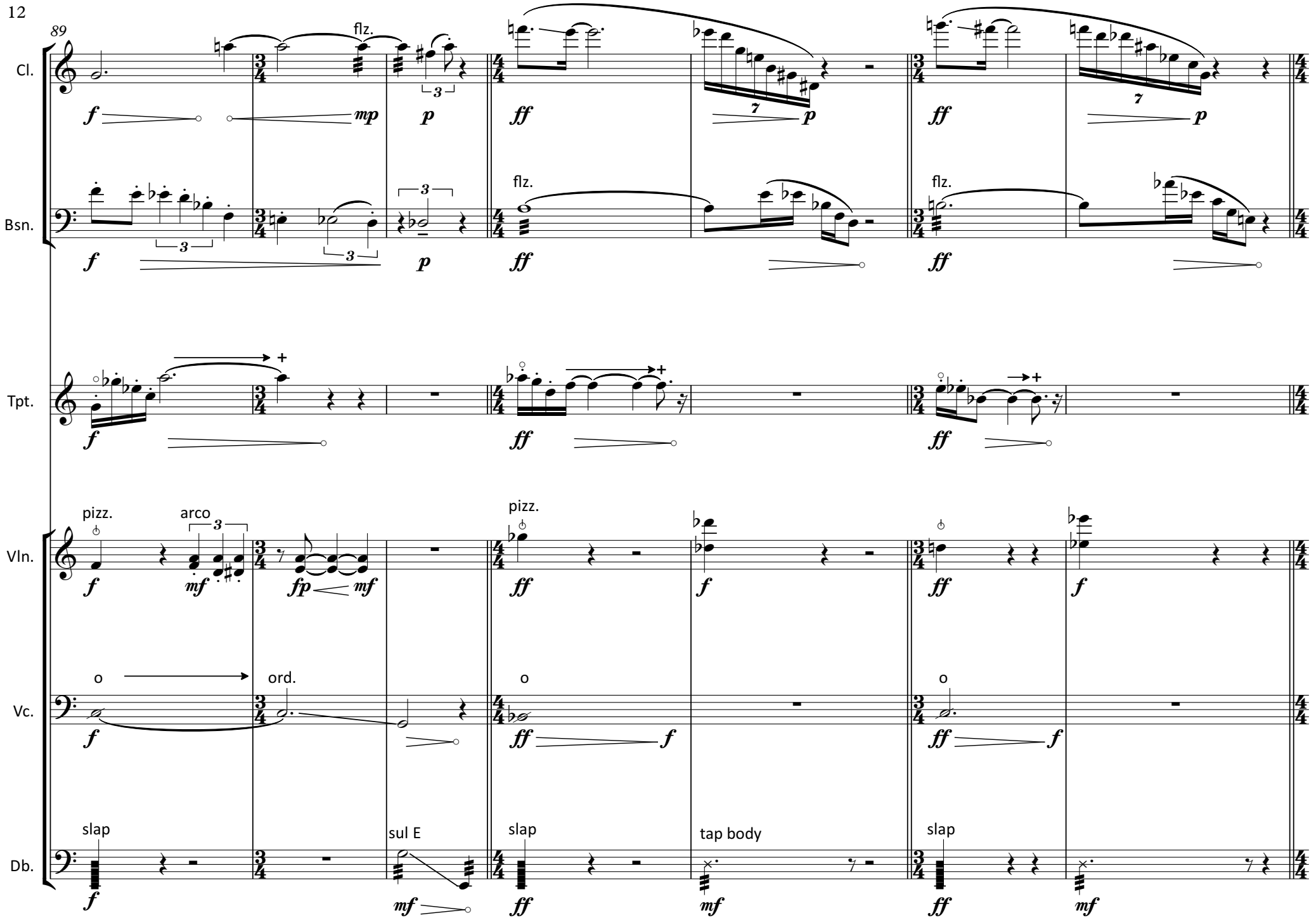

51
t.tr
t.tr
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
arco
sul A
sul E
sul A
pizz.
pp
p
mp
mp
p
p
mp
mp

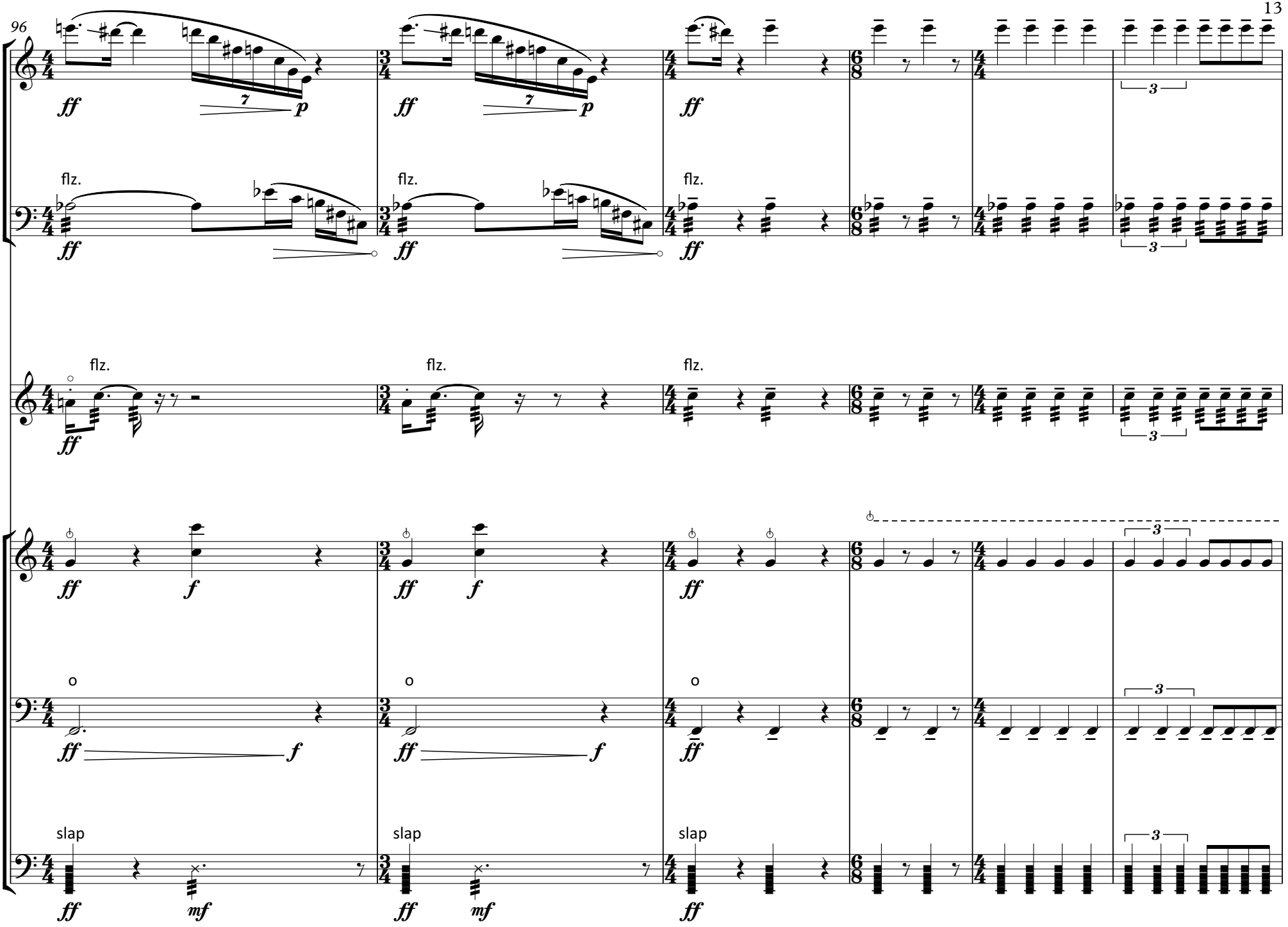

58
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
t.tr
t.tr
t.tr
molto vib.
molto vib.
sul A
sul D
arco
sul D
pizz.
arco

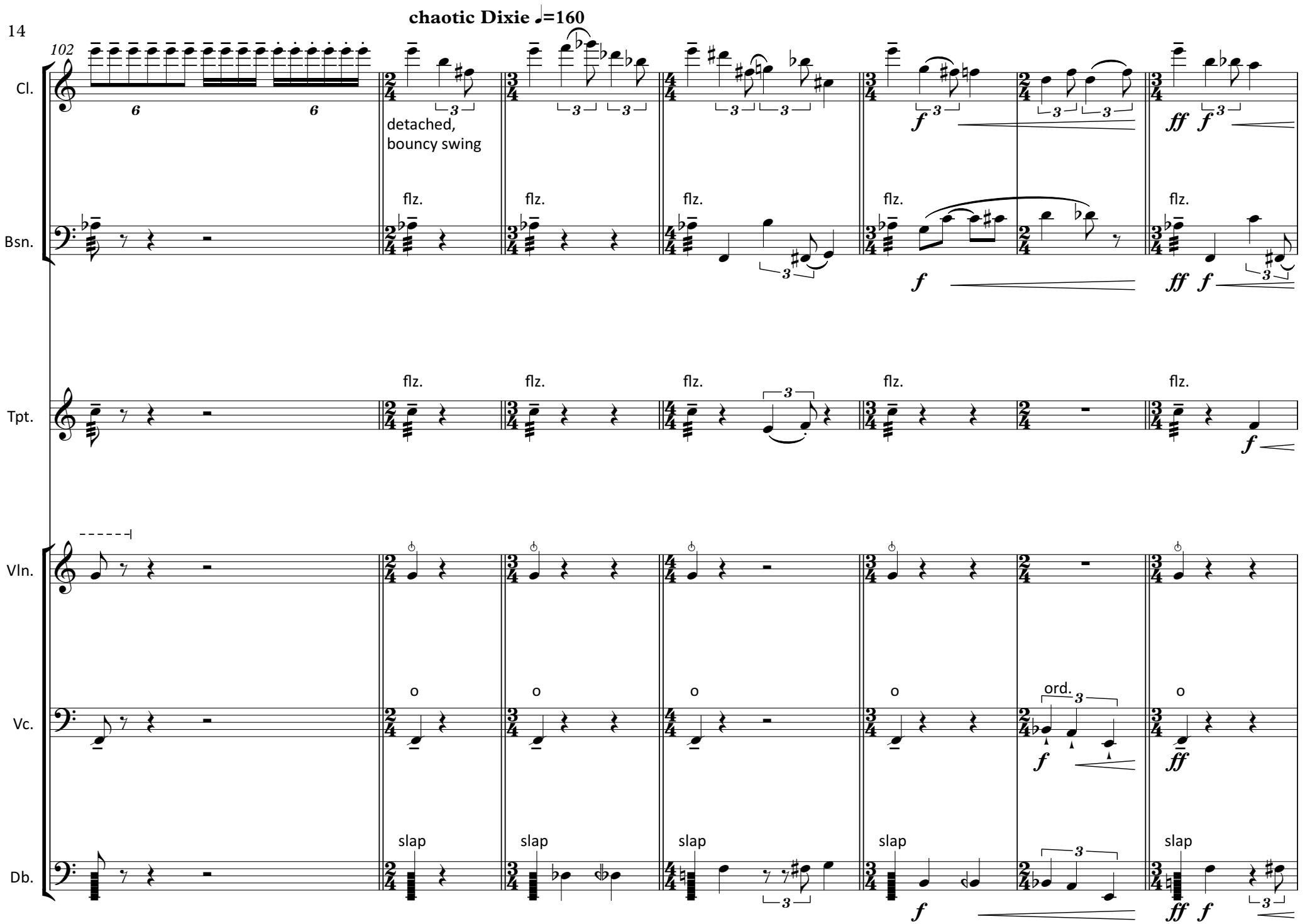

65
t.tr
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
pizz.
arco
sul G
molto vib.
ord. vib.
pizz.
half pressure buzz

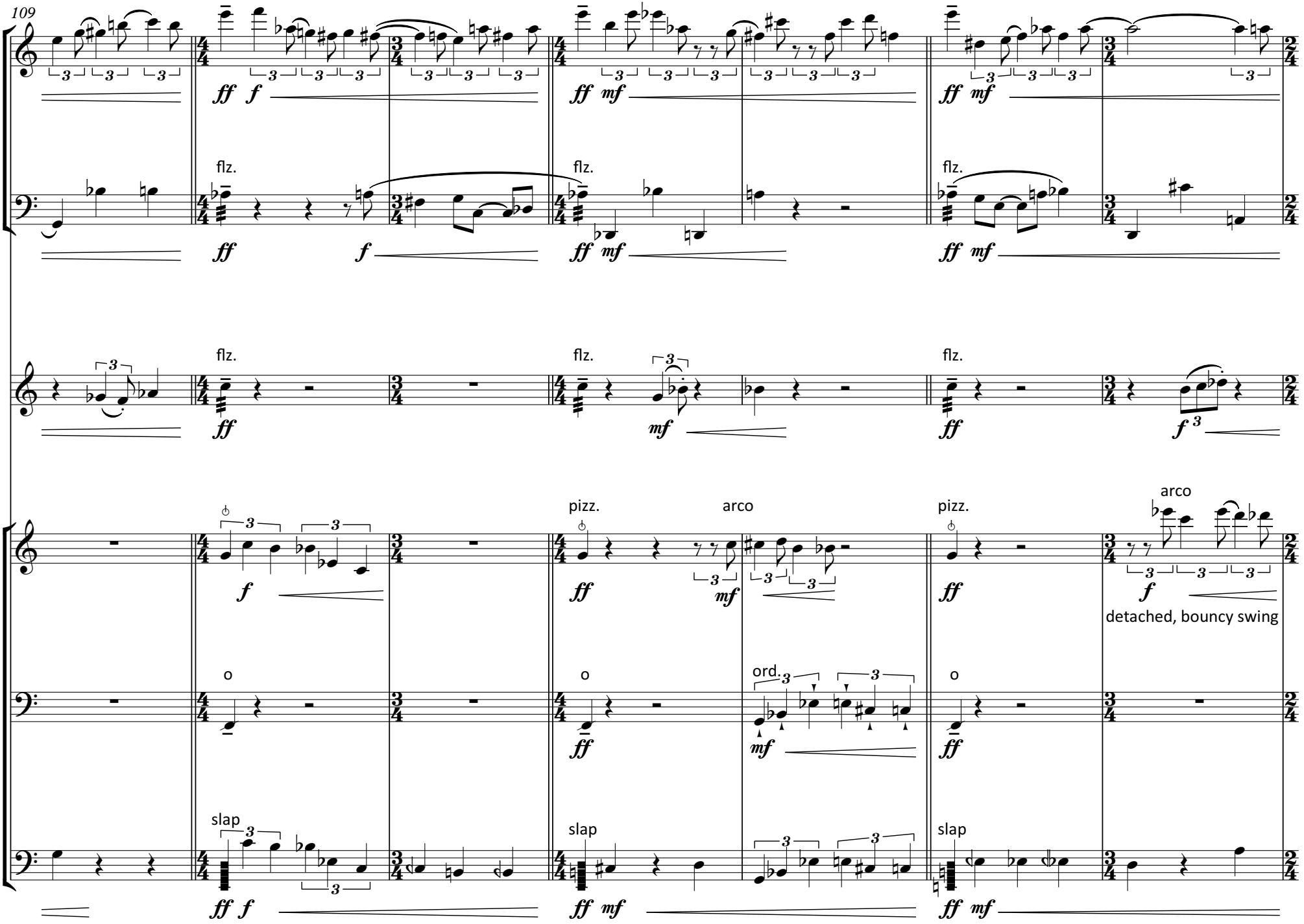

72
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
pizz.
arco
pizz.
molto vib.
ord. vib.
molto vib.
half pressure buzz
half pressure buzz

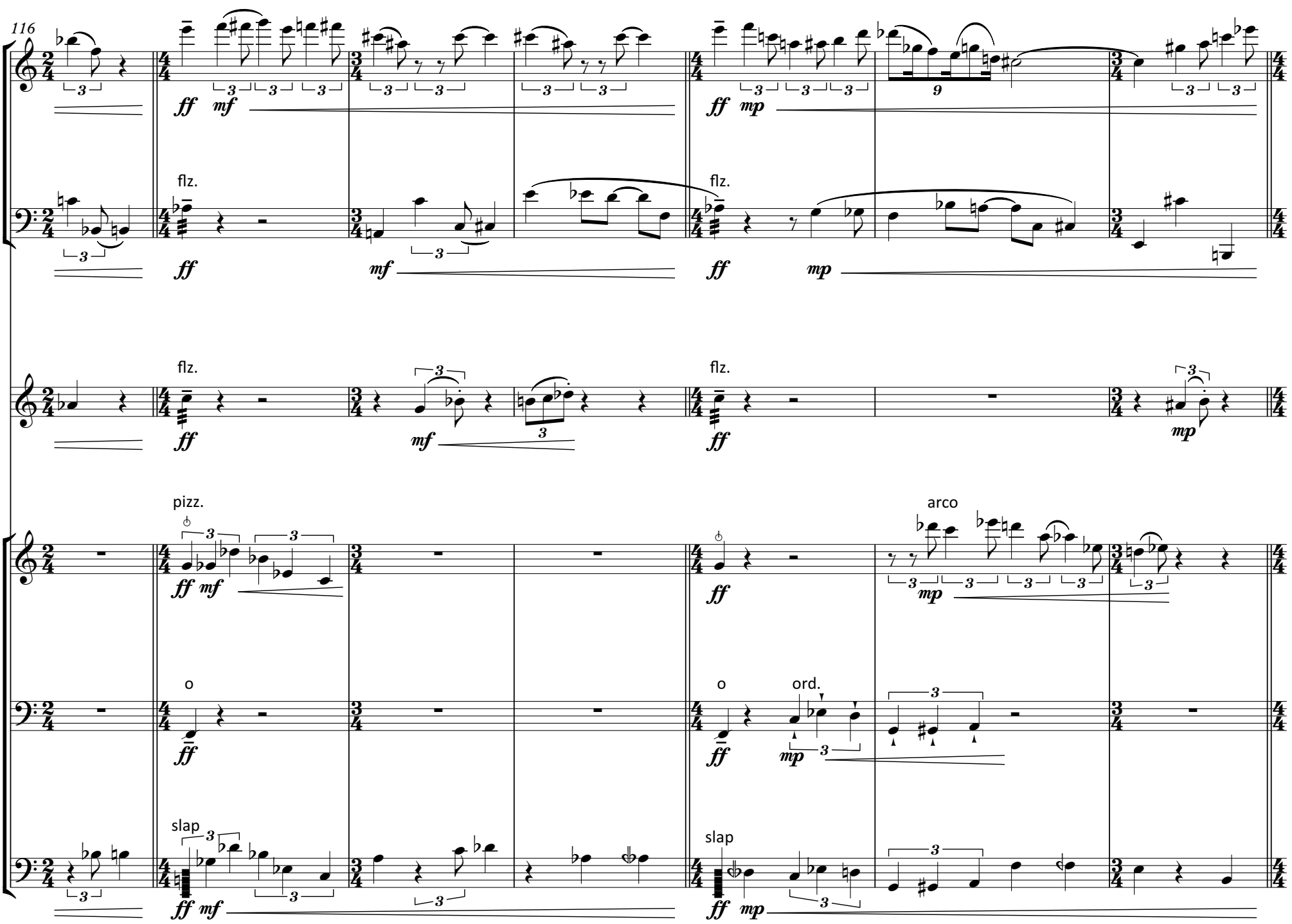

80
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
flz.
arco
pizz.
arco
pizz.
arco
ord. vib.
o
ord.
o
ord.
slap
sul E
slap
sul E

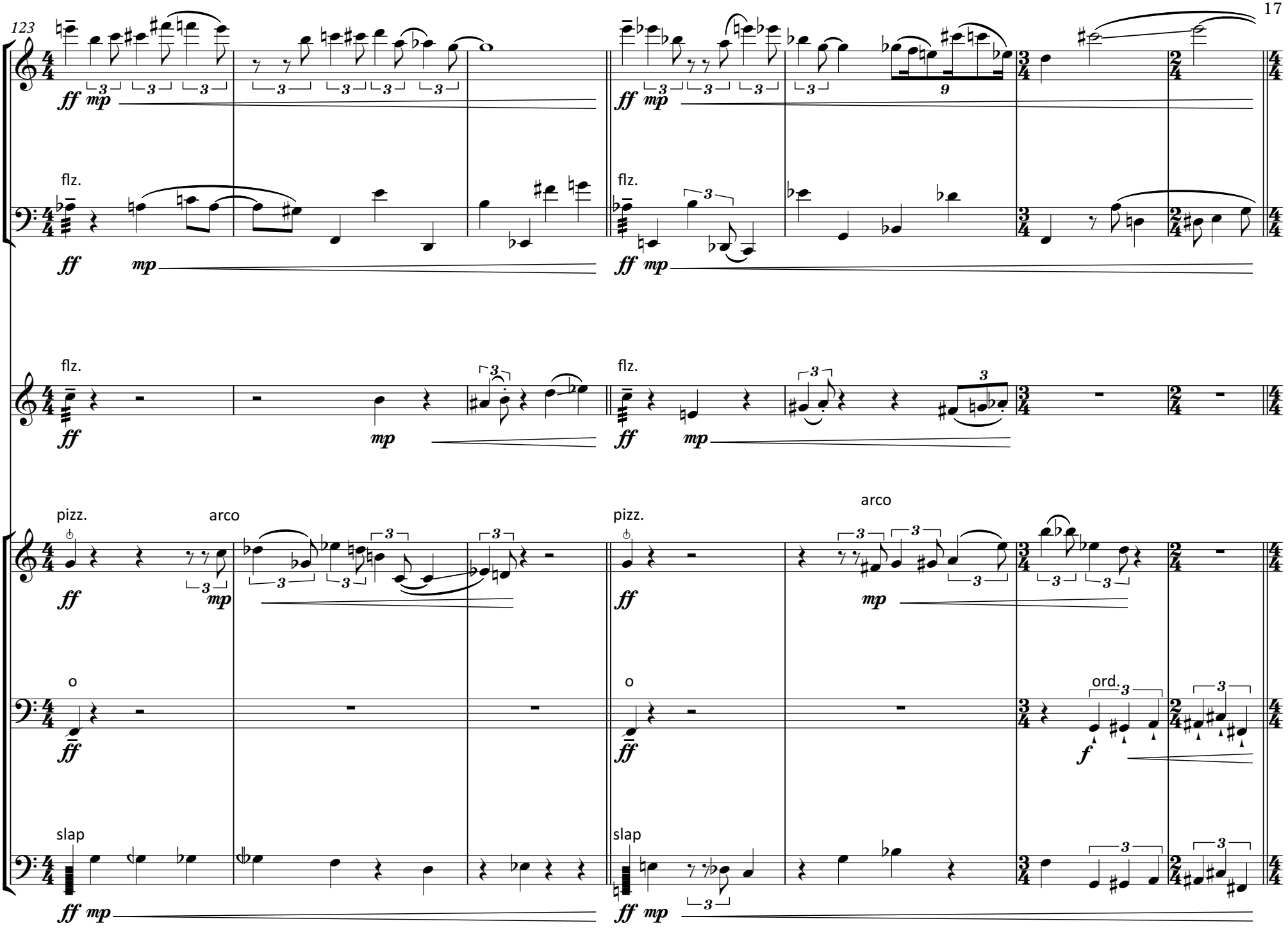

89
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
ord.
sul E
slap
tap body

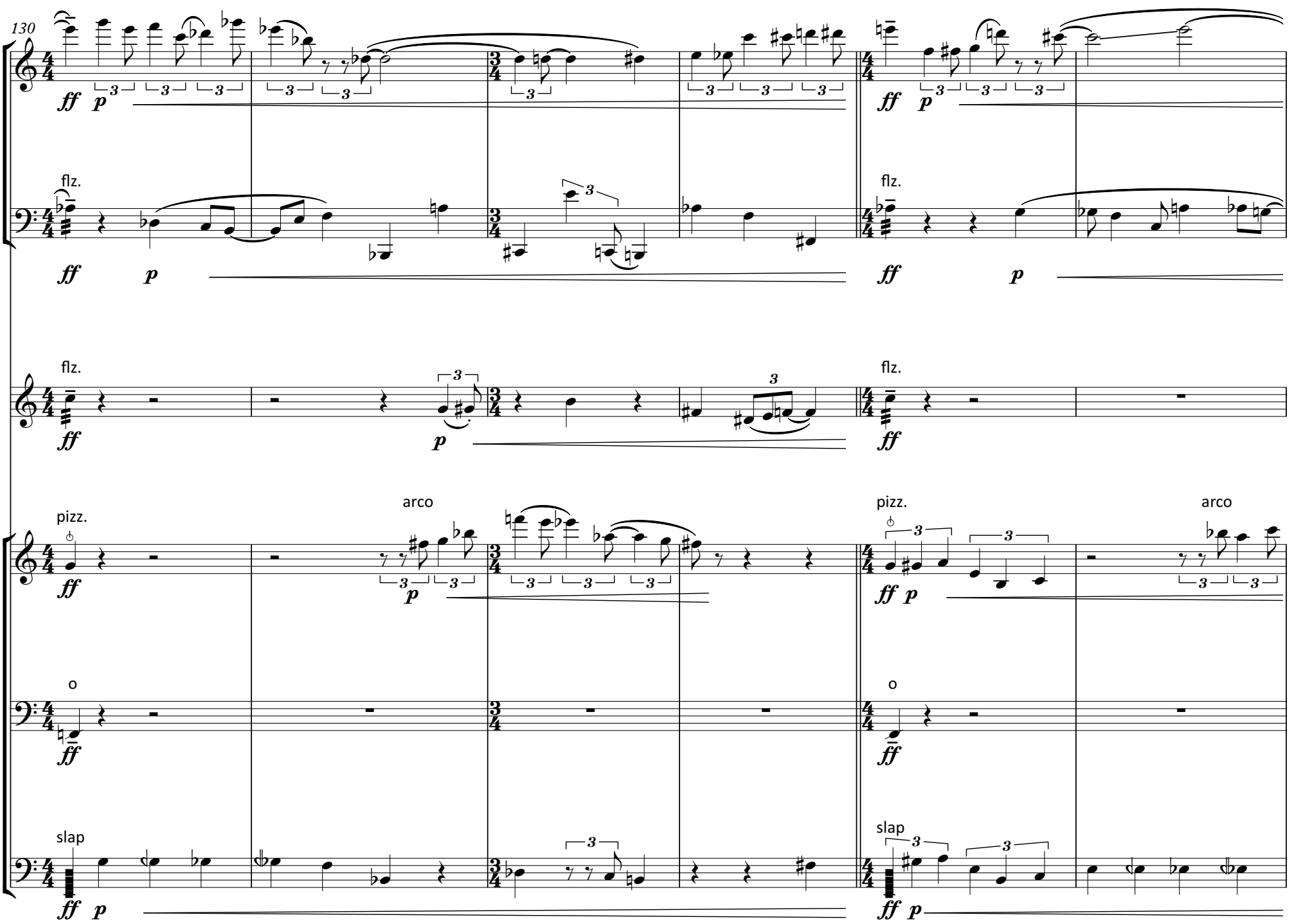

96
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
o
slap
ff
mf
f
p
3
7

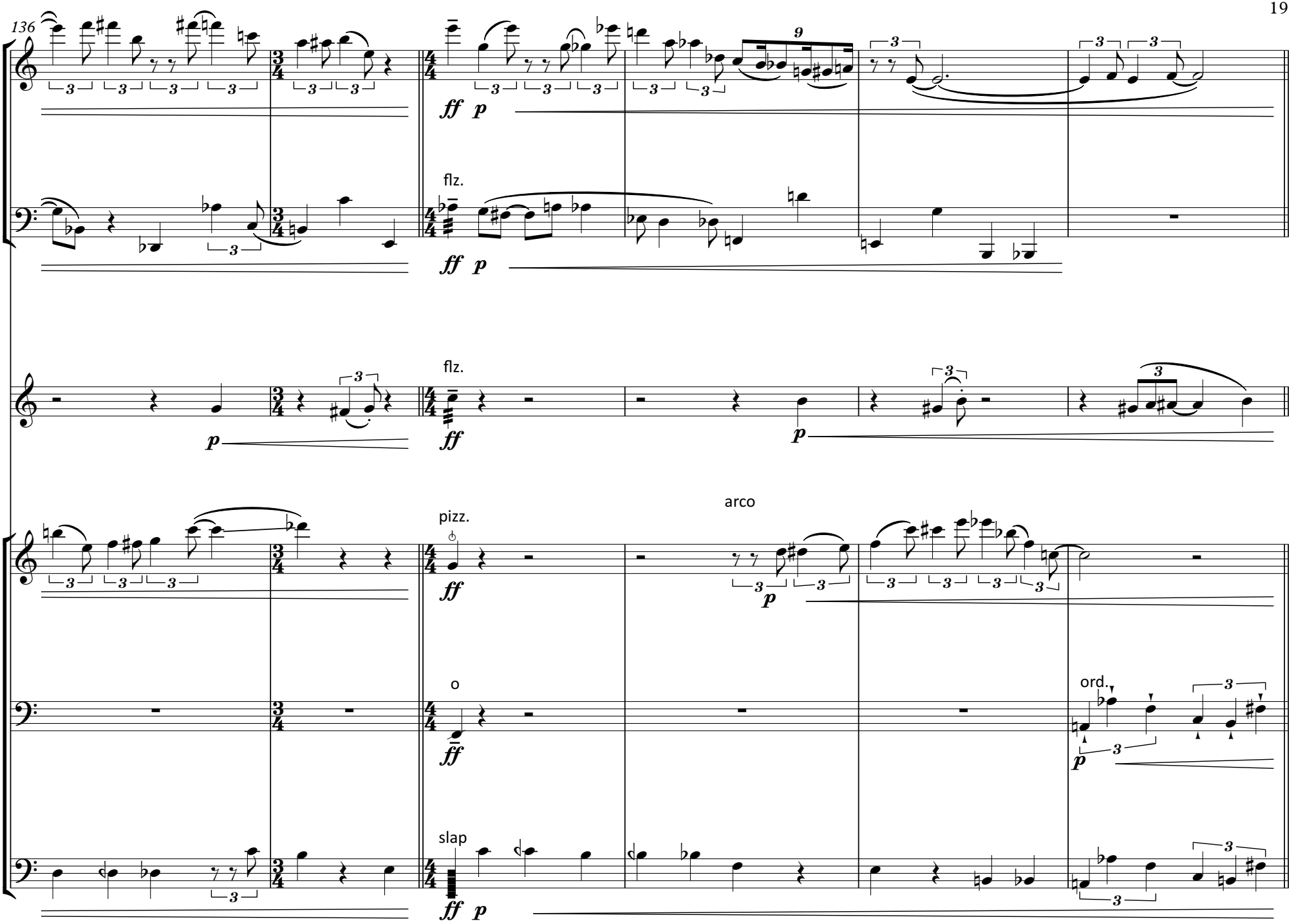

chaotic Dixie ♩=160
102
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
detached,
bouncy swing
flz.
o
ord.
slap

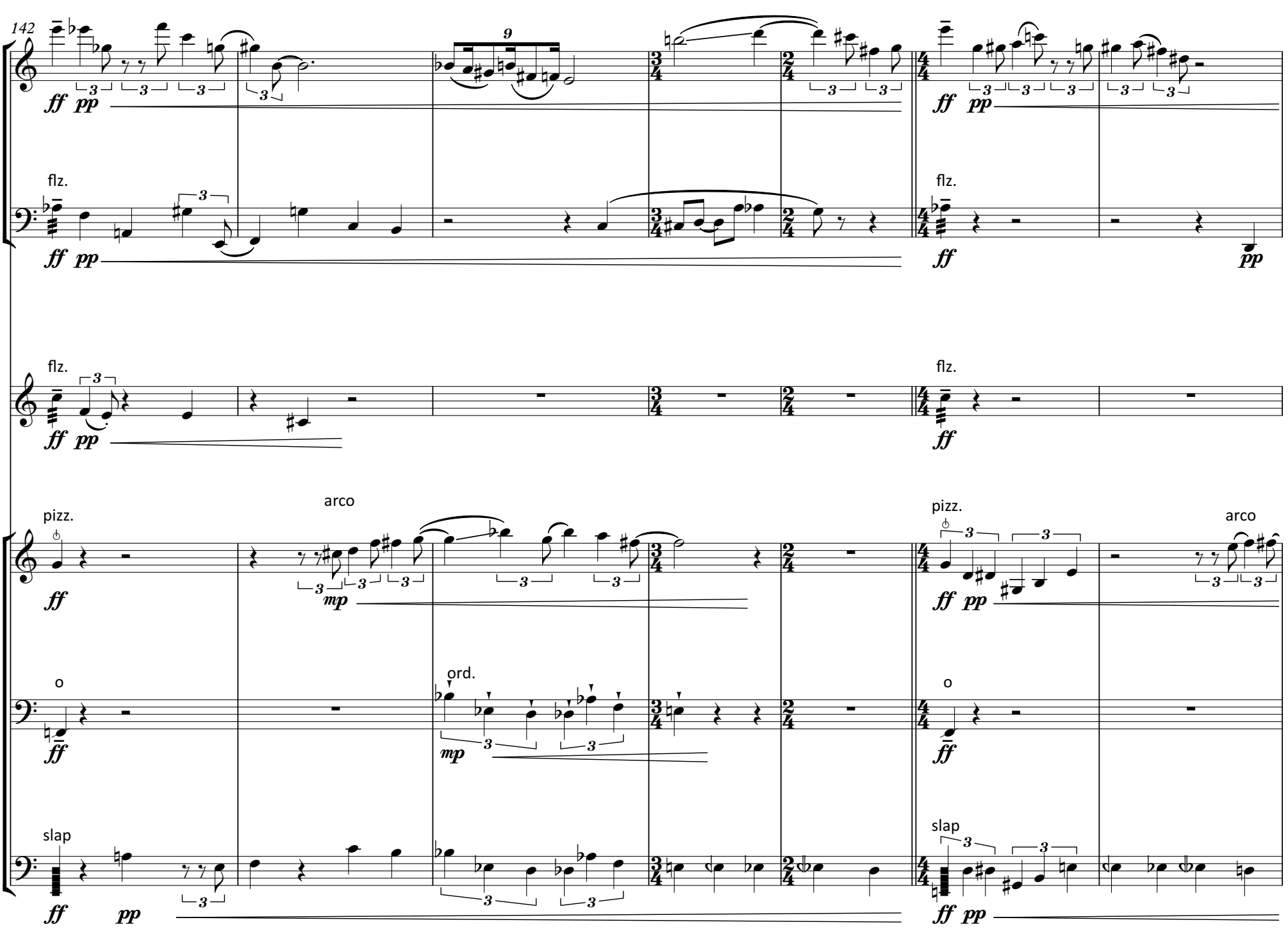

109
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
ord.
o
slap
detached, bouncy swing

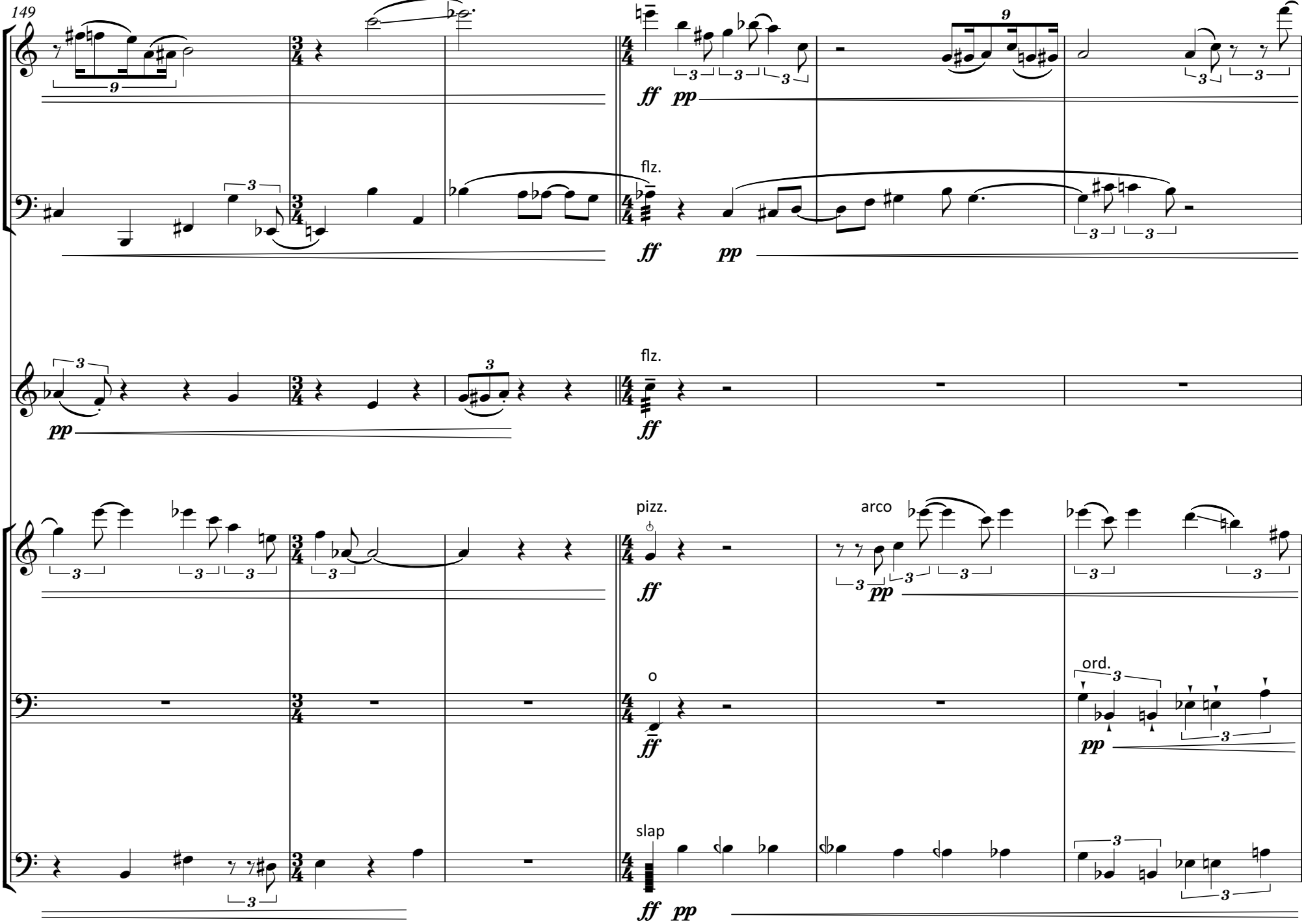

116
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
o
ord.
slap
ff
mf
mp

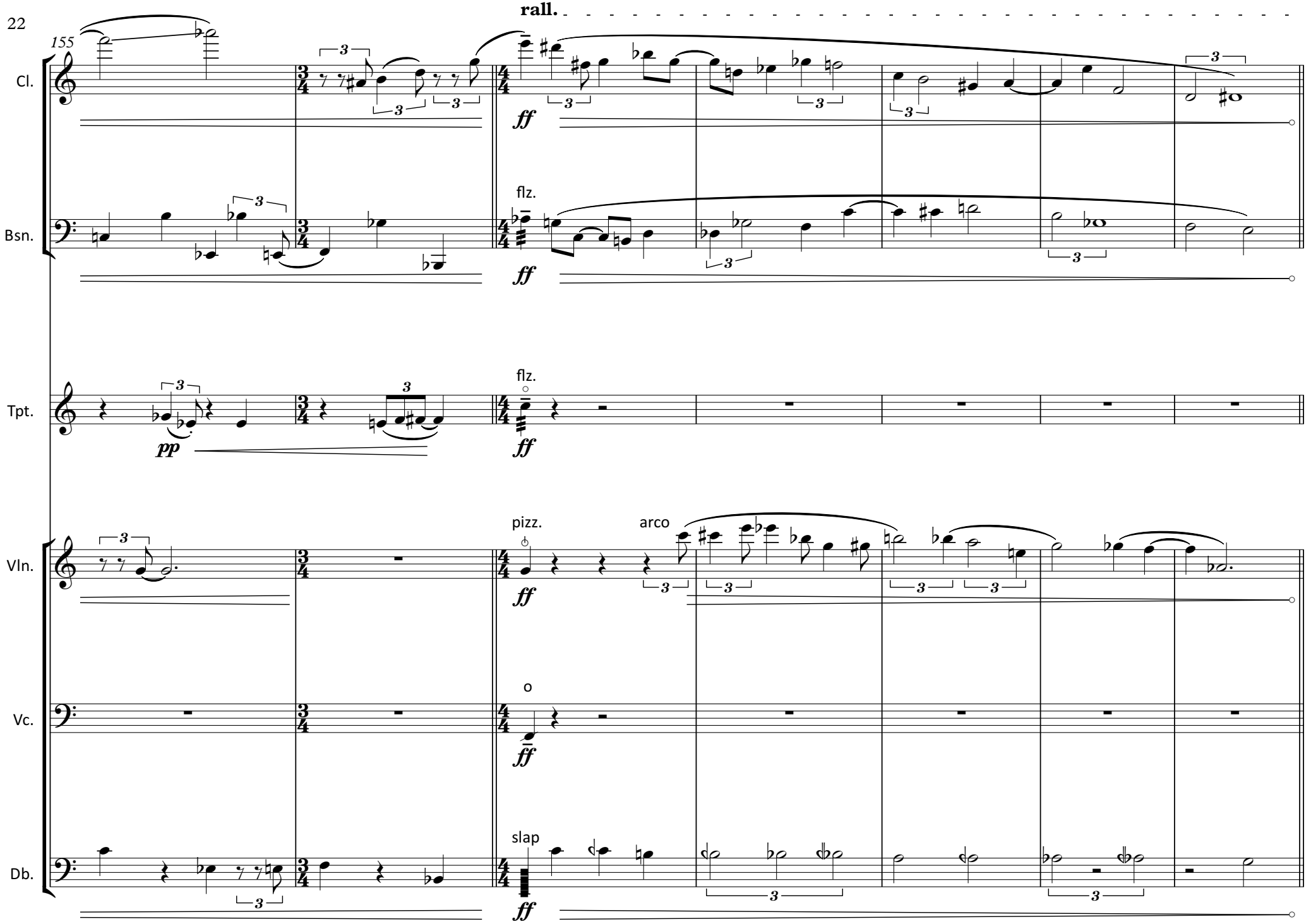

123
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
o
ord.
slap
ff
mp
f

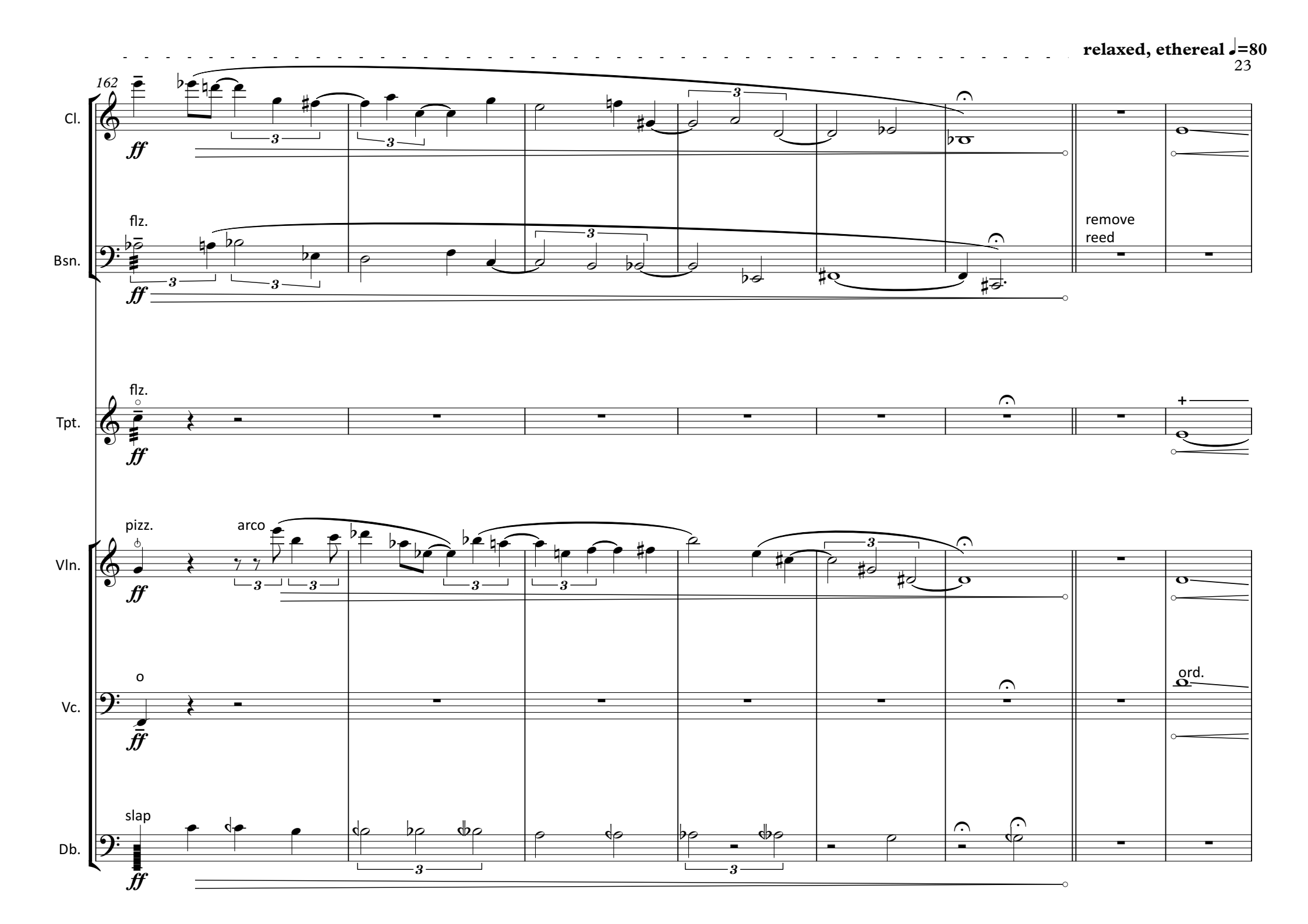

130
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
o
slap
ff
p

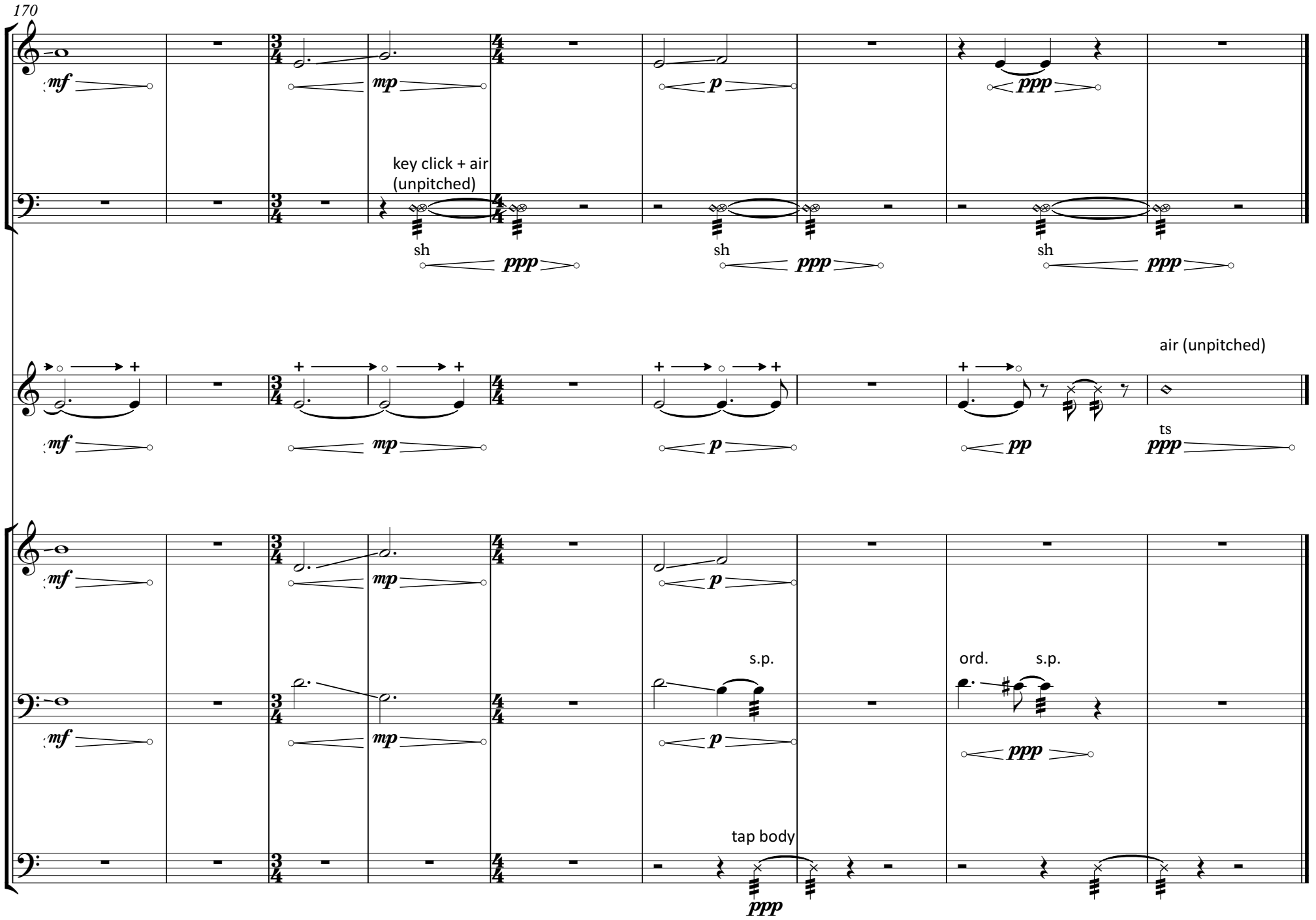

136
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
o
ord.
slap
ff
p


142
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
ord.
slap
o
ff
pp
mp
9
3


149
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
ord.
o
slap
ff
pp


rall.
155
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
flz.
pizz.
arco
o
slap
pp
ff


162
Cl.
ff
flz.
Bsn.
ff
remove
reed
flz.
Tpt.
ff
+
pizz.
arco
Vln.
ff
o
Vc.
ff
ord.
slap
Db.
ff


170
Cl.
Bsn.
Tpt.
Vln.
Vc.
Db.
mf
mp
p
ppp
pp
key click + air
(unpitched)
sh
air (unpitched)
ts
s.p.
ord.
tap body

Ben Gaunt
Rachel Davies

Revolution

for mezzo soprano and ensemble

Revolution was written for the Sounds of the Engine House ensemble, for their inaugural concert at Bridgewater Hall as part of the 'A Little Bite Music' concert series. It received a further four performances as part of the Voices of the North Tour, funded by Sound and Music.

The result of a collaboration with Manchester-based poet Rachel Davies, *Revolution* is a response to the Victorian machines that reside in the Power Hall at the Museum of Science and Industry.

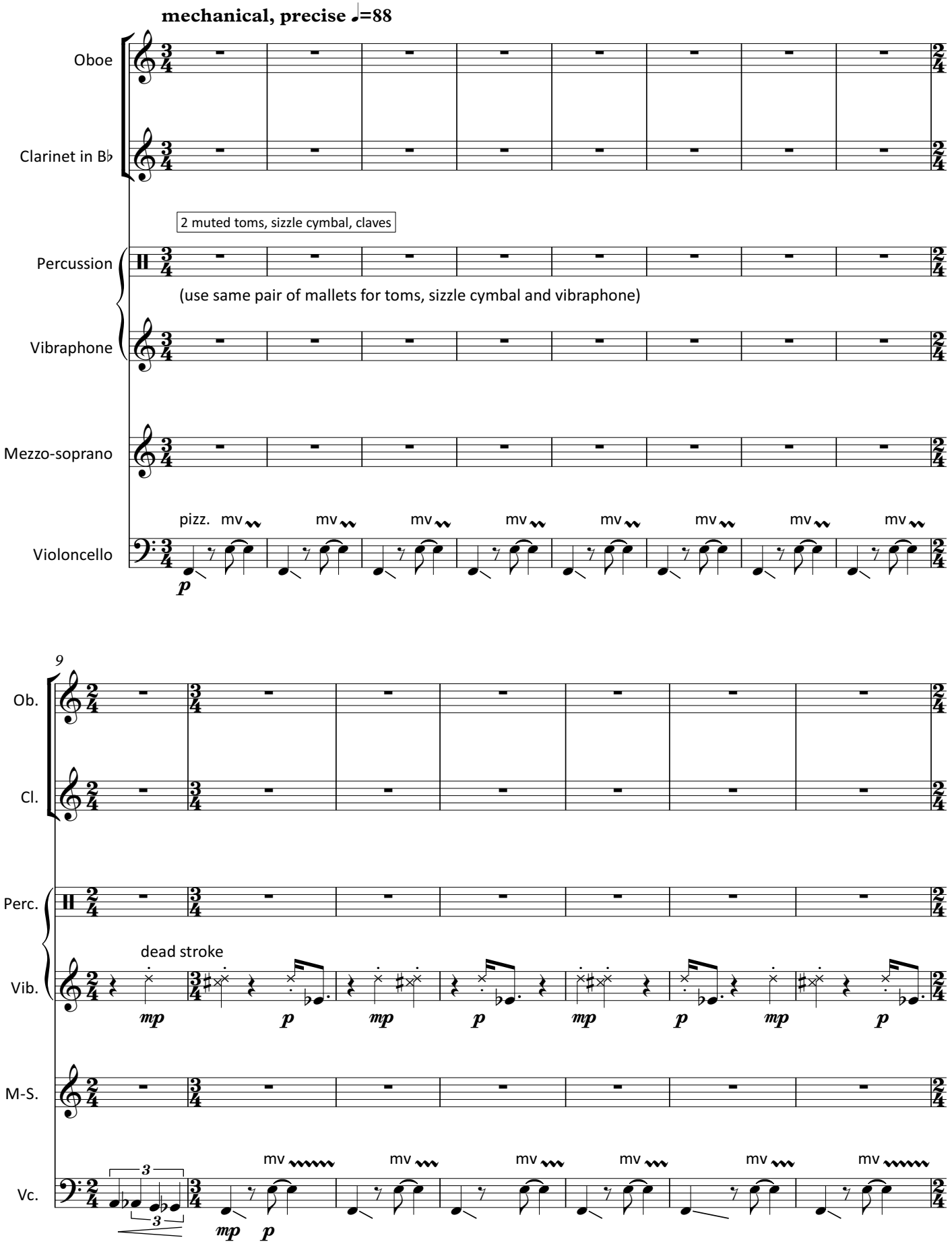
The singing style is light and lyrical; not too operatic.

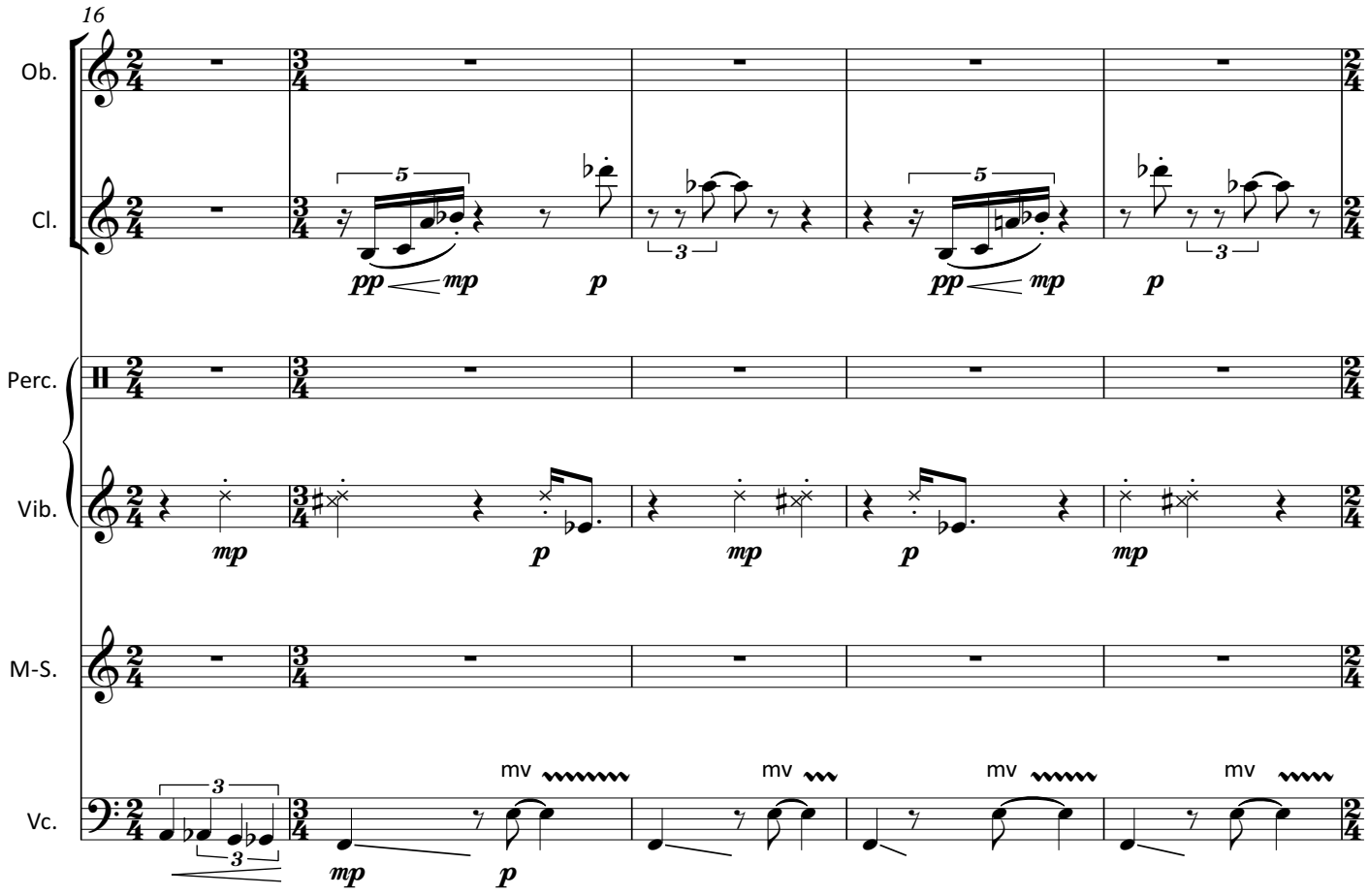
Year of Composition: 2013
Duration: c. 6'
Transposed Score

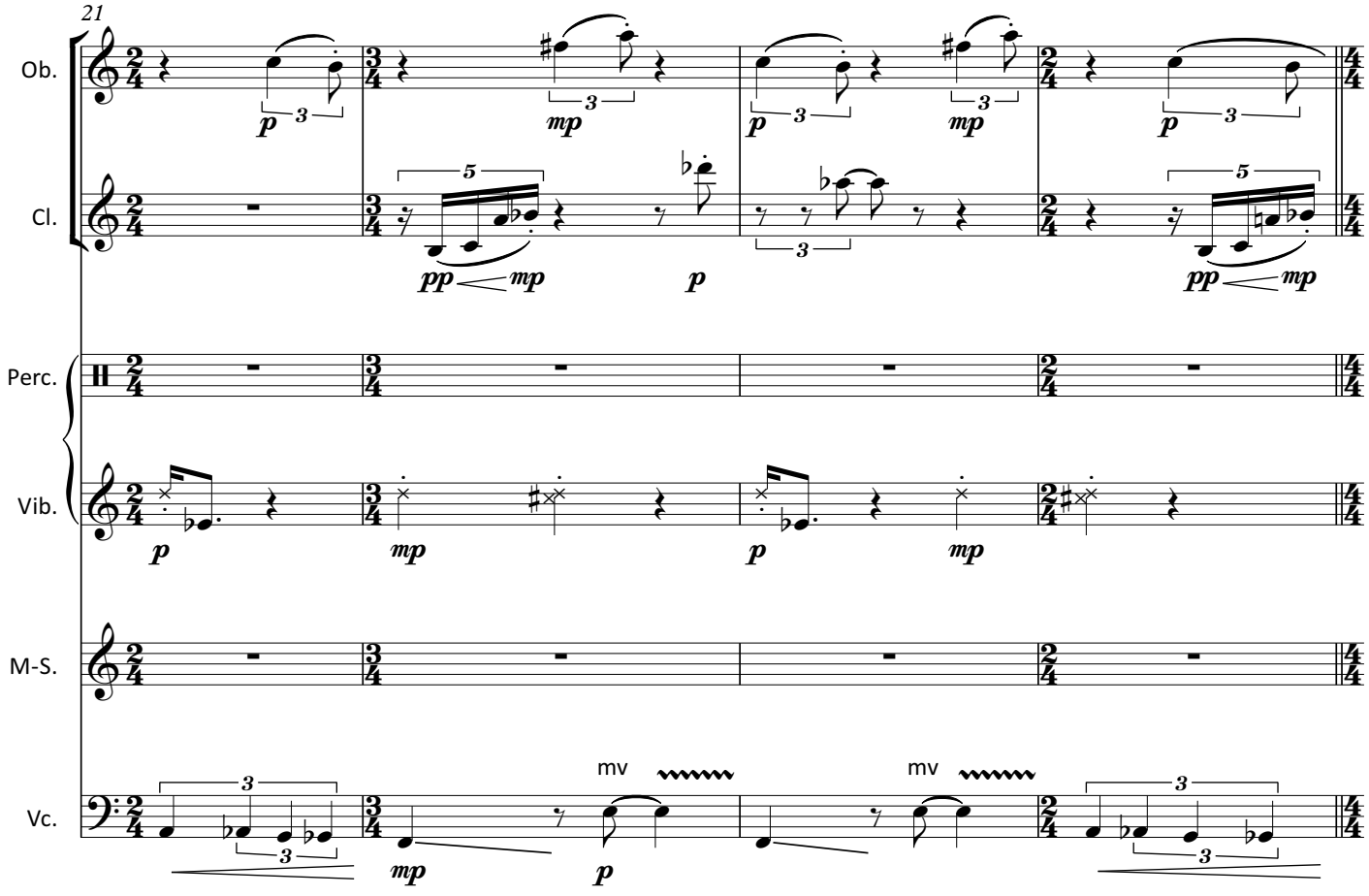
Revolution

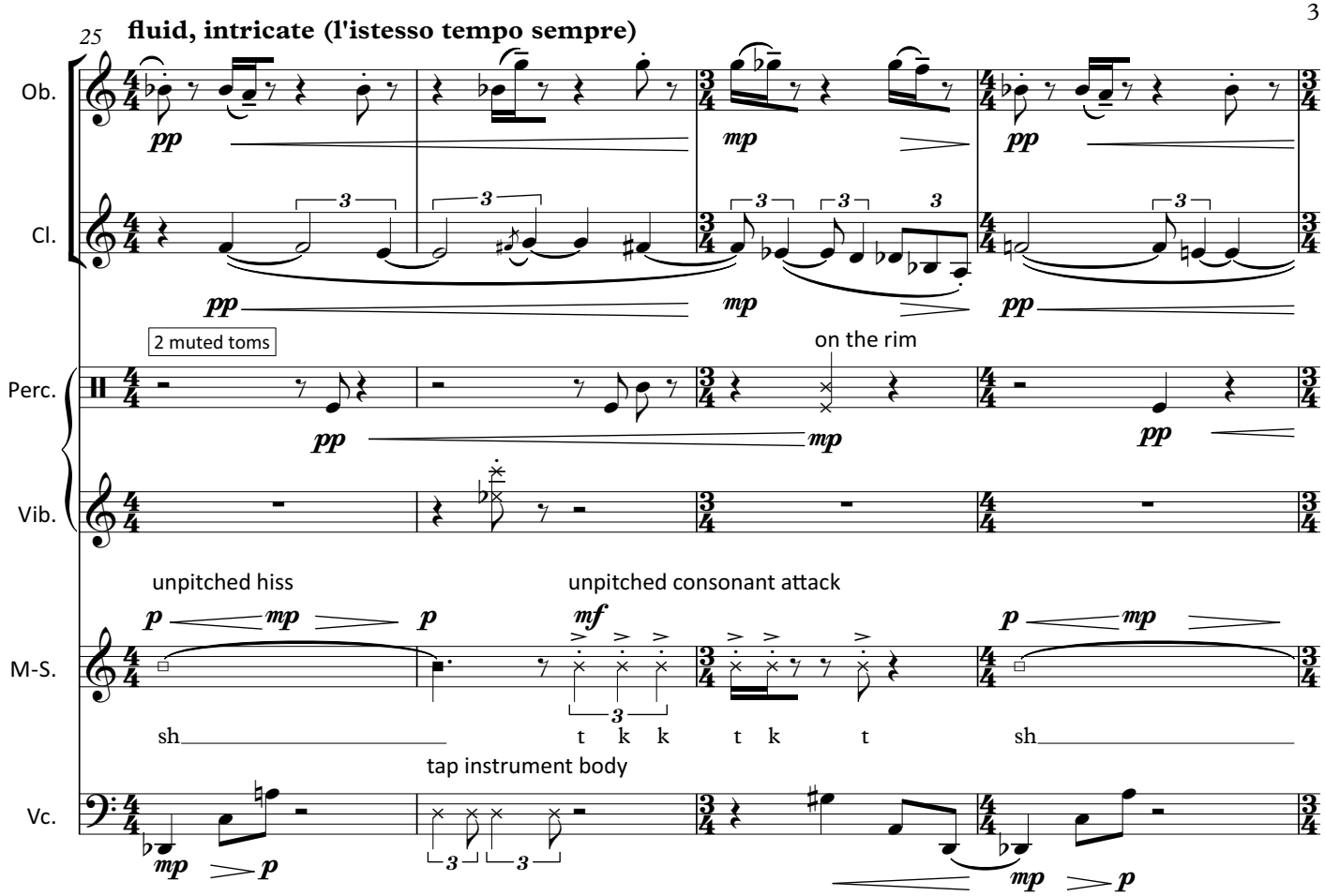
Rachel Davies

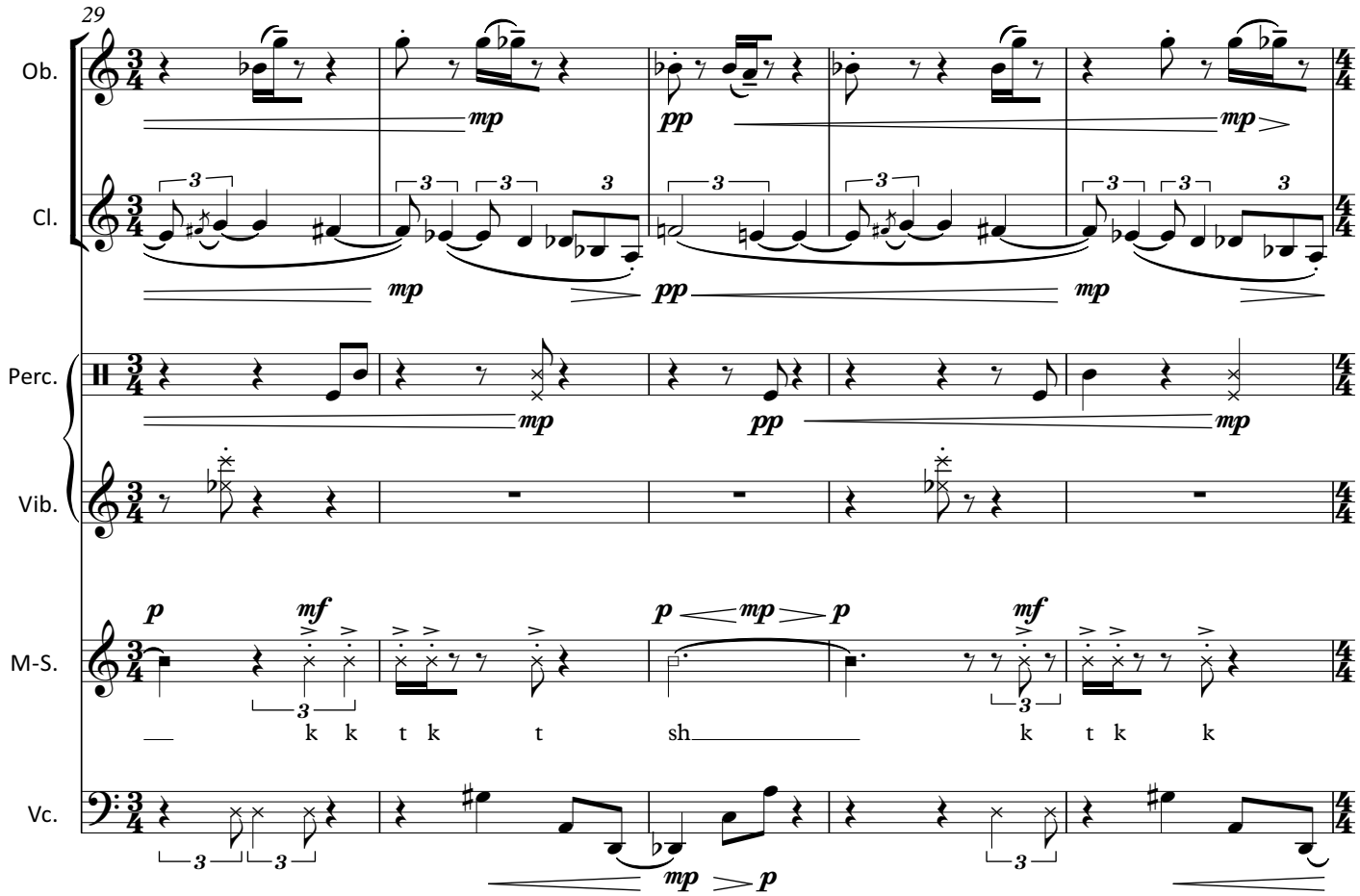
Ben Gaunt

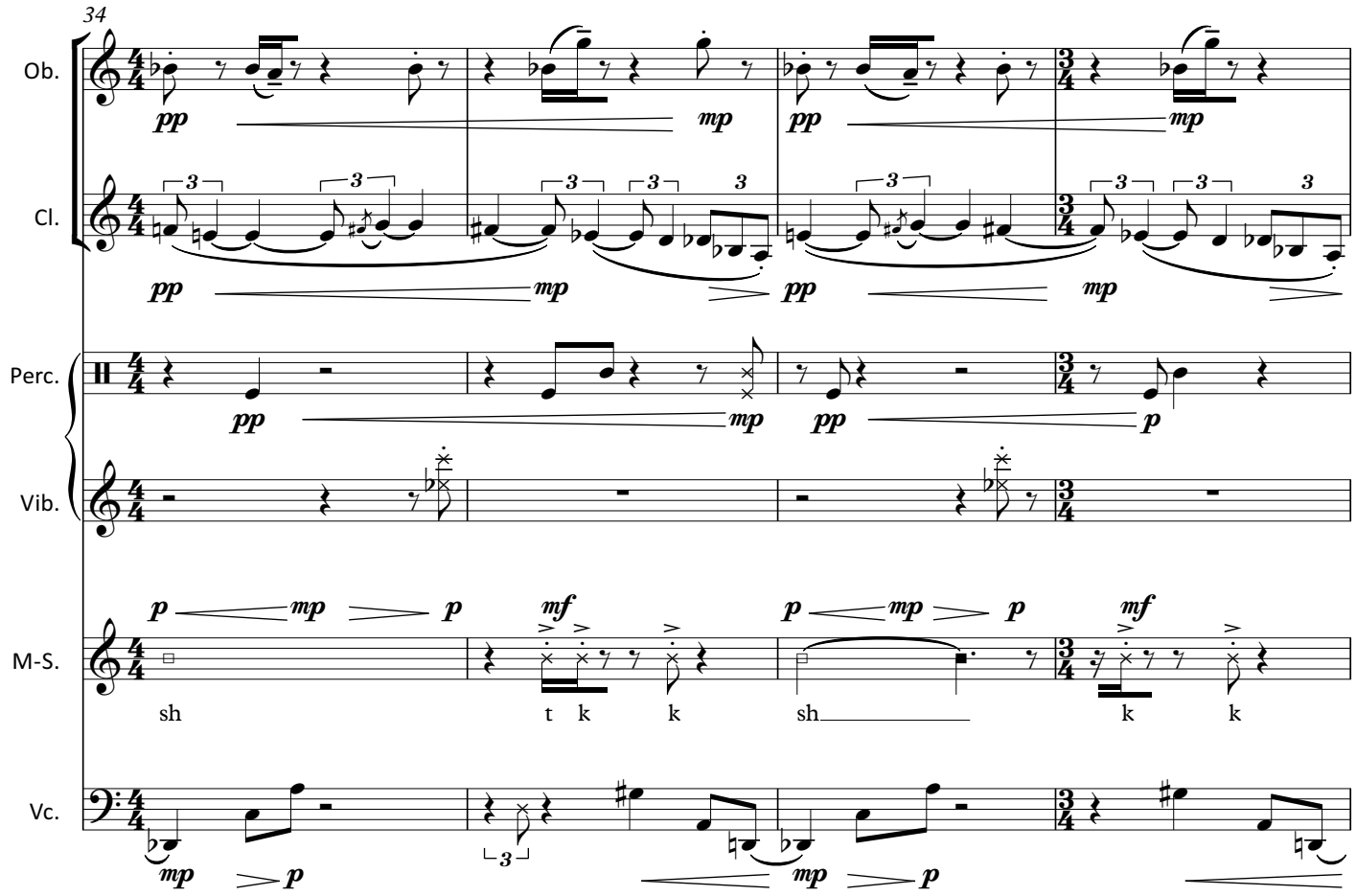


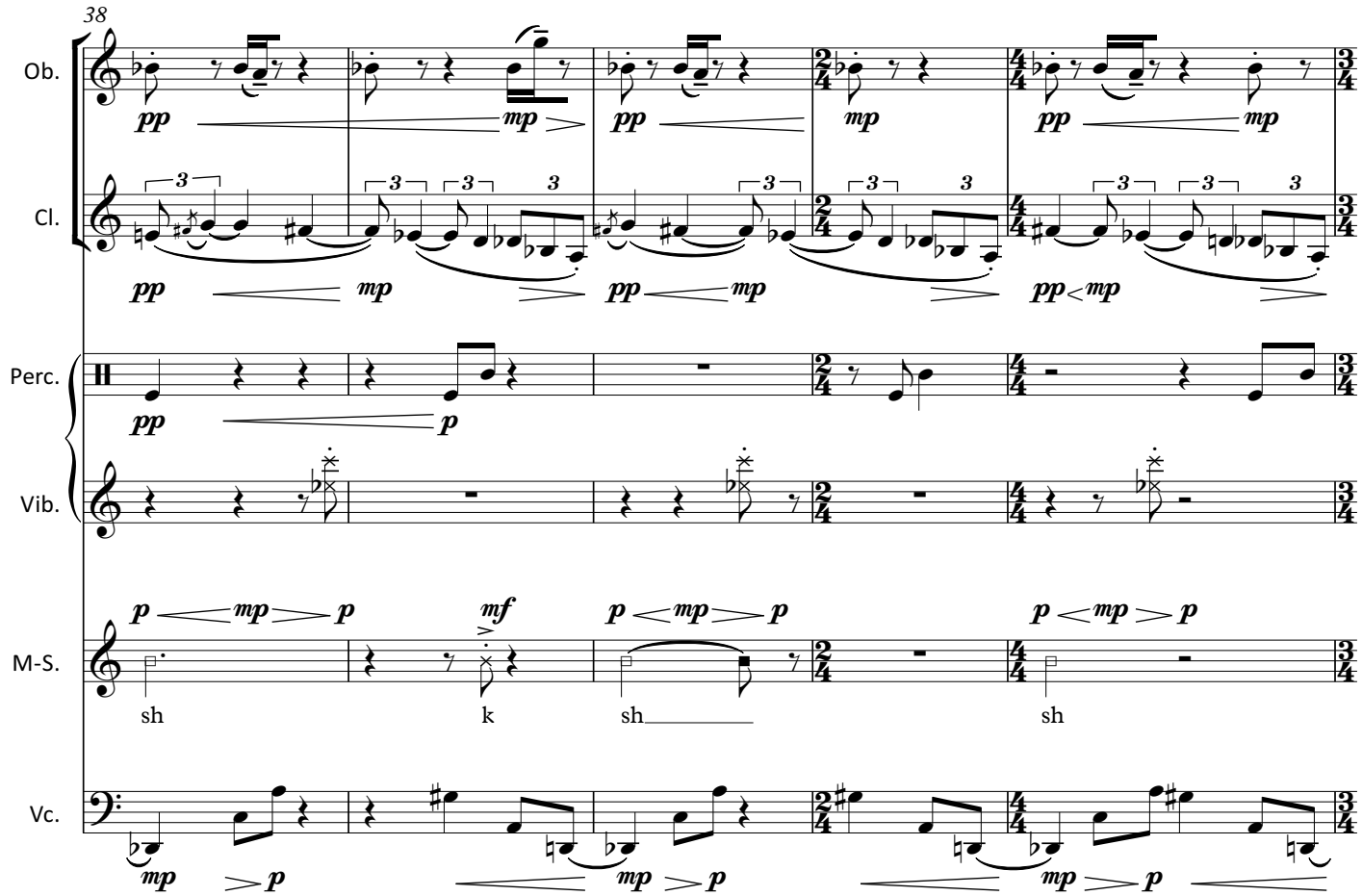

16
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mv

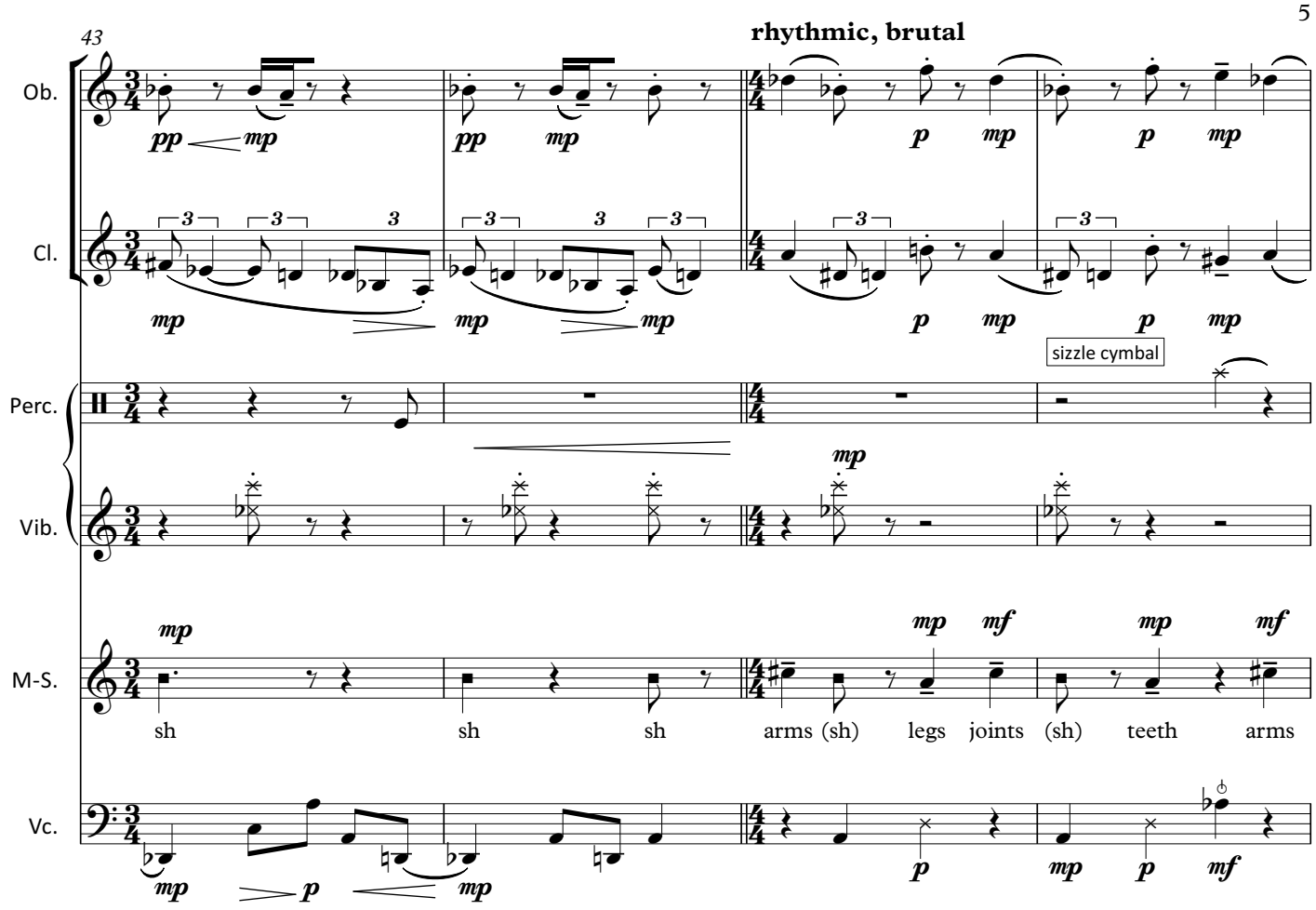

21
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mv

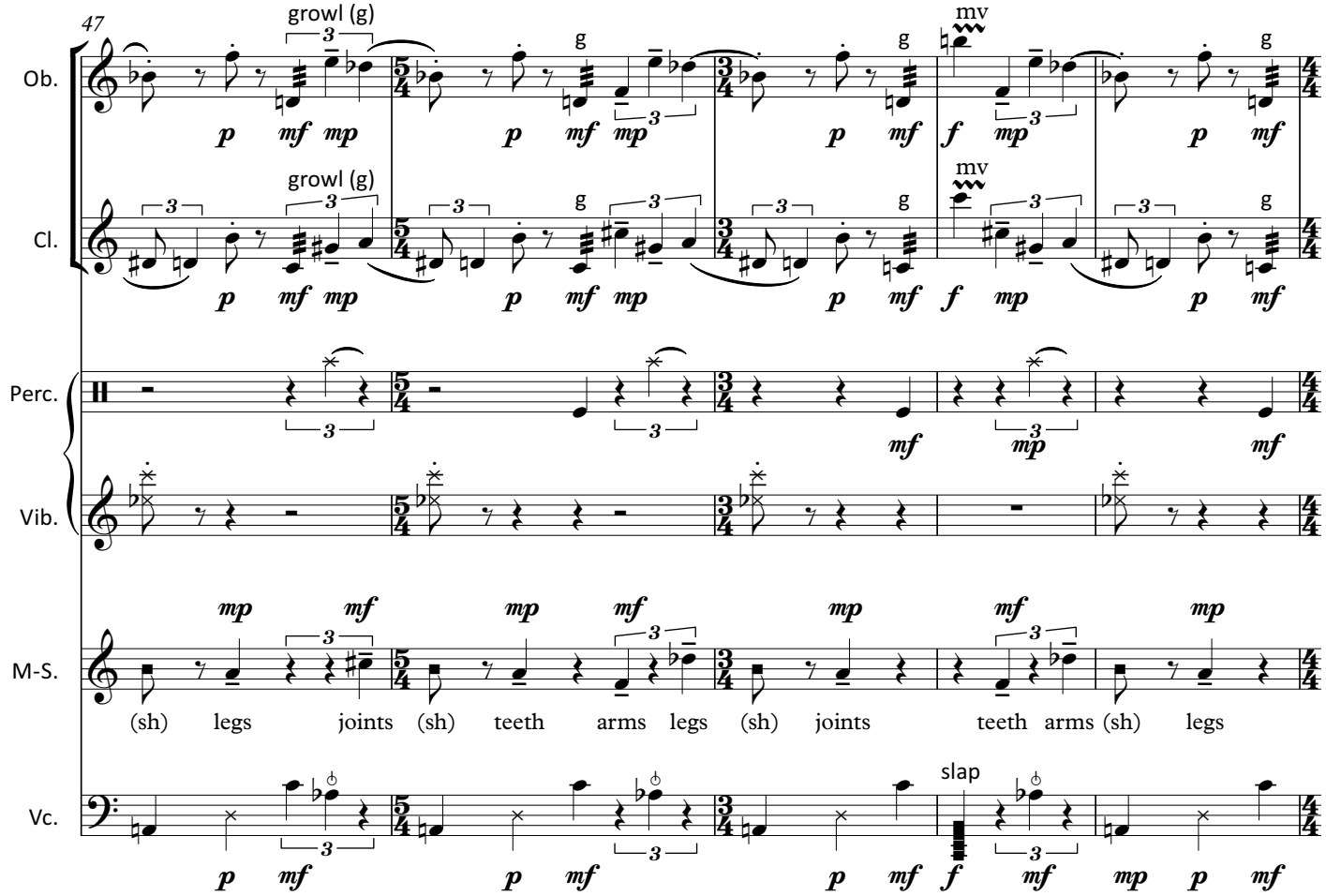

25
fluid, intricate (l'istesso tempo sempre)
Ob.
Cl.
2 muted toms
on the rim
Perc.
Vib.
unpitched hiss
unpitched consonant attack
M-S.
sh
t k k t k t
sh
tap instrument body
Vc.

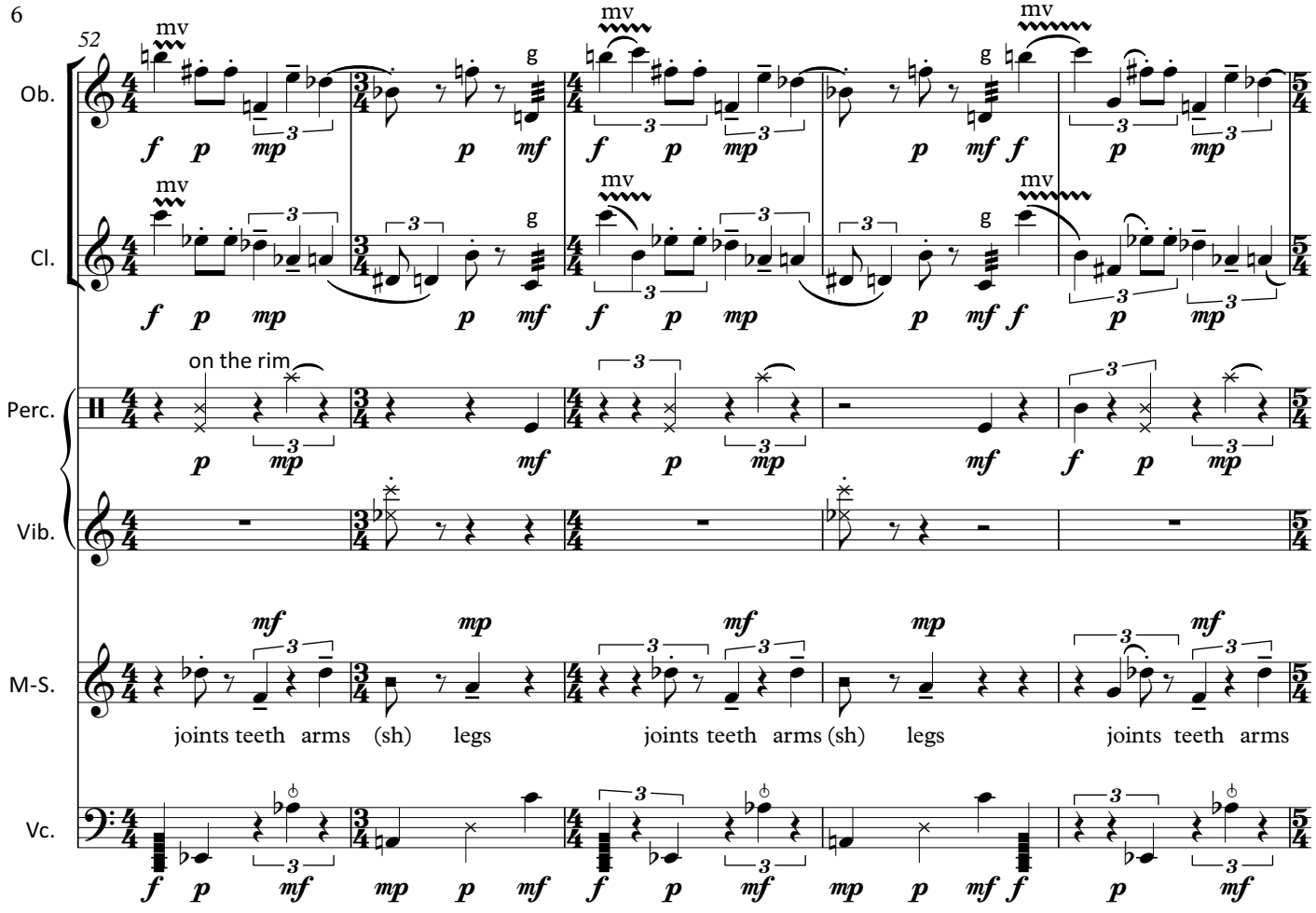

29
Ob.
Cl.
Perc.
Vib.
M-S.
k k t k t
sh
k t k k
Vc.

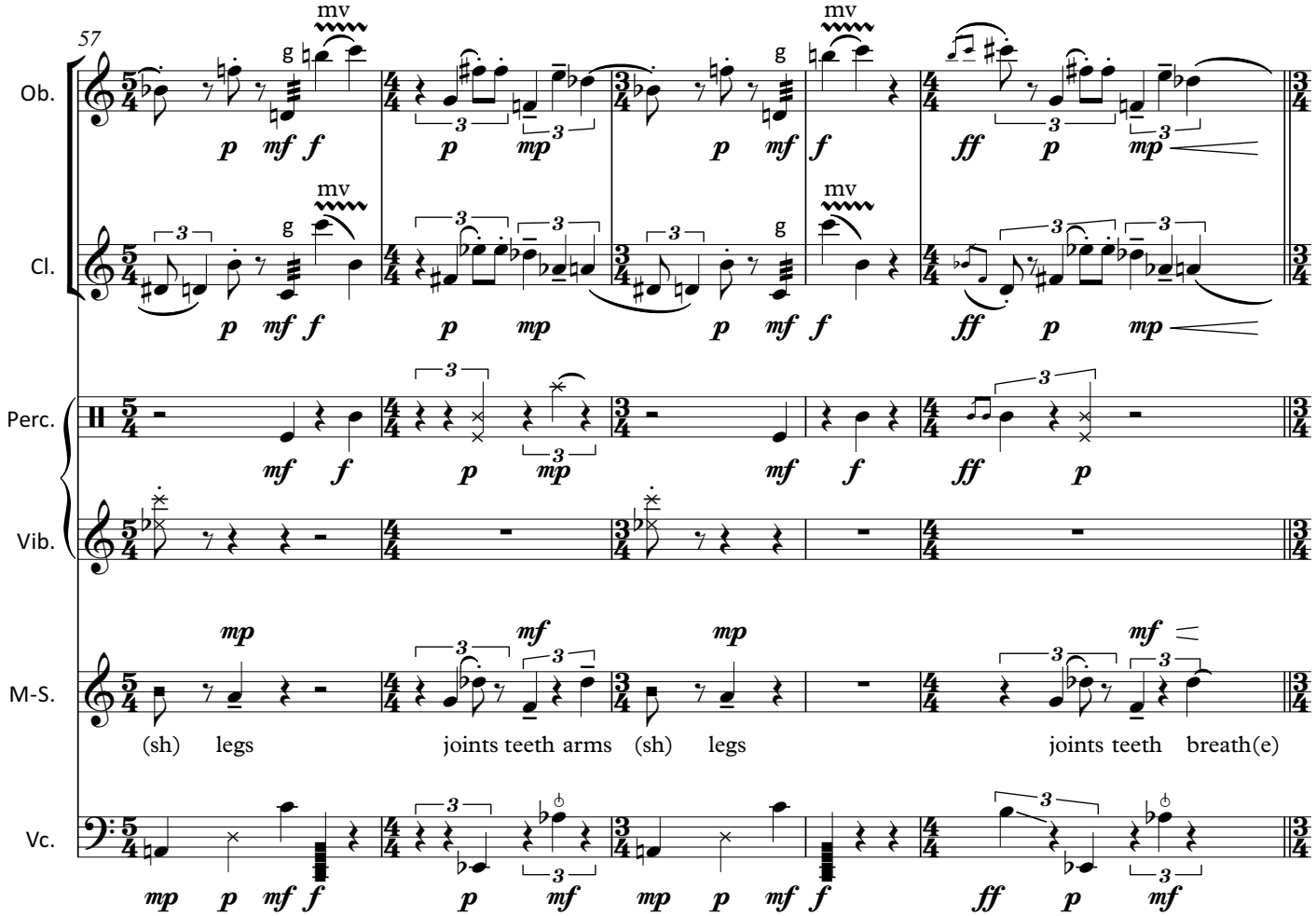

34
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
sh
t k k
sh
k k

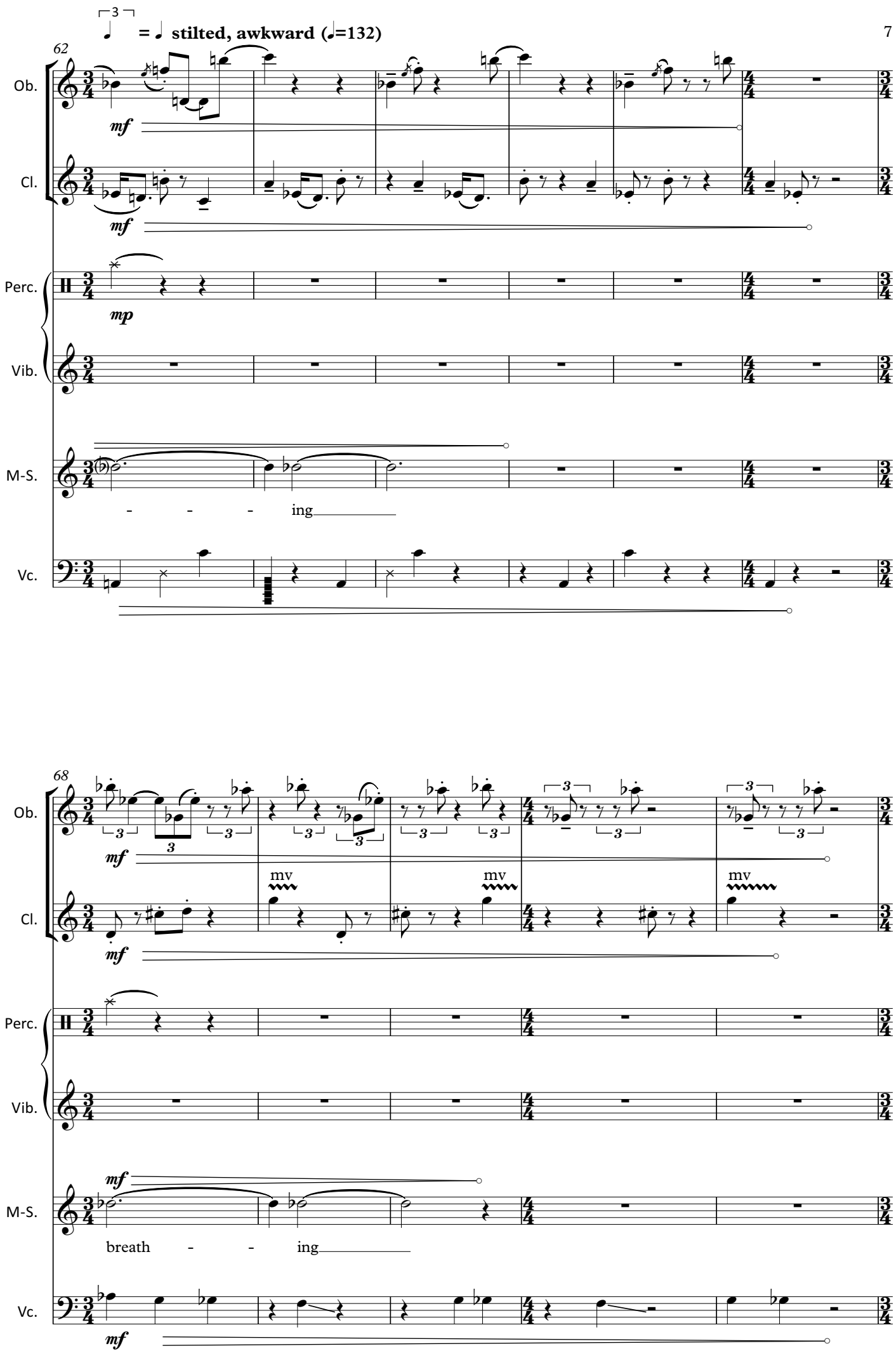

38
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
sh
k
sh
sh

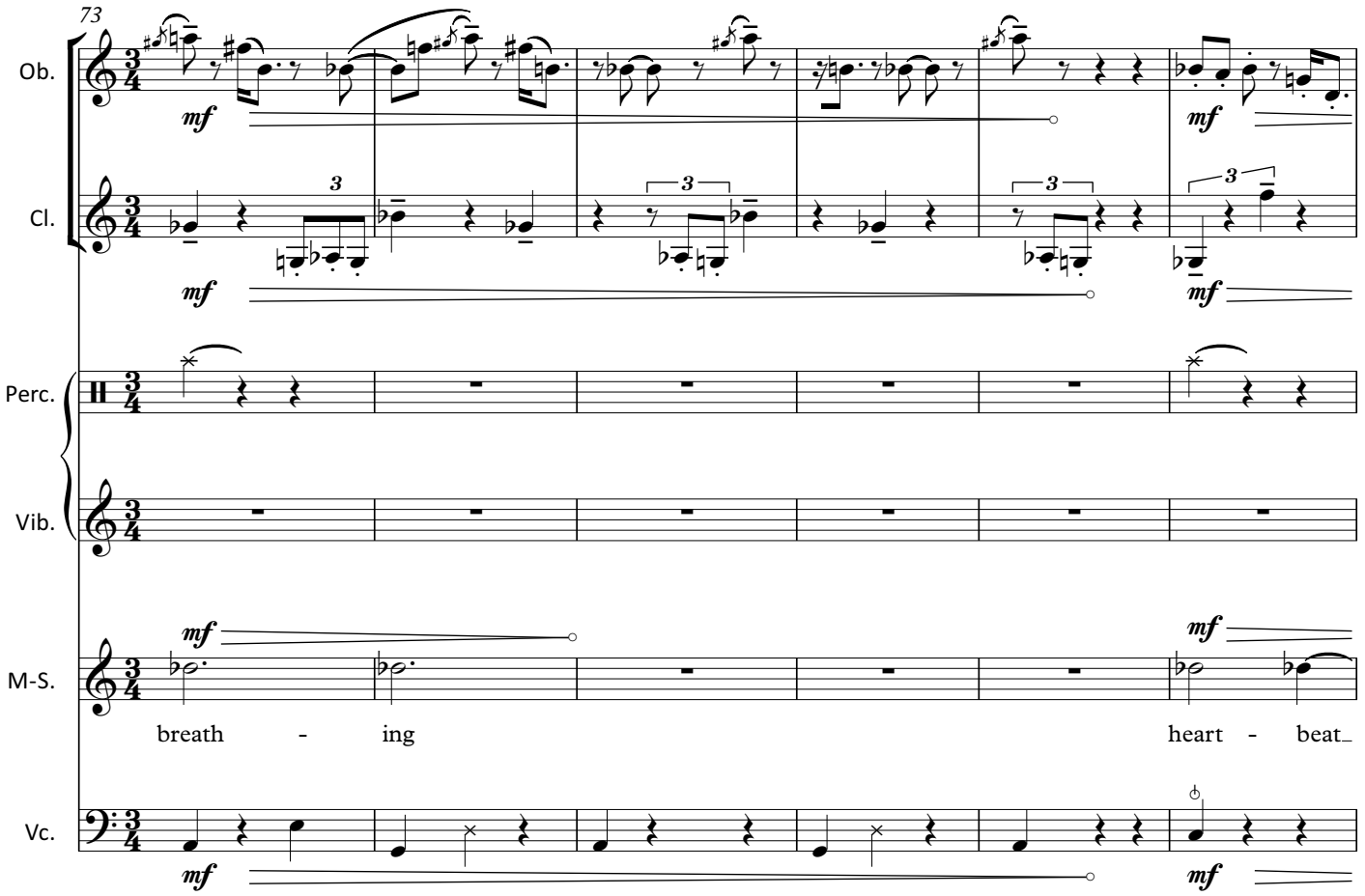

rhythmic, brutal
43
Ob.
Cl.
Perc.
sizzle cymbal
Vib.
M-S.
sh sh sh arms (sh) legs joints (sh) teeth arms
Vc.

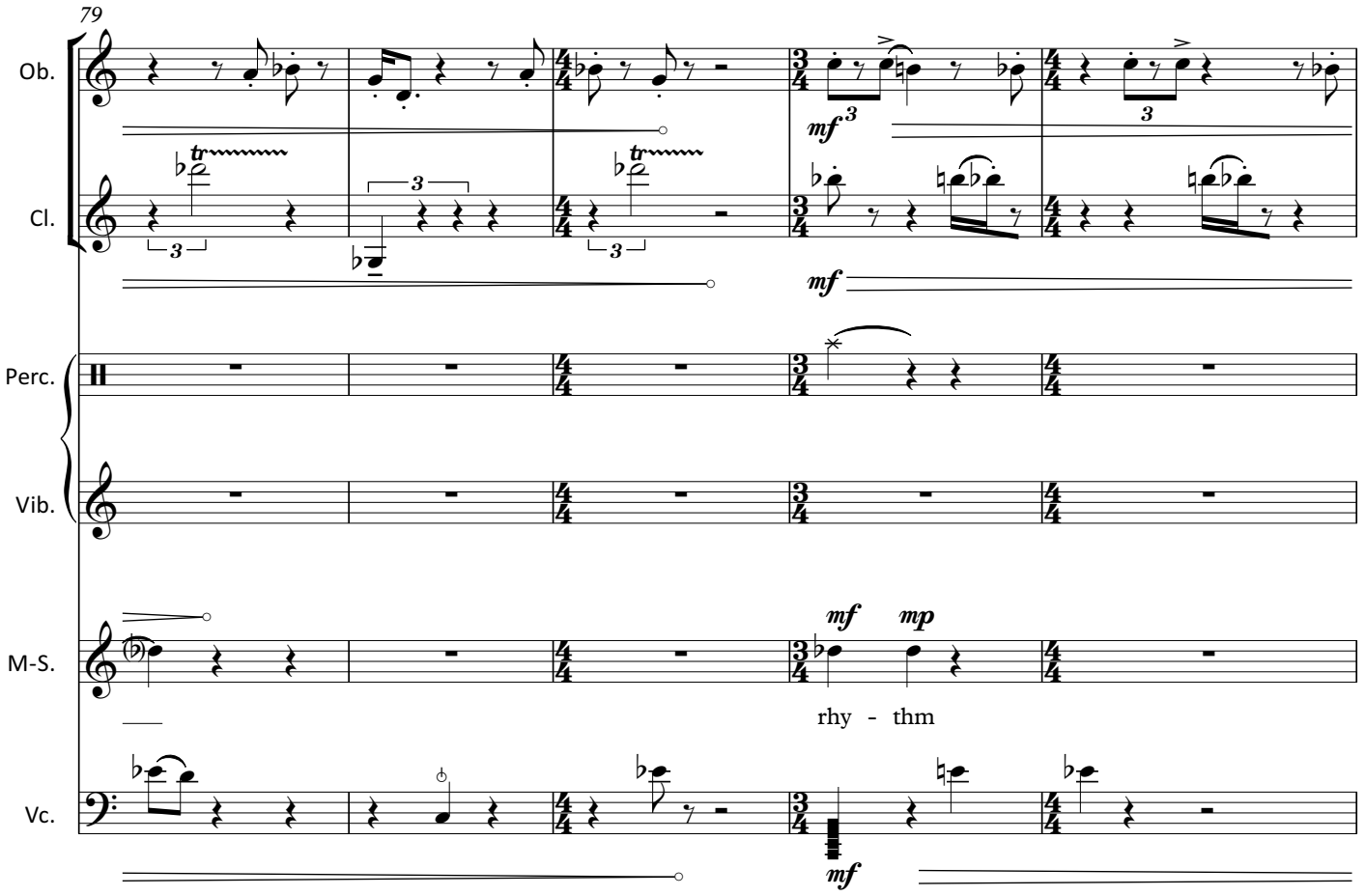

47
growl (g)
mv
Ob.
Cl.
Perc.
Vib.
M-S.
(sh) legs joints (sh) teeth arms legs (sh) joints teeth arms (sh) legs
slap
Vc.

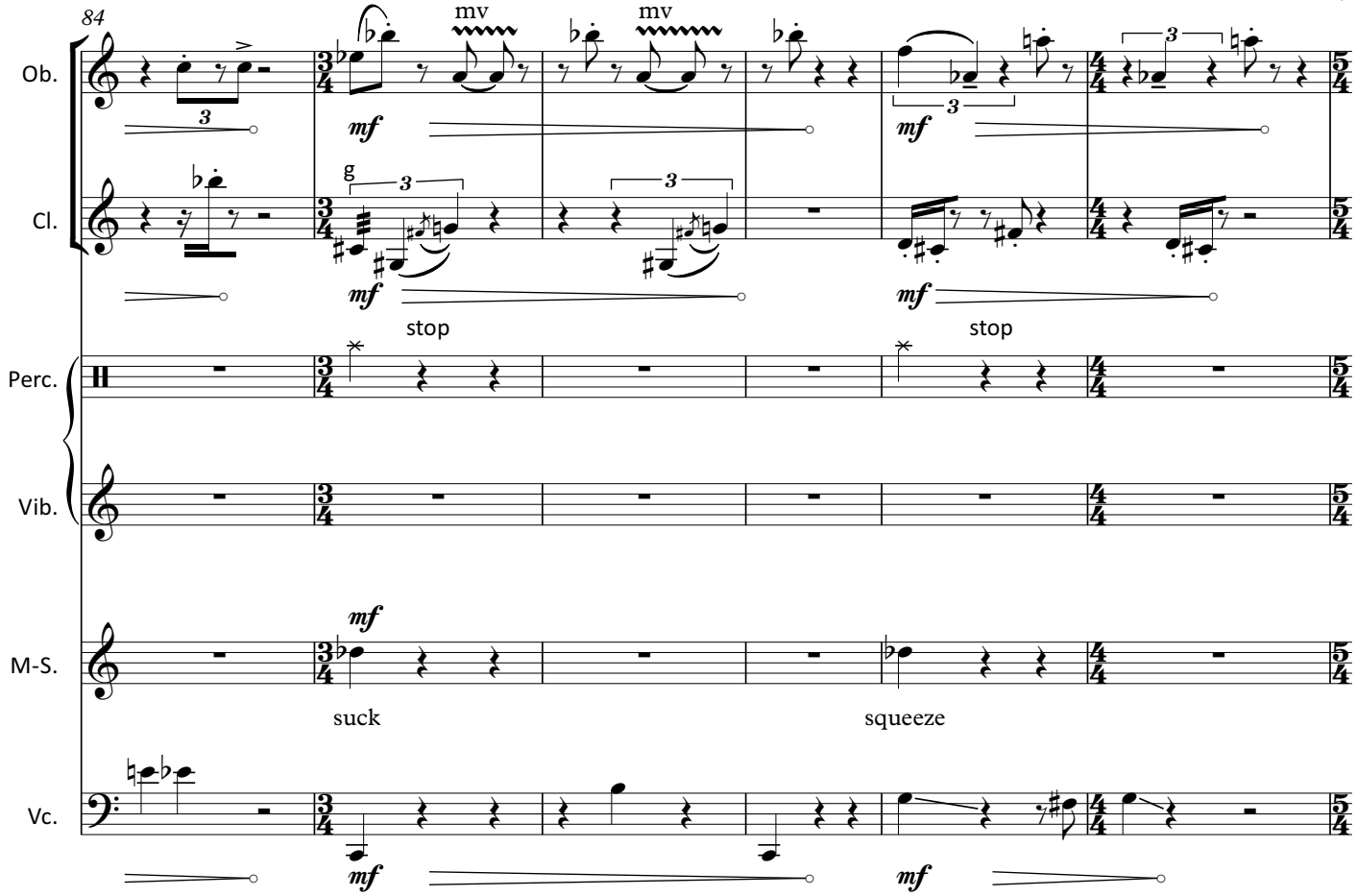

52
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mv
g
on the rim
joints teeth arms (sh) legs joints teeth arms (sh) legs joints teeth arms

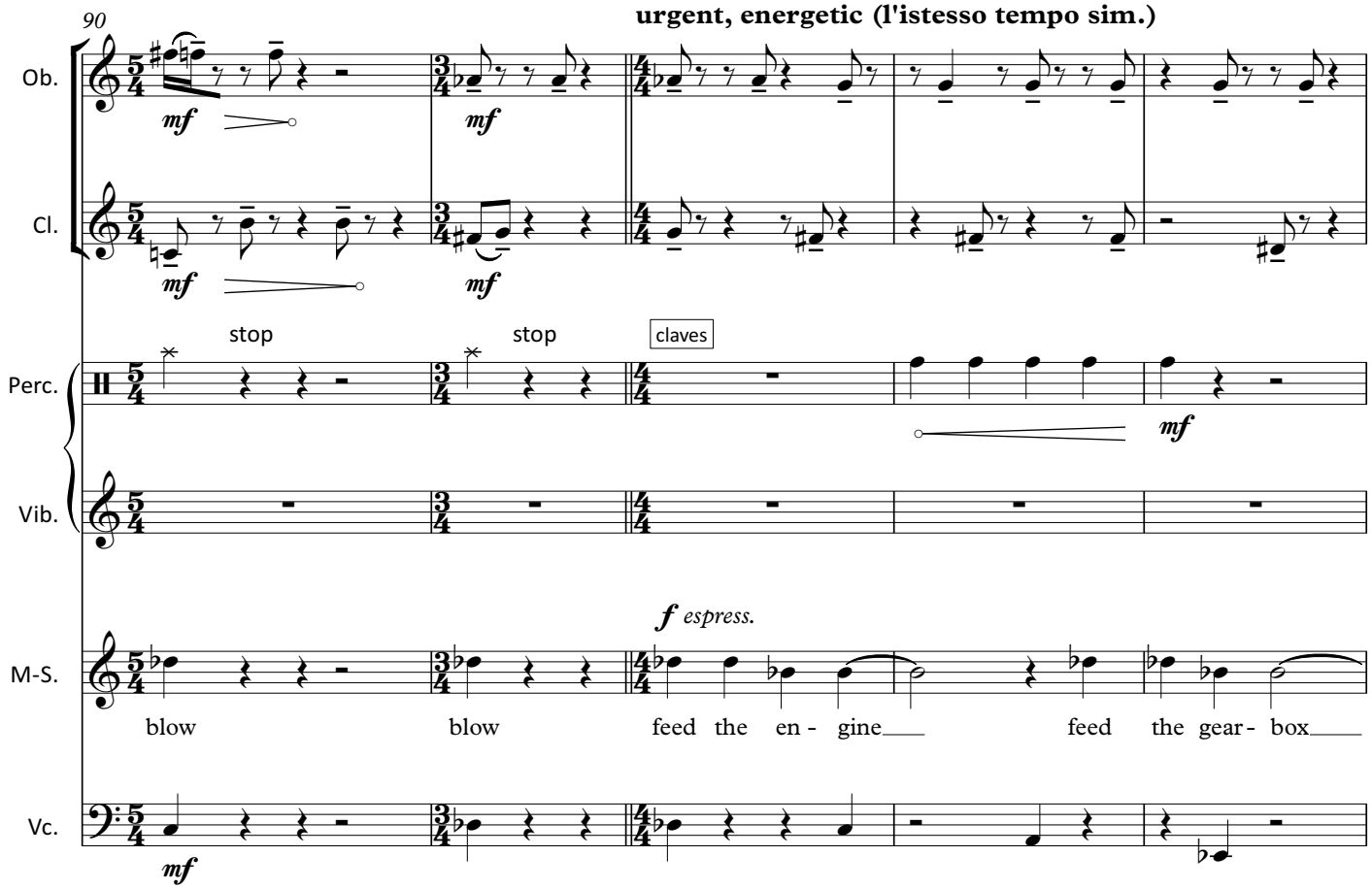

57
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mv
g
(sh) legs joints teeth arms (sh) legs joints teeth breath(e)

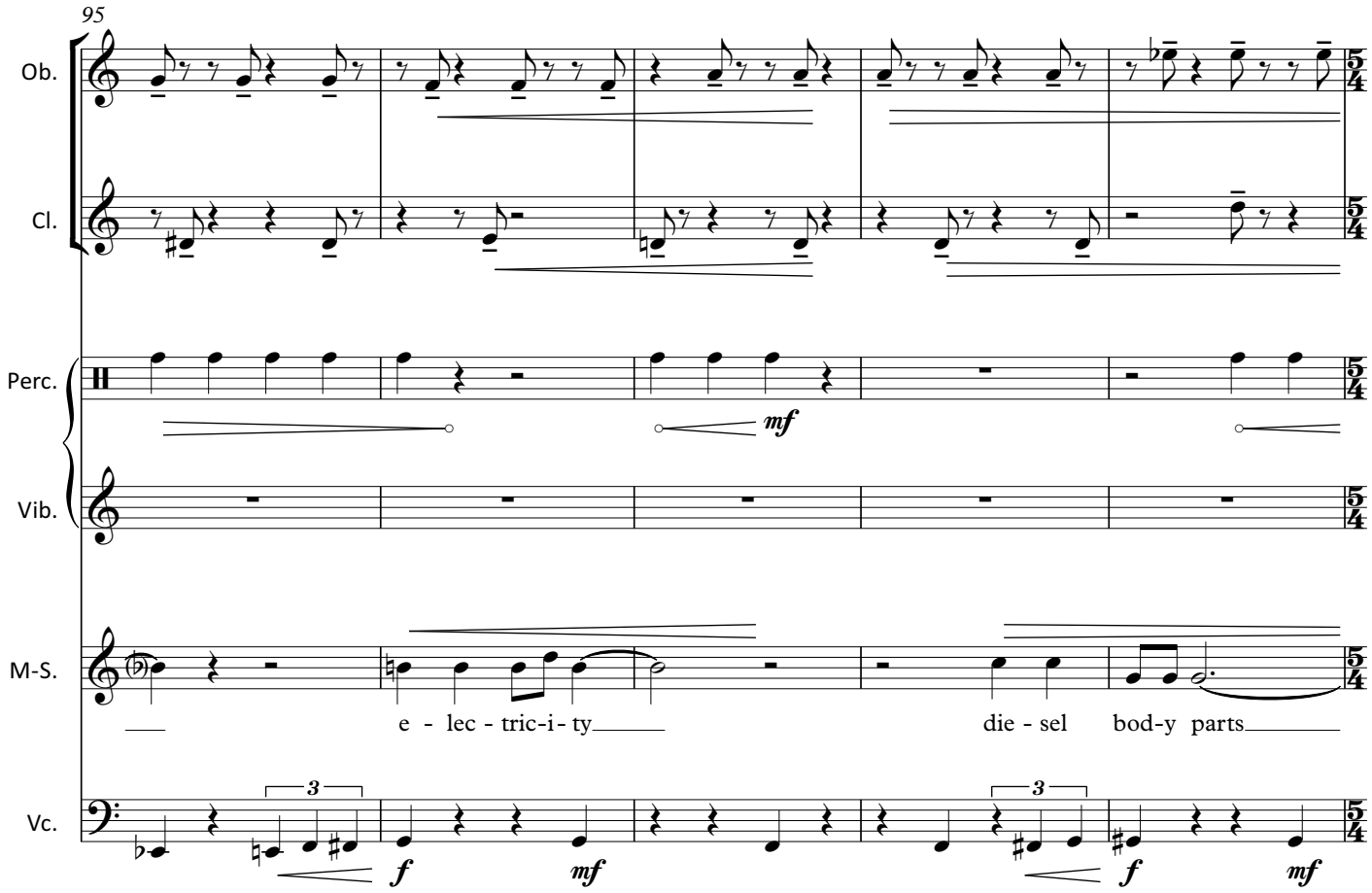

3
= stilted, awkward (=132)
62
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
mp
- - - ing
68
mv
breath - - ing

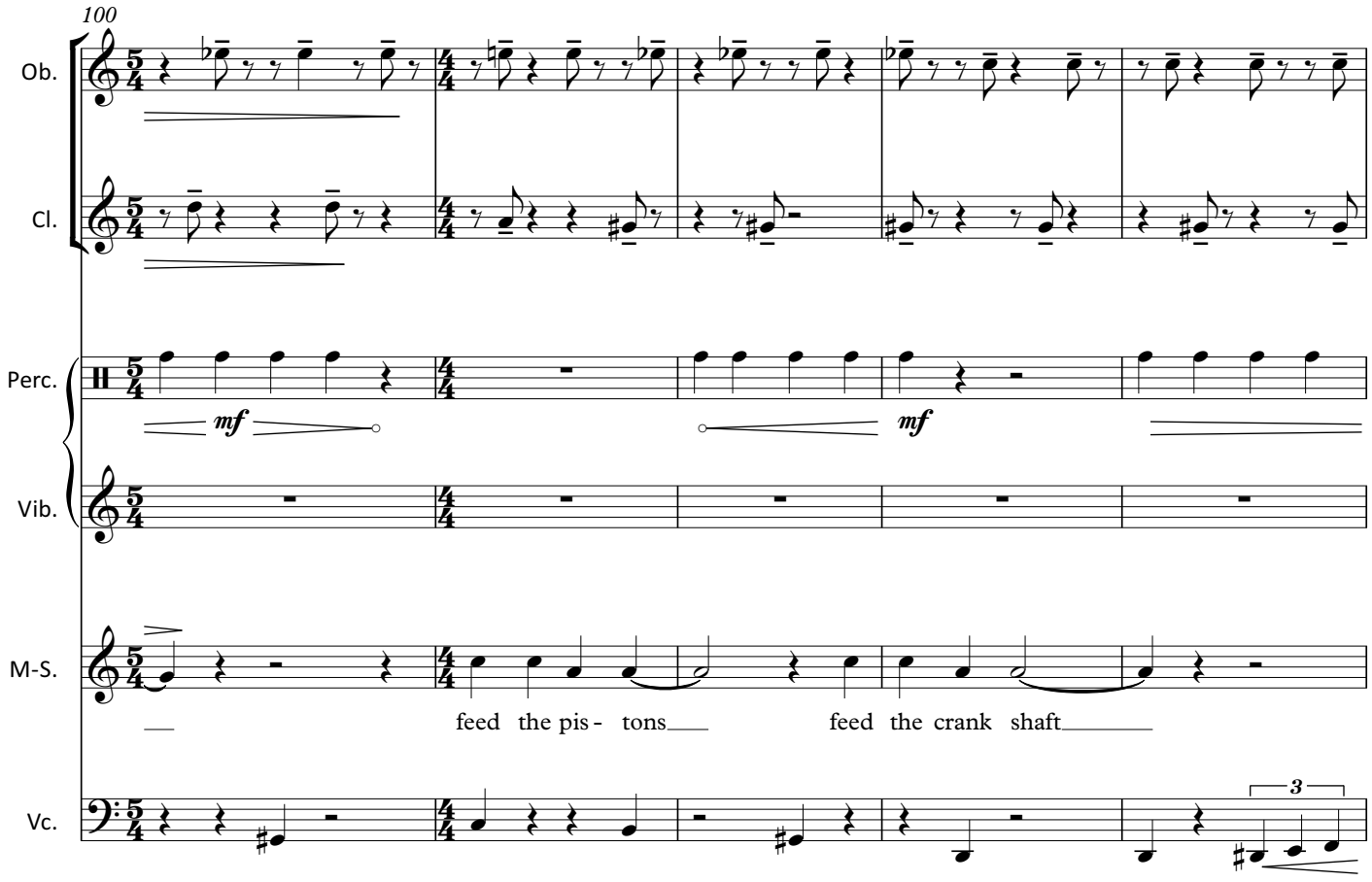

73
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
breath - ing
heart - beat

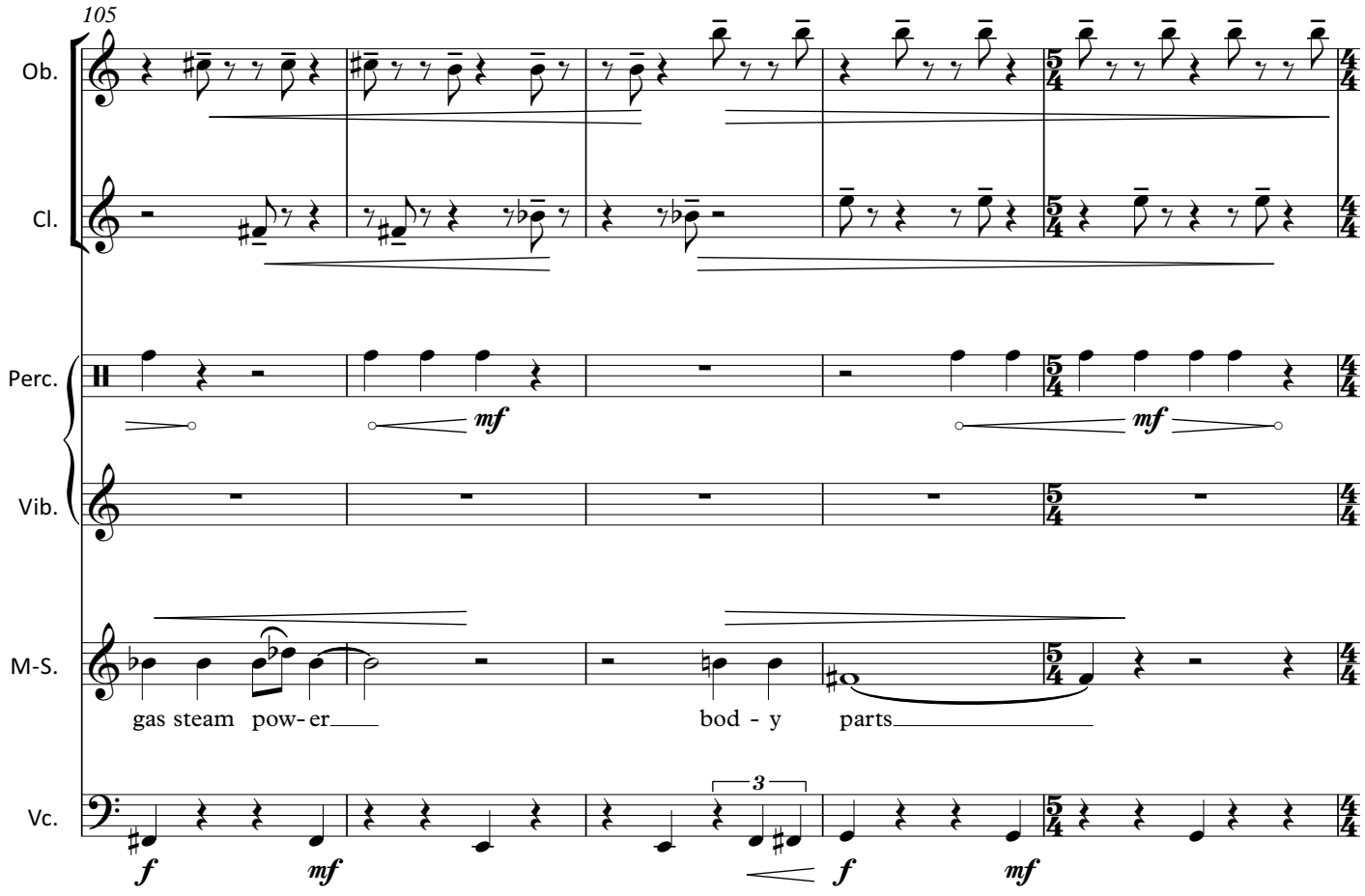

79
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
mp
rhy - thm

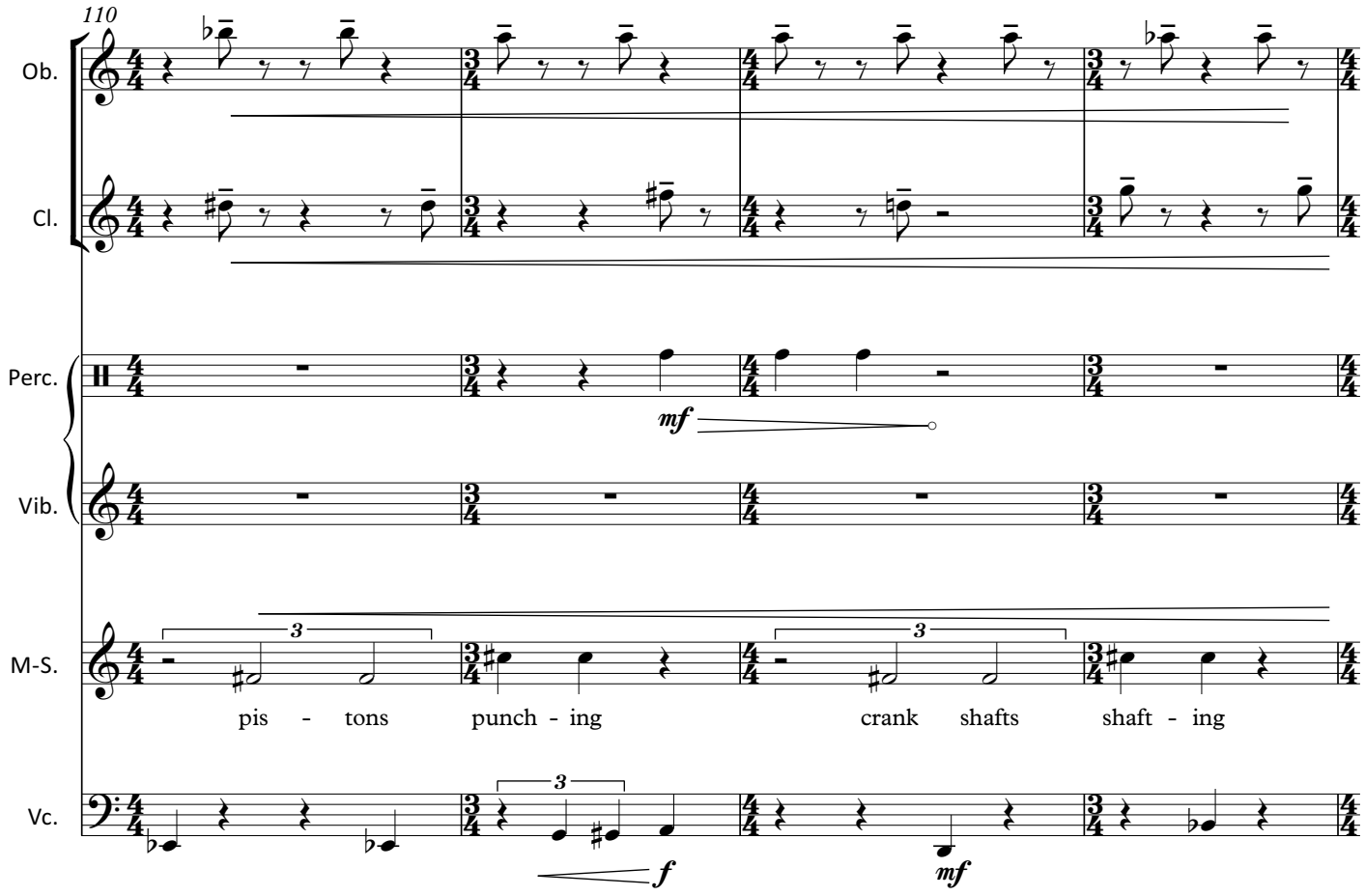

84
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mv
mv
mf
stop
stop
suck
squeeze

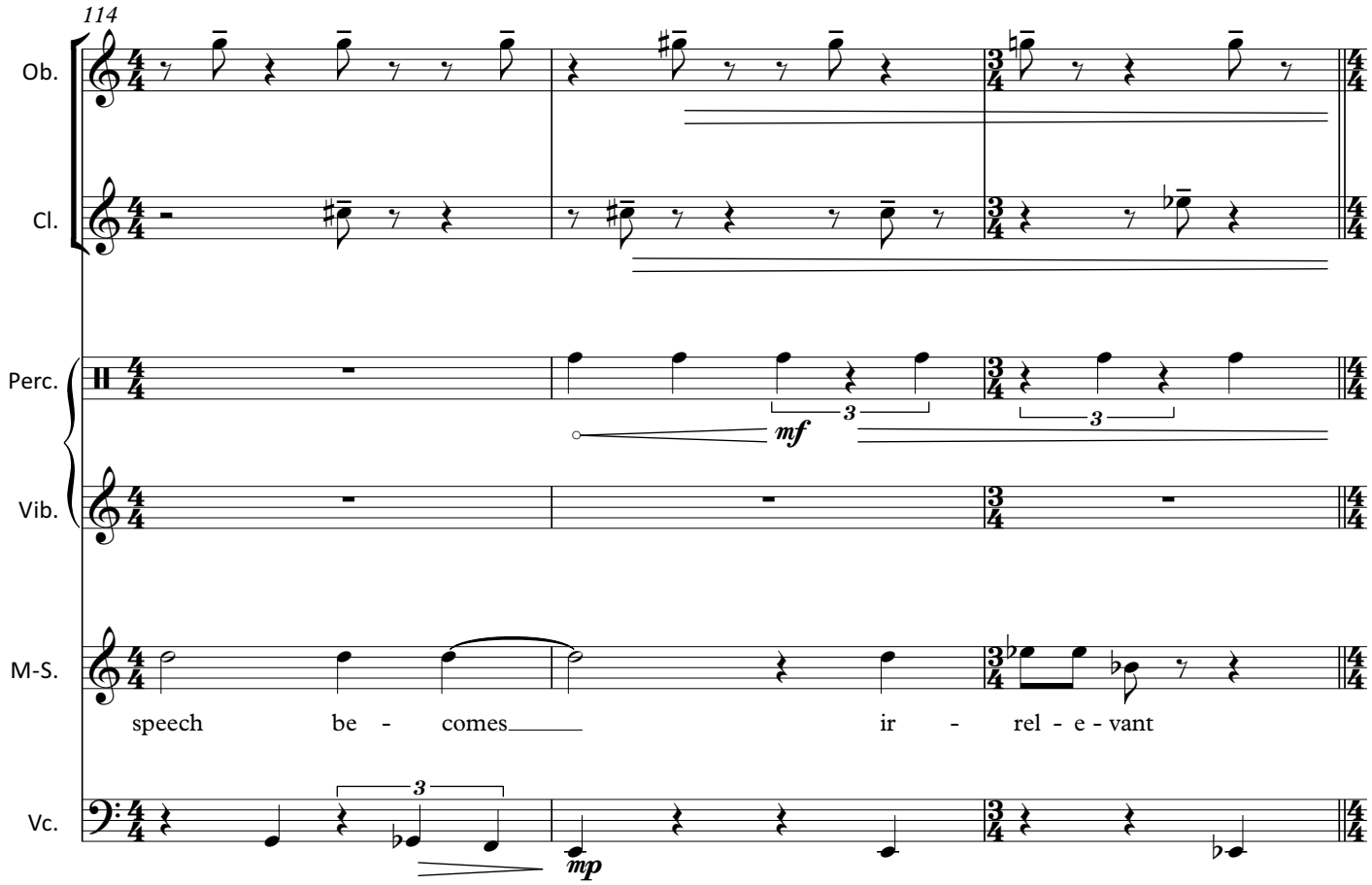

90
urgent, energetic (l'istesso tempo sim.)
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
stop
stop
claves
f espress.
blow
blow
feed the en - gine
feed the gear - box

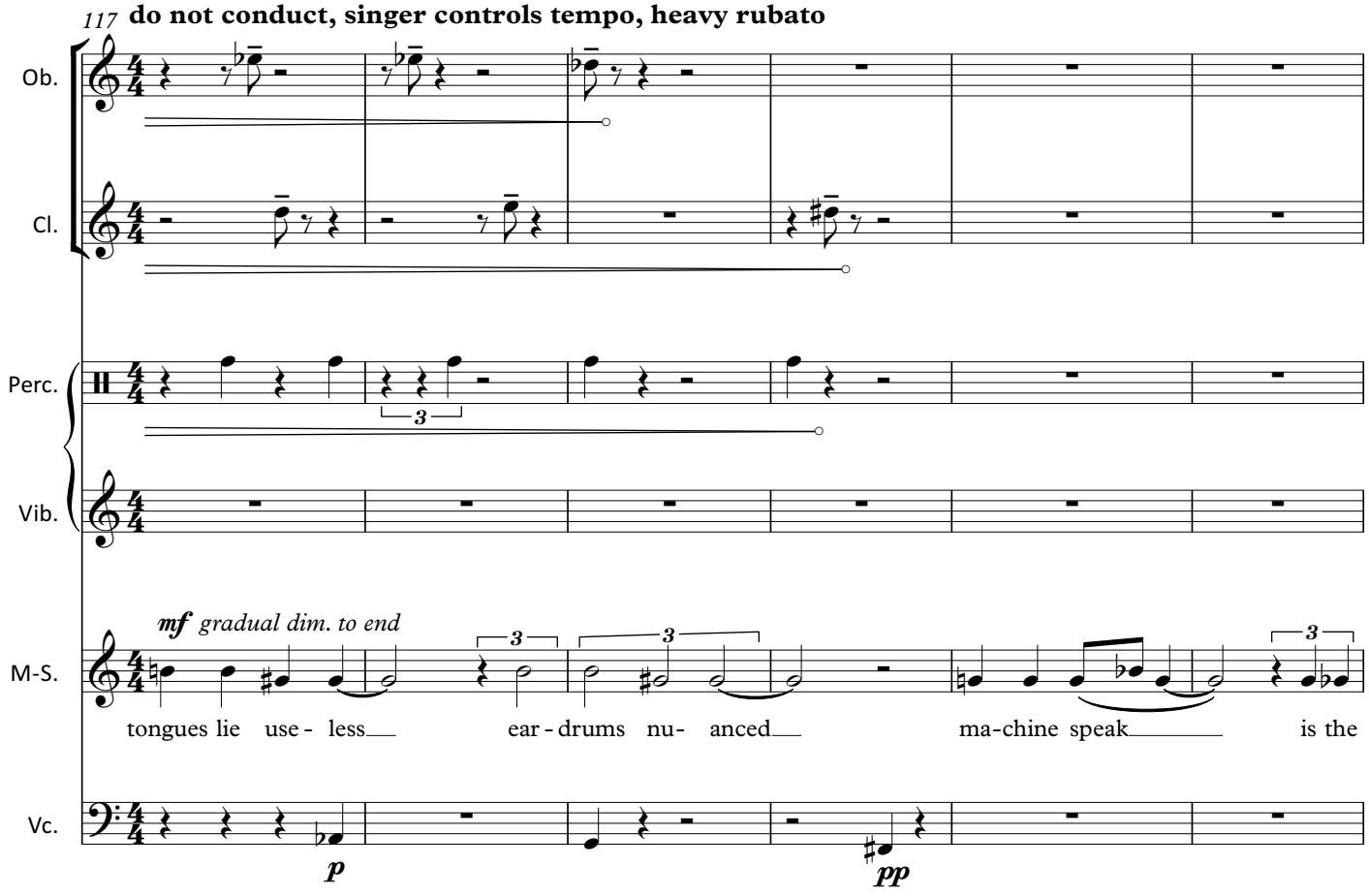

95
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
e - lec - tric-i- ty
die - sel bod-y parts
3
f
mf

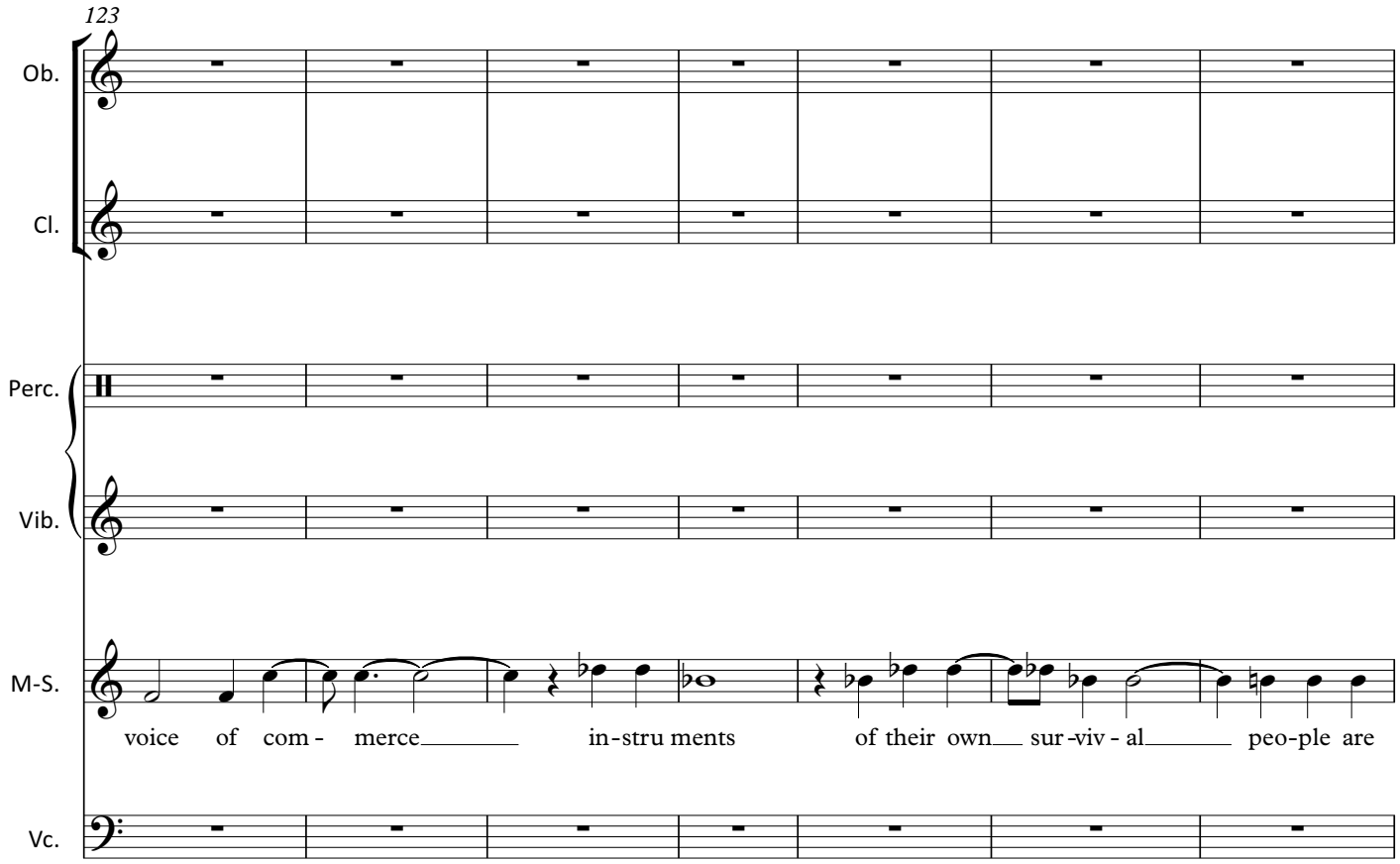

100
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
feed the pis - tons
feed the crank shaft
3

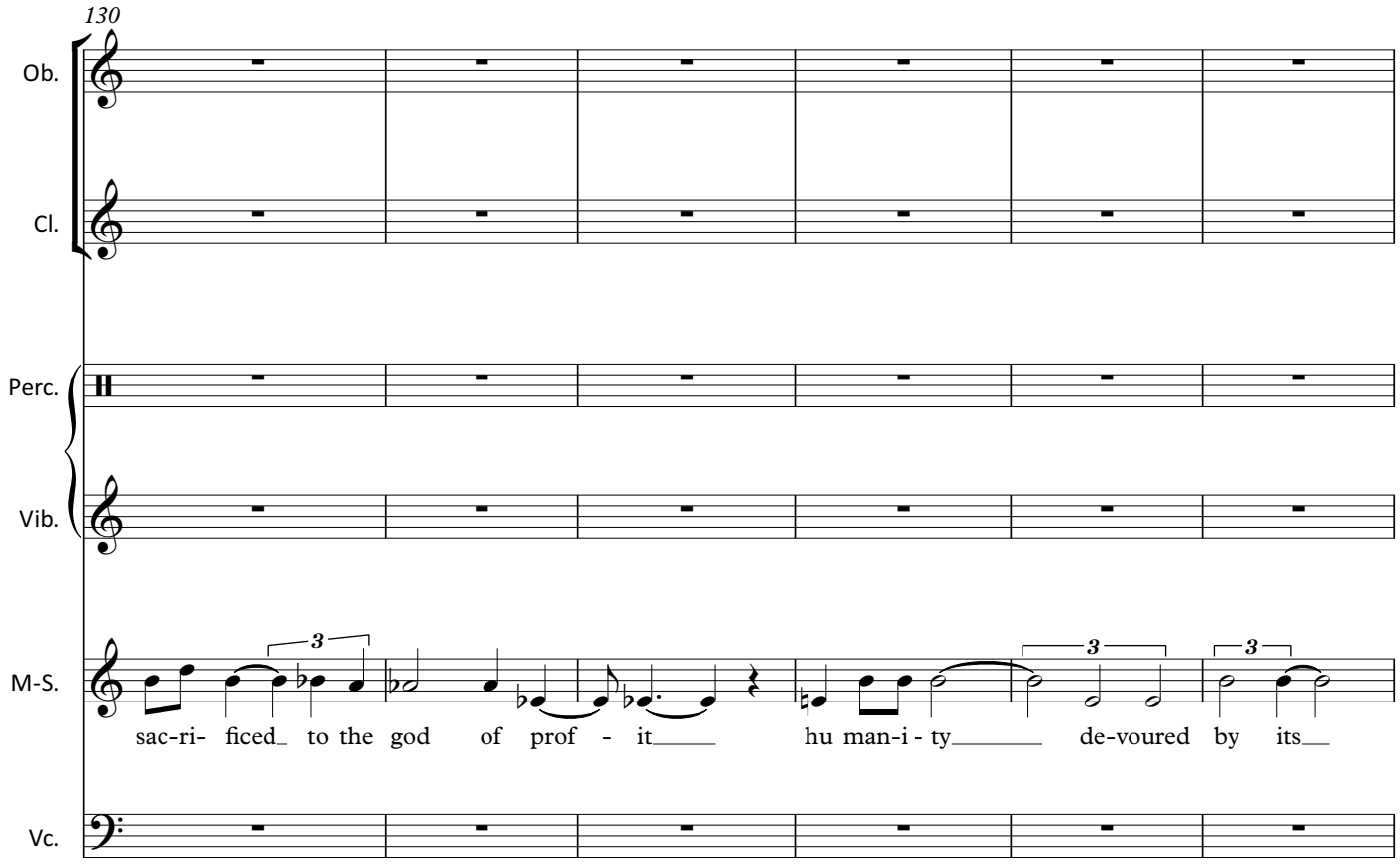

105
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
mf
gas steam pow- er
bod - y parts
3
f
mf
f
mf

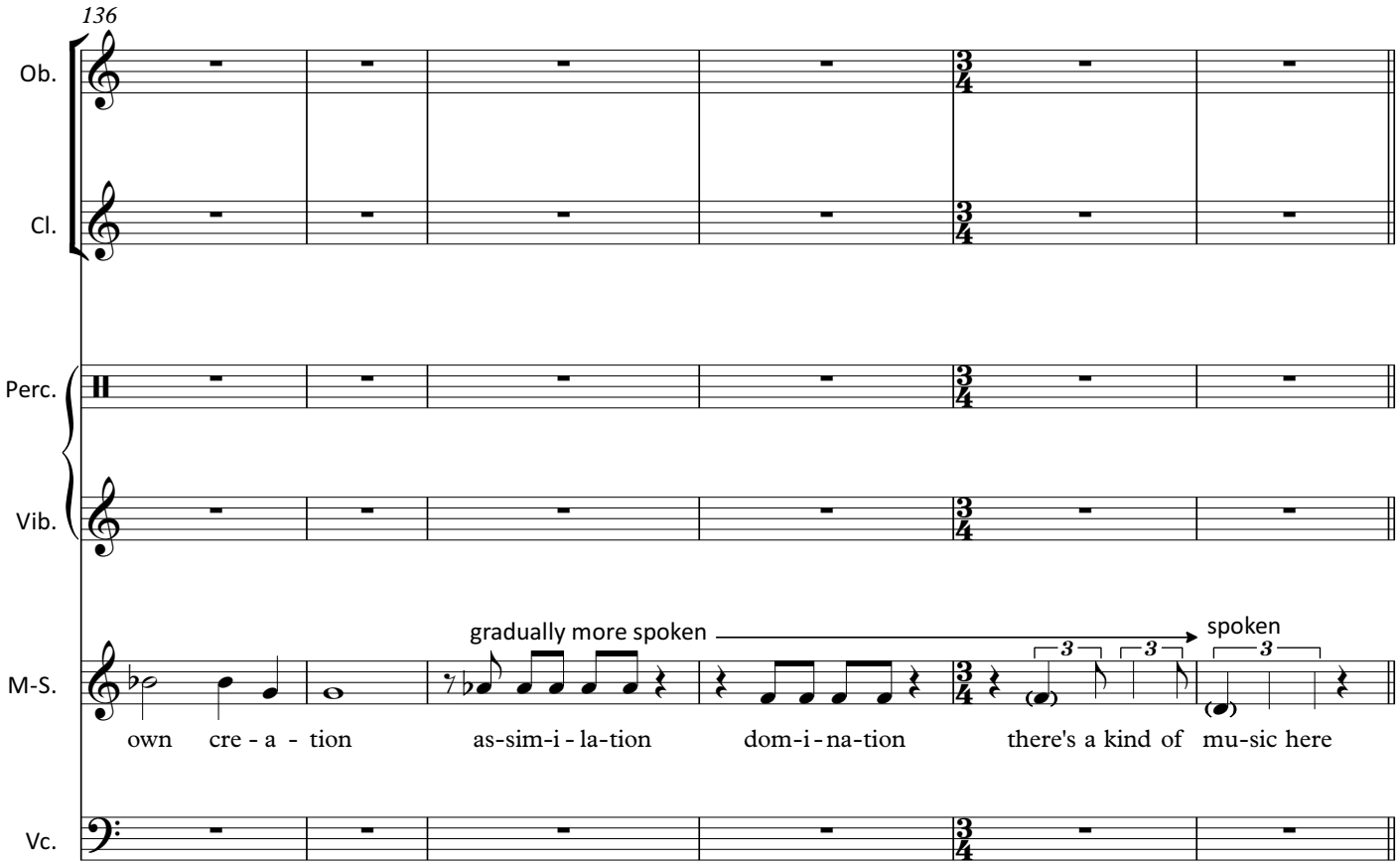

110
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
3
3
pis - tons punch - ing crank shafts shaft - ing
3
f
mf

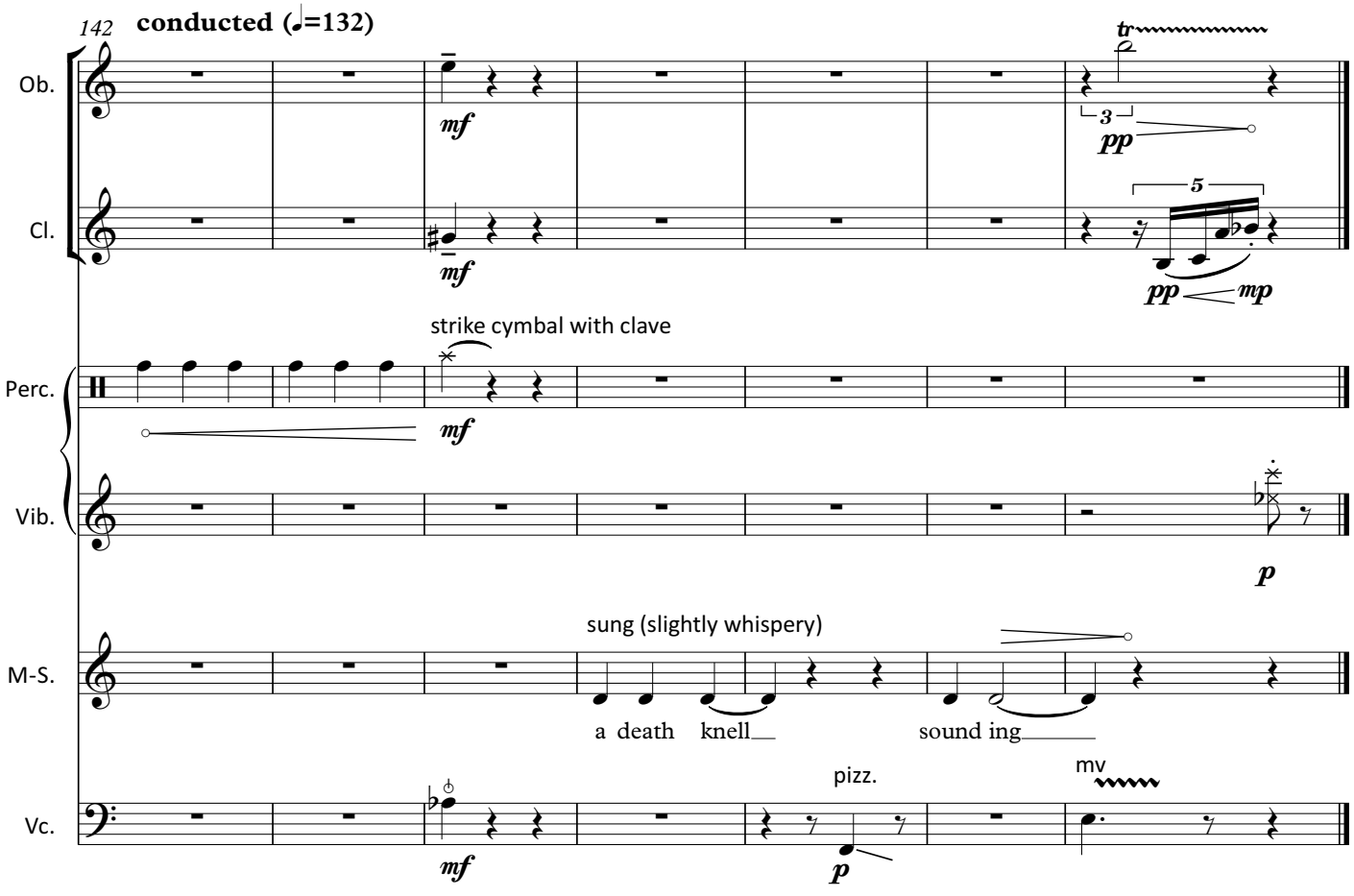

114
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf
mp
speech be - comes ir - rel - e - vant


117 do not conduct, singer controls tempo, heavy rubato
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
mf gradual dim. to end
tongues lie use - less ear - drums nu- anced ma-chine speak is the
p
pp


123
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
voice of com - merce in-stru ments of their own sur-viv - al peo-ple are


130
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
3
3
3
sac-ri- ficed to the god of prof - it hu man-i - ty de-voured by its


136
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
gradually more spoken
spoken
own cre - a - tion
as-sim-i - la-tion
dom-i - na-tion
there's a kind of mu-sic here


142
conducted (♩=132)
Ob.
Cl.
Perc.
Vib.
M-S.
Vc.
strike cymbal with clave
sung (slightly whispery)
a death knell
sound ing
pizz.
mv

Ben Gaunt

Zenir Nadith

for soprano saxophone and piano

Zenir Nadith was written for saxophonist Anthony Brown and pianist Leo Nicholson.

Zenir Nadith is a study in speed and density. As the saxophone material becomes slower, the piano material becomes faster. A small central section features both instruments playing in rhythmic unison.

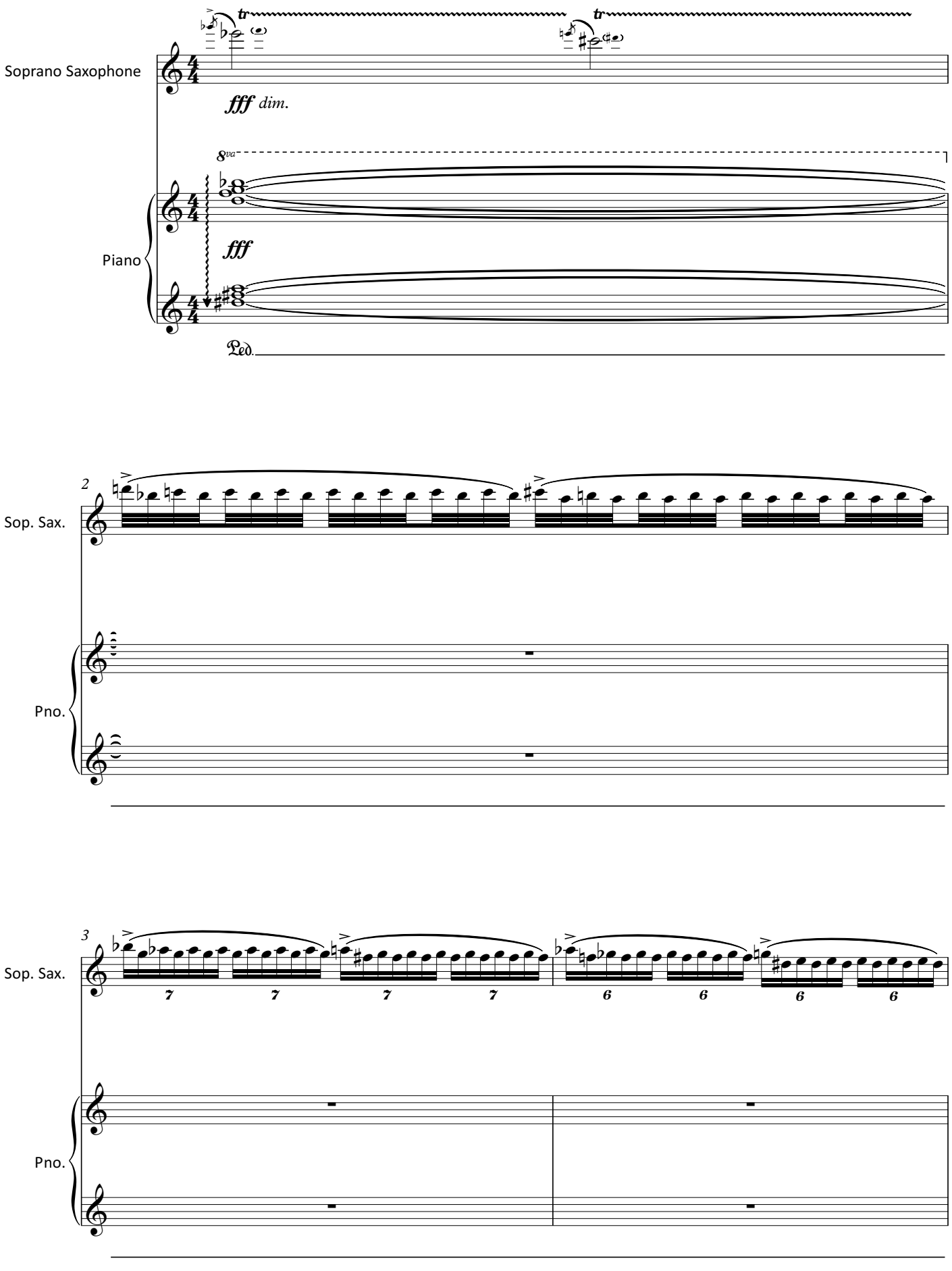
Year of Composition: 2013
Duration: c. 6'
Transposed Score

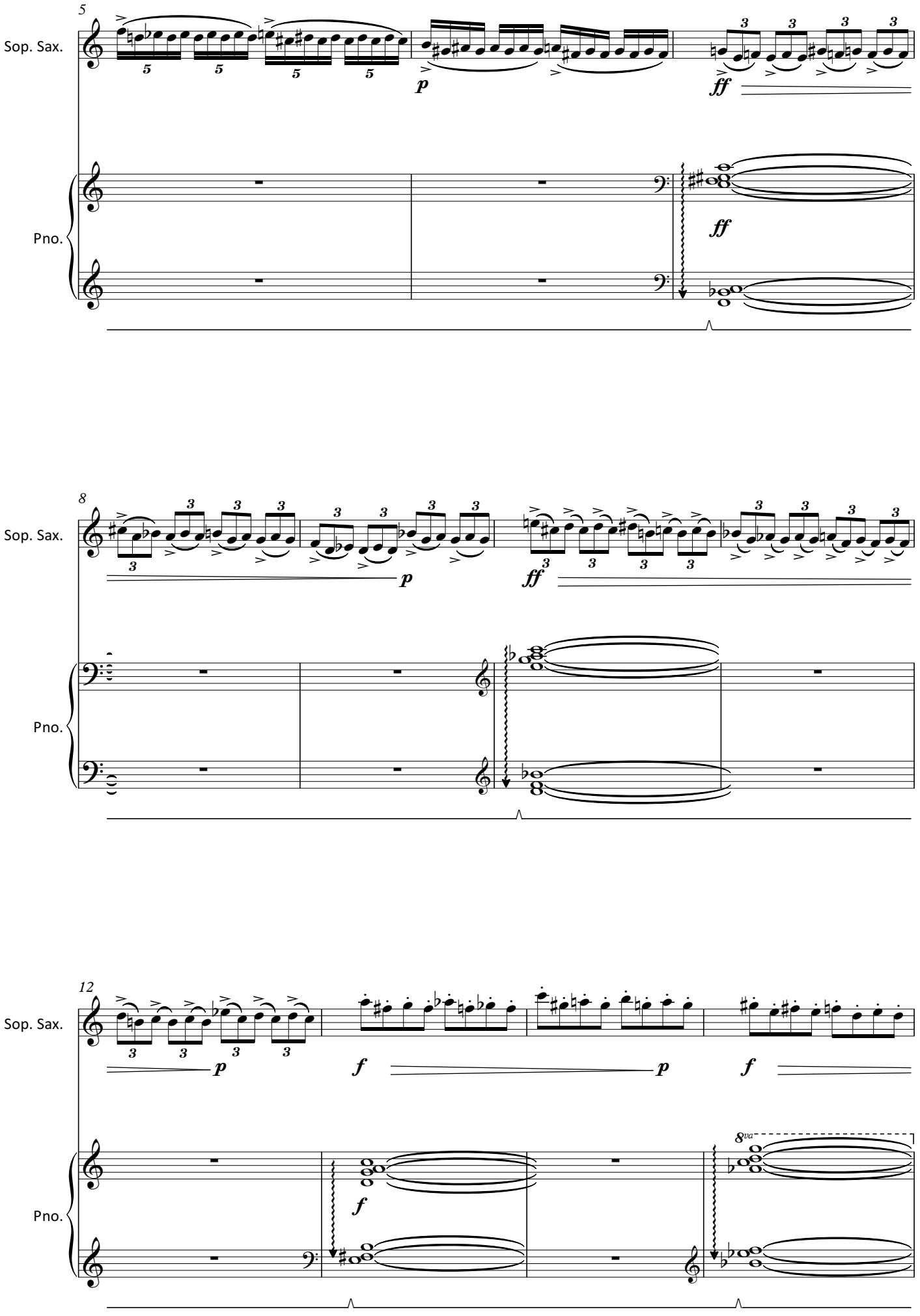
for Anthony Brown and Leo Nicholson

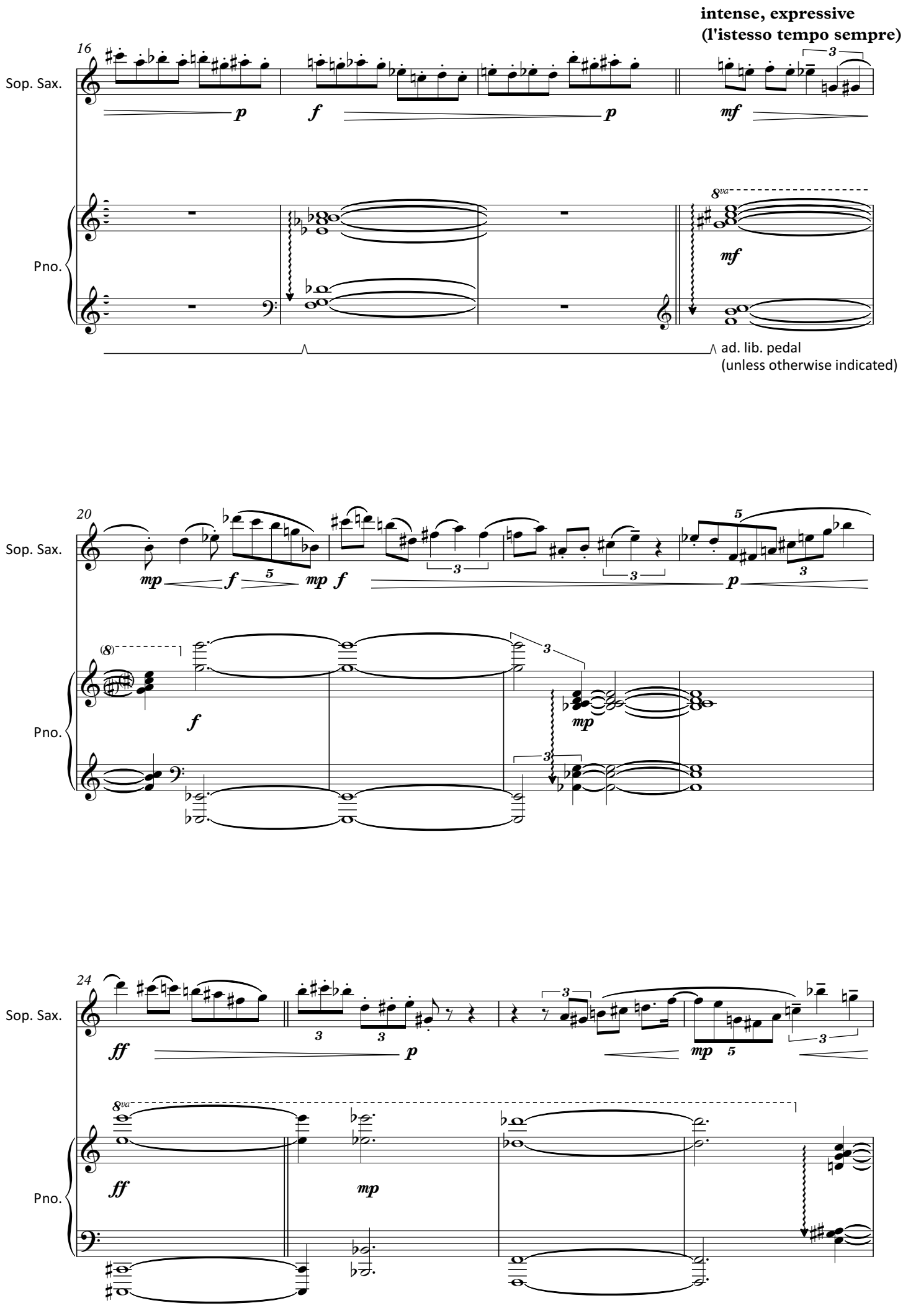
Zenir Nadith

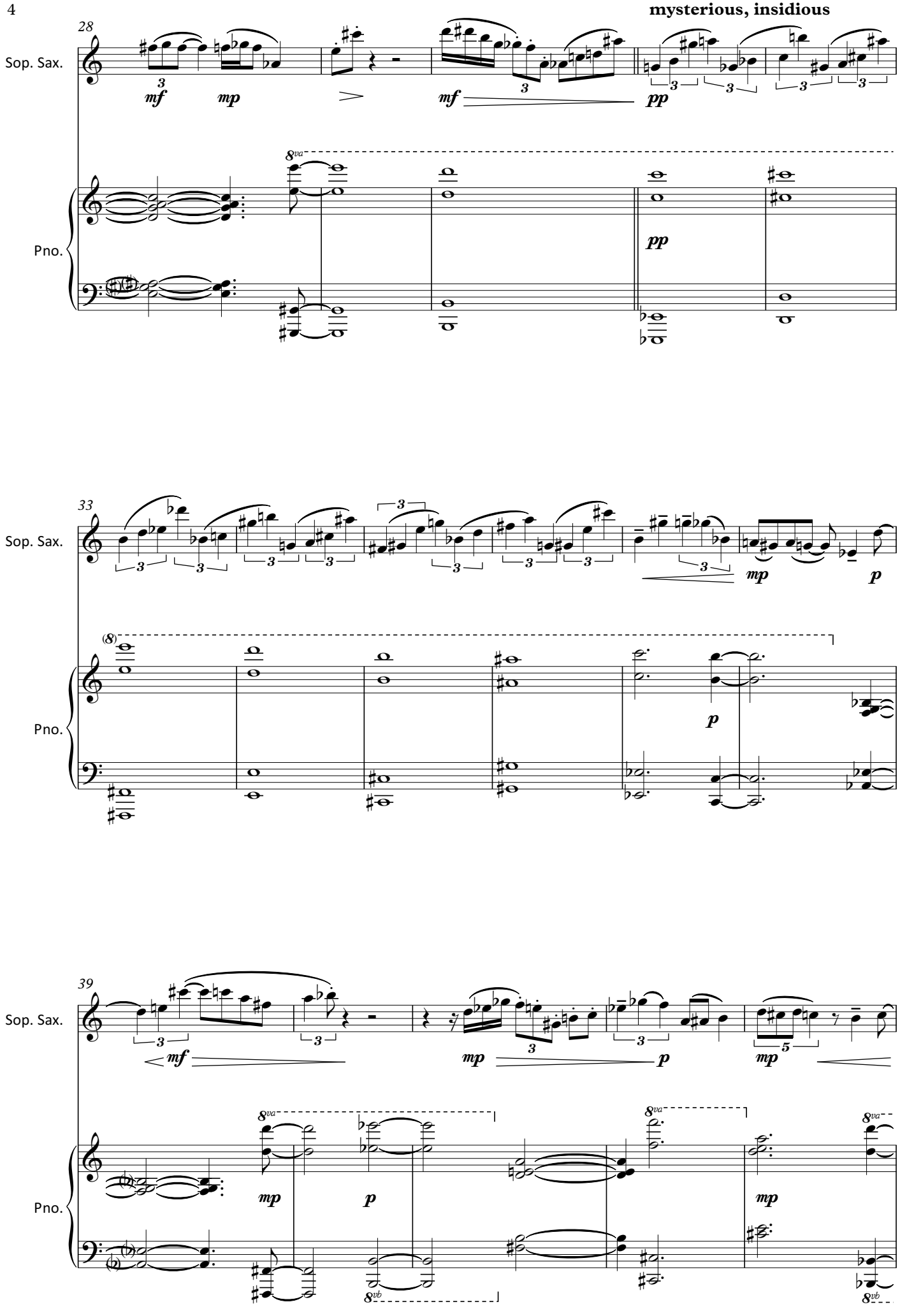
frantic, explosive ♩=100

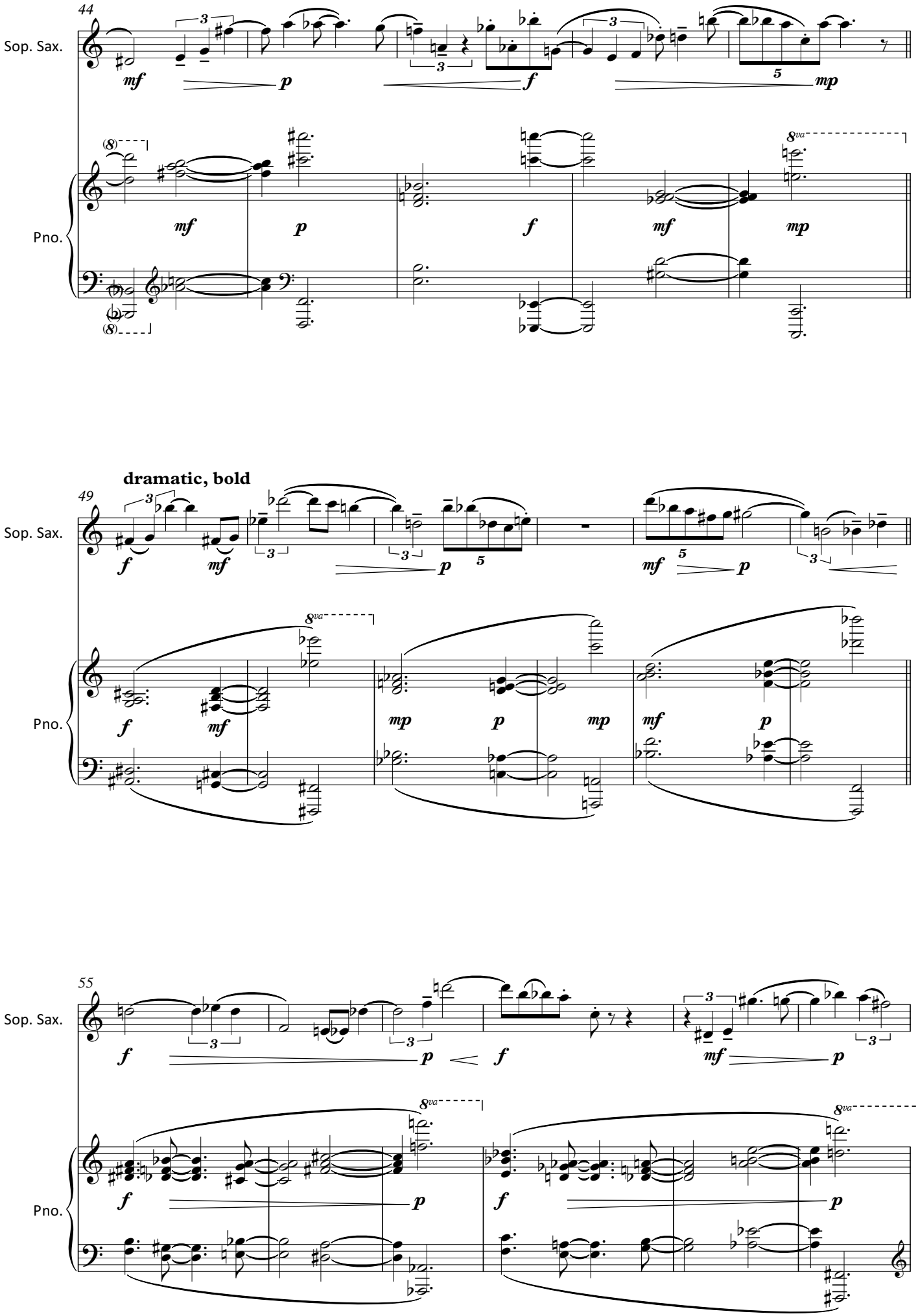
Ben Gaunt

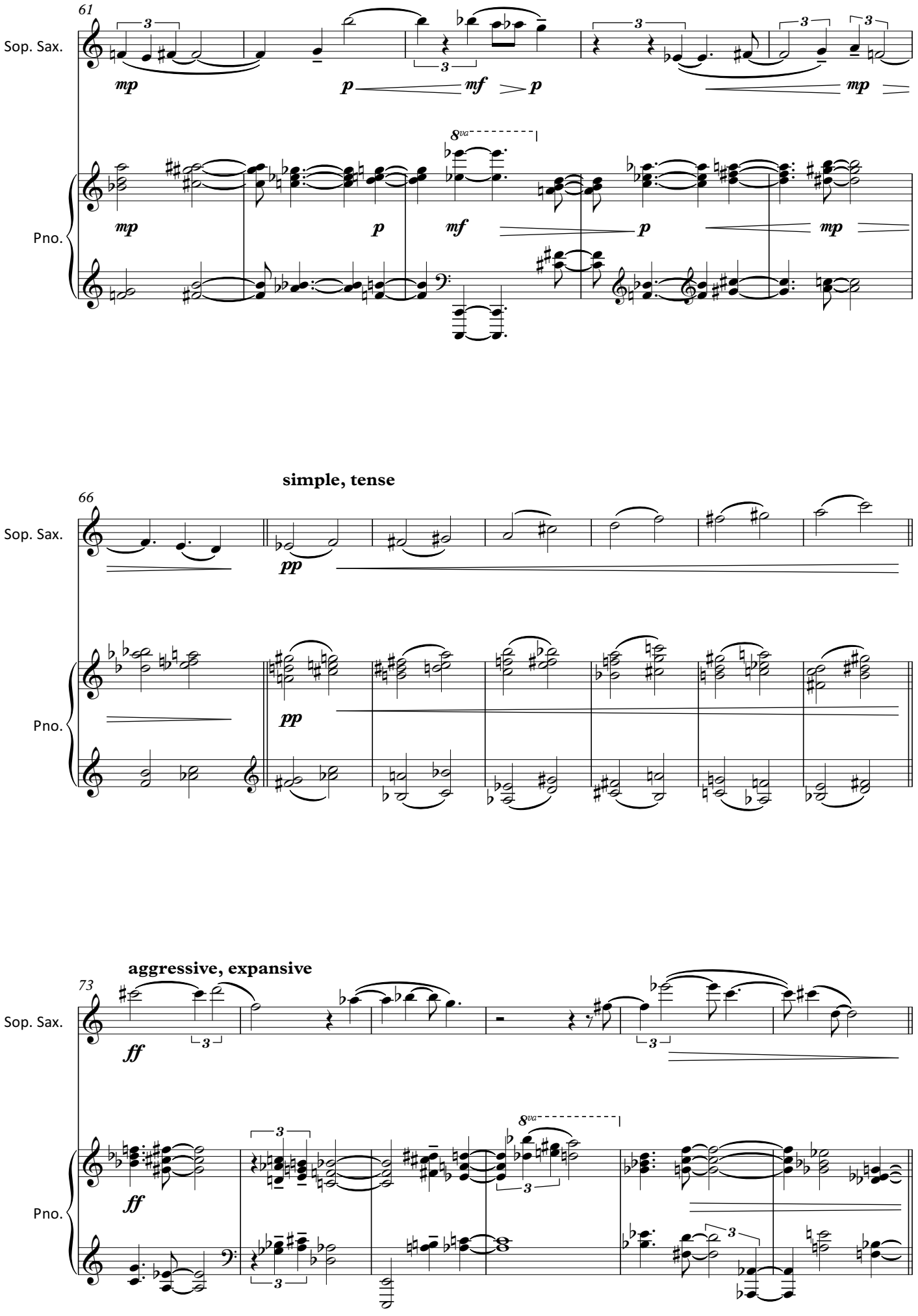


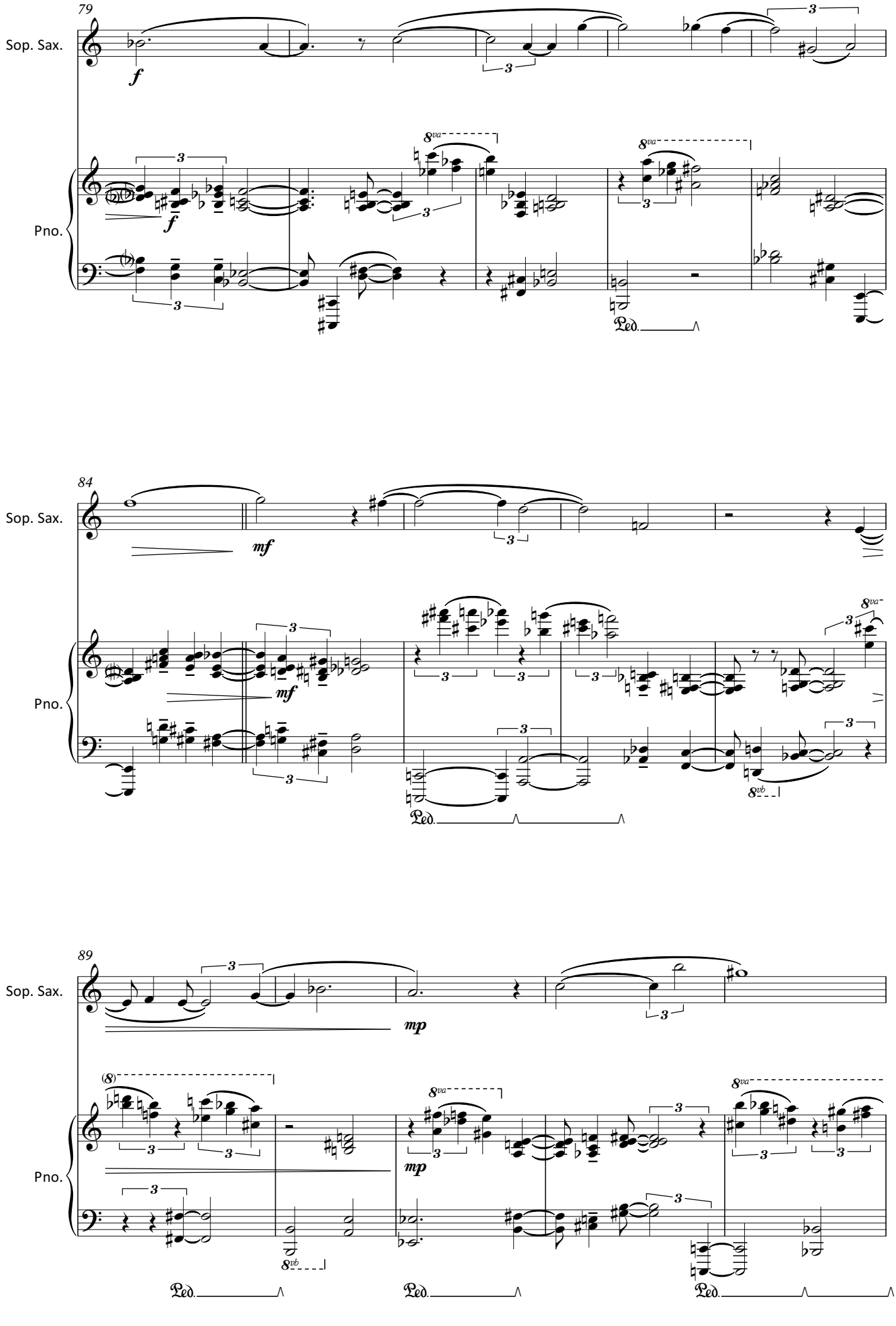

5
Sop. Sax.
Pno.
p
ff
ff
8
Sop. Sax.
Pno.
p
ff
12
Sop. Sax.
Pno.
p
f
p
f
f
8va

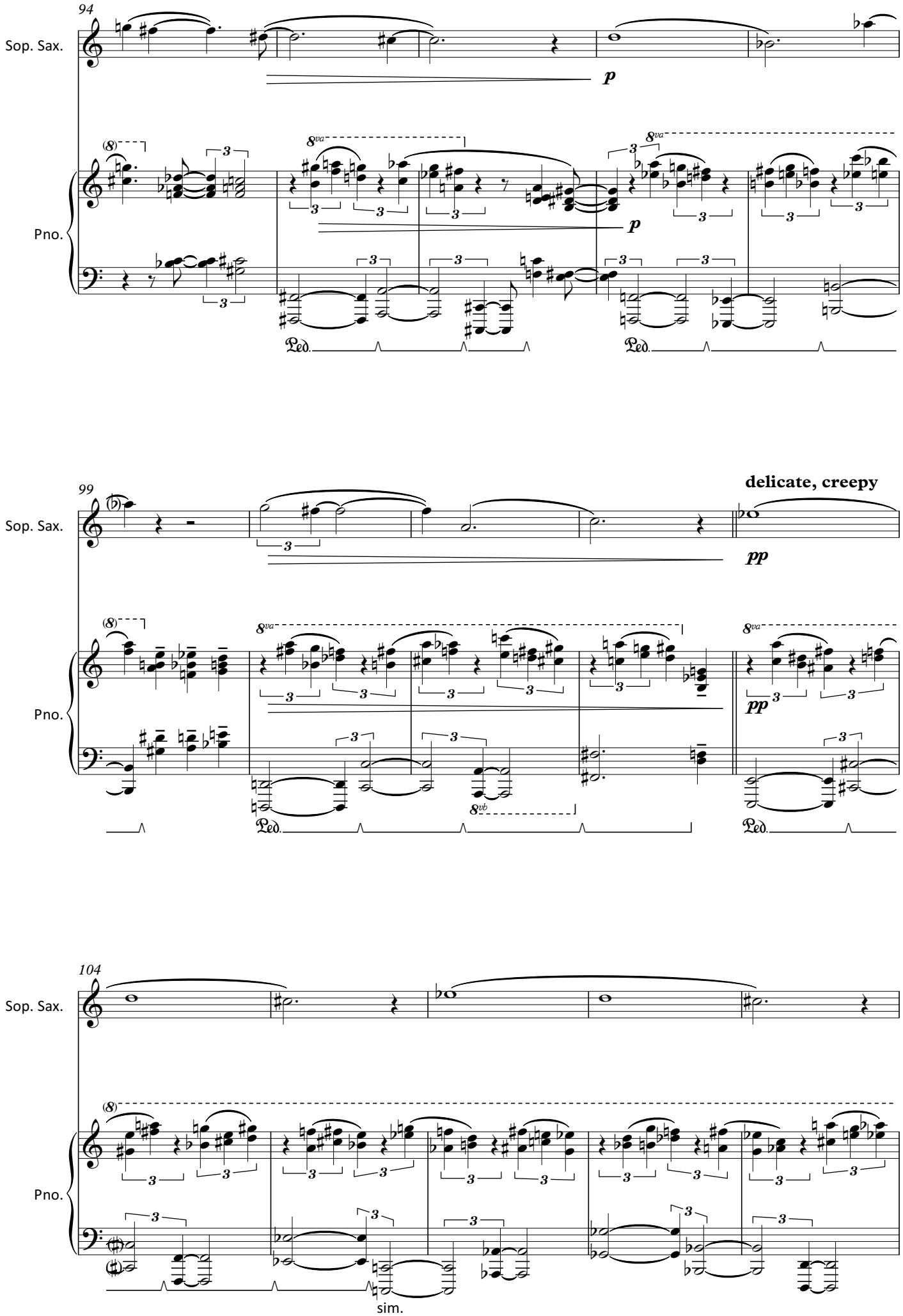

intense, expressive
(l'istesso tempo sempre)
16
Sop. Sax.
Pno.
8va
ad. lib. pedal
(unless otherwise indicated)
20
Sop. Sax.
Pno.
(8)
24
Sop. Sax.
Pno.
8va

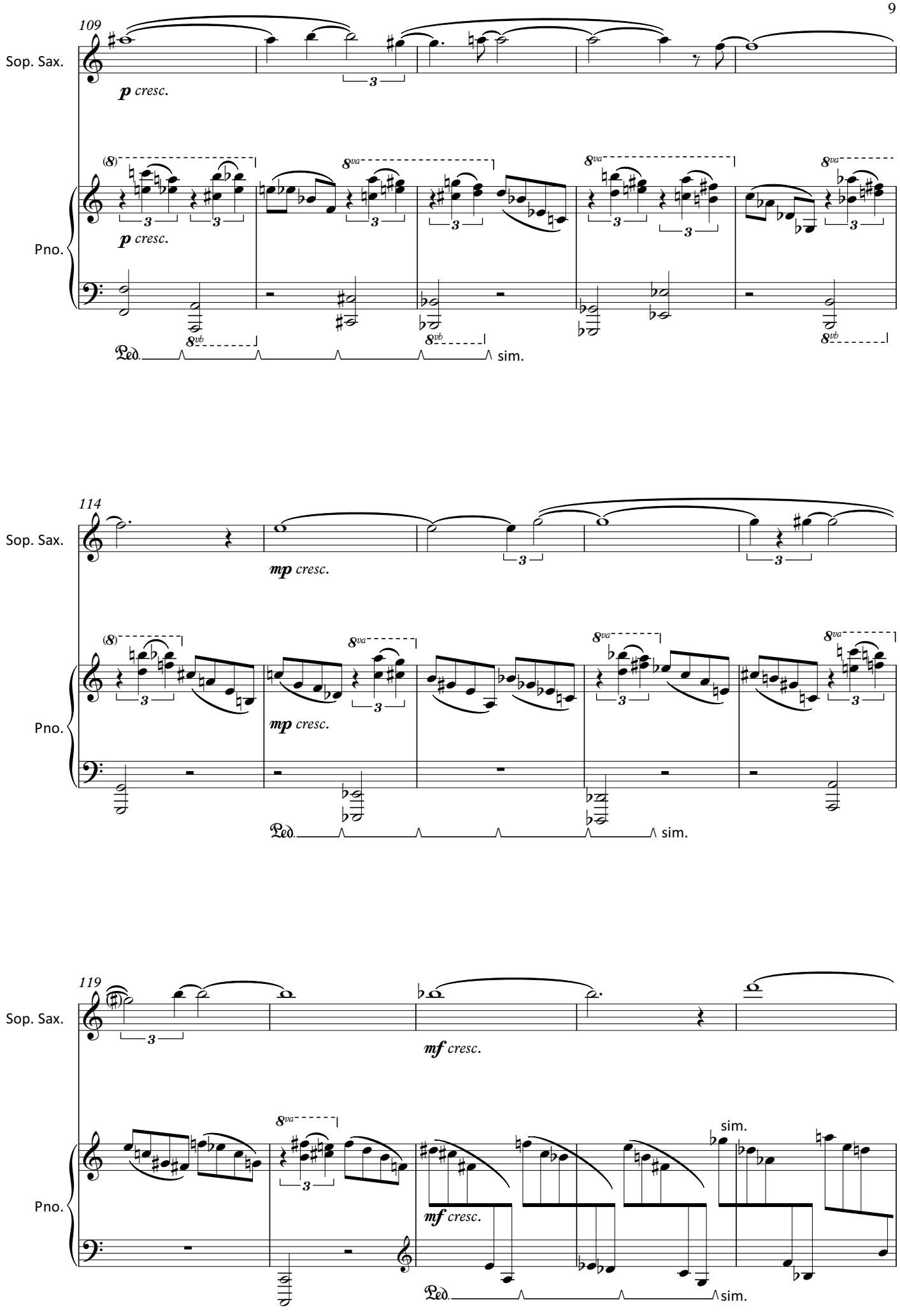

mysterious, insidious
28
Sop. Sax.
Pno.
mf
mp
mf
pp
pp
8va
33
Sop. Sax.
Pno.
mp
p
p
(8)
39
Sop. Sax.
Pno.
mf
mp
p
mp
mp
p
8va
8vb

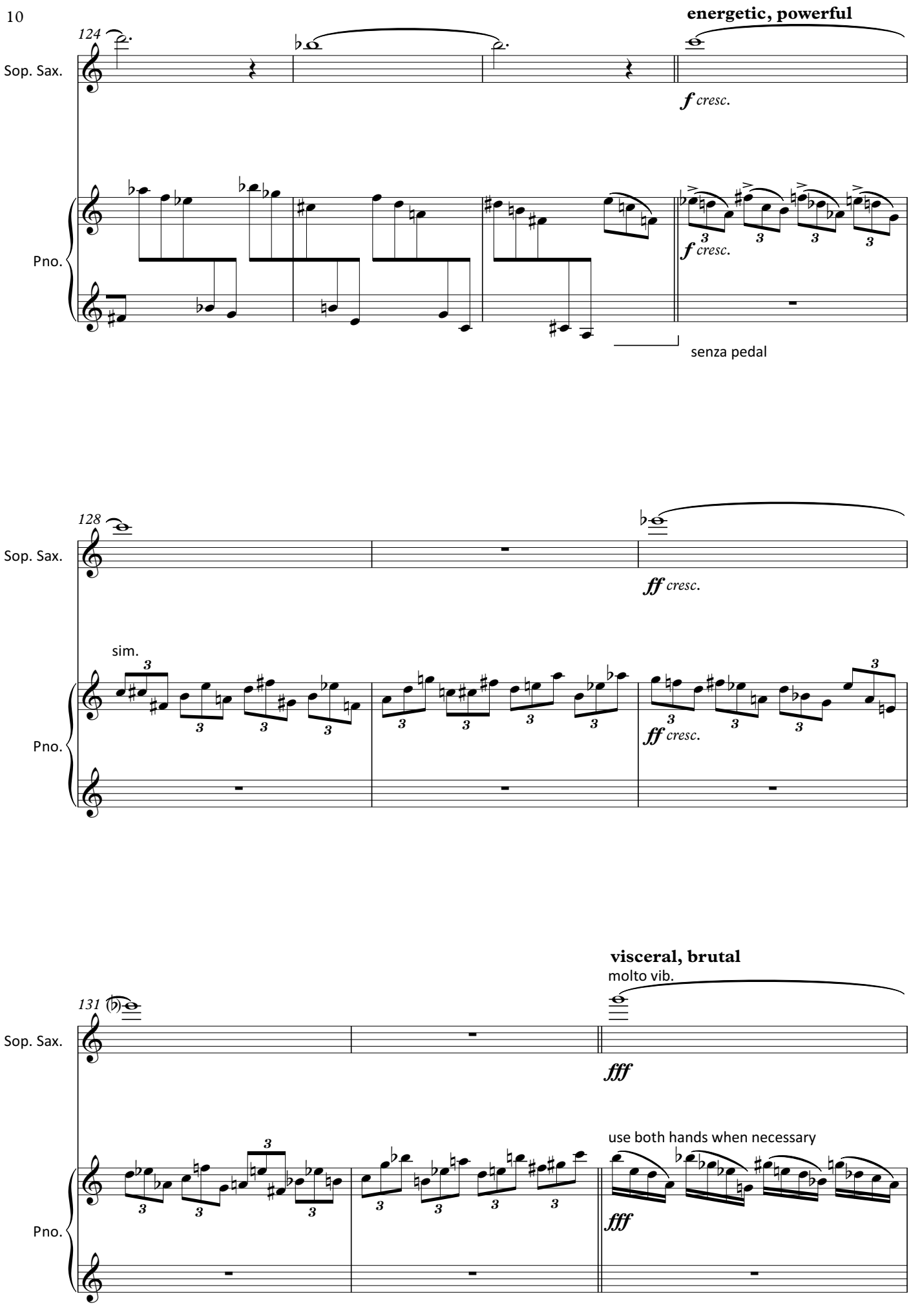

44
Sop. Sax.
Pno.
mf
p
f
mp
dramatic, bold
49
55

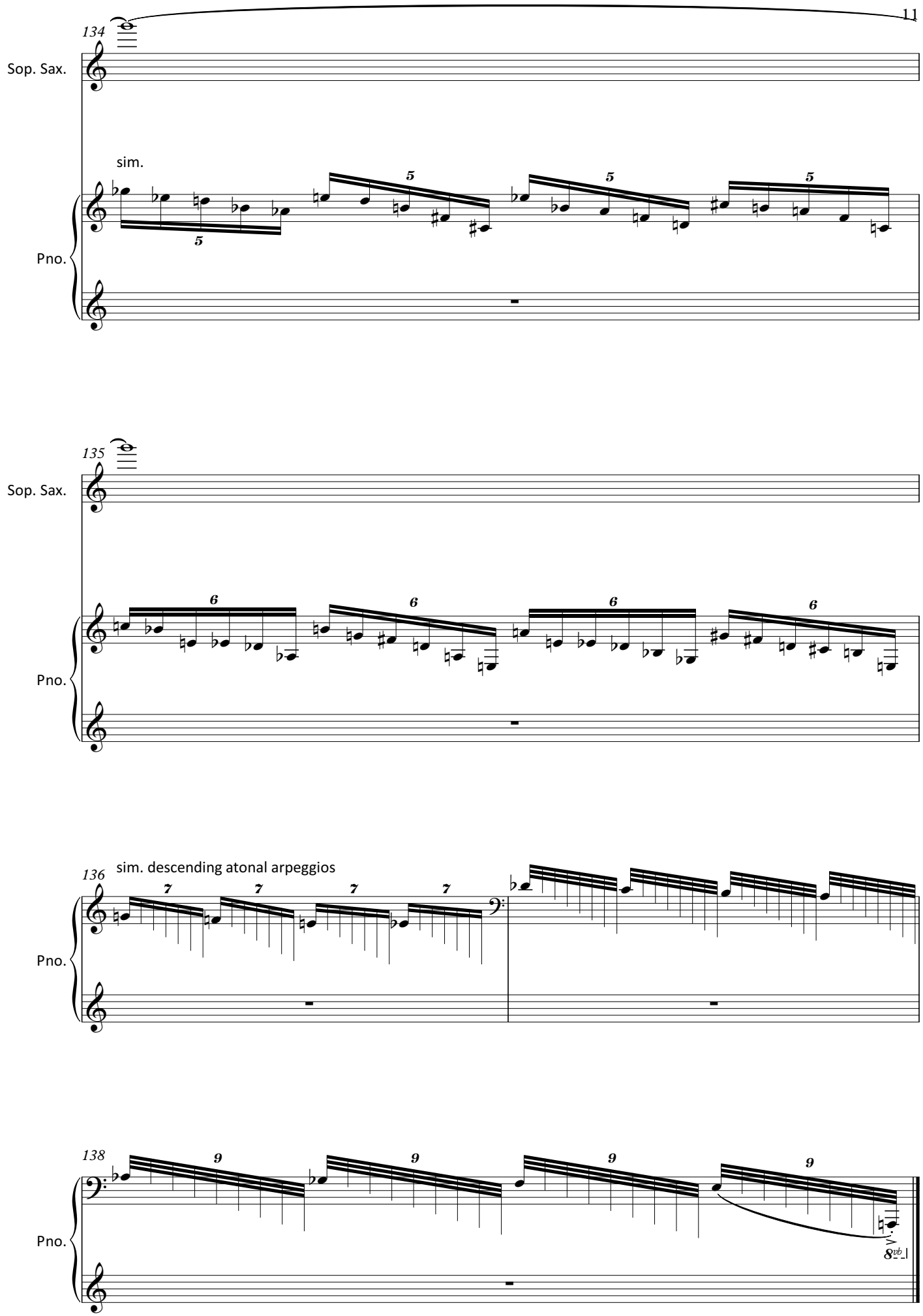

61
Sop. Sax.
Pno.
mp
p
mf
p
mp
8va
66
simple, tense
pp
73
aggressive, expansive
ff
3


79
Sop. Sax.
Pno.
84
Sop. Sax.
Pno.
89
Sop. Sax.
Pno.


94
Sop. Sax.
Pno.
p
8va
Ped.
99
delicate, creepy
pp
8vb
104
sim.


109
Sop. Sax.
p cresc.
Pno.
p cresc.
sim.
114
Sop. Sax.
mp cresc.
Pno.
mp cresc.
sim.
119
Sop. Sax.
mf cresc.
Pno.
mf cresc.
sim.
sim.


energetic, powerful
124
Sop. Sax.
f cresc.
Pno.
f cresc.
senza pedal
128
Sop. Sax.
ff cresc.
sim.
Pno.
ff cresc.
visceral, brutal
molto vib.
131
Sop. Sax.
fff
use both hands when necessary
Pno.
fff


134
Sop. Sax.
sim.
Pno.
135
Sop. Sax.
Pno.
136
sim. descending atonal arpeggios
Pno.
138
Pno.
8vb

Ben Gaunt

Factory Detritus

for piano four hands

Factory Detritus was commissioned by Gary O'Shea, and performed by the commissioner and the composer at the University of Sheffield NME concert, 5th of November, 2013.

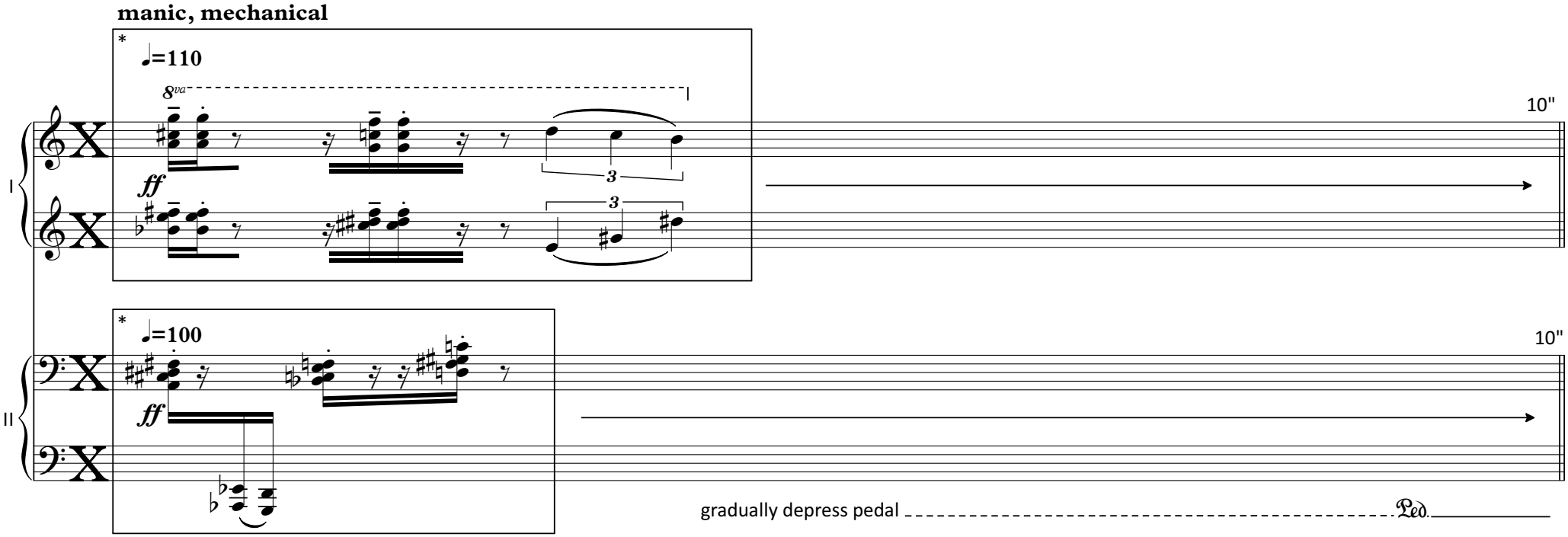
A machine operates in a factory for 10 seconds, and then stops.
A machine operates in a factory for 20 seconds, and then stops.
A machine operates in a factory for 30 seconds, and then stops.
A machine operates in a factory for 40 seconds, and then stops.

Year of Composition: 2013
Duration: c. 6'

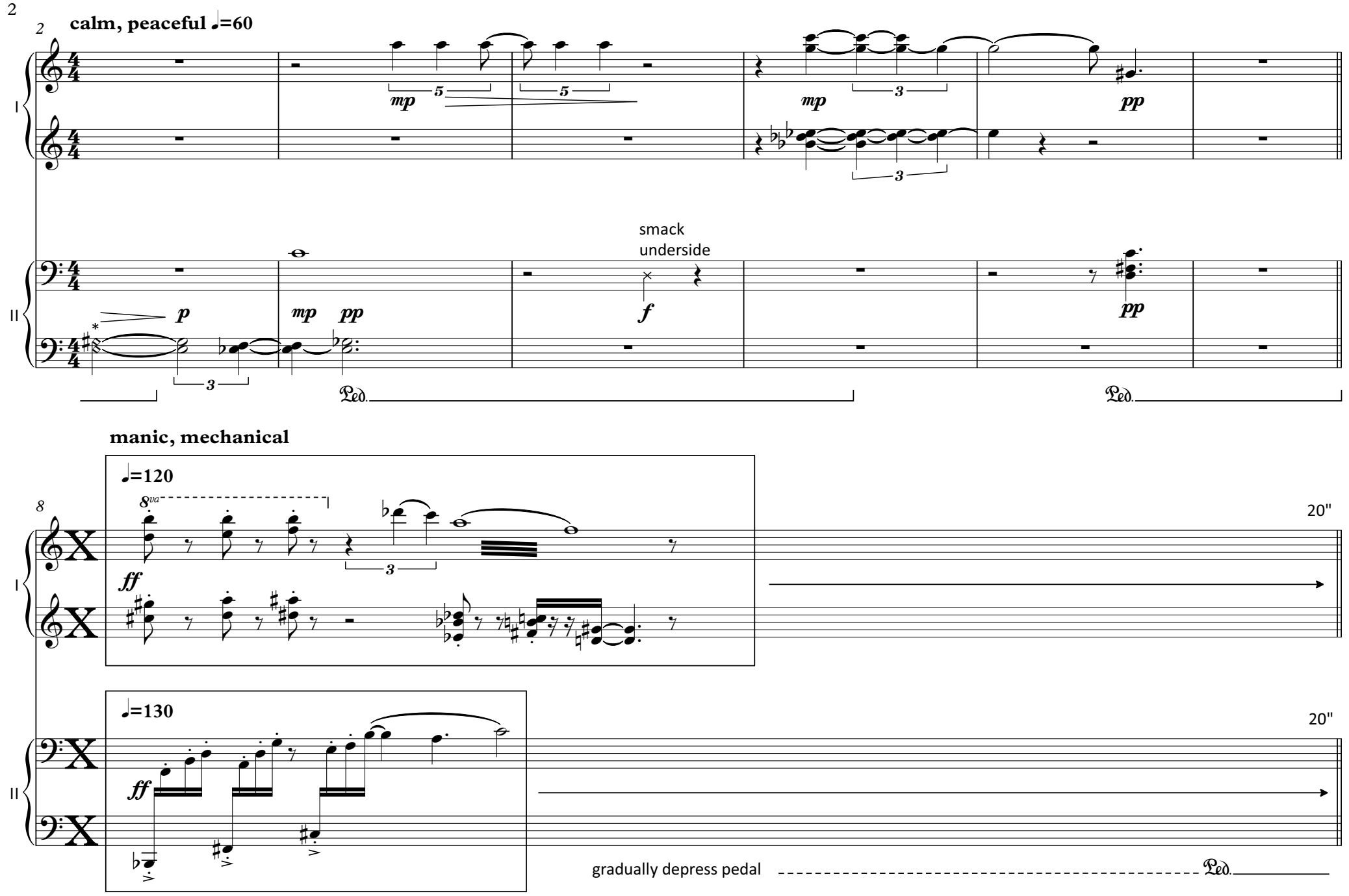
Factory Detritus

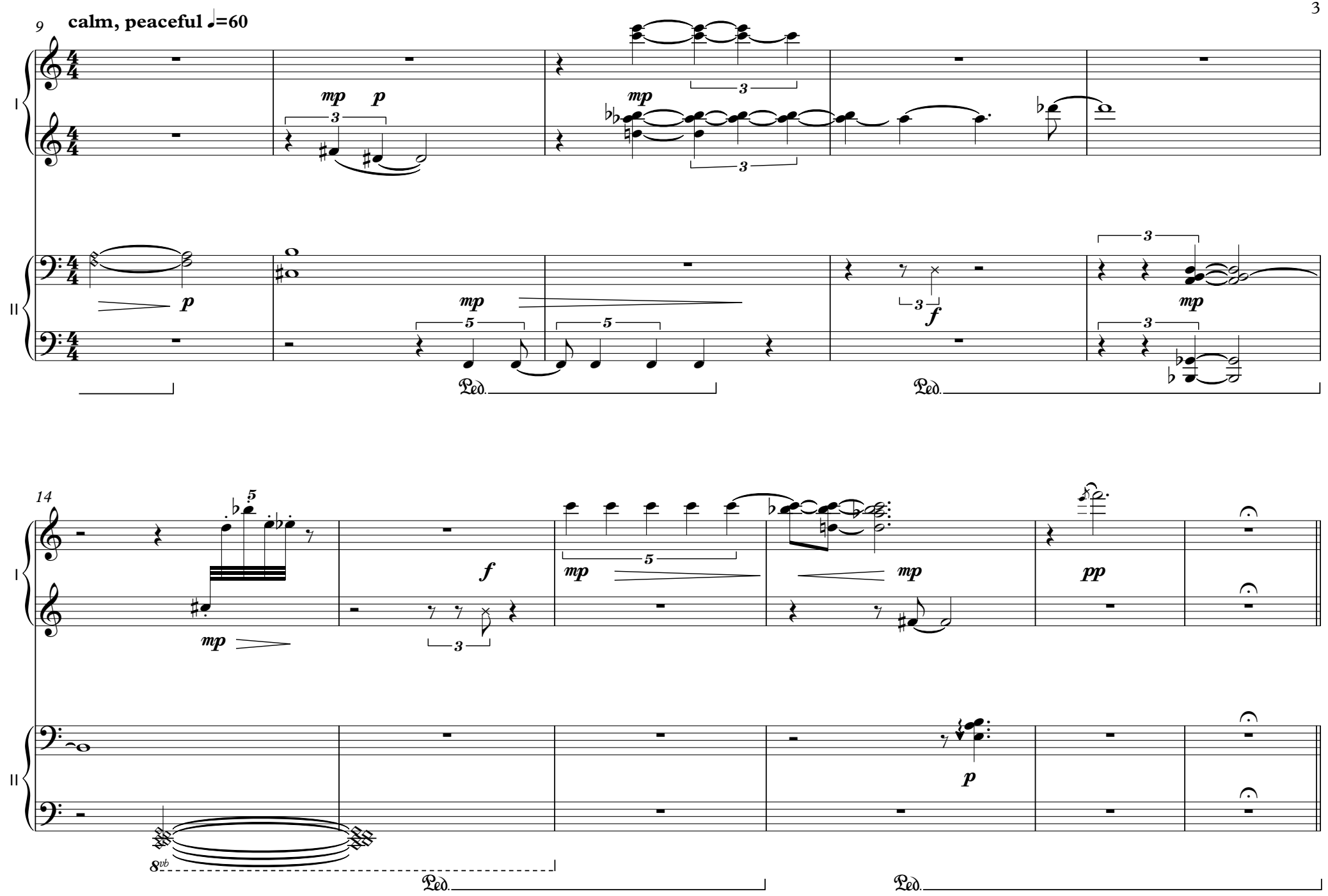
for piano four hands

Ben Gaunt



* both pianists should begin their boxed notation simulaneously, and repeat the box for the given length of time, with no pause inbetween each repetition


2
calm, peaceful ♩=60
mp
mp
pp
p
mp
pp
smack
underside
f
pp
Ped.
Ped.
manic, mechanical
♩=120
8va
ff
20"
♩=130
ff
20"
gradually depress pedal
Ped.
*silently depress notes


9
calm, peaceful ♩=60
I
II
mp
p
3
mp
3
p
mp
5
5
Ped.
3
f
3
mp
3
Ped.
14
5
mp
f
3
mp
5
mp
pp
p
8vb
Ped.
Ped.

manic, mechanical

20

♩=90

ff

30"

♩=110

ff

30"

gradually depress pedal

Ped.

21

calm, peaceful ♩=60

mp

p

mf mp f

mf

p

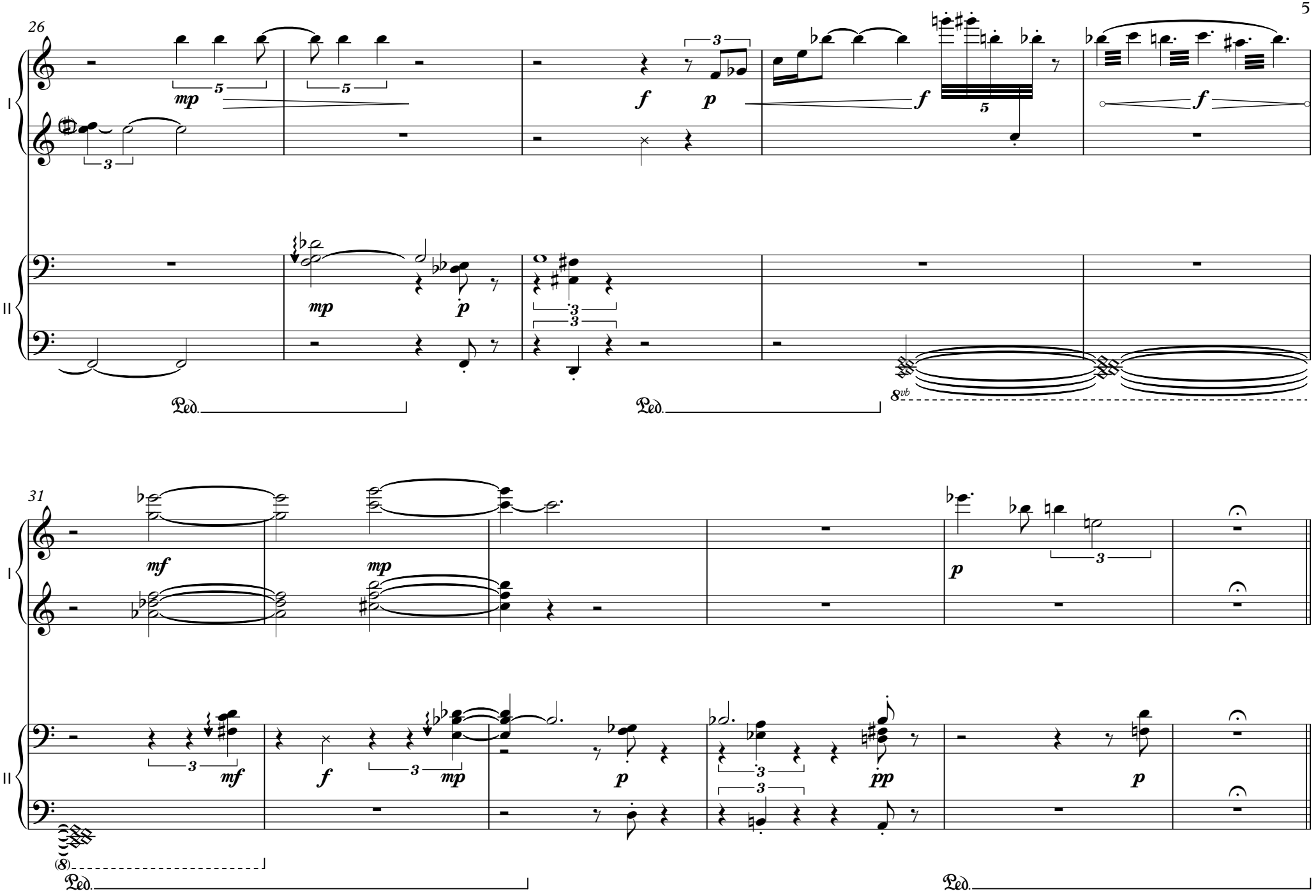
mp

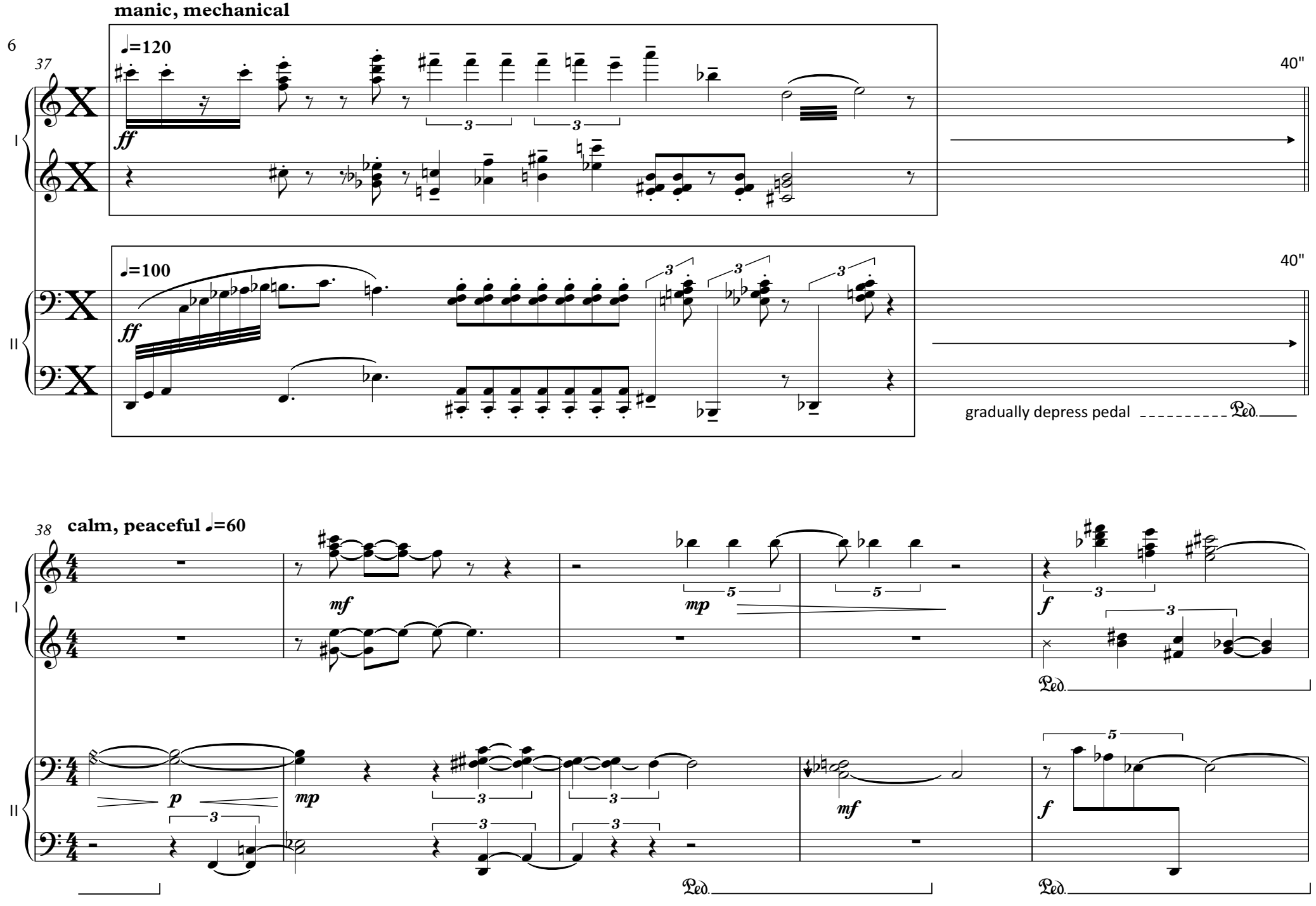
mf

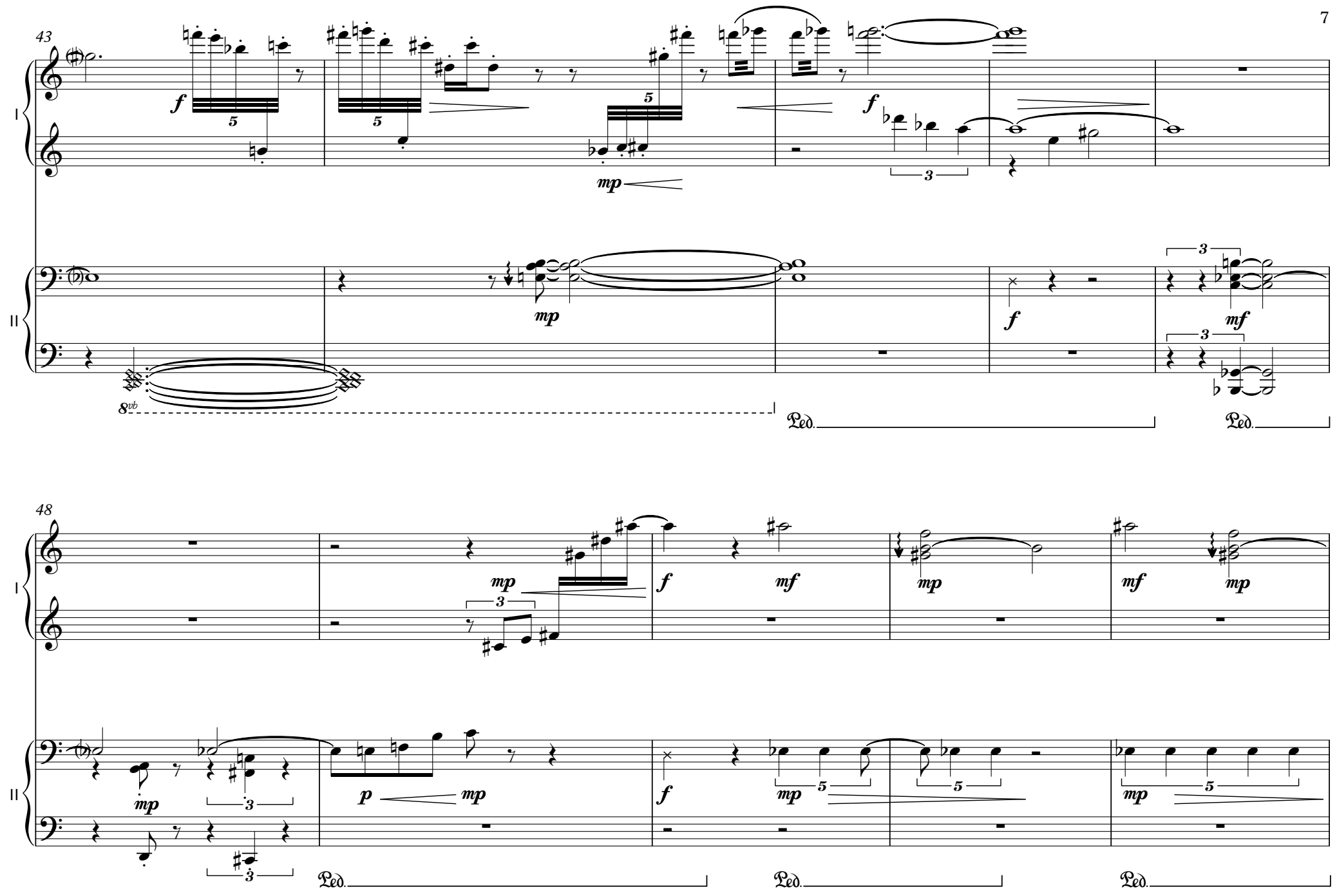
8vb

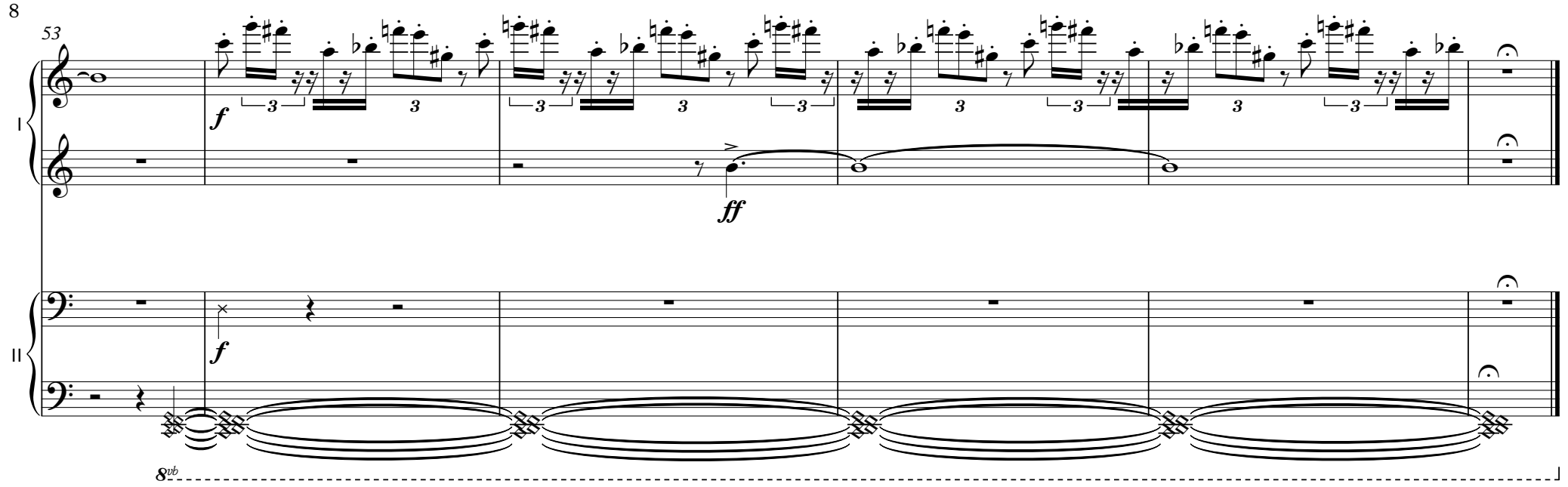
Ped.

Ped.


26
I
II
mp
f
p
f
f
mp
p
8vb
Ped.
Ped.
31
mf
mp
p
mf
f
mp
p
pp
p
(8)
Ped.
Ped.


manic, mechanical
37
♩=120
ff
40"
♩=100
ff
40"
gradually depress pedal
Ped.
38
calm, peaceful ♩=60
mf
mp
f
p
mp
mf
f
Ped.
Ped.
Ped.


43
I
II
f
mp
mf
8vb
Ped.
48
p


53
I
II
f
ff
f
8vb

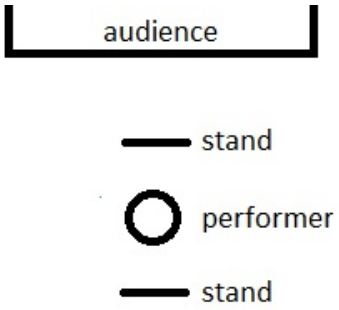
Ben Gaunt

Residuum VIII
for solo trombone

The Inflation Ritual

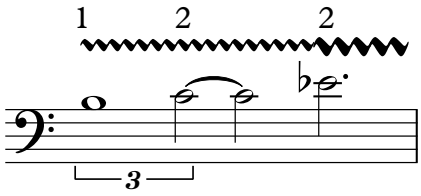
The Inflation Ritual is made up of 16 movements, that grow in length, range and complexity. The final movement extends too far, and deflates as a result. The work was composed by trombonist Heider Nasralla, written in 2014, and performed in Copenhagen on the 28th July 2014.

The piece requires two music stands, one solotone mute and one snare drum. Initially, the performer faces away from the audience, and plays the first five movements using the mute. The performer then turns around; both music stands are setup to facilitate this:

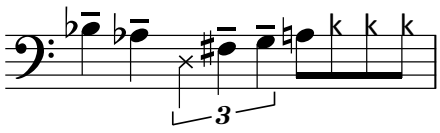


The performer plays the following four movements, muted, facing the audience. The performer removes the mute and plays the following four movements open. The performer turns on the snare, and plays the final three movements into the drum, resulting in a distorted sound. The performer is invited to treat each movement with a sense of theatricality: remove the mute deliberately and ceremoniously, switch the snare on audibly, take long pauses between each movement, and page turn slowly and with reverance.

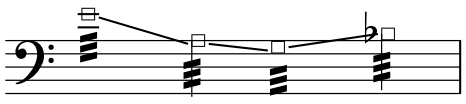
The piece is approximately fifteen minutes long, and is constructed from eight distinct ideas, each with their own techniques and performance directions. These are described below:



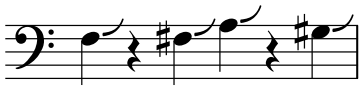
Initially tentative, this idea becomes dramatic and expressive by the end of the piece. The numbers indicate the speed of vibrato (1 is very slow, 4 is very fast) and the wavy lines indicate the width of vibrato (the thin line is standard vibrato, the thick line is a wider vibrato.)



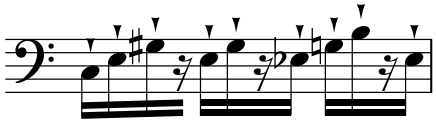
This idea is to be played robotically and with rhythmic accuracy, imitating machinery. The cross notehead indicates an unpitched air noise, down the instrument. The k noteheads indicate an unpitched k consonant sound, down the instrument.



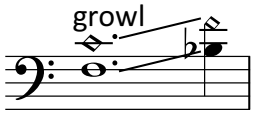
Tongue as rapidly as possible, while sliding between the indicated pitches. This idea should be performed with energy. (Breathe when necessary.)



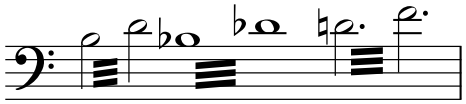
Rapidly slide upwards from the indicated pitch. Do not aim for a specific final pitch.



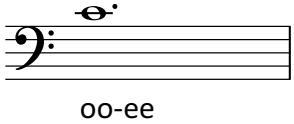
This idea is cheeky and scherzo-like. It should be performed with rhythmic accuracy.



The diamond noteheads indicate pitches to be sung. Simeltaneously, the notes below should be played, while growling. The resultant effect should be like a motorbike engine accelerating.



The performer should attempt to move from one tremolando to the next as smoothly as possible.



While playing, the performer should smoothly alternate between an 'oo' mouthshape and an 'ee' mouthshape.

for Heider Nasralla

Residuum VIII for Trombone

The Inflation Ritual

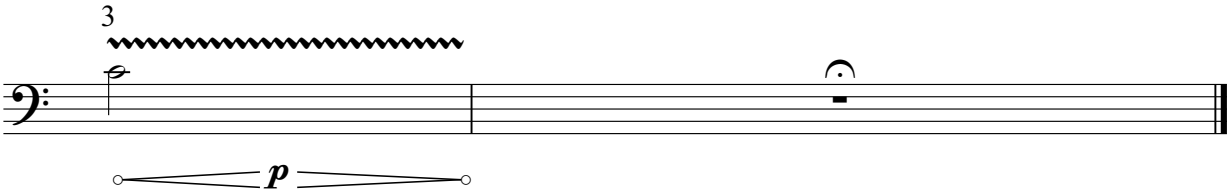
I

𝅗𝅥=60 senza misura

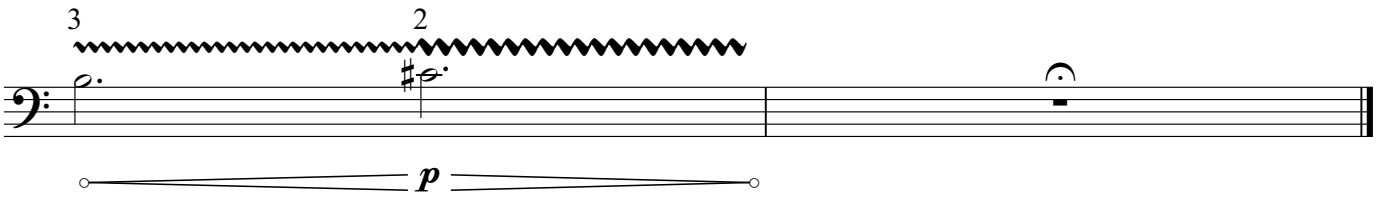
con sord. solotone

face away from audience

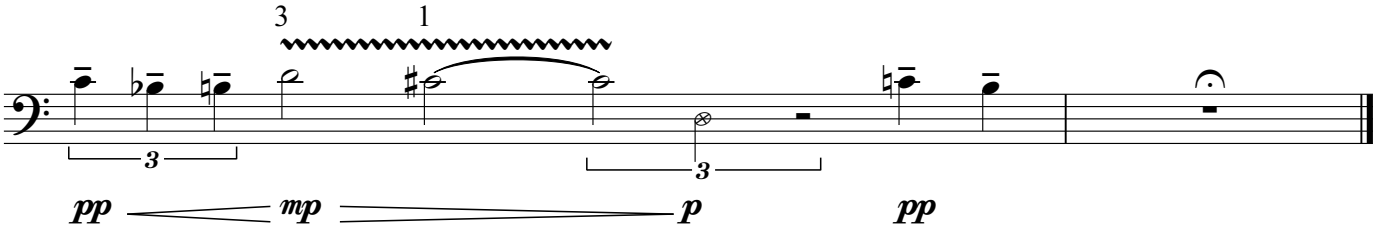
Ben Gaunt



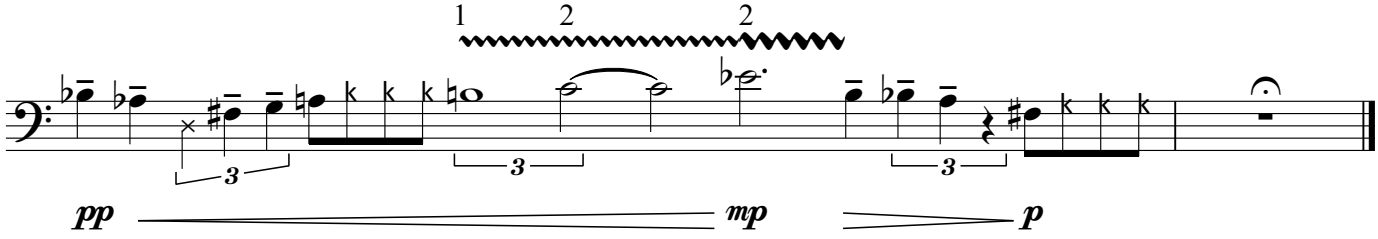
II



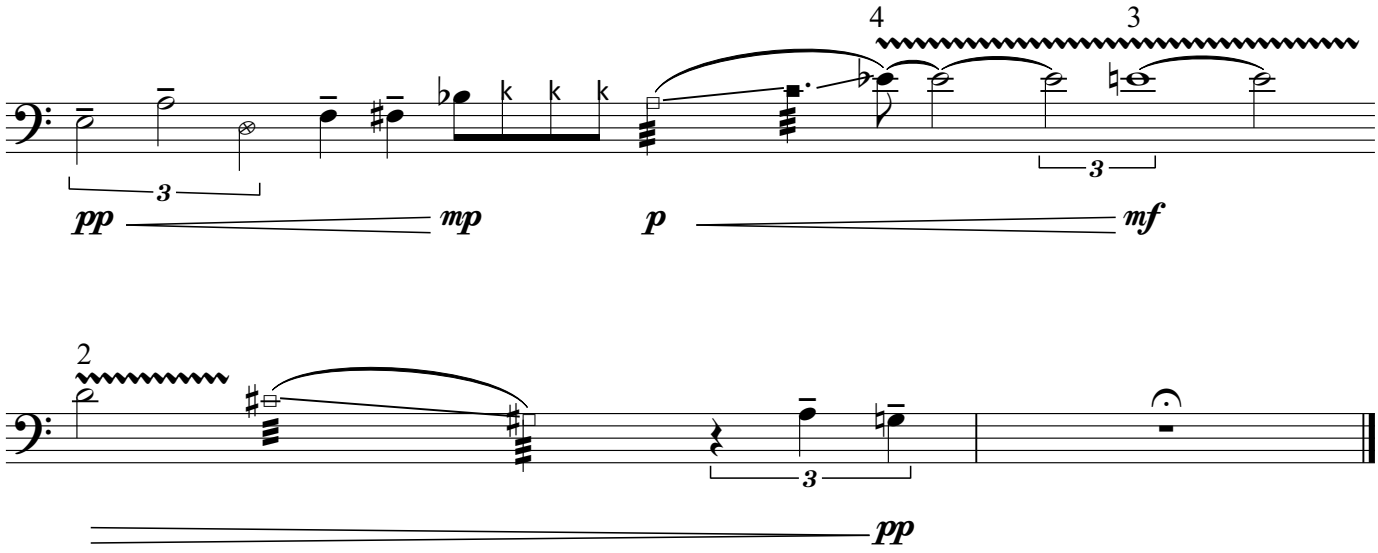
III



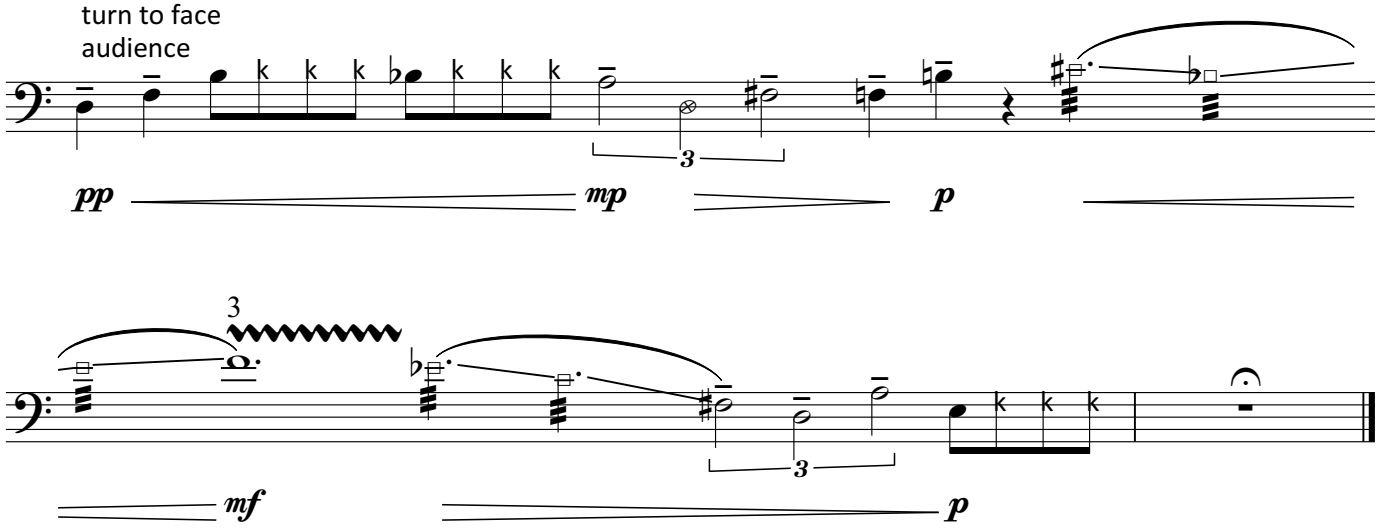
IV



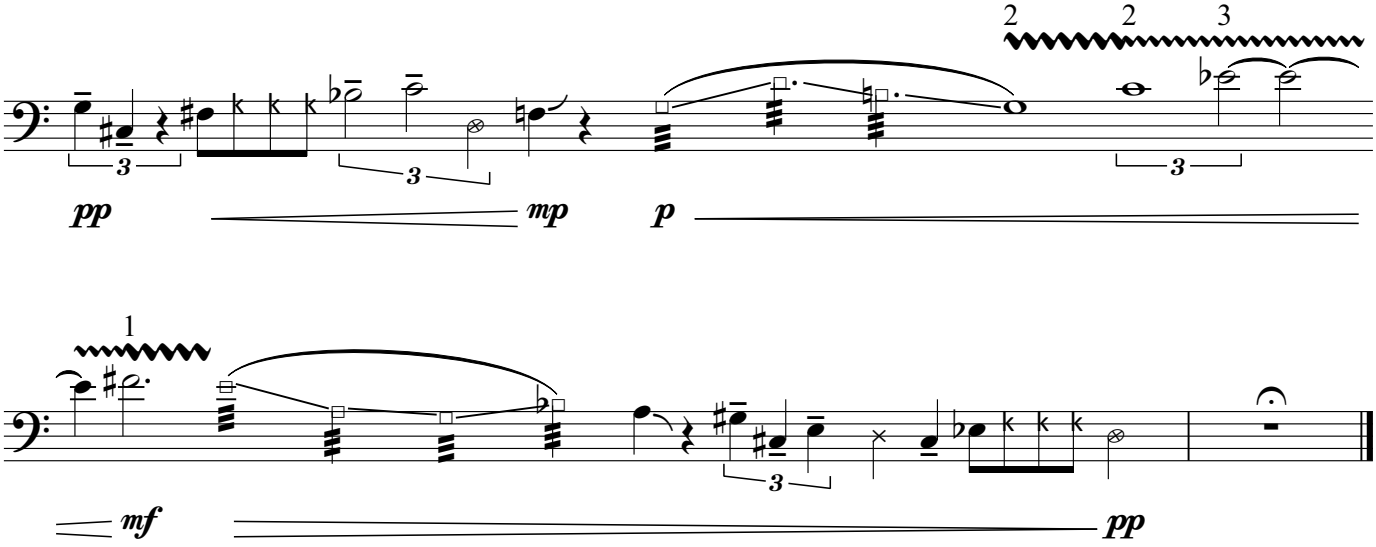
V



VI



VII



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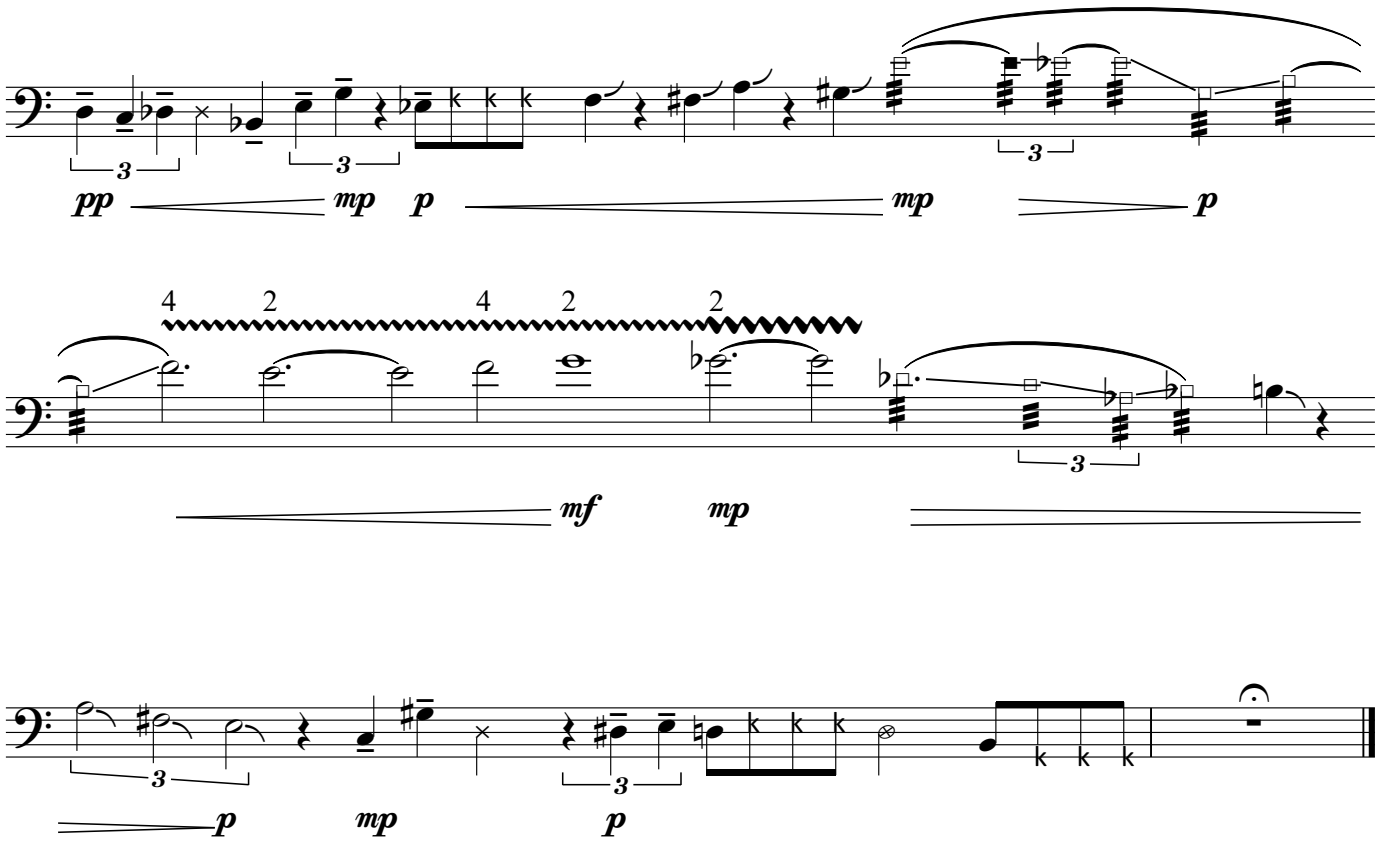

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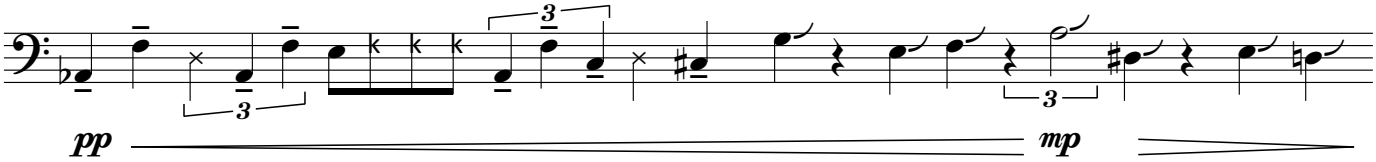
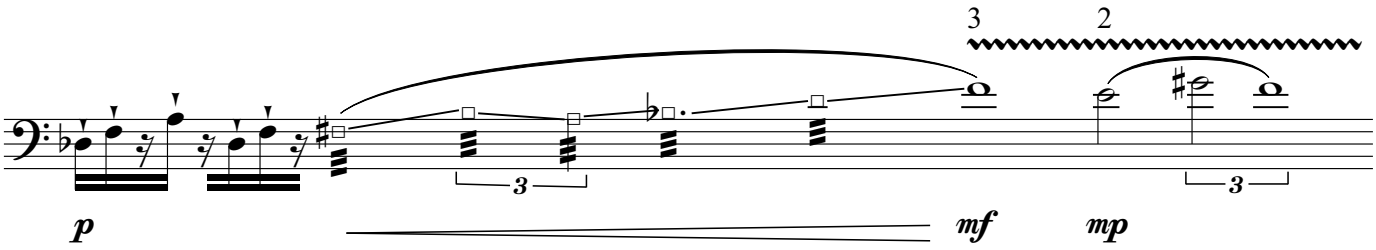
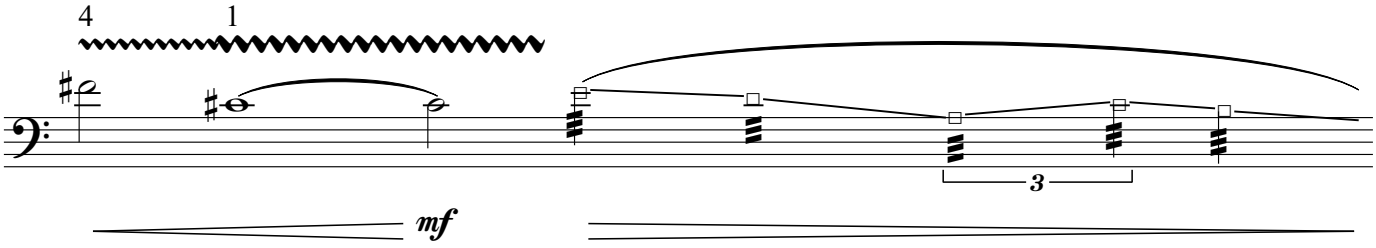
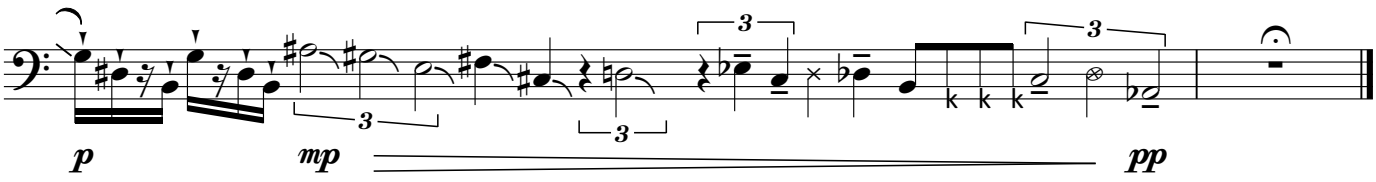
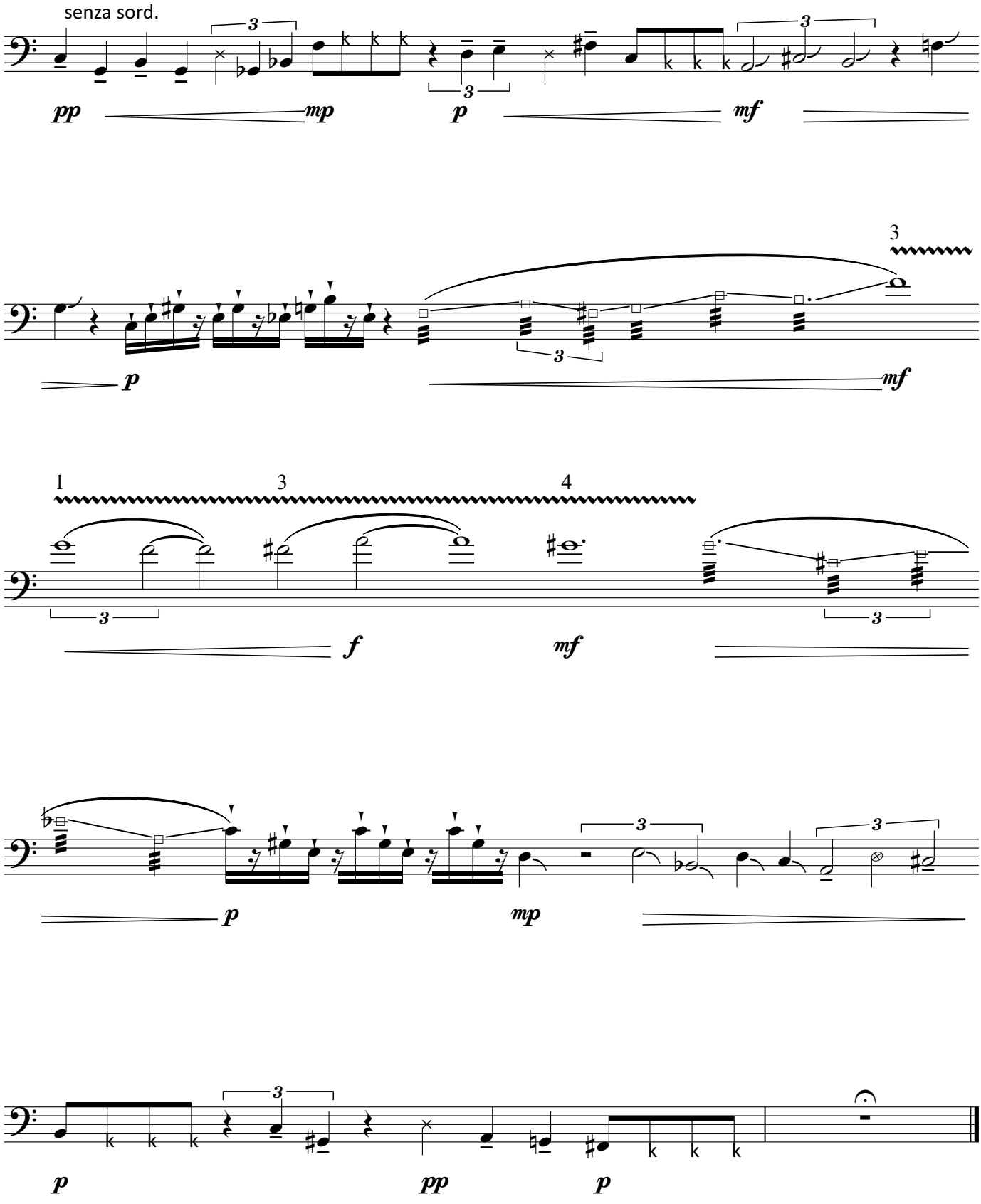








X



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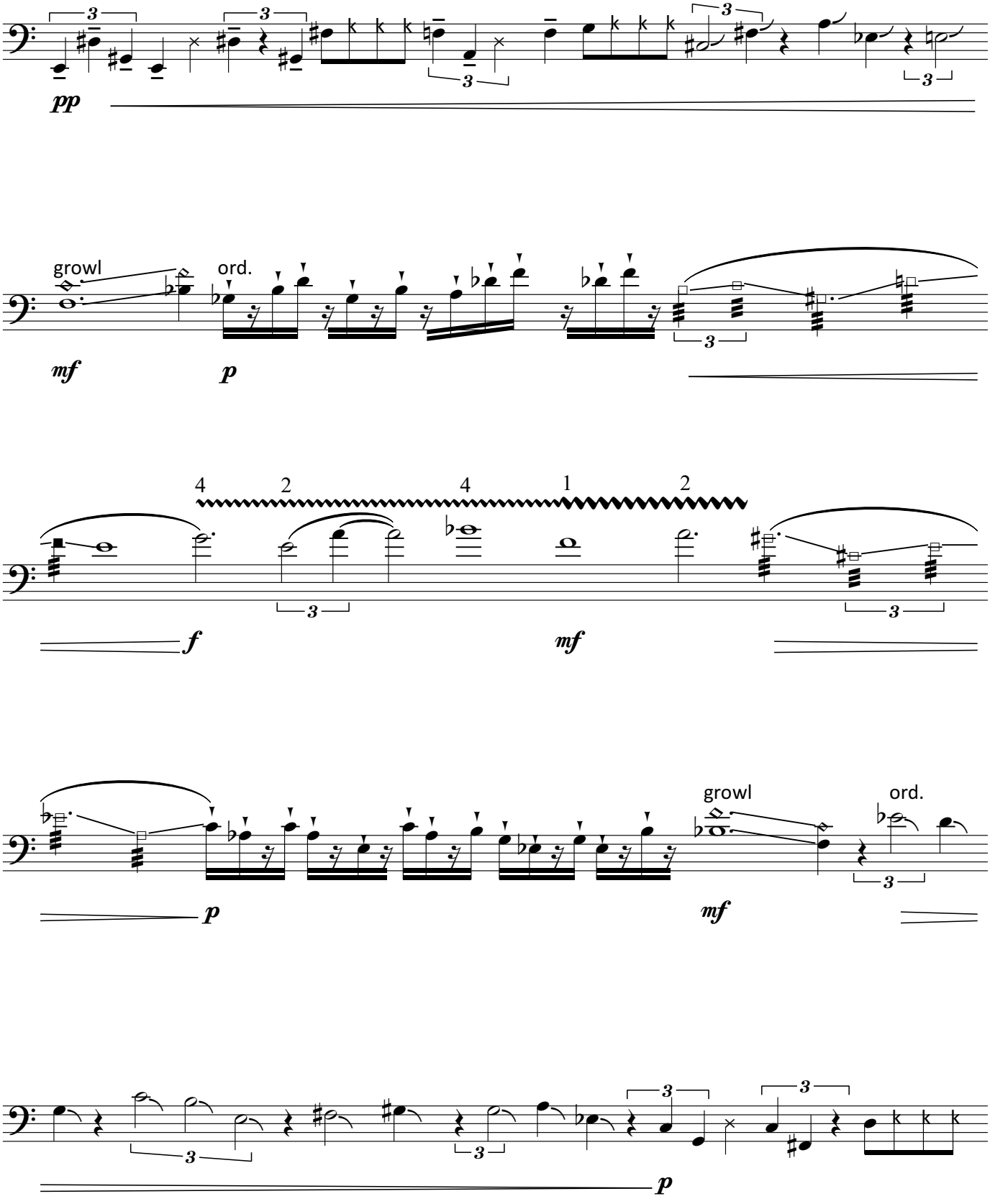
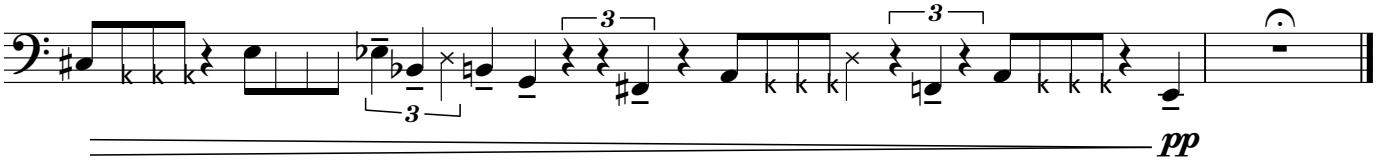
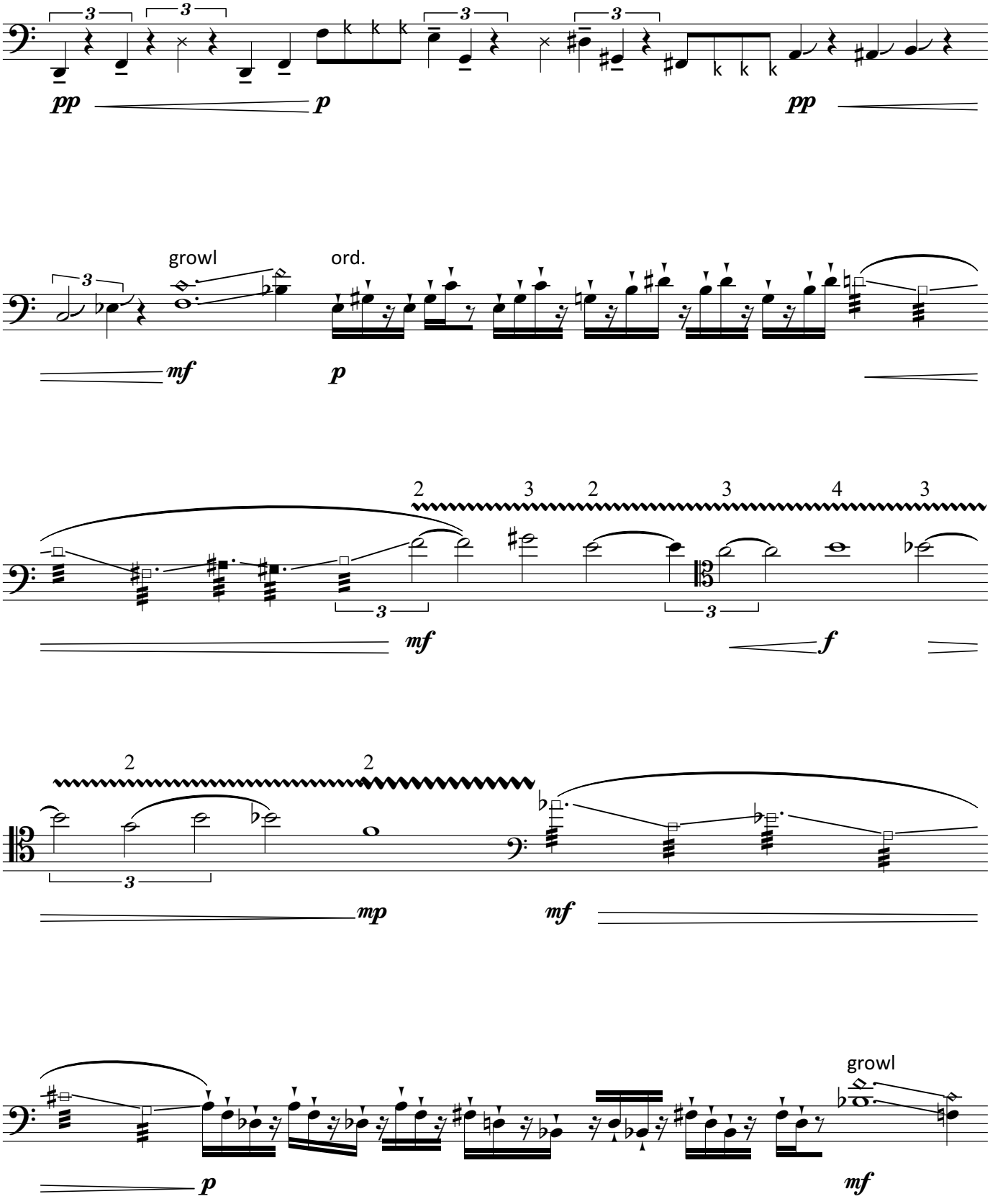
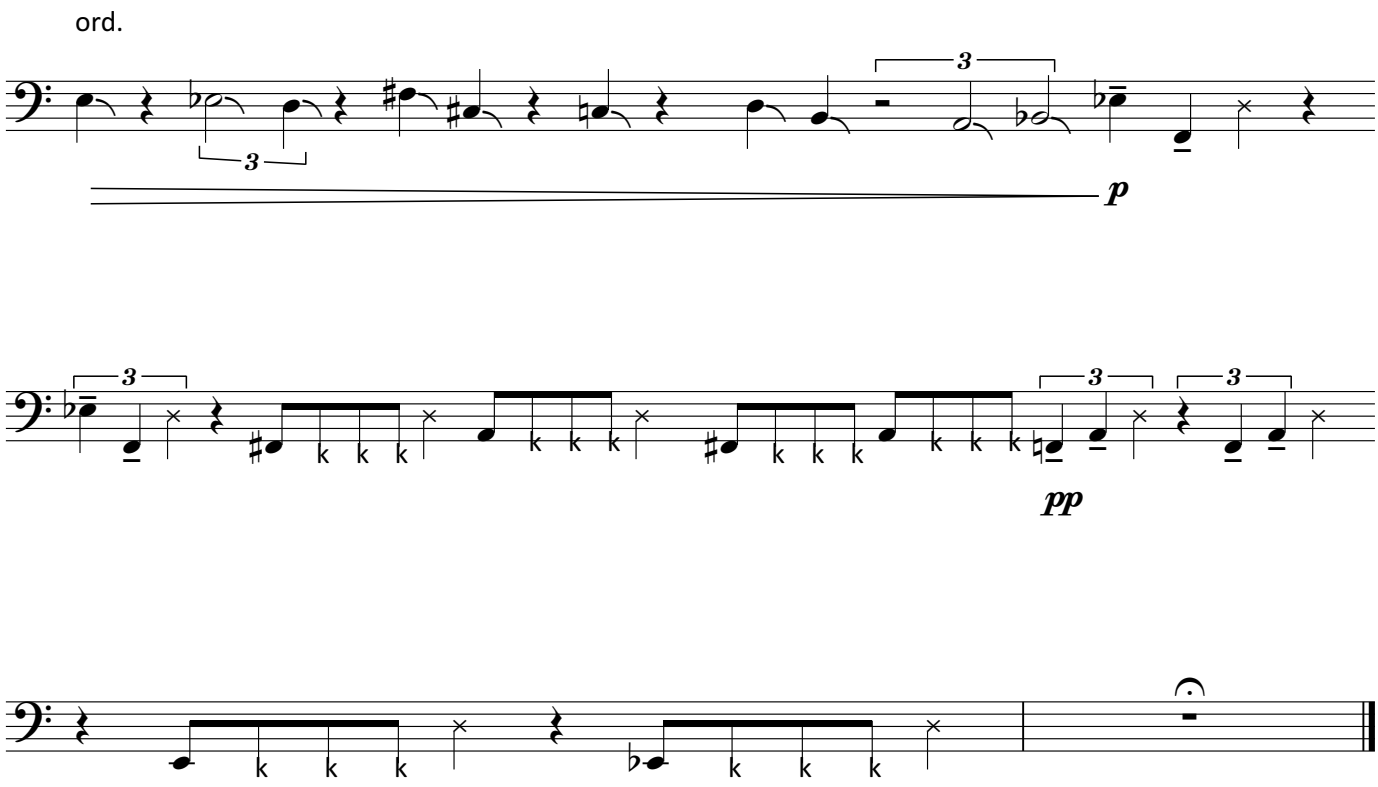


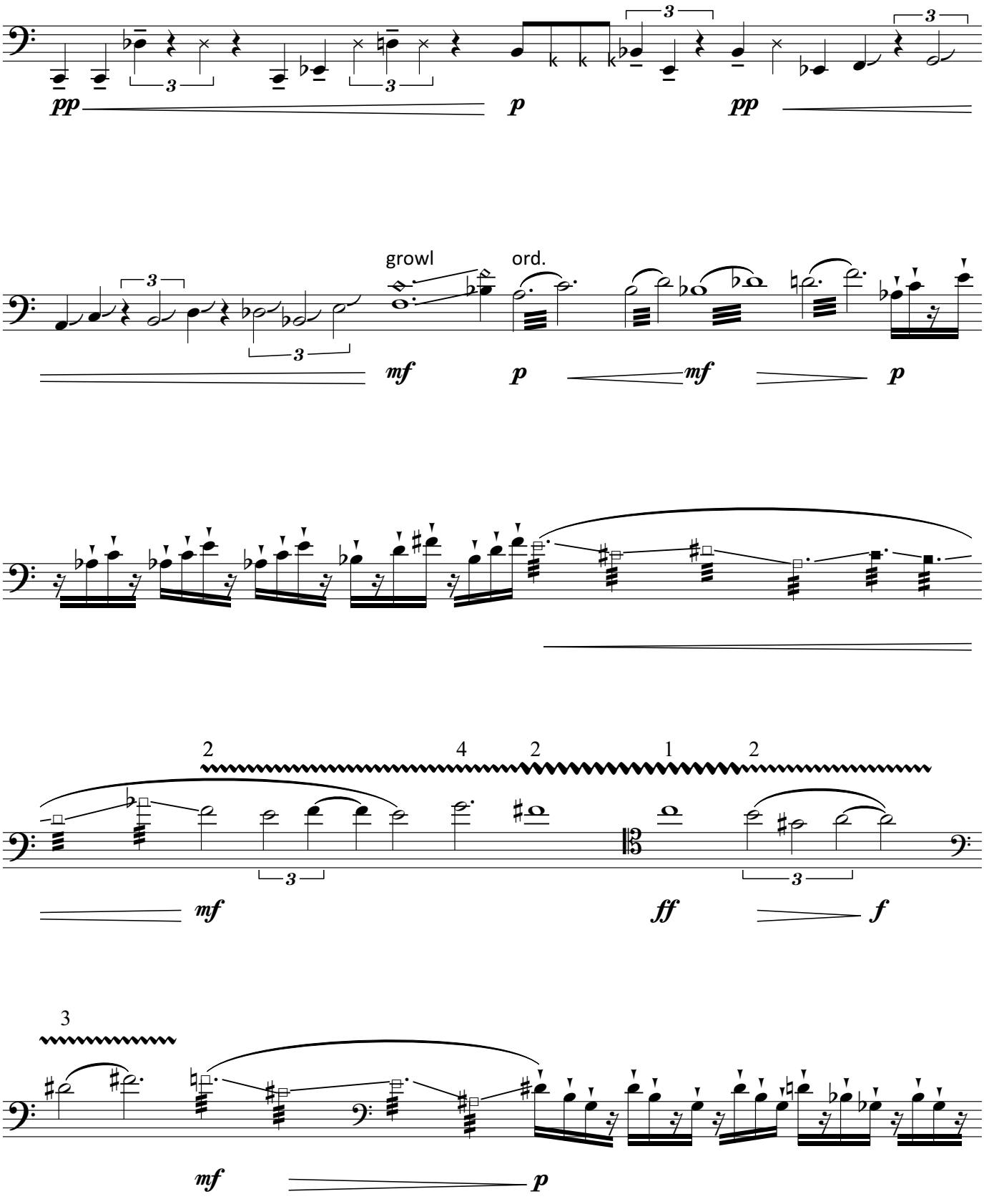

3
3
3
pp

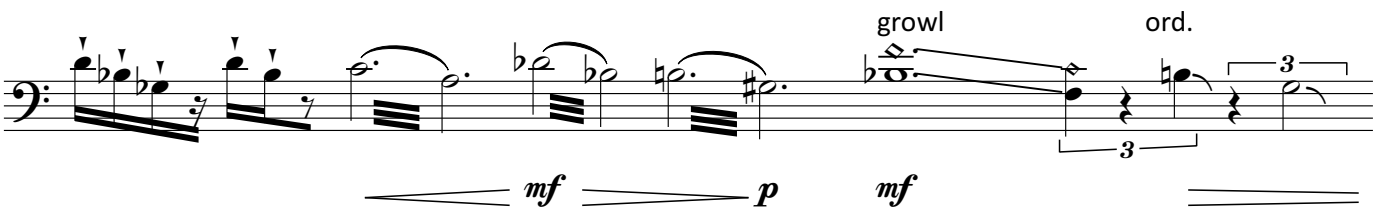
XII

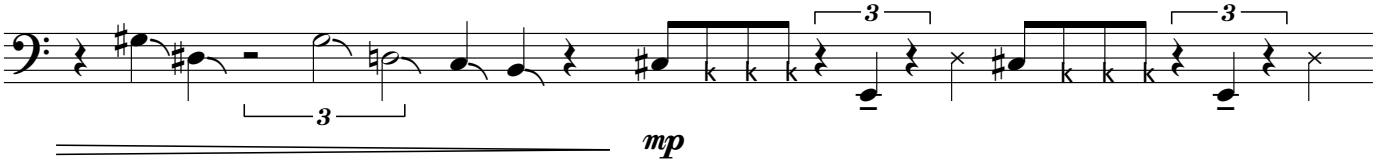


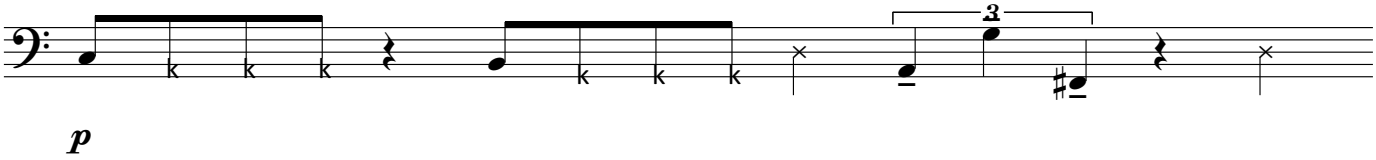

ord.
p
pp

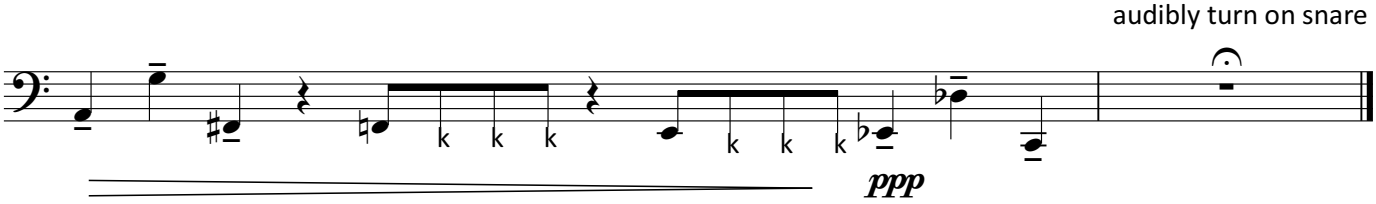
XIII



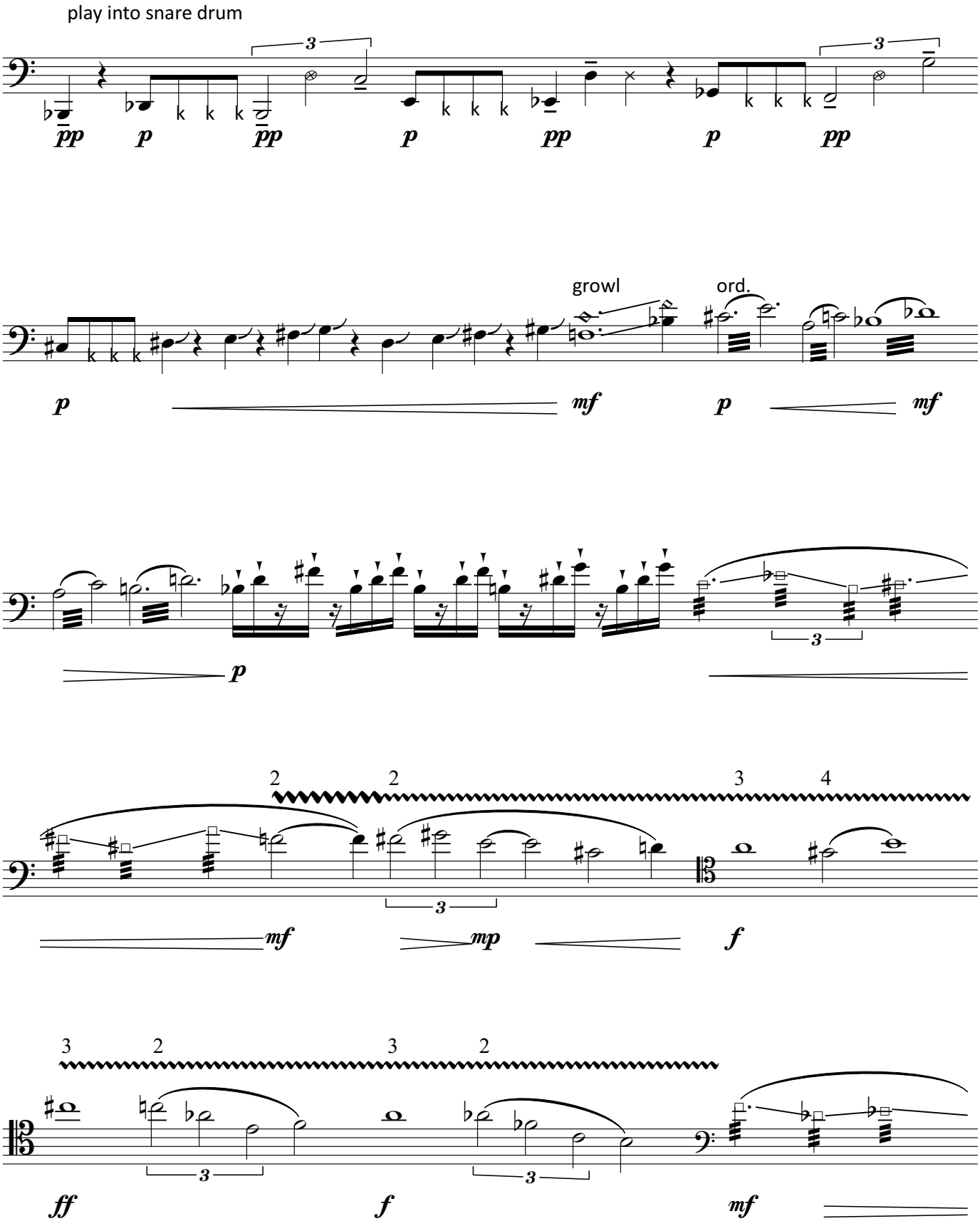

growl
ord.
mf
p
mf

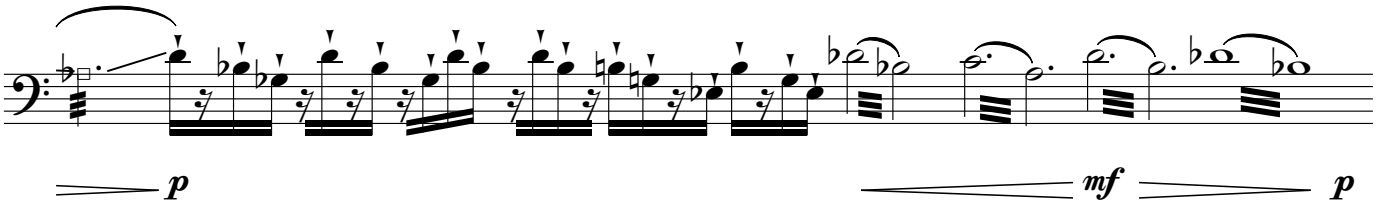

mp

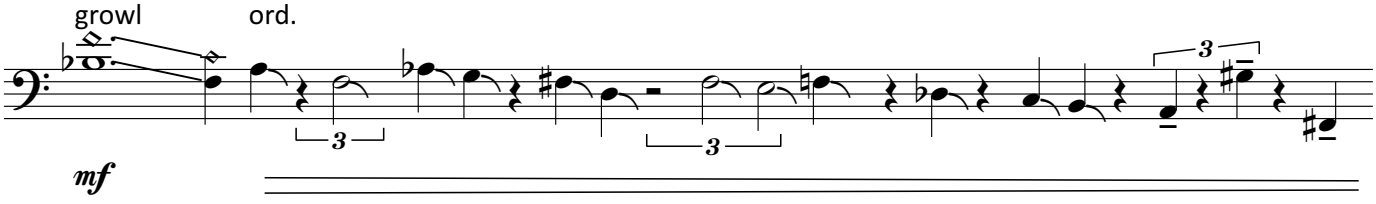

p

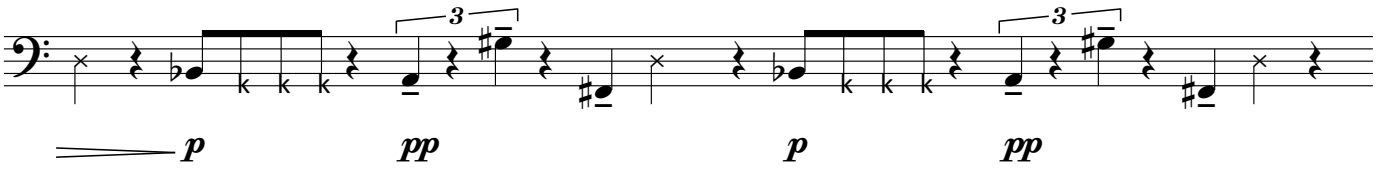

audibly turn on snare
ppp

XIV


play into snare drum
pp p pp p pp p pp
growl
ord.
p mf p mf
p
mf mp f
ff f mf


p
mf
p


growl
ord.
mf
3
3
3


p
pp
p
pp
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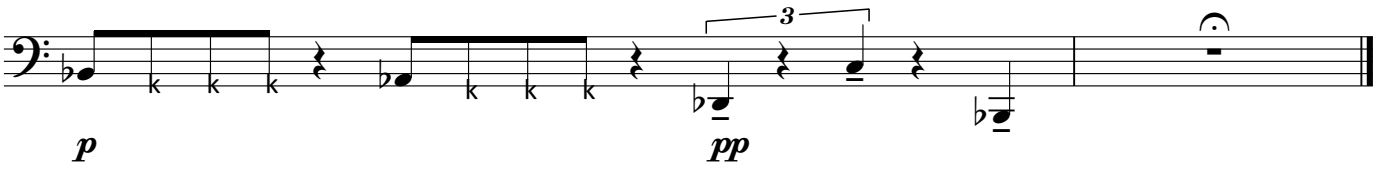
3


p
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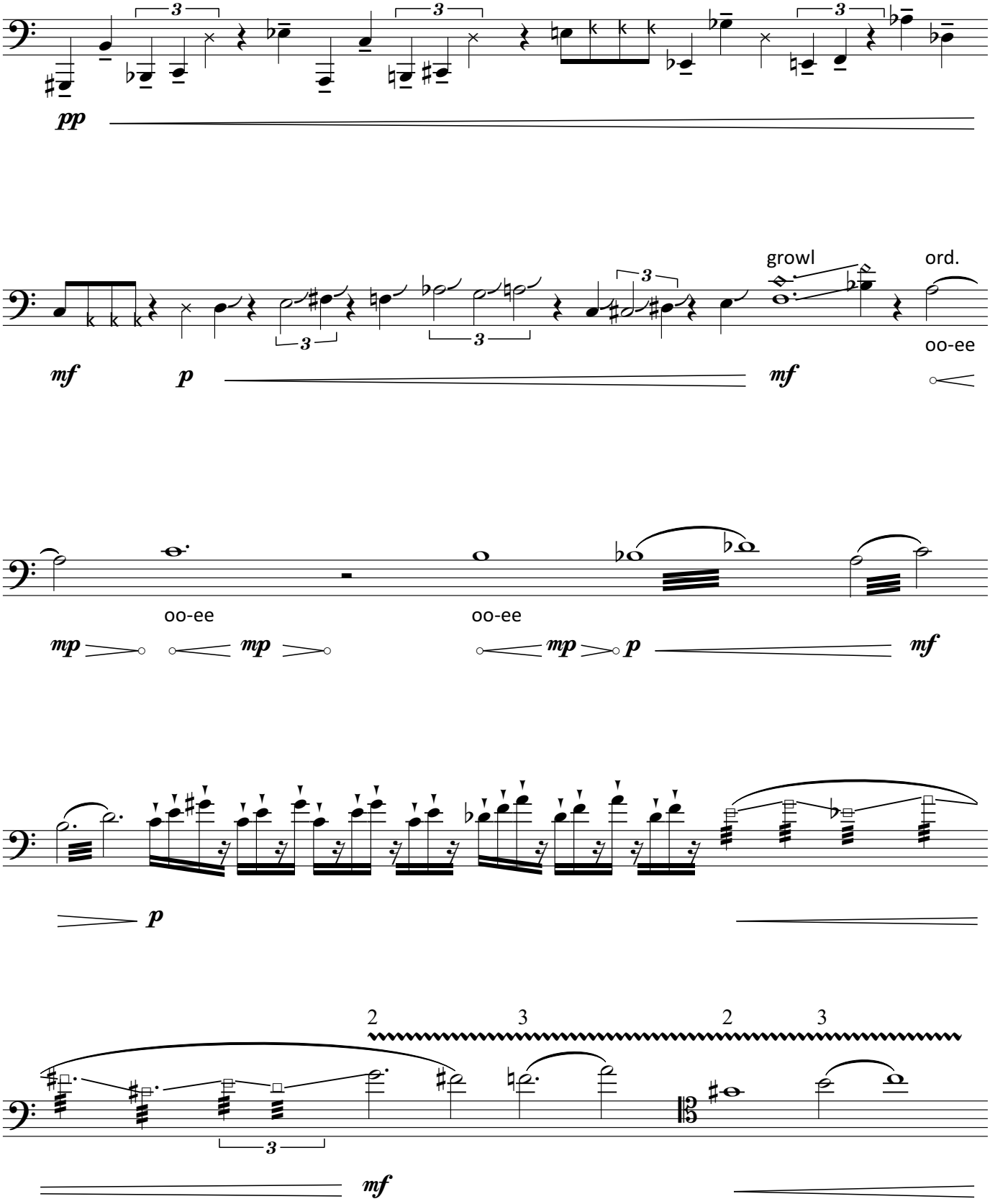
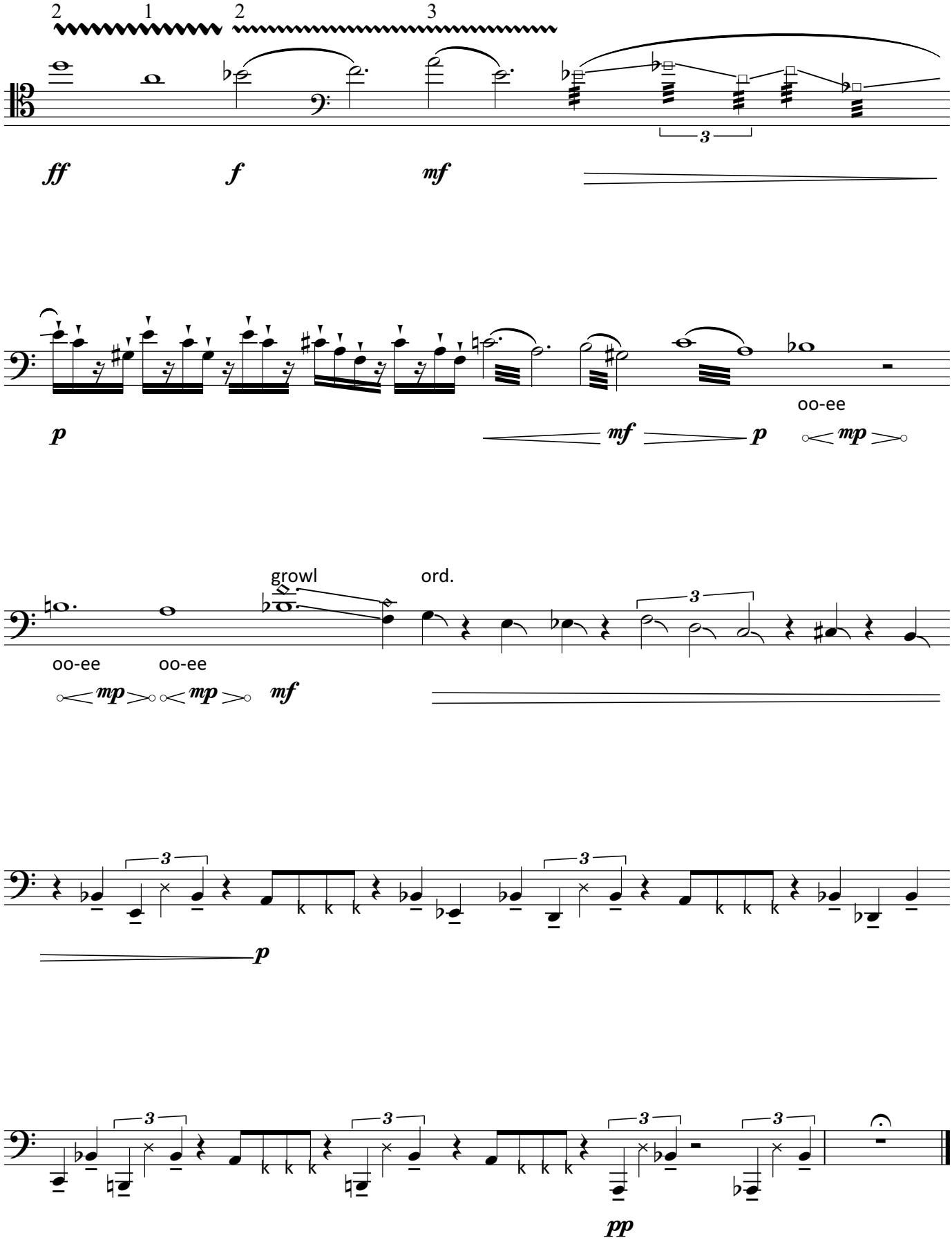
XV




2 1 2 3
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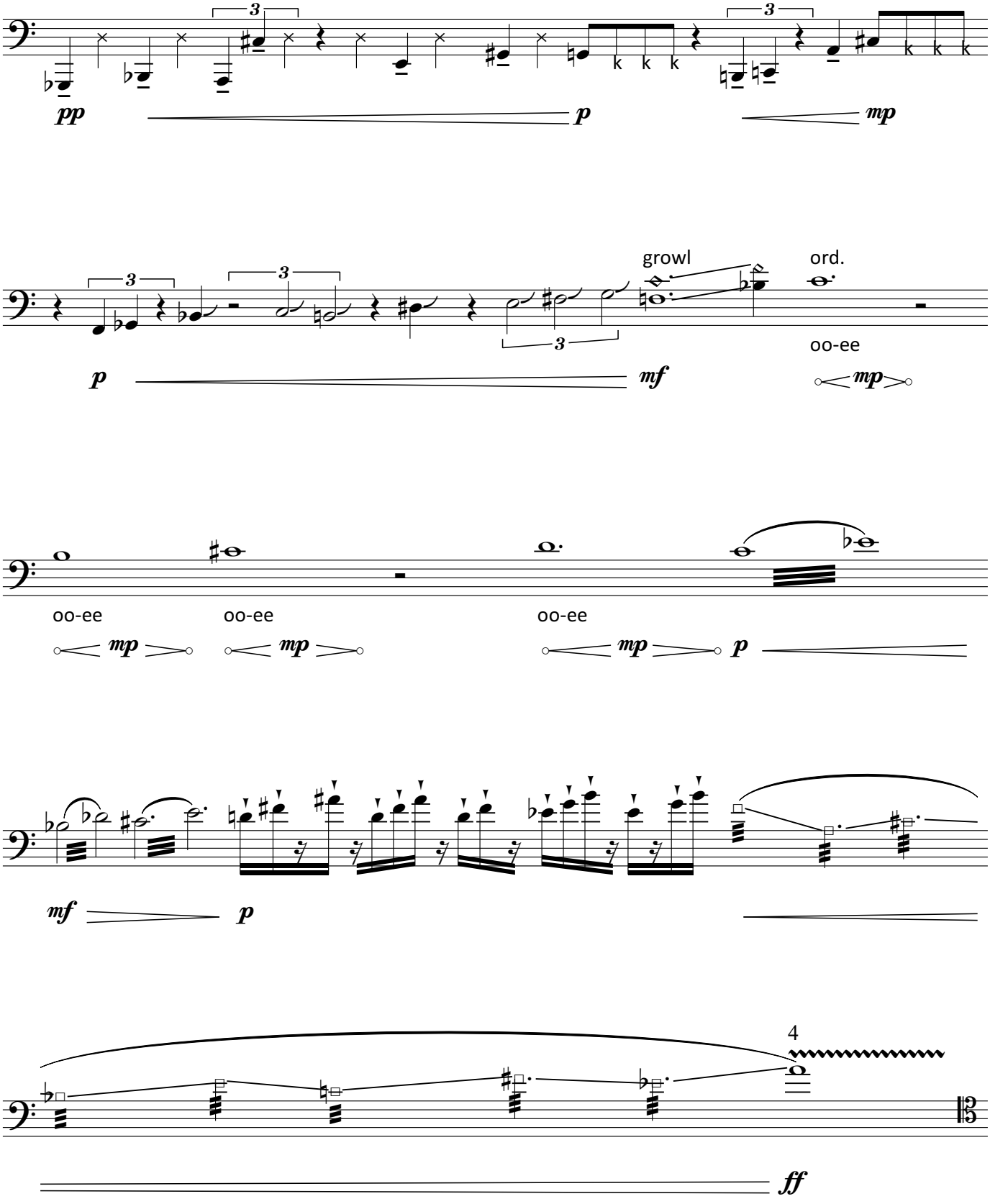
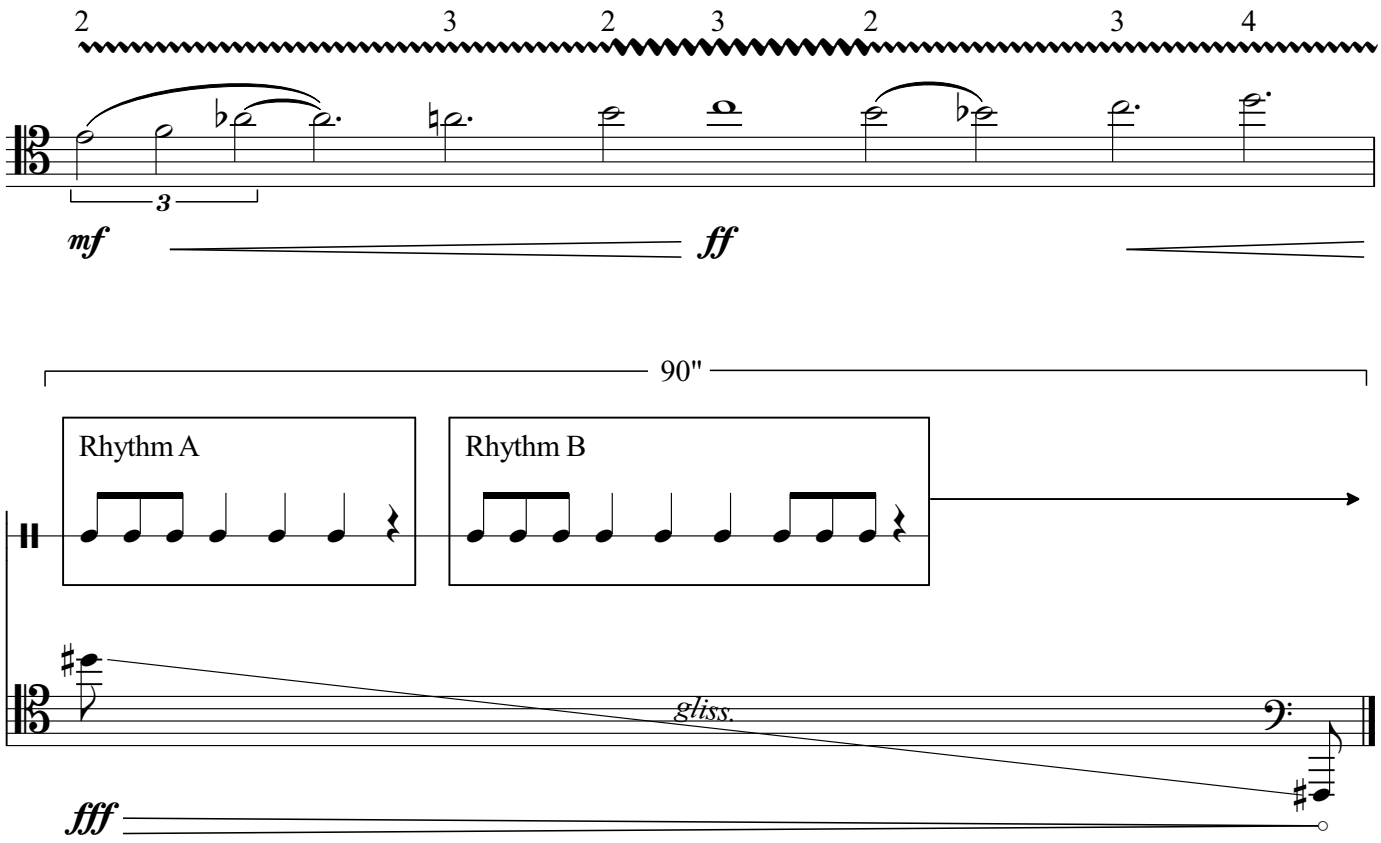
XVI





Over 90 seconds, descend from the high D# to the low F#, performing a mixture of Rhythm A and Rhythm B. Make the descent as smooth as possible. Avoid slowing down. Gradually move away from snare.

When you have finished the descent, ceremoniously and audibly turn off the snare, ending the piece.

Ben Gaunt

Filling Rubin's Vase

for ensemble

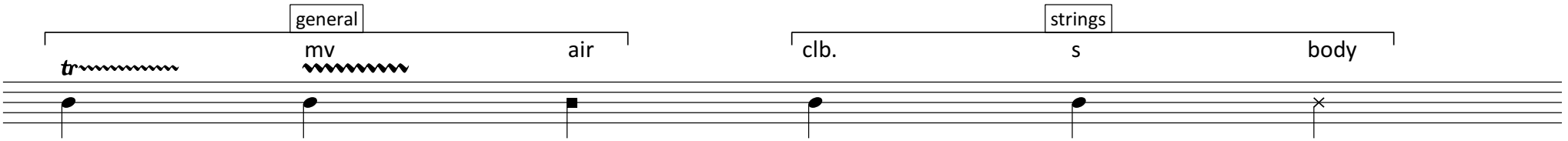
Filling Rubin's Vase for Sarah Nicolls, Oren Marshall and members of the London Sinfonietta.

Filling Rubin's Vase was performed at Huddersfield Contemporary Music Festival 2014, and recorded by NMC, as part of the Sound and Music Higher Education Programme.

Rubin's Vase is an optical illusion named after the Danish psychologist, Edgar Rubin. Two faces are shown in profile, and the negative space between them forms the shape of a vase. In *Filling Rubin's Vase*¸ the work alternates between low and high material. A middle register (between middle C and the octave above) is not explored until the end; the 'negative pitch space' between the low and high material is filled.

Year of Composition: 2014
Duration: 10'

Techniques



all trills are a semitone

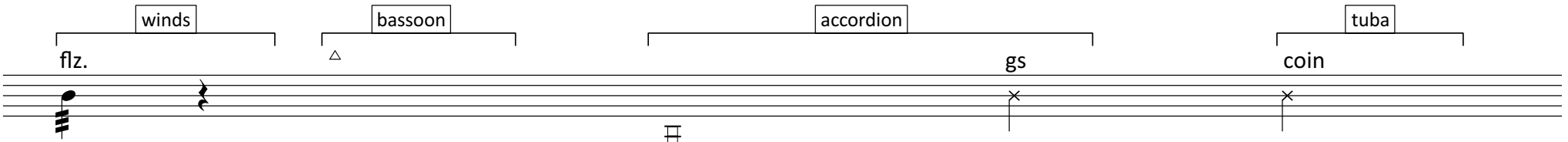
molto vibrato

unpitched air sound

col legno battuto

scratch bow (extra bow pressure)

knock body of instrument with hand



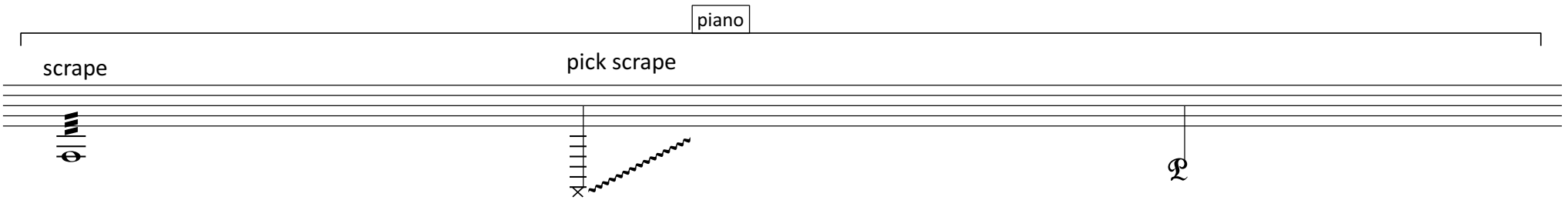
flutter tongue

play highest note possible, try and maintain a constant pitch

low cluster, as loud and raucous as possible

scrape grill with fingers

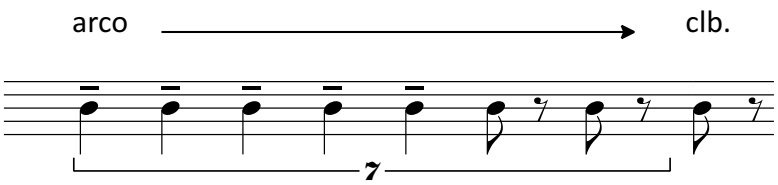
strike instrument with coin



scrape bottom string with metal object resulting in a raucous sound

scrape bottom string very fast with guitar pick resulting in a high-pitched sound (no resonance)

smack sustain pedal with enough force to make a percussive sound

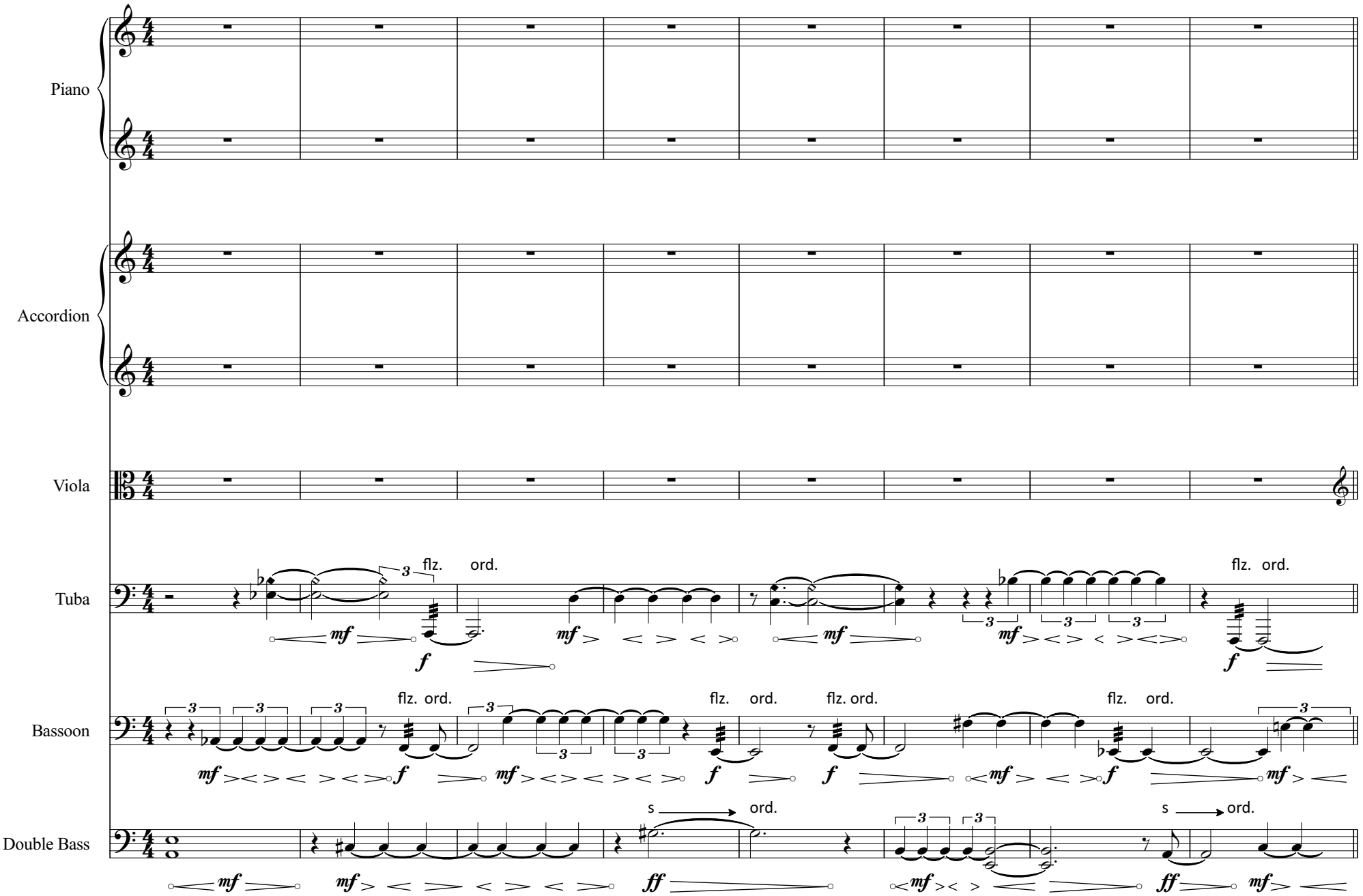


arrows indicate gradual transition (in this case, from arco to col legno battuto)

Filling Rubin's Vase

dark, throbbing ♩=60

Ben Gaunt



A **frantic, energetic ♩=180**

9

Pno.

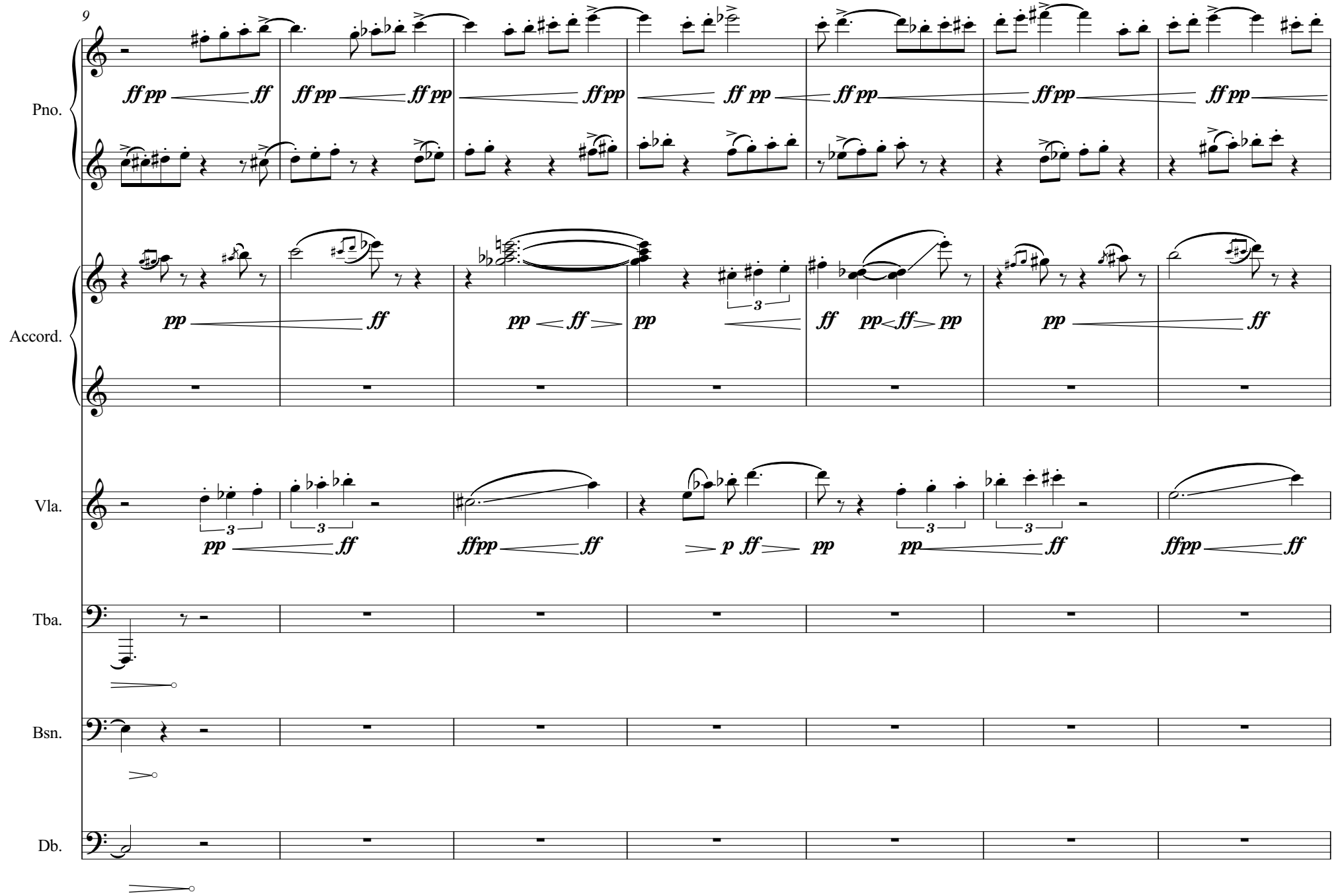
Accord.

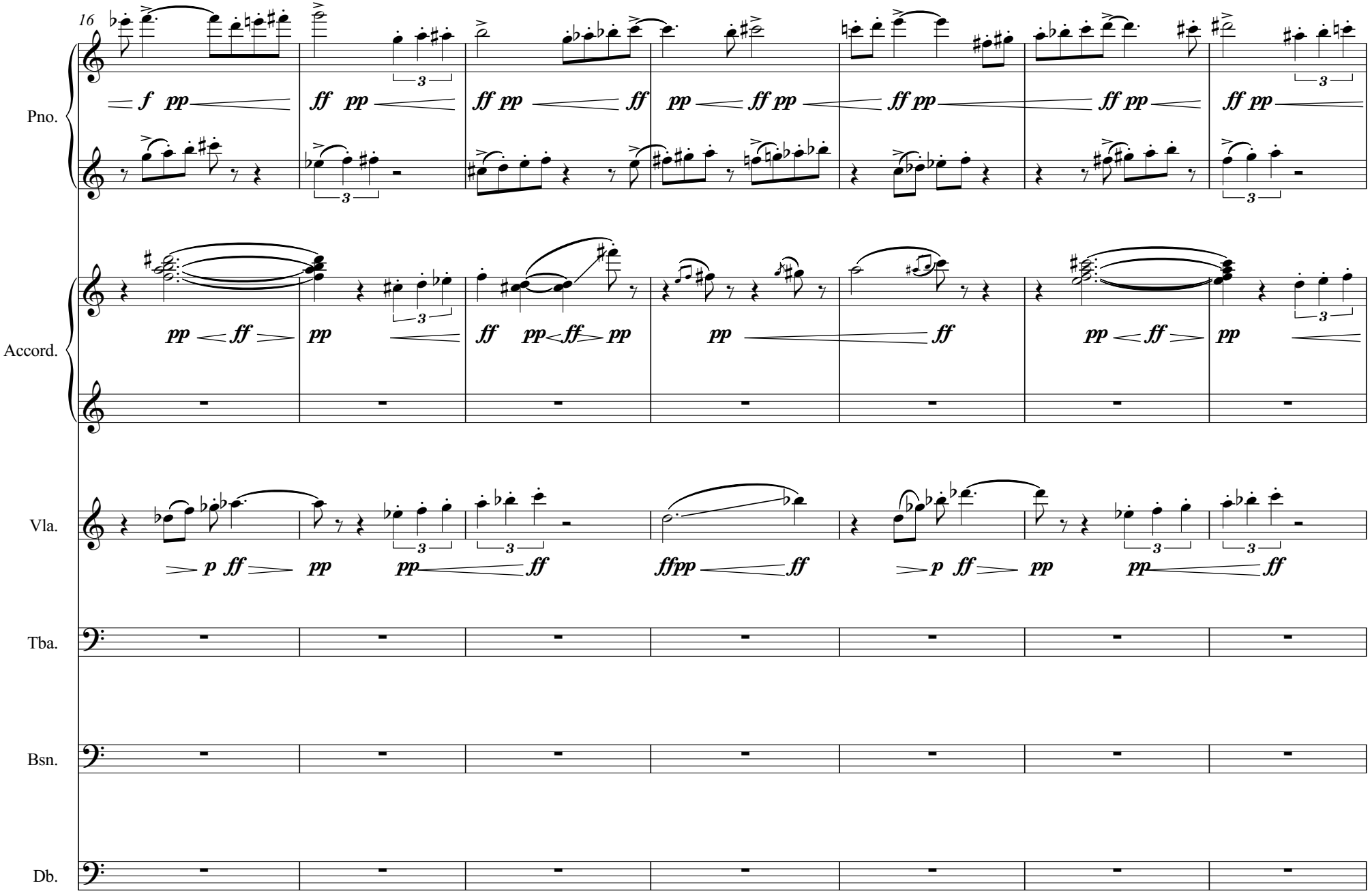
Vla.

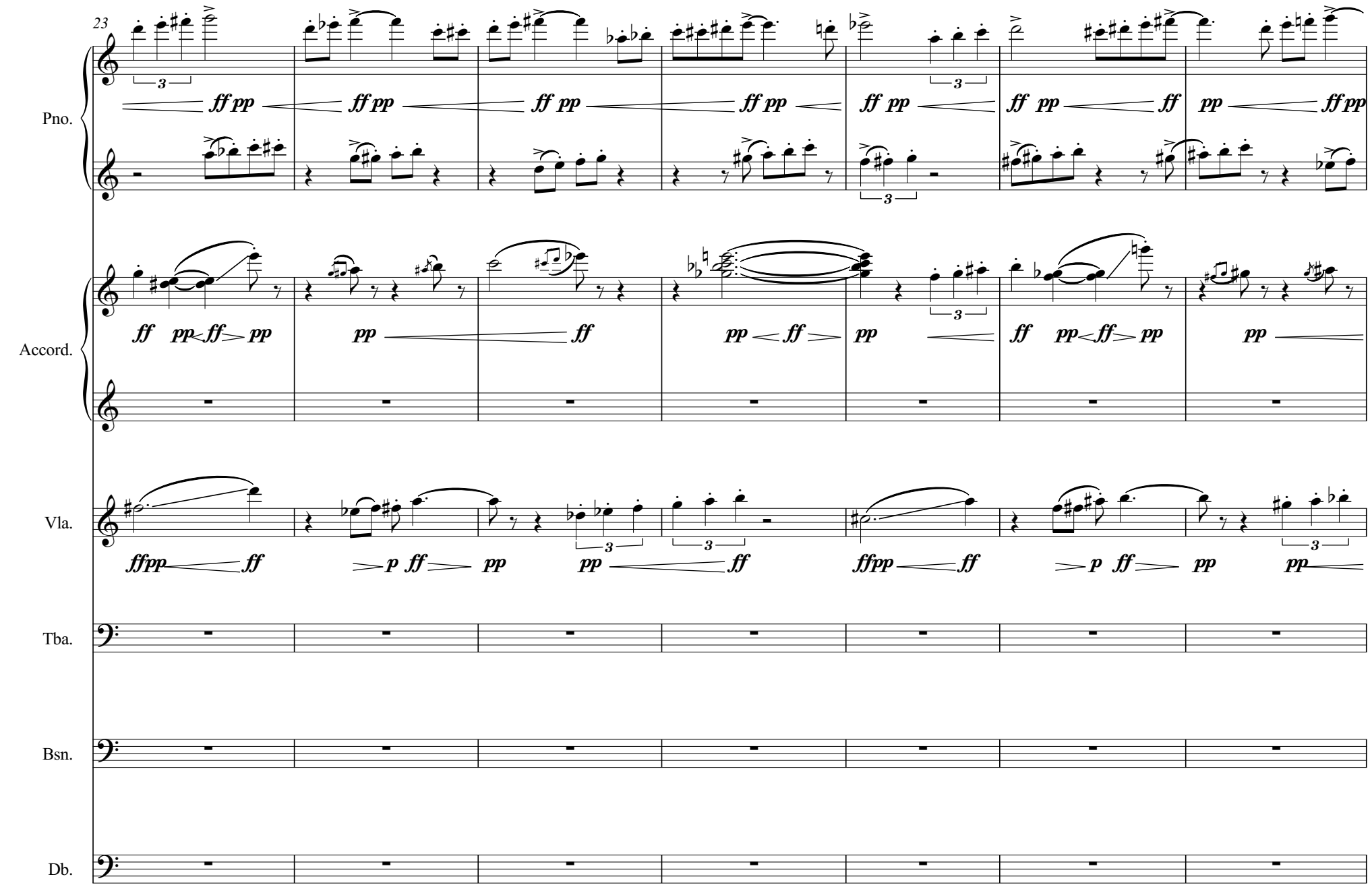
Tba.

Bsn.

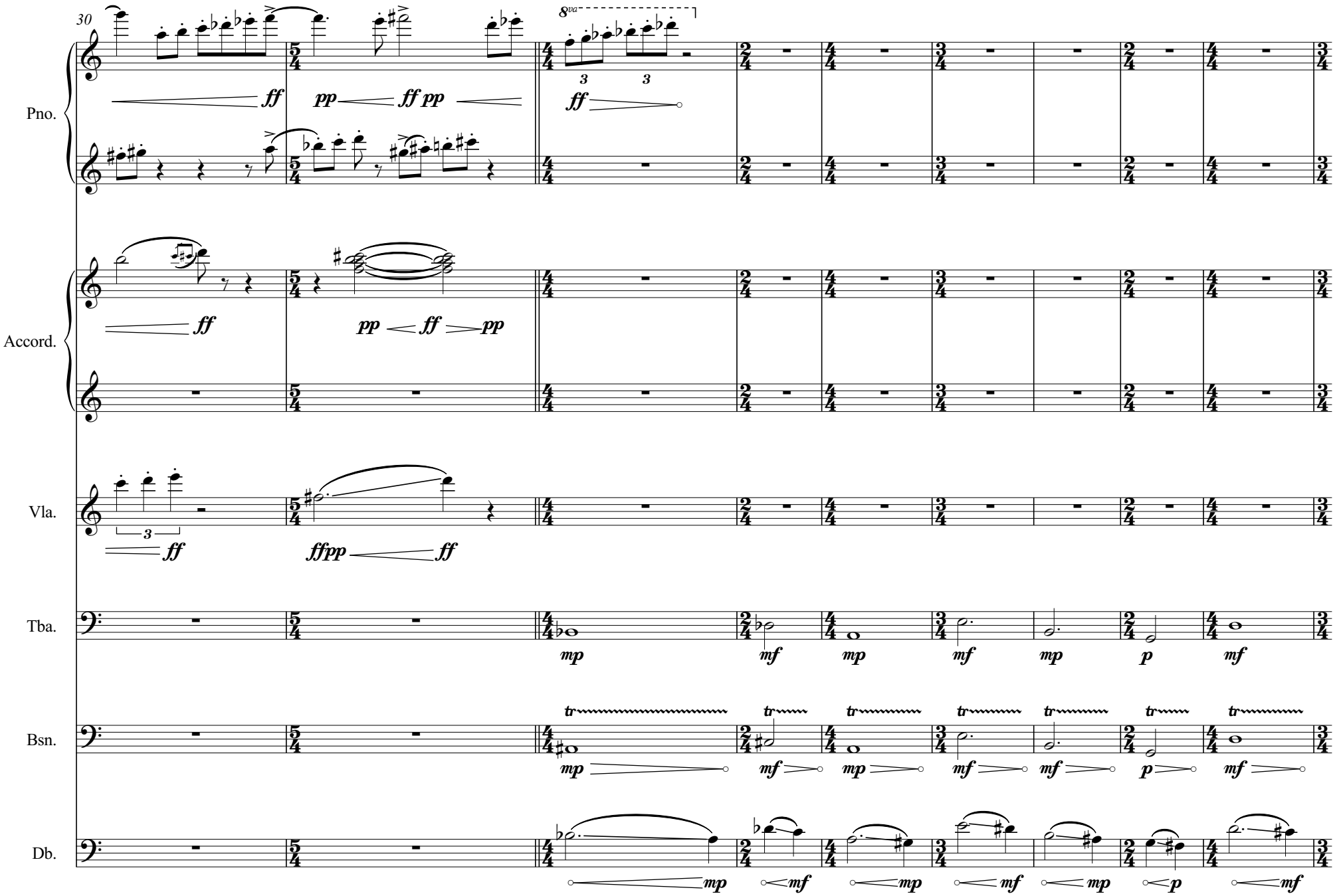
Db.

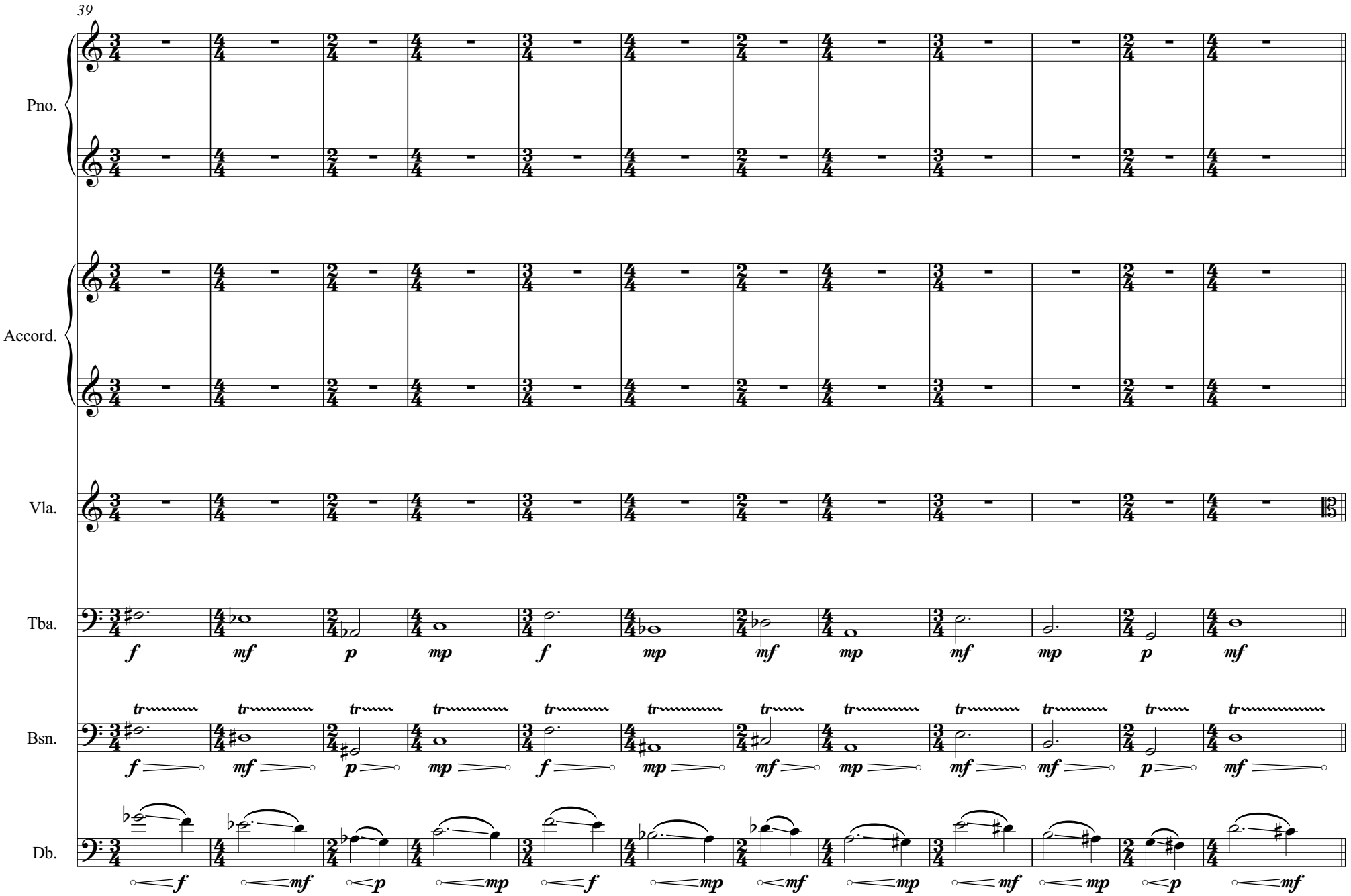



16
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.


23
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.

B **morose, drowsy ♩=120**




39
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
f mf p mp f mp mf mp mf mp p mf
tr
f mf p mp f mp mf mp mf mf p mf
f mf p mp f mp mf mp mf mp p mf

C **delicate, ethereal (l'istesso tempo sempre)**

51

Pno.

pp

8va

Ped. sim. pedal every arpeggio

Accord.

air (unpitched)

f

Vla.

sul tasto

p *sempre*

Tba.

p

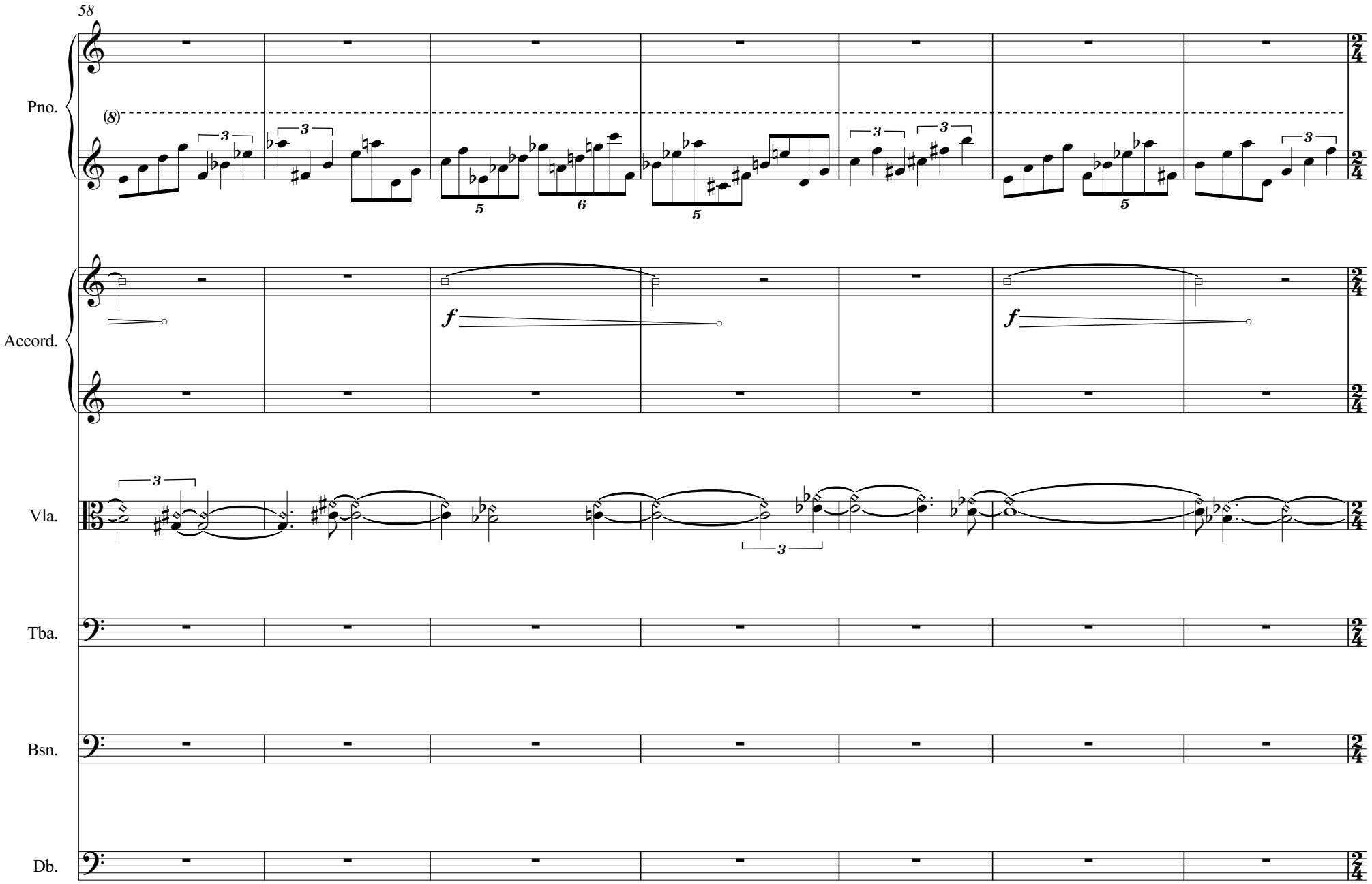
Bsn.

tr

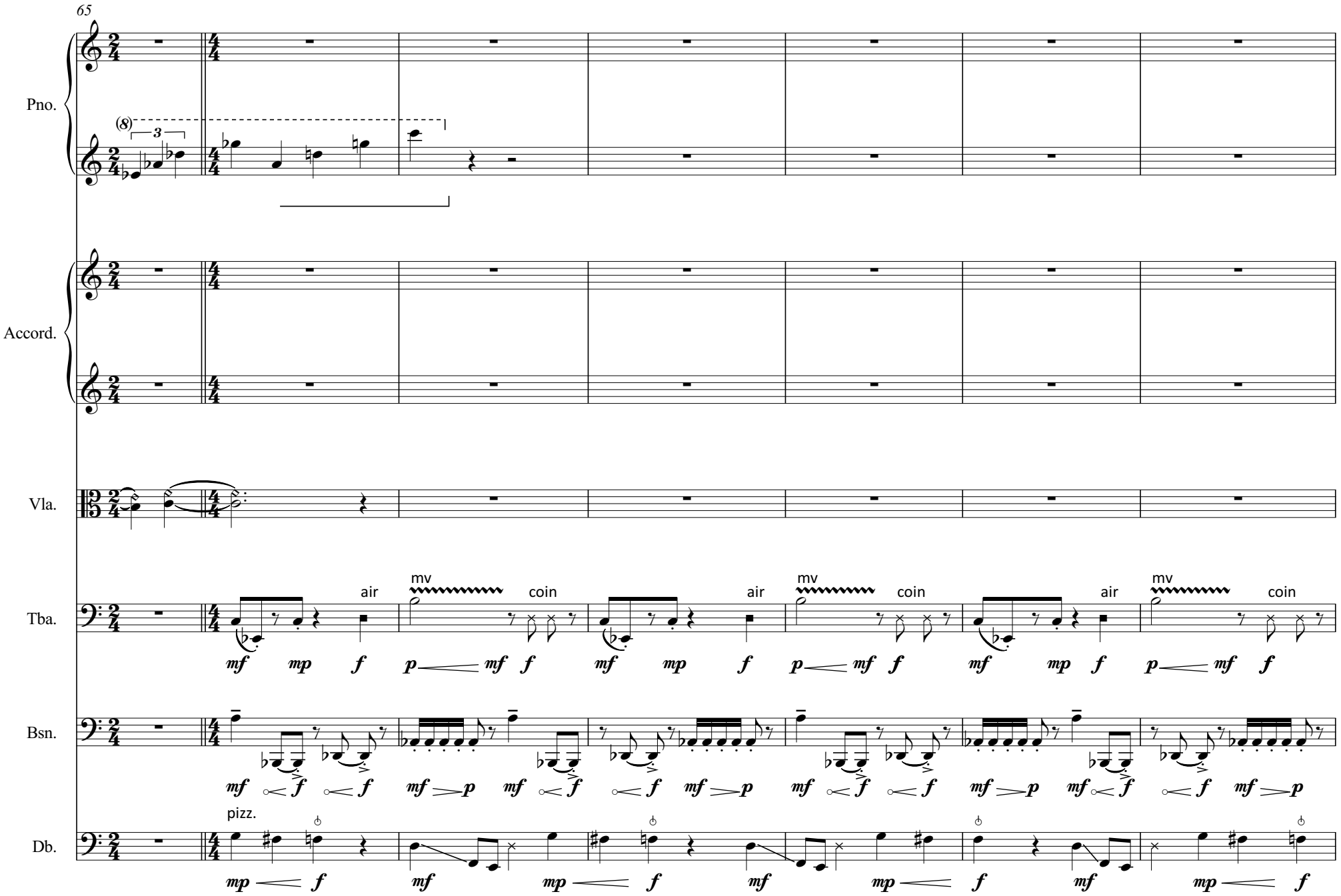
p

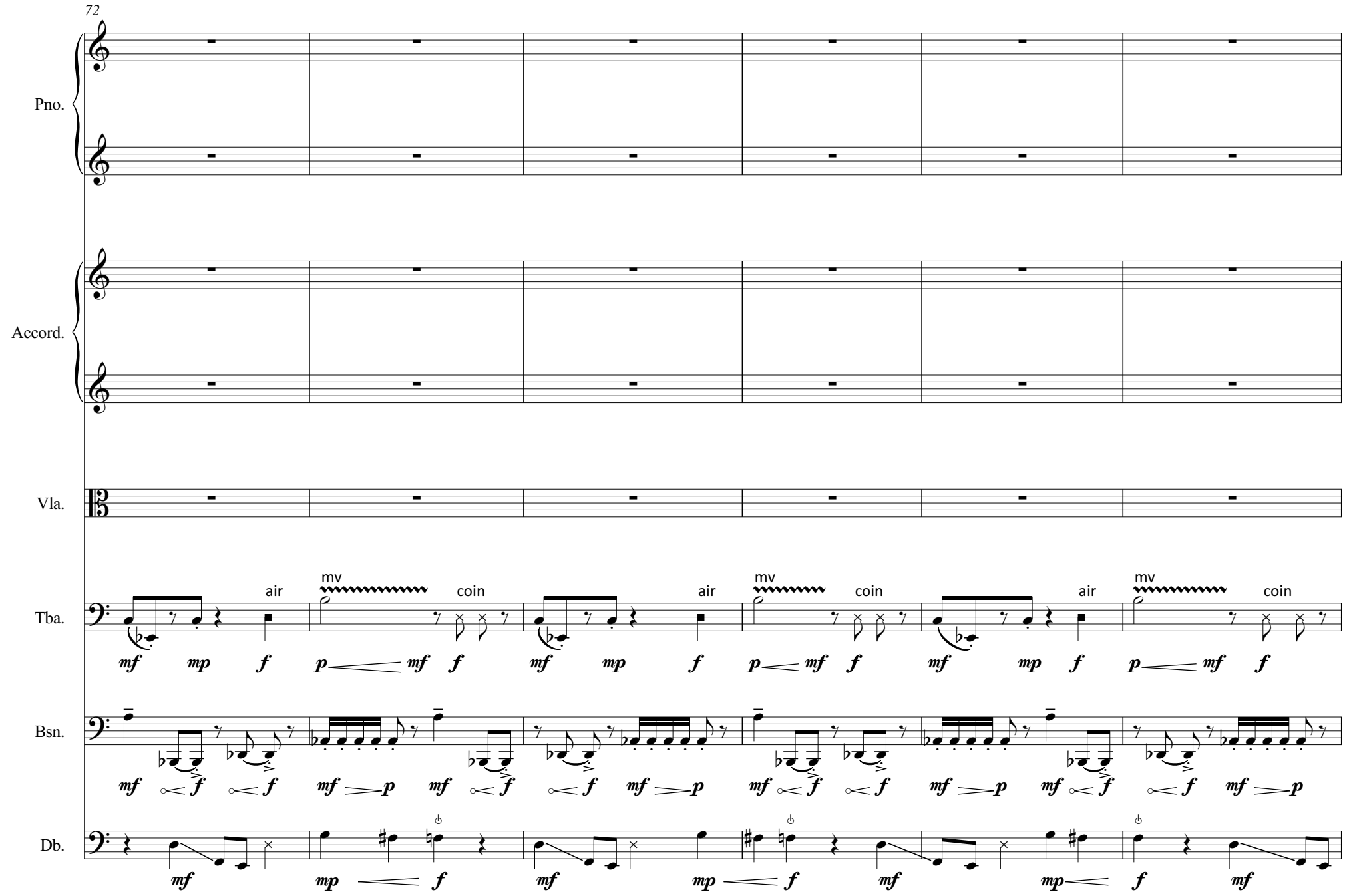
Db.

p


58
Pno.
(8)
Accord.
f
f
Vla.
Tba.
Bsn.
Db.

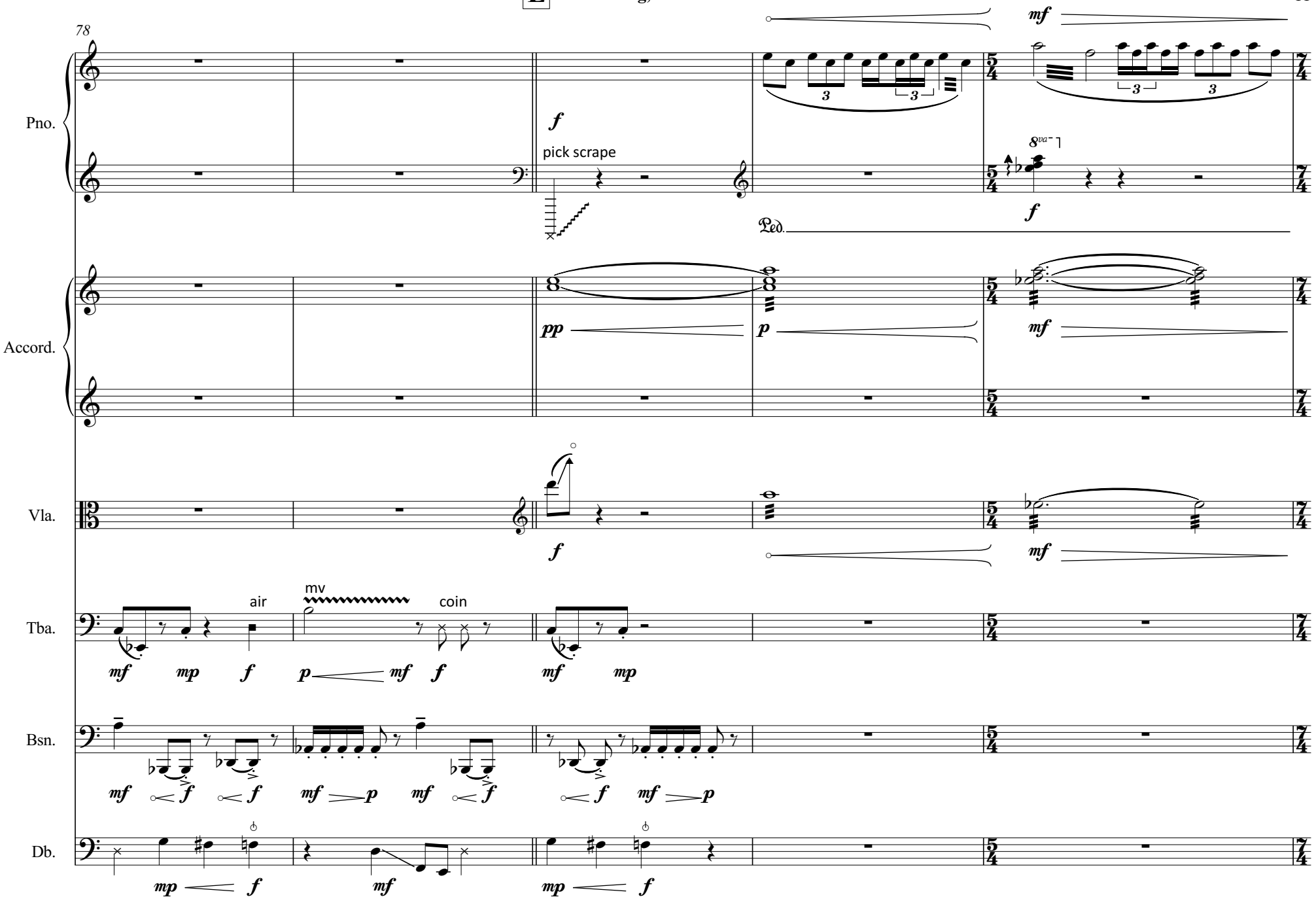
D **mechanical, precise**

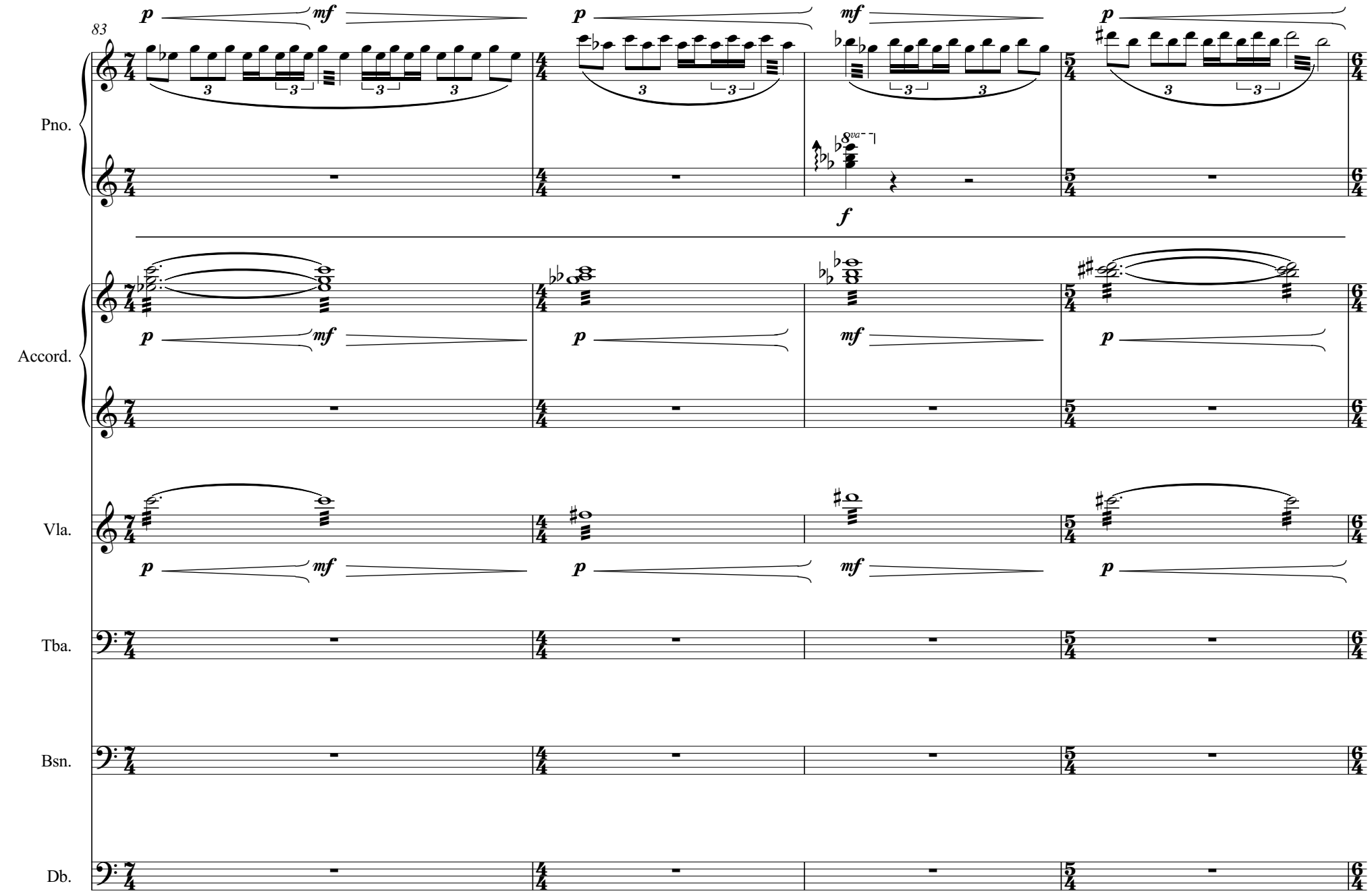


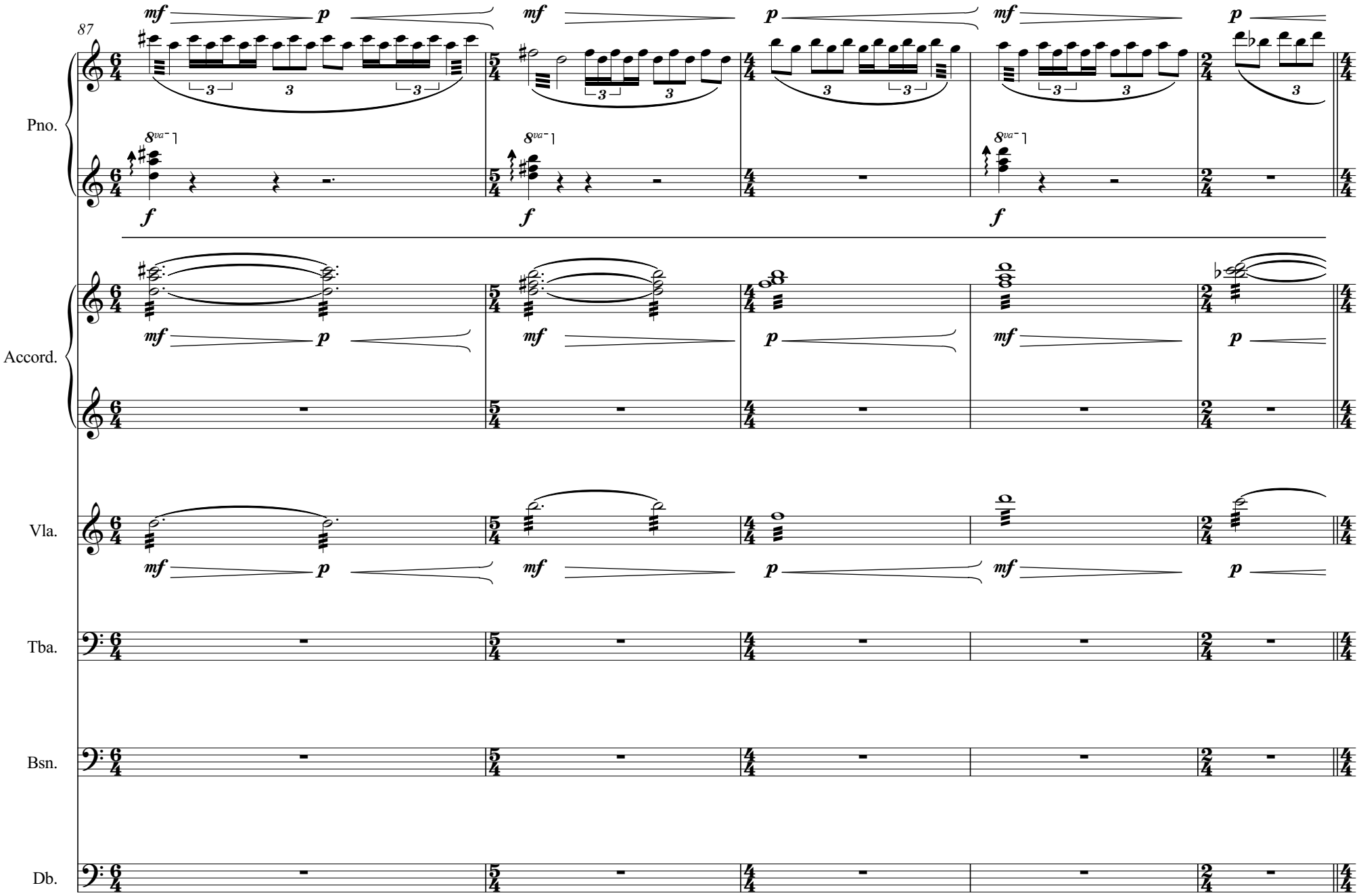

72
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
air
mv
coin
air
mv
coin
air
mv
coin

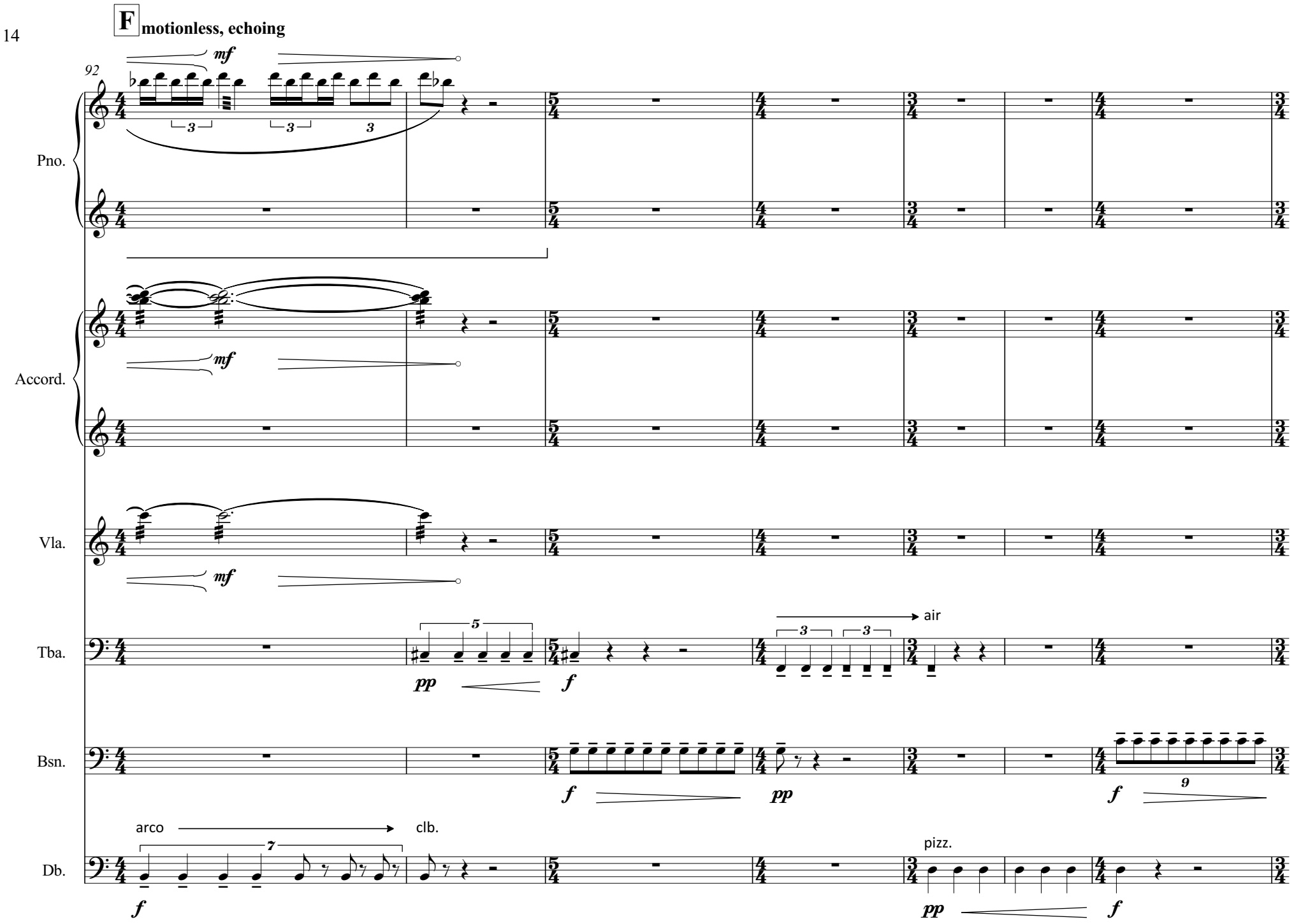
E **shimmering, celestial**

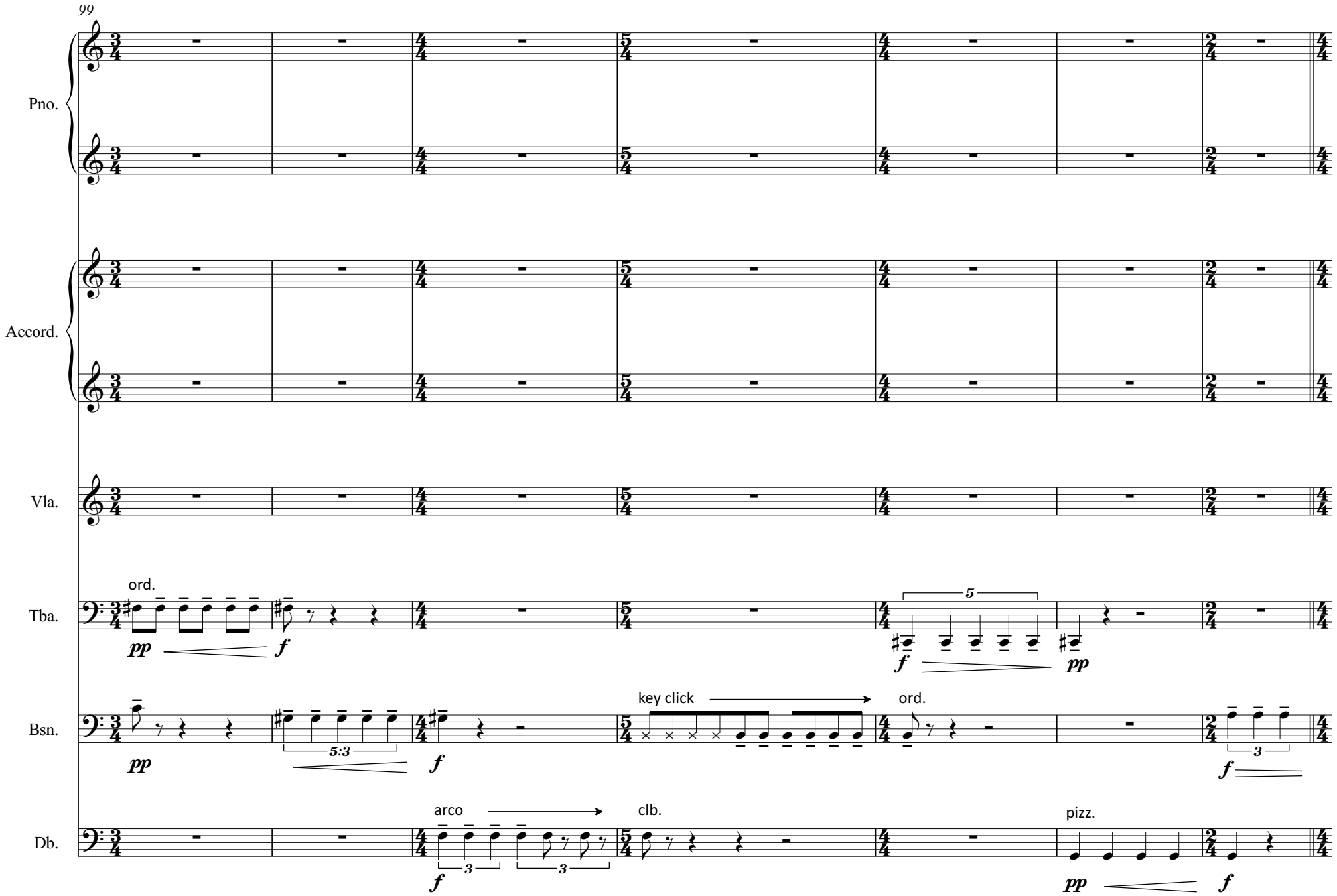
78



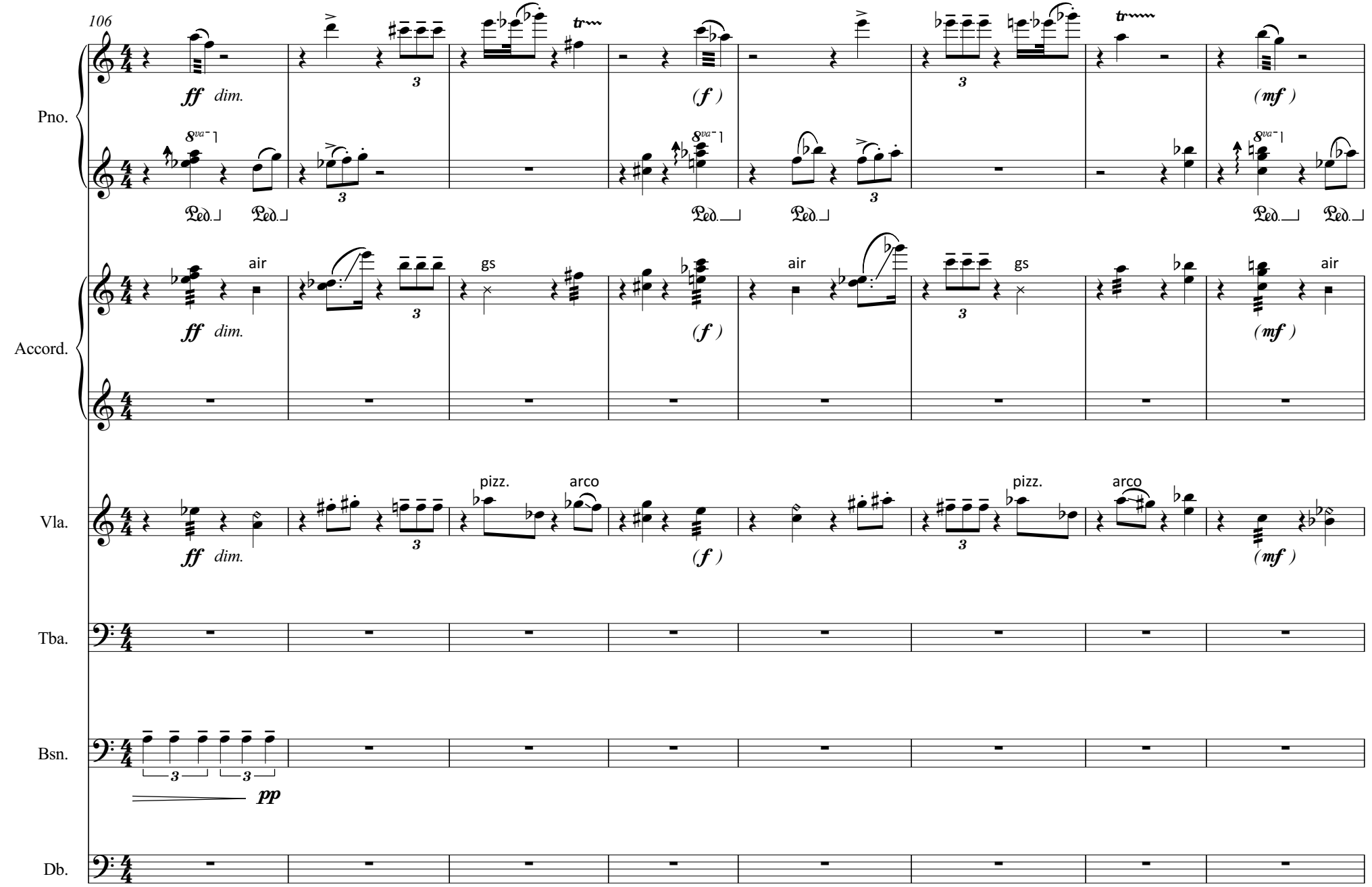

83
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
p
mf
f
8va


87
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
mf
p
f
8va

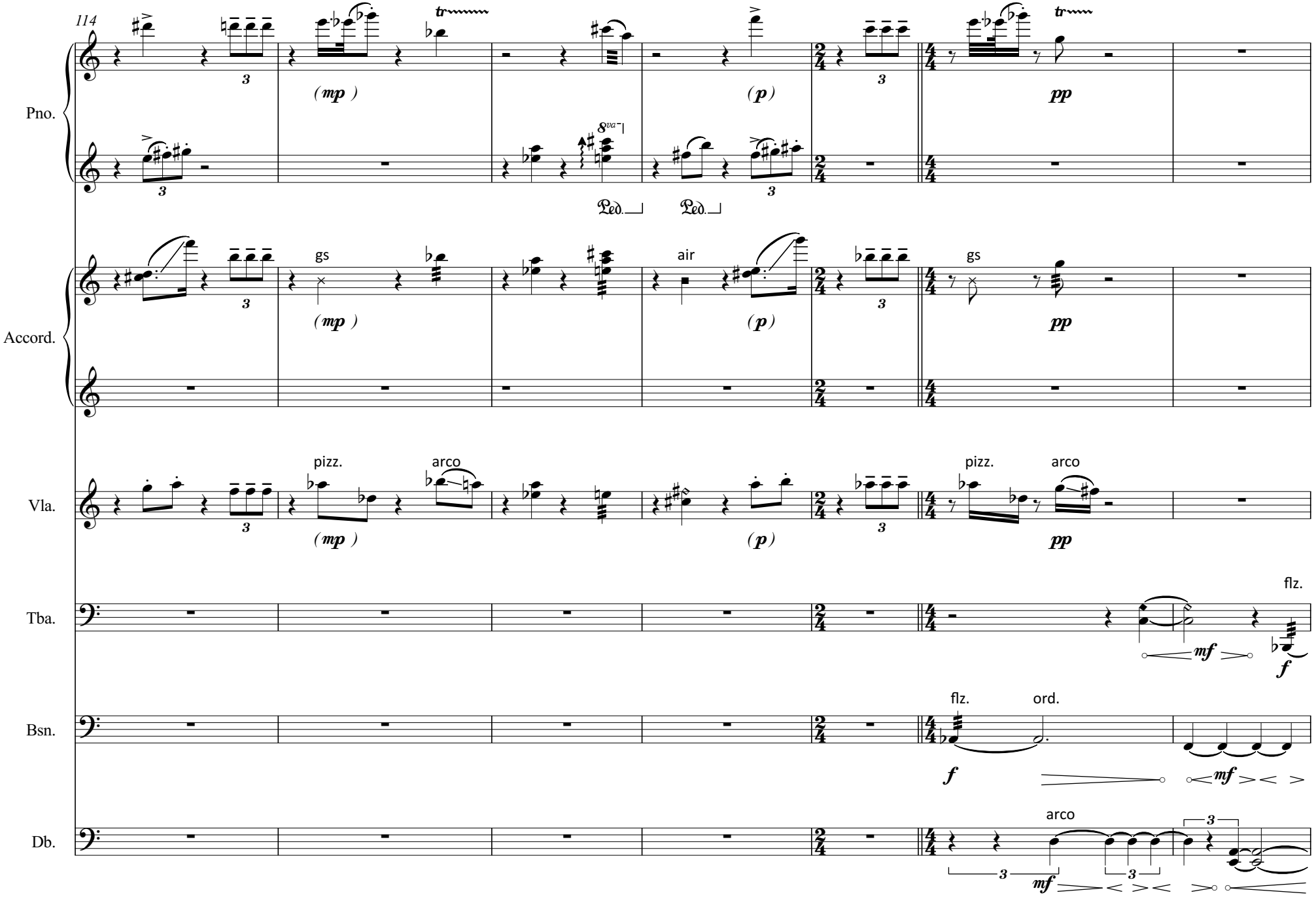

F motionless, echoing
92
mf
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
pp
f
air
arco
clb.
pizz.

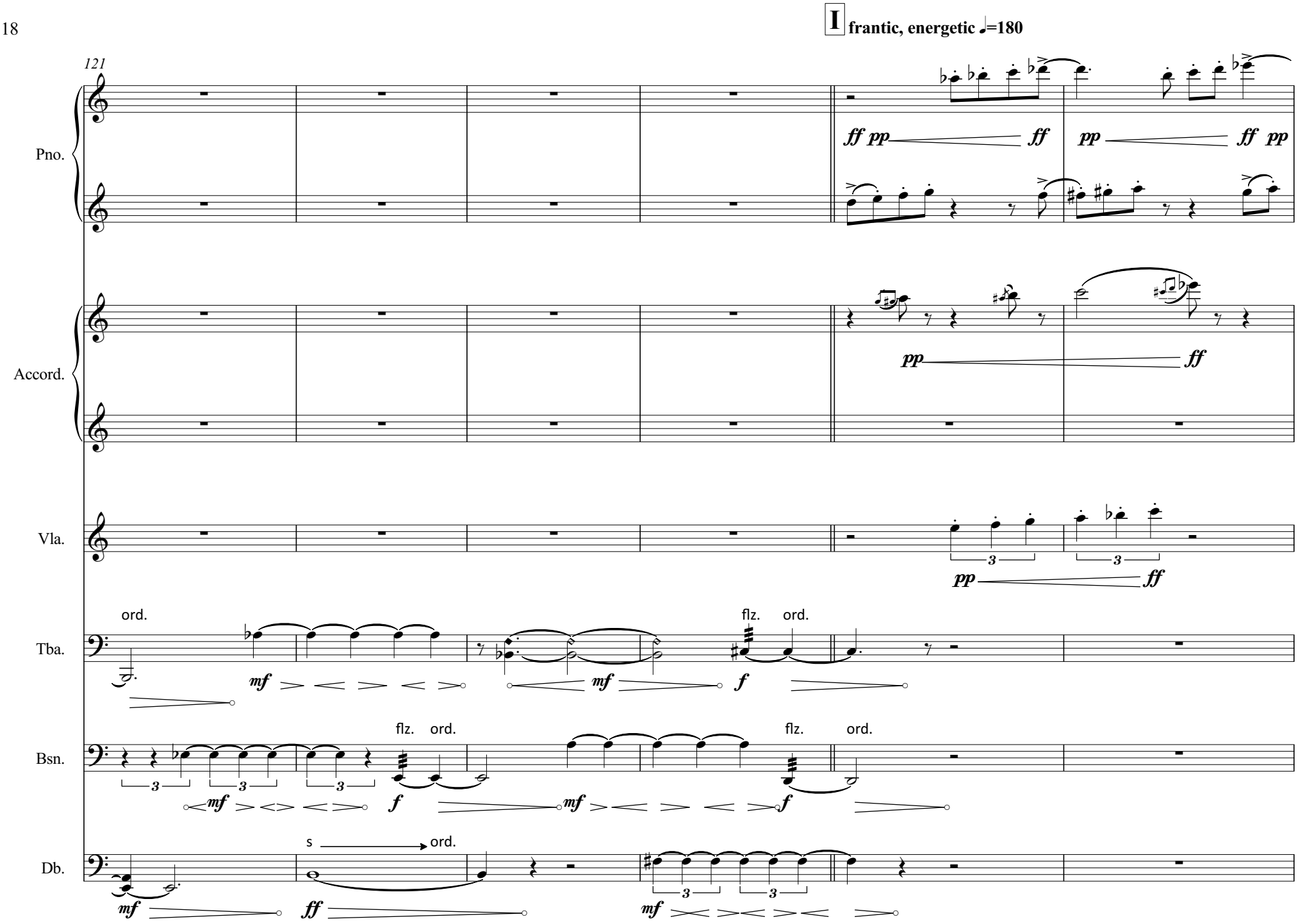

99
Pno.
Accord.
Vla.
Tba.
ord.
pp
f
5
f
pp
Bsn.
pp
5:3
f
key click
ord.
3
f
Db.
arco
3
3
f
clb.
pizz.
pp
f

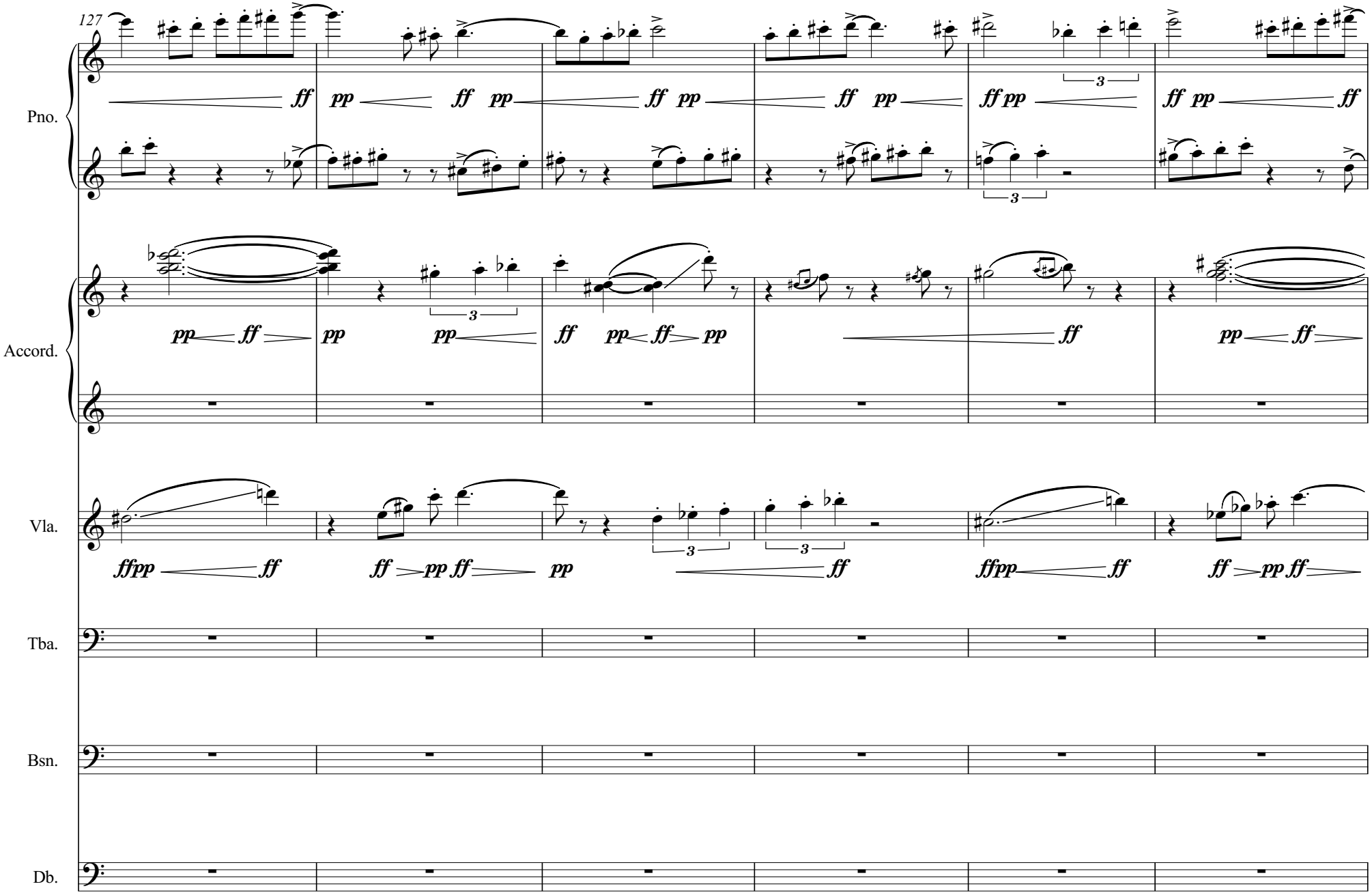
G **strict**

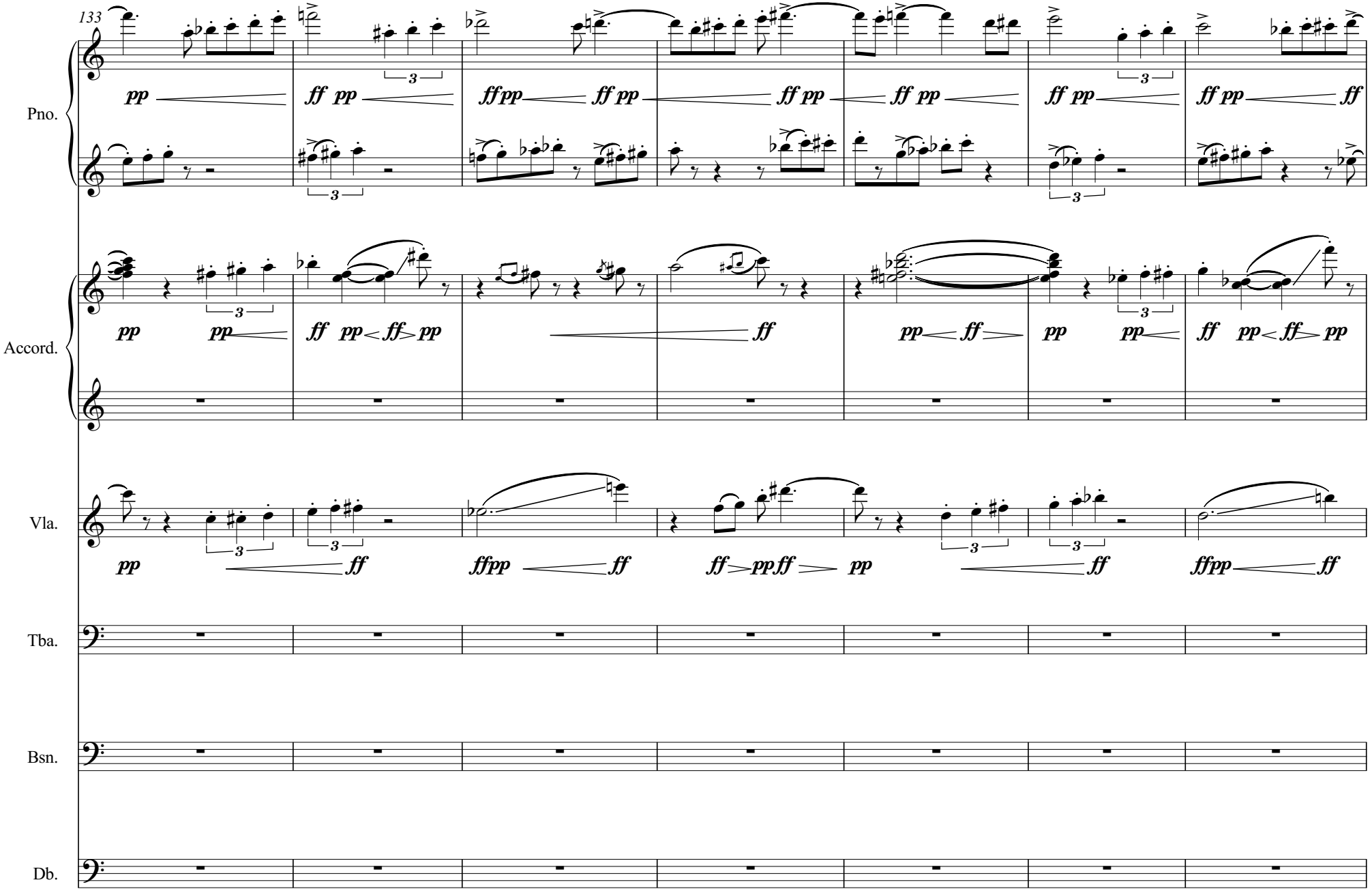

106
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
ff dim.
(f)
(mf)
pp
air
gs
pizz.
arco
Ped.
8va

H **dark, throbbing ♩=60**

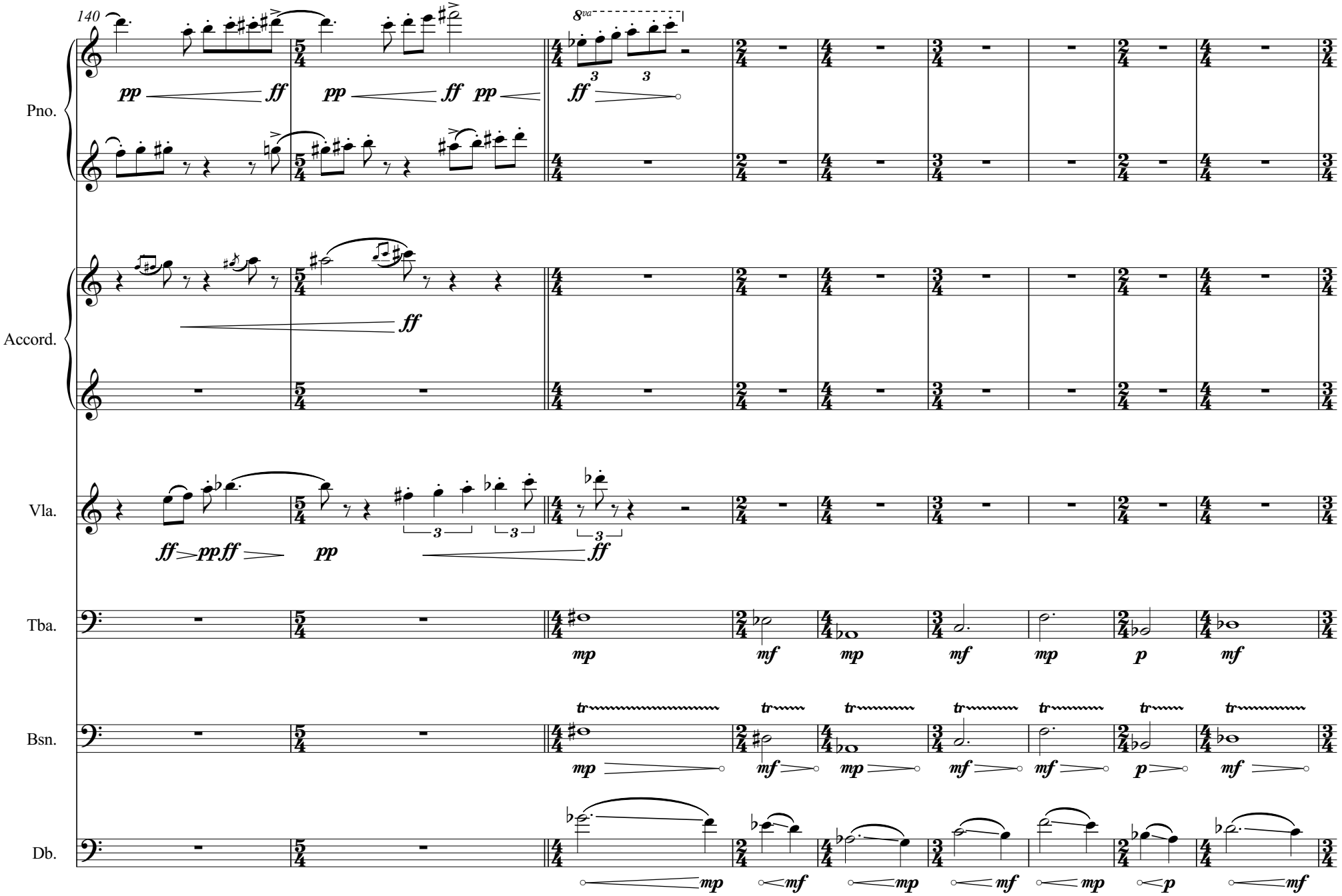



I frantic, energetic ♩=180
121
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
ff pp
ff
pp
ff pp
pp
ff
ord.
flz.
ord.
s
ord.


127
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.


133
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.

J morose, drowsy ♩=120



K **delicate, ethereal**

149

Pno.

pp

8va

3 3

5

Ped.

Accord.

air (unpitched)

f

Vla.

sul tasto

p *sempre*

Tba.

f *mf* *p* *mp* *f* *mp* *mf* *p*

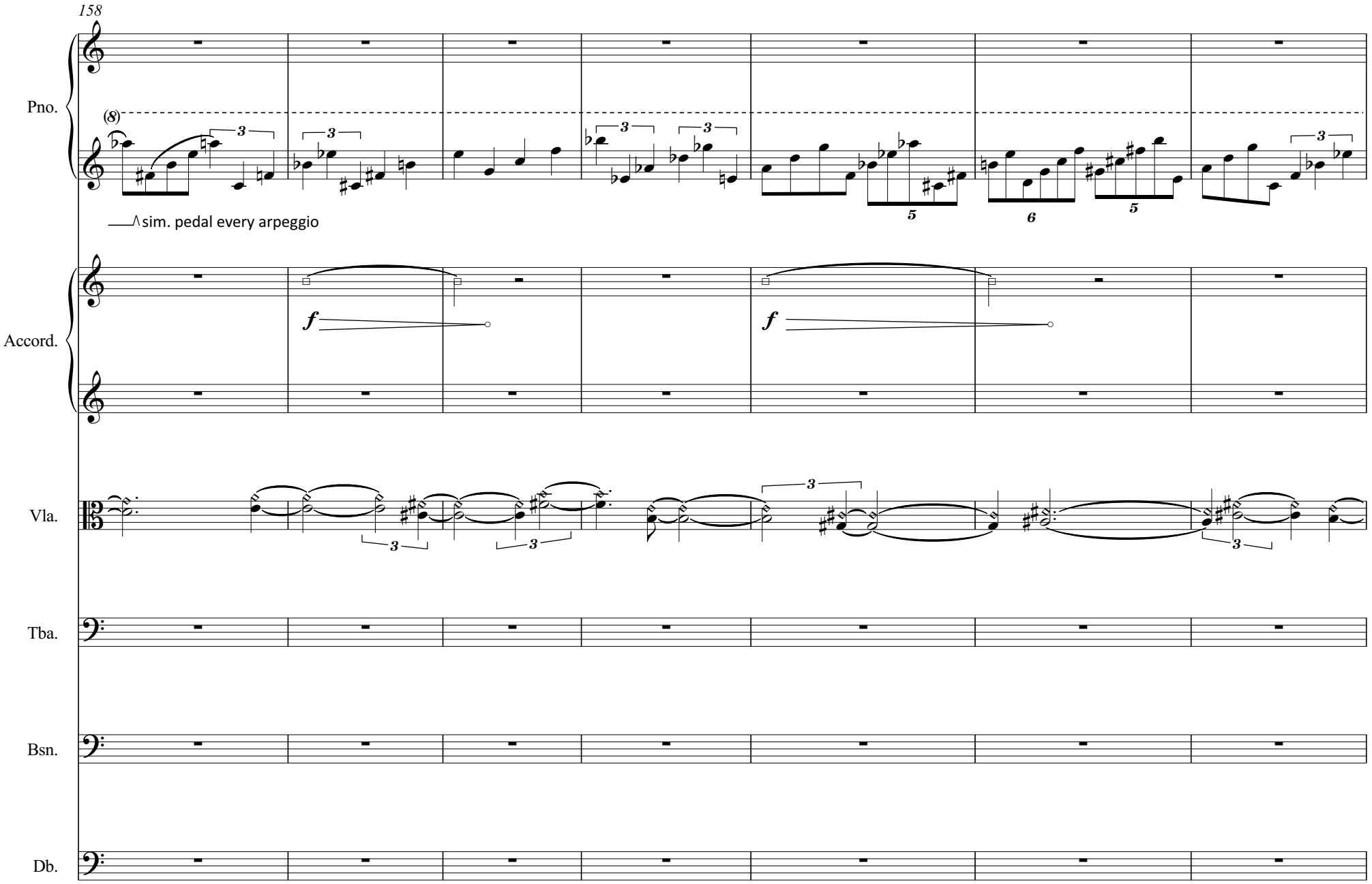
Bsn.

tr

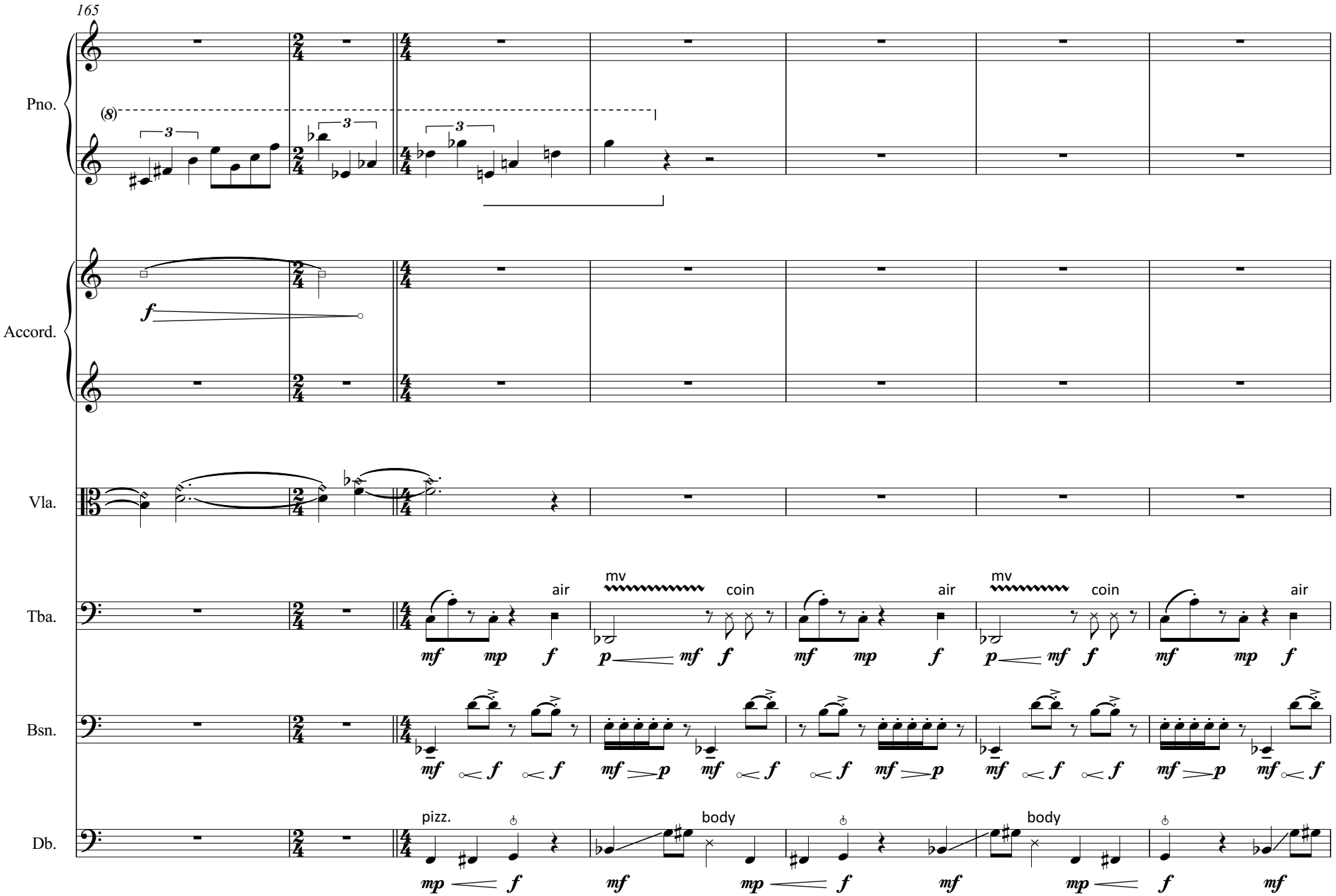
f *mf* *p* *mp* *f* *mp* *mf* *p*

Db.

f *mf* *p* *mp* *f* *mp* *mf* *p*


158
Pno.
(8)
sim. pedal every arpeggio
Accord.
f
f
Vla.
Tba.
Bsn.
Db.

L mechanical, precise



M shimmering, celestial

172

Pno.

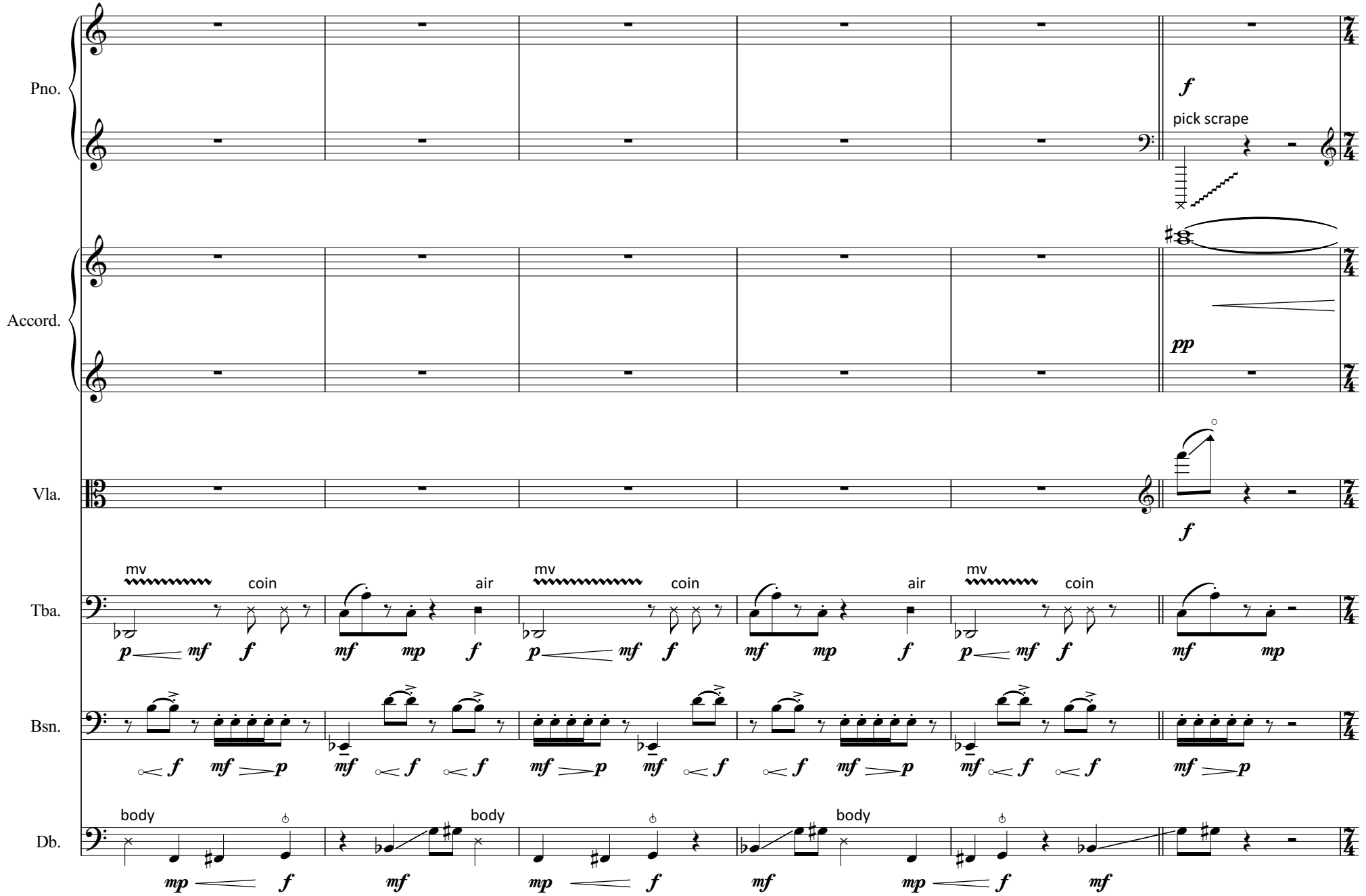
Accord.

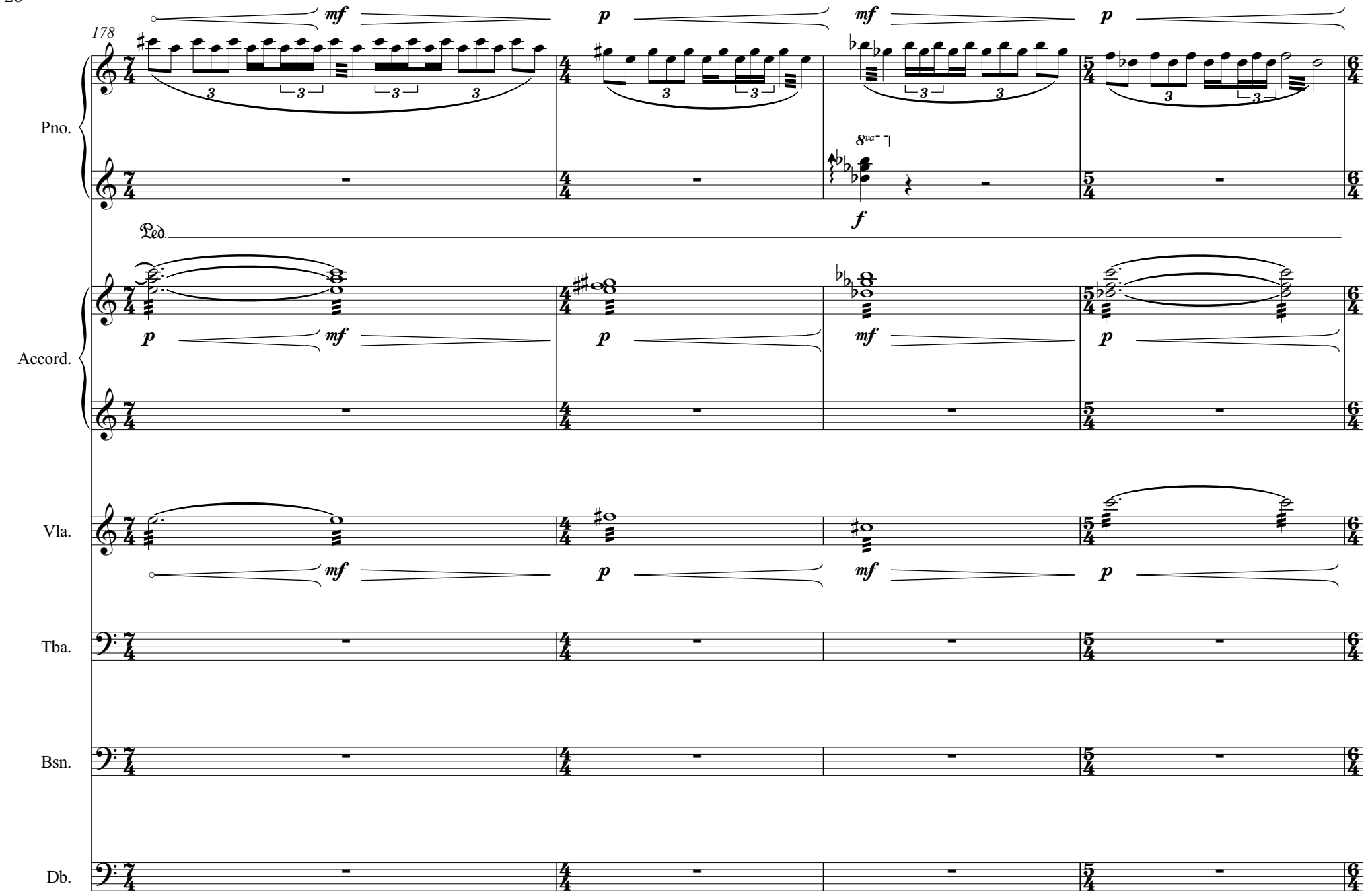
Vla.

Tba.

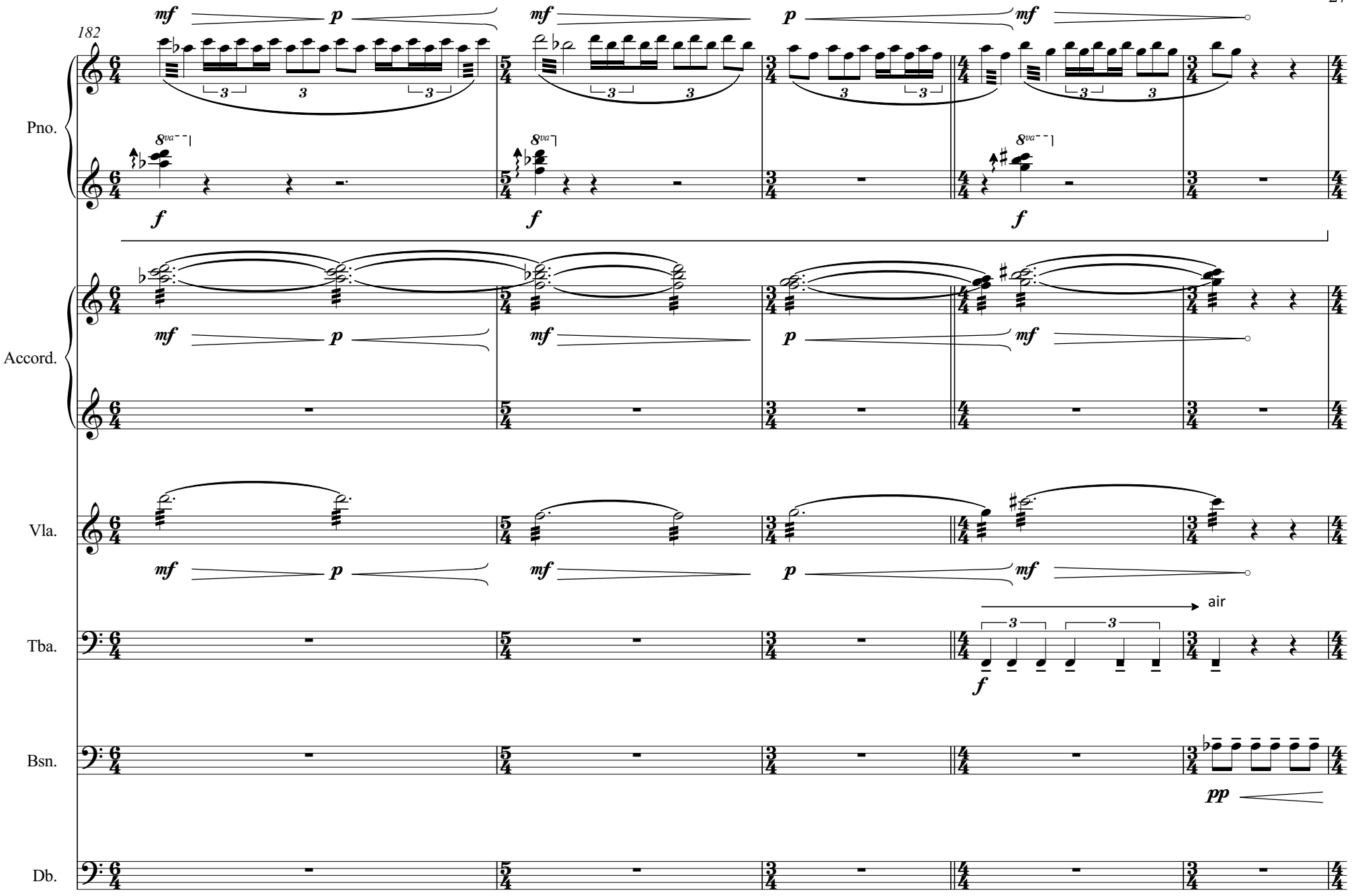
Bsn.

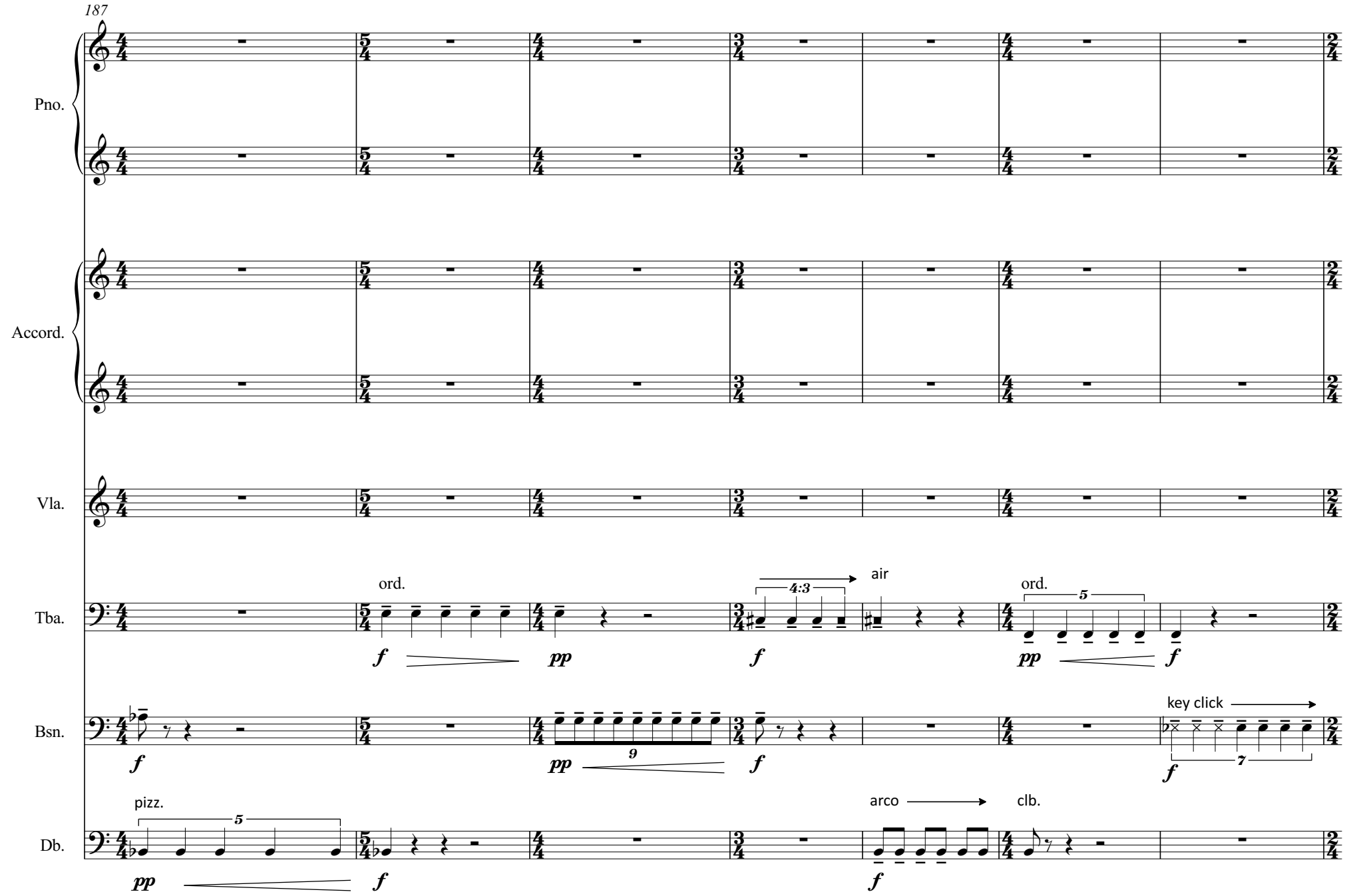
Db.




178
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
mf
p
mf
p
8va
f
Ped.

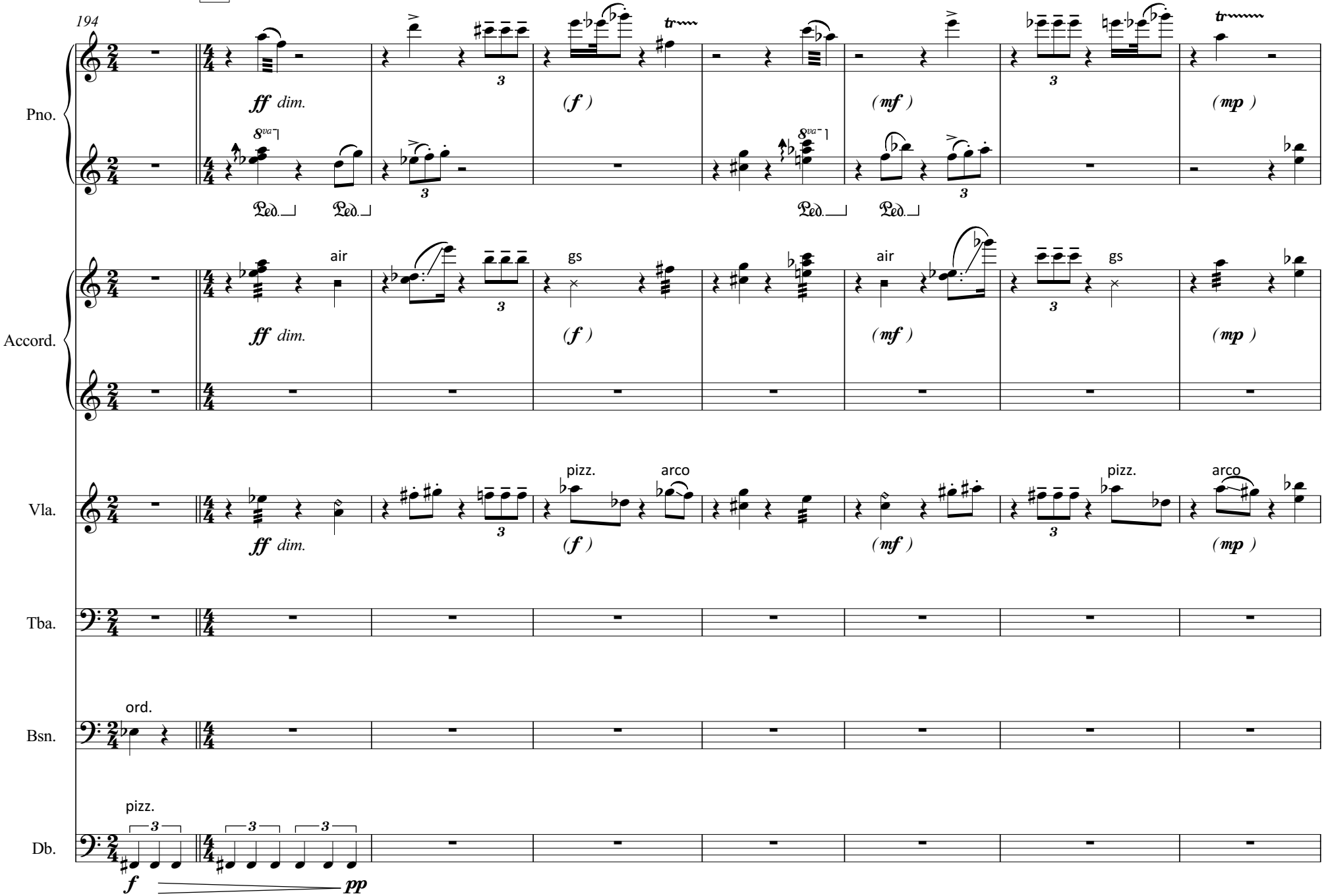
N motionless, echoing

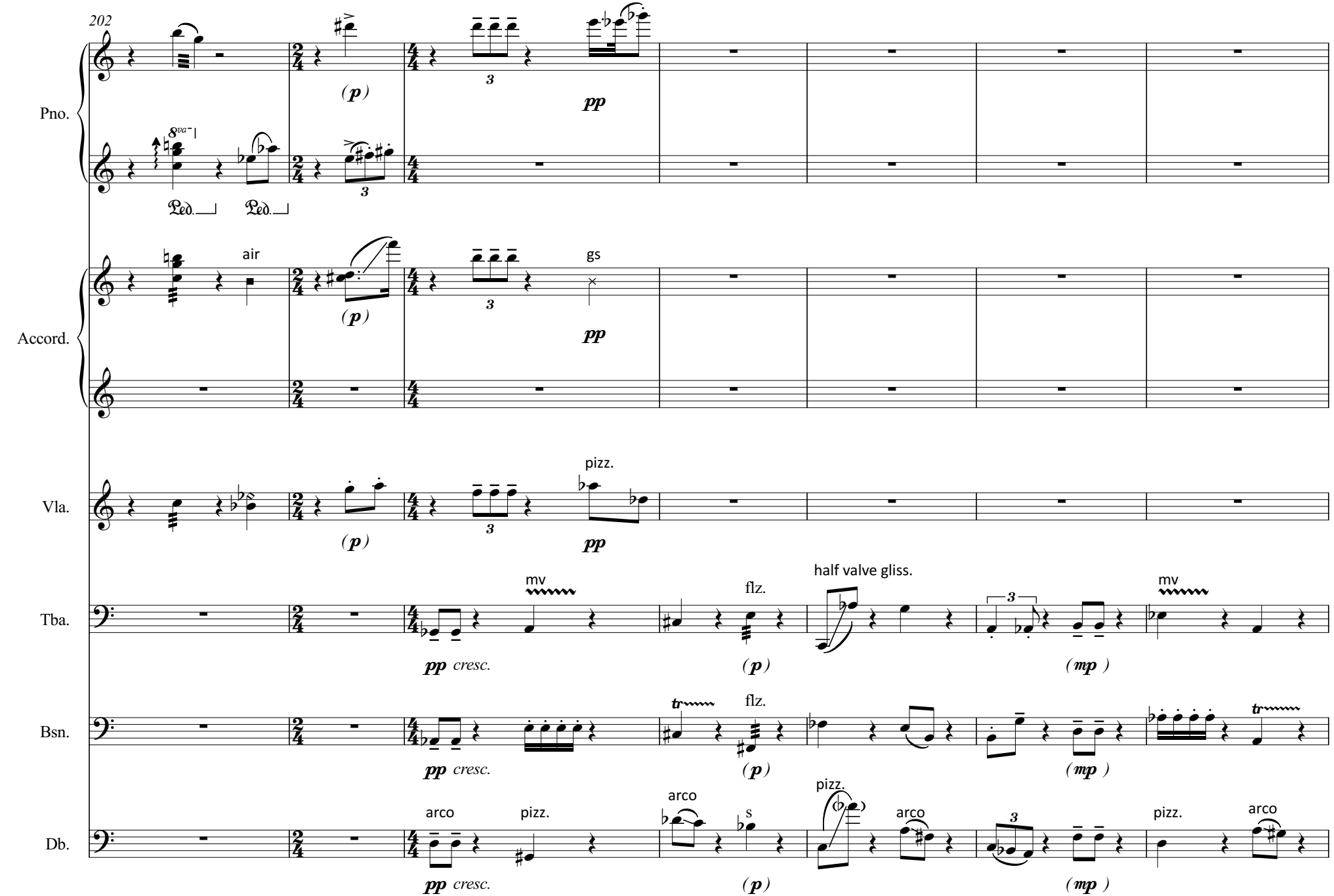


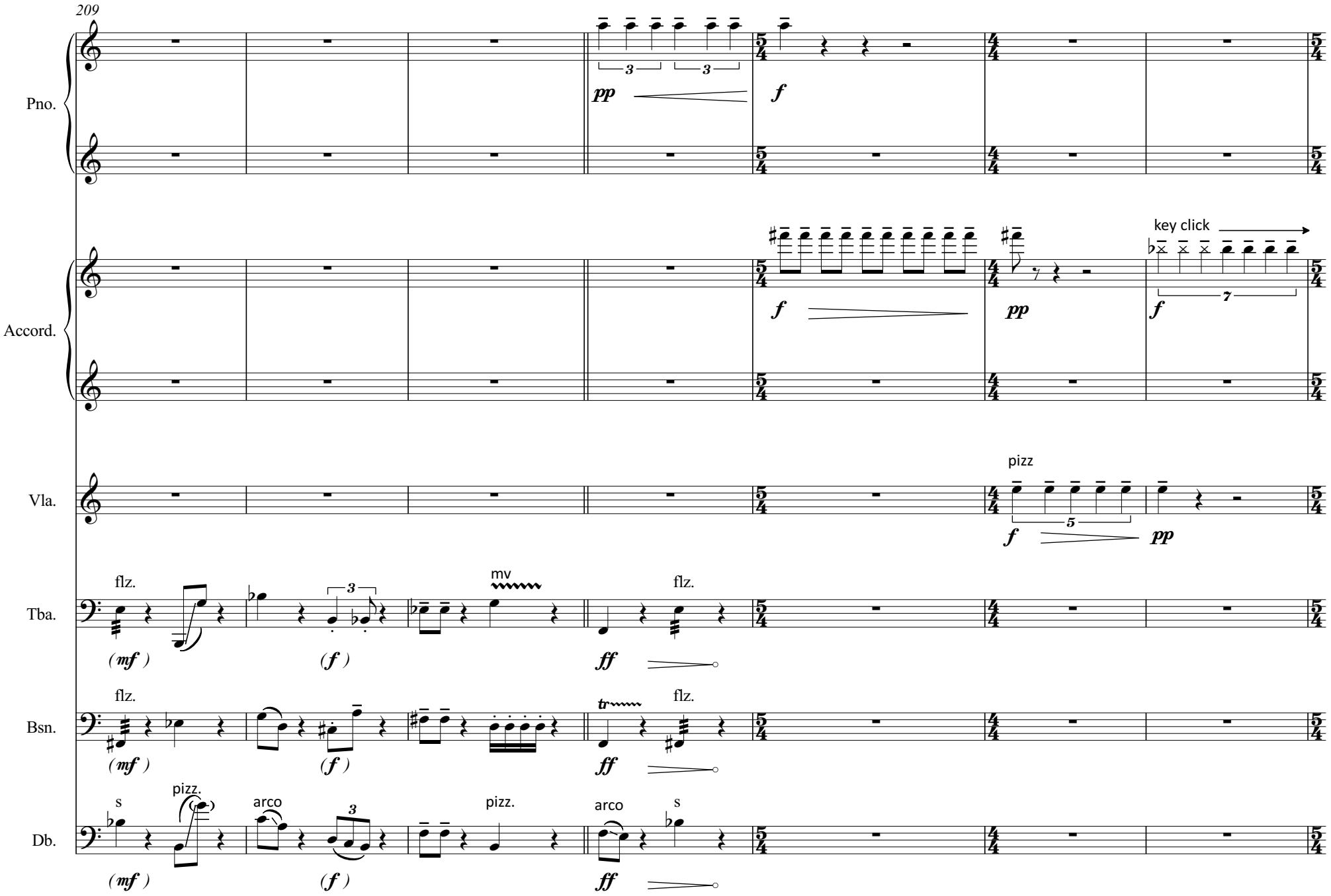

187
Pno.
Accord.
Vla.
Tba.
ord.
4:3
air
ord.
5
Bsn.
9
key click
7
Db.
pizz.
5
arco
clb.

O **strict**

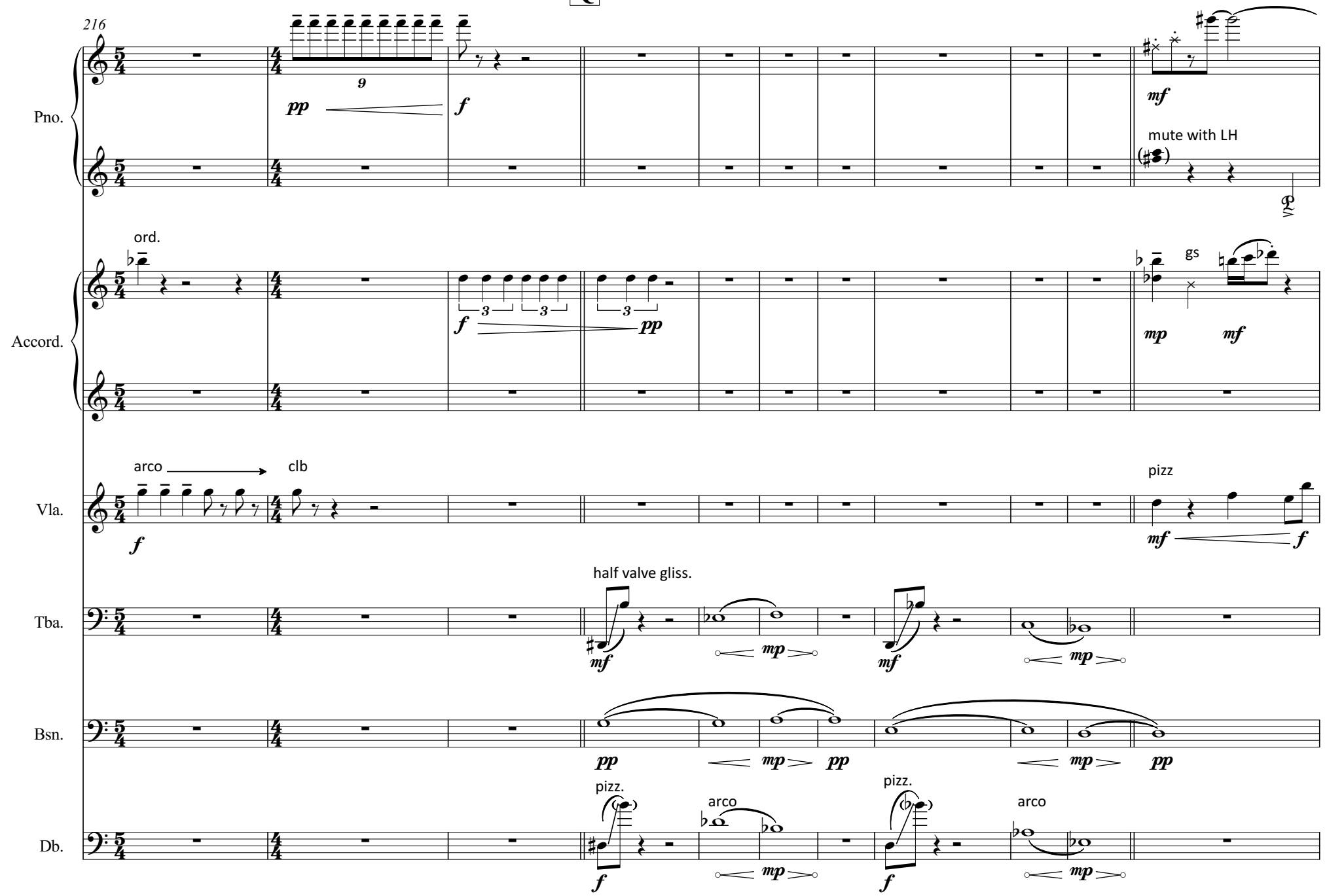
194

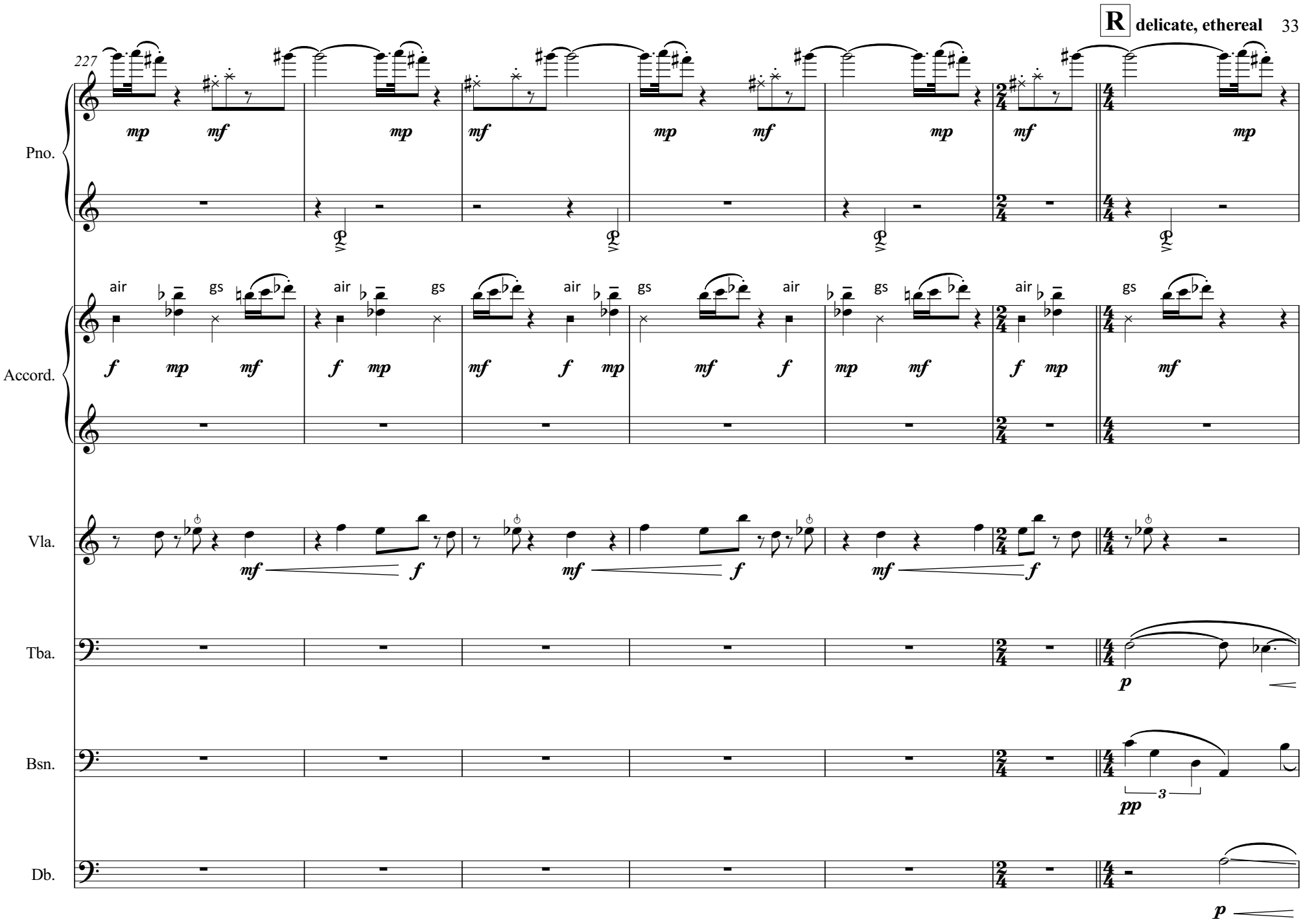

Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
ff dim.
(f)
(mf)
(mp)
8va
Ped.
air
gs
pizz.
arco
ord.
f
pp

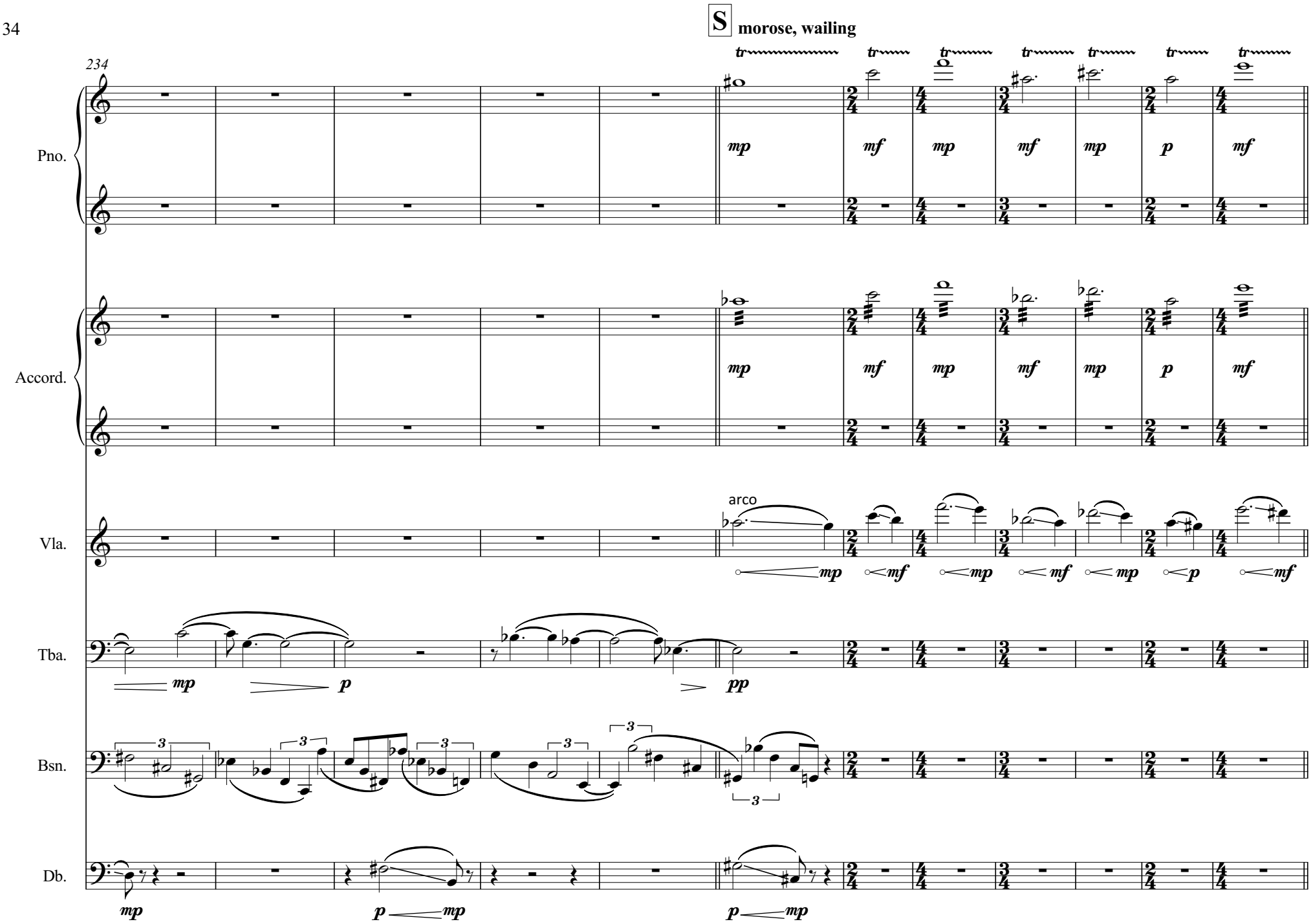

202
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
8va
Ped.
Ped.
air
gs
pizz.
mv
flz.
half valve gliss.
mv
tr
flz.
arco
pizz.
arco
pizz.
arco
pizz.
(p)
pp
pp cresc.
(mp)


209
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
pp
f
key click
pizz
flz.
mv
ff
tr
s
pizz.
arco
(mf)
(f)

Q **smooth, relaxed** **mechanical, precise**




227
Pno.
Accord.
air
gs
Vla.
Tba.
Bsn.
Db.
3


S morose, wailing
234
Pno.
Accord.
Vla.
arco
Tba.
Bsn.
Db.
mp
mf
p
pp

T **falling, stumbling**

246

Pno.

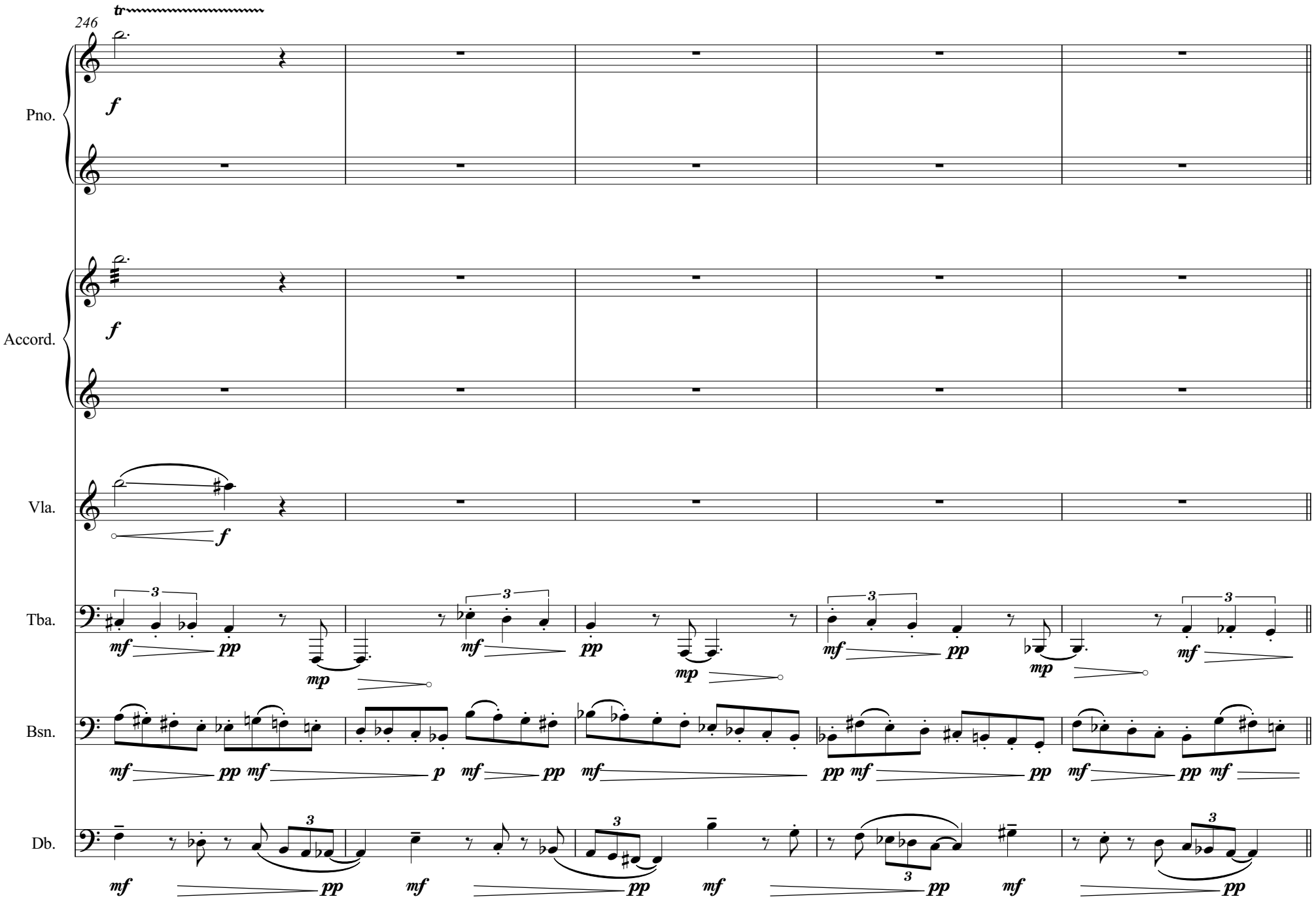
Accord.

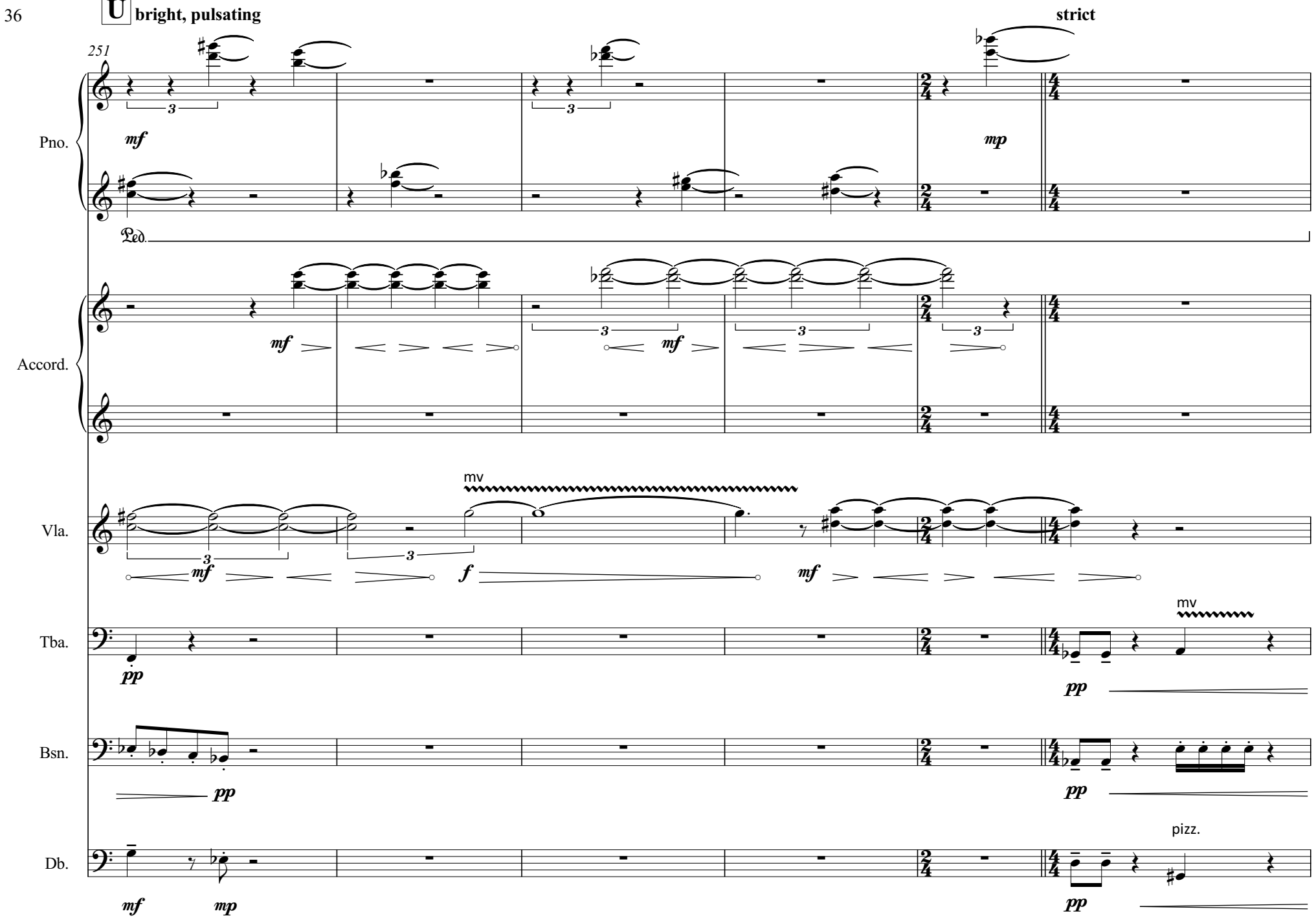
Vla.

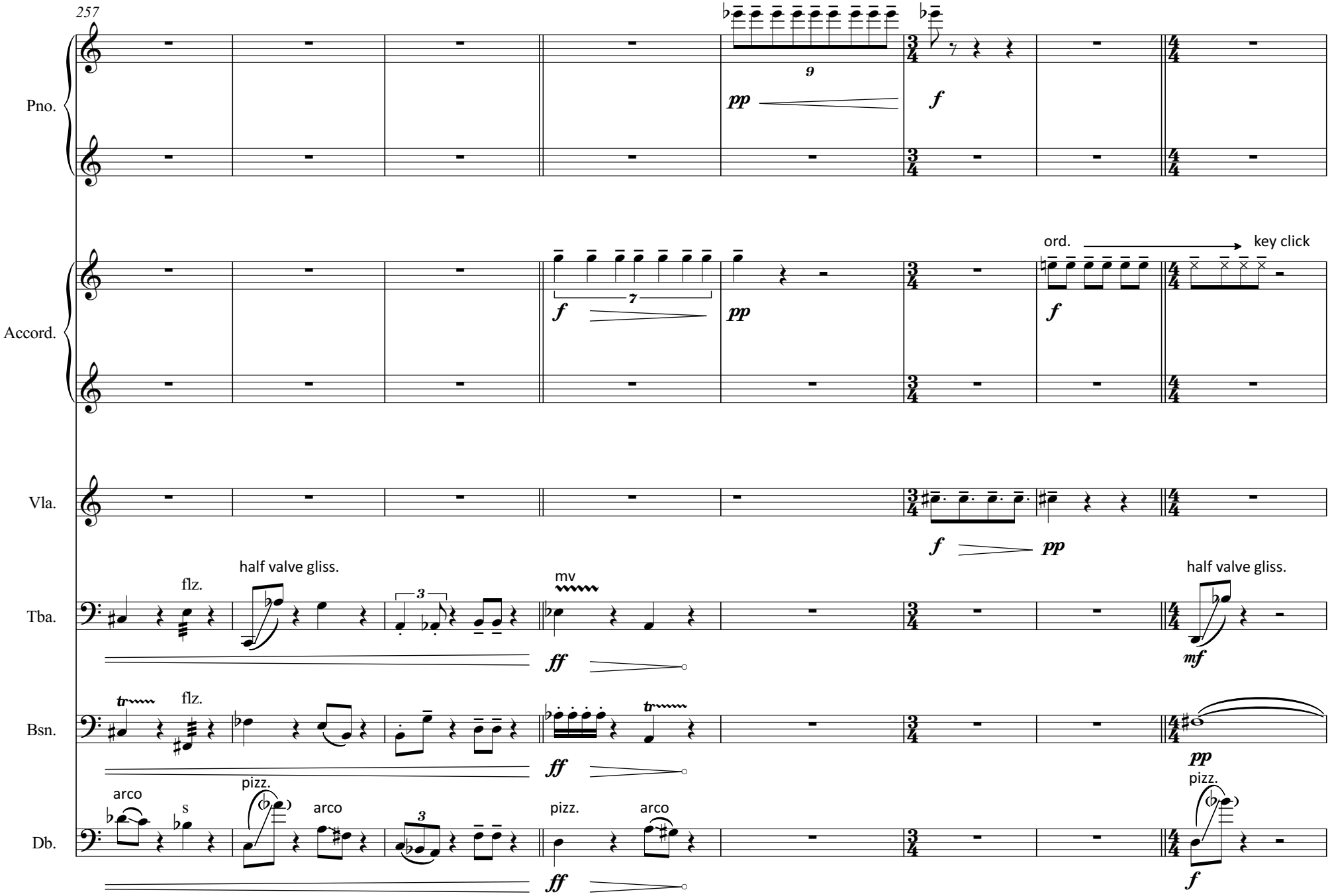
Tba.

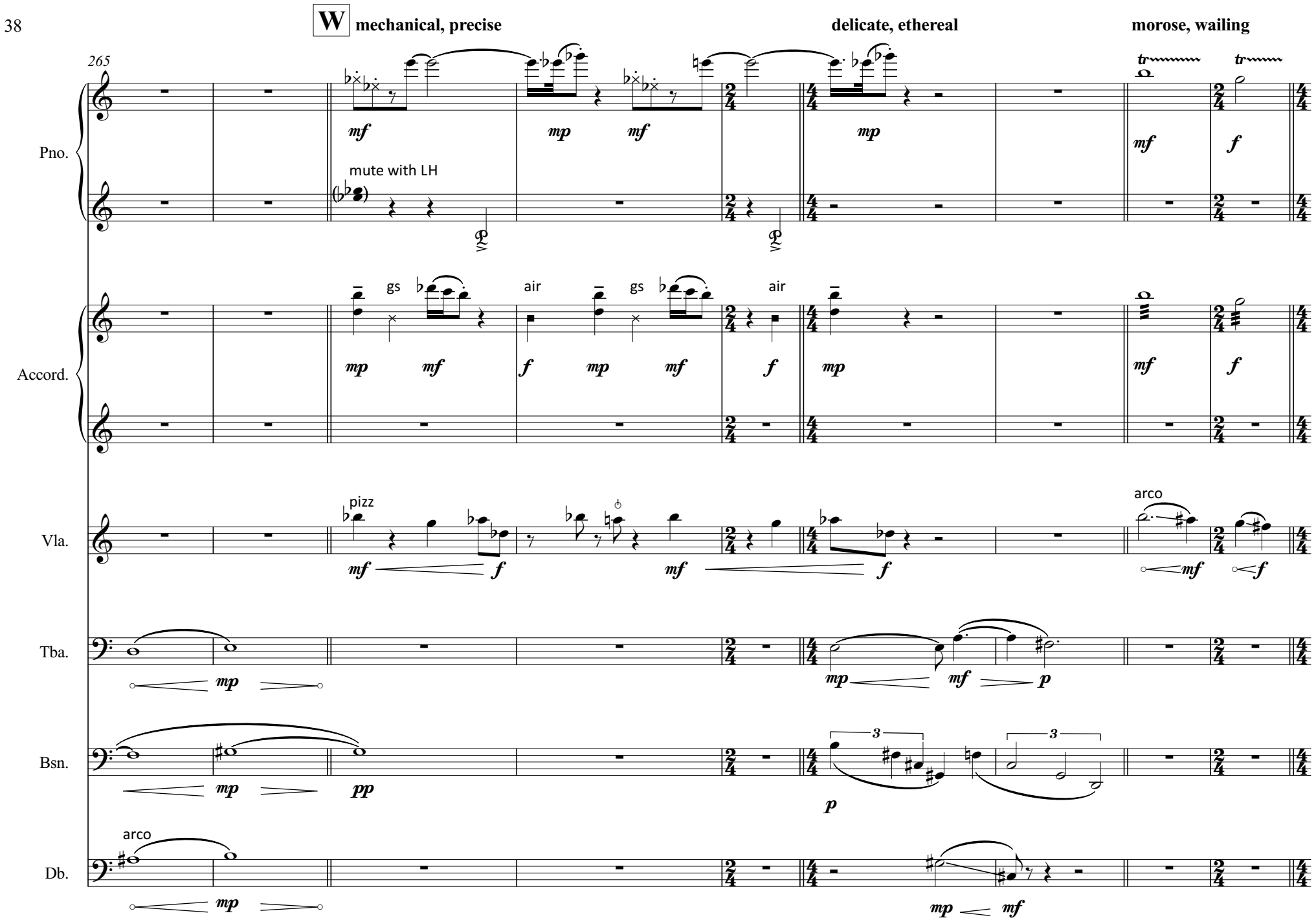
Bsn.

Db.

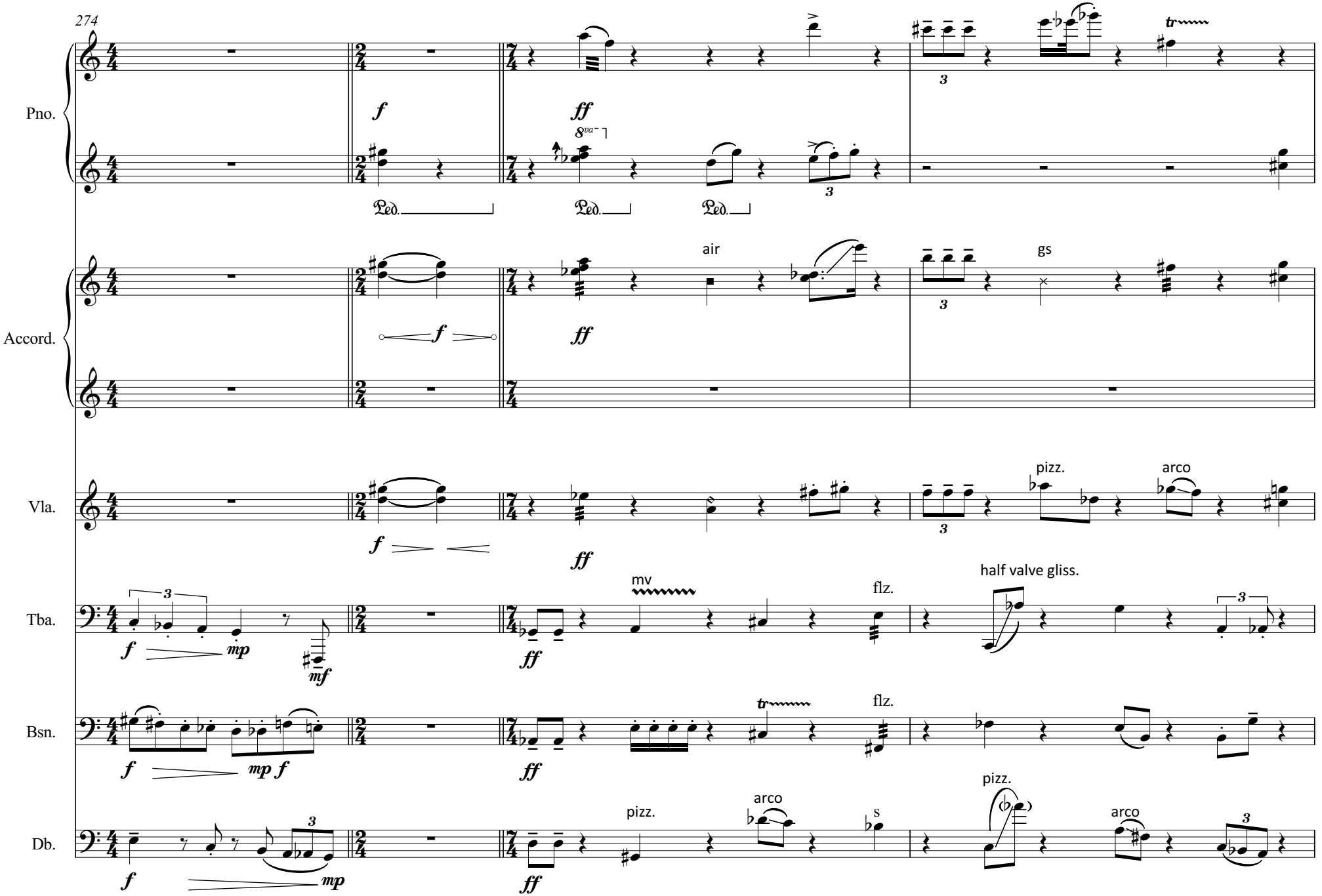


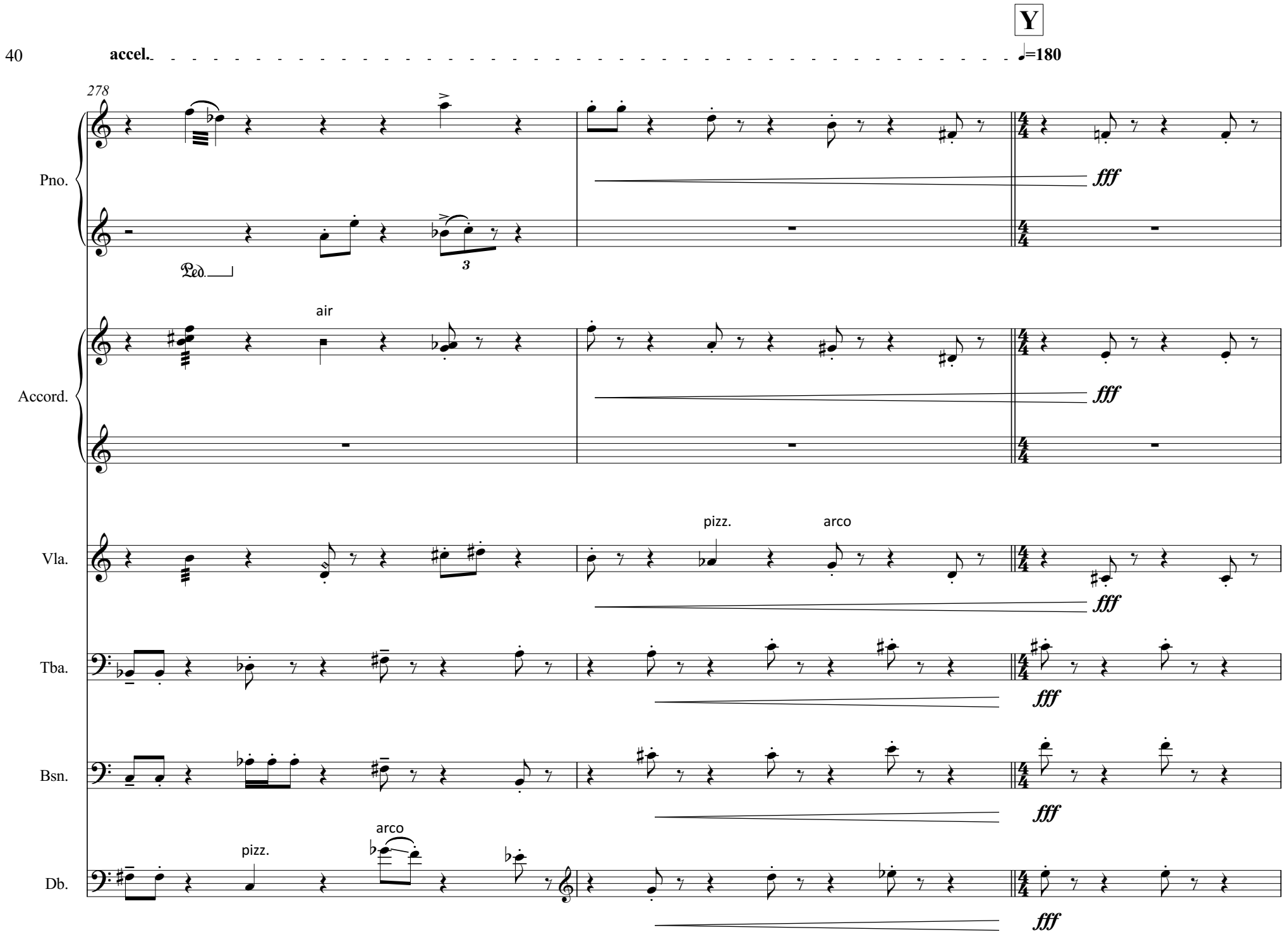

U bright, pulsating
strict
251
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
mf
mp
Ped.
mv
f
pp
pizz.

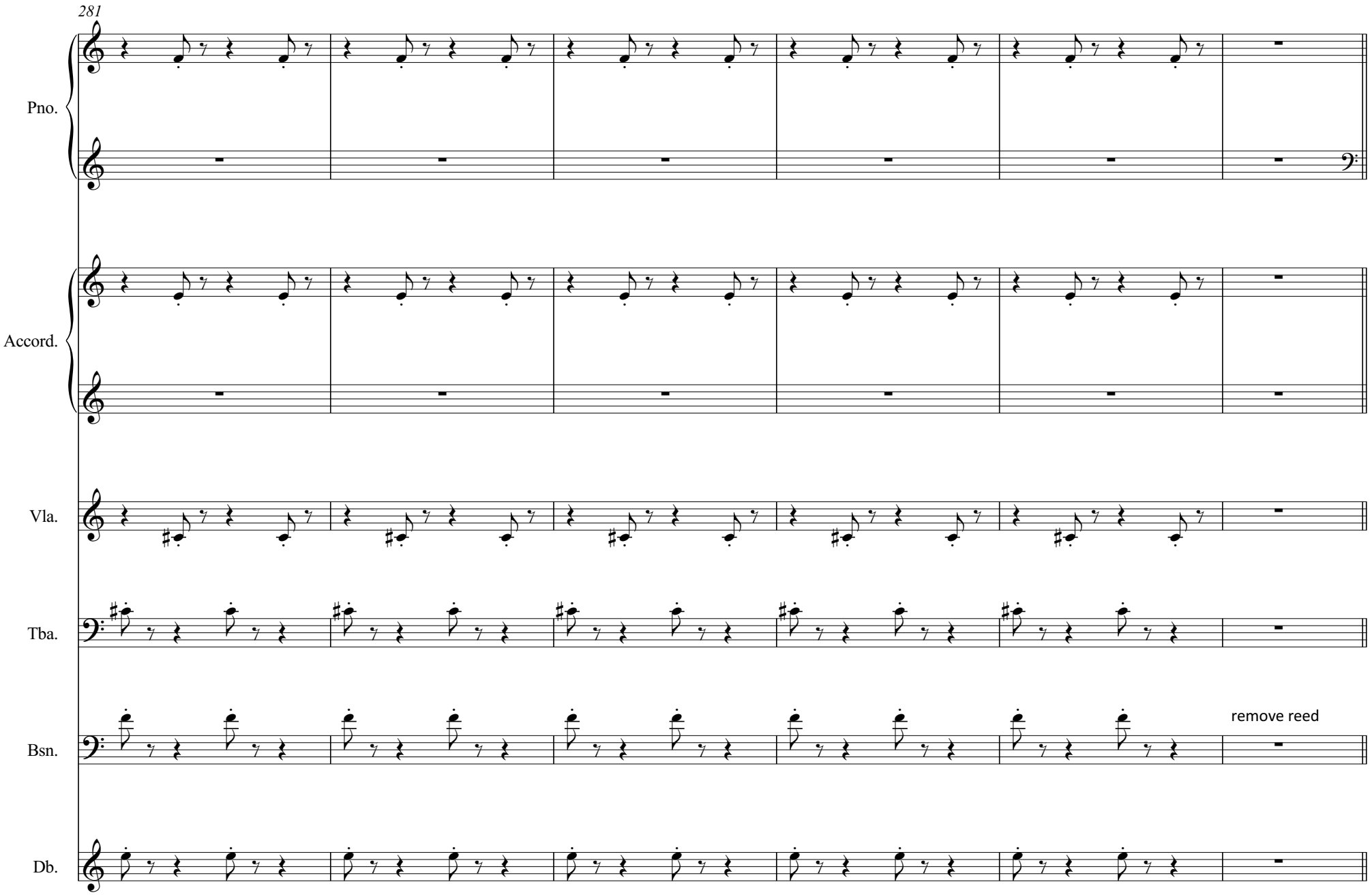

257
Pno.
Accord.
Vla.
Tba.
Bsn.
Db.
pp
f
ord.
key click
flz.
half valve gliss.
mv
ff
mf
arco
pizz.
s


W mechanical, precise
delicate, ethereal
morose, wailing
265
Pno.
mute with LH
Accord.
gs
air
gs
air
Vla.
pizz
arco
Tba.
Bsn.
Db.
arco

X **falling, stumbling** **bright, pulsating** **urgent, strict**




Y
accel.
♩=180
278
Pno.
Ped.
3
fff
air
Accord.
fff
pizz.
arco
Vla.
fff
Tba.
fff
Bsn.
fff
arco
pizz.
Db.
fff


281
Pno.
Accord.
Vla.
Tba.
Bsn.
remove reed
Db.

Z **massive, raucous ♩=120**