A Portfolio of Original Compositions with Commentary

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Thesis Submitted for the Award of PhD

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Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of PhD is entirely my own work, and that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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Abstract

Adam Cullen

A Portfolio of Original Compositions with Commentary

This portfolio of compositions and analytical commentary explores the use of extra-musical stimuli for musical composition in various ways. Aspects of each piece are designed to address criticisms in the literature levelled against programme music, generating practical exceptions to what may be revealed as sweeping statements. The techniques used include the manner in which material is presented to an audience; exploiting the mutual interdependence of two artforms, having a musical, intuitive response to an external concept and, conversely, having a conceptual response to incomplete musical sketches.

Discoveries which may be of value to other composers include a system for replicating tonic-dominant key-relationships among non-tonal pitch collections; a system for generating pitch material from beat tempo detection analysis; and the discovery of some guitar techniques which, if they are not new, are certainly rare enough to warrant greater exploration and exposure. Finally, any composers who feel deterred from writing programmatic music as a consequence of prohibitive comments in the literature may find some freedom to pursue those interests.

Introduction

This portfolio and commentary reflect a period of study from 2016 to 2019 (excepting a six-month deferral). The works express an interest in extra-musical stimuli for composition in different ways. The two choral works of 2016 (*Behold a Great Red Dragon* and *Charge of the Light Brigade*) respond to dramatic texts, but with very different points of focus. *The Cyborg Resurrection* (2016-2017) for solo guitar has an autobiographical component which is made clear to audiences at performance. *Edi Beo Thu* (2017) for piano trio reduces a text to its musical components, represents them in its opening, and follows with an intuitive response to that material which is one step removed from its extra-musical source. *Tachyon : Observer* (2017 rev. 2019) for orchestra started from musical sketches. To these a programme was later applied, and that extra-musical concept provided a framework for structuring and developing the material. *The Tenacious Alarm (and the Man who went Deaf in his Sleep)* (2018) for wind quintet was composed with its rhythms and pitches governed strictly by compositional pre-planning but progress eventually ground to a halt when those processes failed to furnish the piece with sufficient musicality. A solution was found by revisiting the music as an interpretive listener to see what imagery the music thus far suggested. Through this process, a workable narrative came to mind and served as the basis for revised dynamic interpretation and phrasing, and assisted with finding an ending to the piece.

Learning of the 'programme music' versus 'absolute music' debate in my undergraduate studies, I came away with the impression that absolute music had 'won' the argument.[1] This impression was supported by how we were trained to perform musical analysis and how modernist composers had written about their own works, emphasising form above all else and reinterpreting works of the past along increasingly 'absolute' lines.[2] I had always enjoyed programme music but developed an unhappy sense that my own composing practice should steer clear of extra-musical associations in order to be taken seriously. Naturally, many composers do not share this restriction and it was not the intention of my teachers to create this impression, but it has been a part of my thinking for many years. There are several examples of successful works with programmatic considerations which I admire. David T. Little's *Soldier Songs* (2006) comes to mind, not simply because it is an opera/song-cycle, but for its overt extra-musical messaging. Little's musical activism adds a layer of meaning that both precedes the composition and independently remains in the mind

[1] 'Programme music' is defined broadly in this commentary as any music with extra-musical associations.
[2] Judy Lochhead, 'Naming: Music and the Postmodern', *New Formations*, 66, 2009, 158–72 <https://doi.org/10.3898/NewF.66.11.2009>.

of the listener after the music has finished. I can appreciate this in another's work but at the outset of this research I would have hesitated to employ such a tactic myself. Arthur Honegger's famous *Pacific 231* (1923) is a polar opposite example to Little's activism in that he hoped to reduce the programmatic flights of fancy his listeners took on, emboldened as they were by his programmatic title. Honegger differentiated between an inspiration and a programme, defending the first and denouncing the second (though this is not a distinction I feel compelled to honour in my own work).[3] His intention was entirely musical but the result was so evocative of a train speeding up that his choice of title is almost irrelevant; audiences were always going to be put in mind of a train by this piece. Deirdre Gribbin's *What the Whaleship Saw* (2004) is perhaps aesthetically closer to my own work than Honegger's. Gribbin frequently finds places of frenzied harmonic stasis and elongates them; a quality I readily embrace in many of my own compositions. Her title refers to an 1821 text that inspired Melville's *Moby Dick*. My insecurity around writing programme music reverberates with the following excerpt from the Gribbin's programme note.

> This piece is not pure narrative, nor a voyeuristic morbid fascination for the primitivism of the human instinct. The music steals snatches of fragments, through extremes of timbre and instrumental range often as a concerted force stung by urgency. This is reflected in disparate harmonic gestures culminating in a crazed dance and swift struggle, which does not rest but dissolves into the deepest memory and simple line.[4]

Gribbin's first line sounds as though she is denying any programme, even though it appears after two paragraphs detailing the story the title comes from. Arguably, the rest of the quote could have been written without any programmatic context. While I make no claims about Gribbin's intent, one can see that a composer concerned with the 'legitimacy' of using programmes could infer that programmatic writing may be used only so long as one is ready to give an alternate, absolute, 'more sensible' and 'professional' justification for the piece.

Music scholarship has made great progress in recent decades towards putting the distinction between programme and absolute music to rest, though Mark Evan Bonds is careful to acknowledge that there is still some lively debate on the subject.[5] According to Bonds, much of the debate has narrowed its focus to the question of whether music can

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[3] Geoffrey K. Spratt, 'Honegger, Arthur', *Grove Music Online*, 2001 <http://www.oxfordmusiconline.com/> [accessed 6 August 2019].
[4] Gribbin, Deirdre, An archived programme note by the composer. Deirdre Gribbin, 'WCM Archive - Performance Details' <http://archive.westcorkmusic.ie/details/view/cmf/125> [accessed 6 August 2019].
[5] Mark Evan Bonds, *Absolute Music: The History of an Idea*, 1 edition (New York: Oxford University Press, 2014), pp. 5–6.

express emotions or ideas.[6] However, other criticisms against programmatic music published in the last century are unaffected by this debate. The contemporary composer who neither ignores nor subscribes to such opinions must find his/her own answers to them. Susan McClary and Anthony Newcomb have made strong cases that music cannot be separated from meaning because it depends on, to quote McClary, 'codes of significations such as affective vocabularies and narrative schemata'.[7] However, this is of little comfort to the composer who wants to experiment with the imitation or representation of extra-musical sounds but is faced with assertions and suggestions by William Wallace, Arthur L. Salmon and even Claude Debussy that such imitation in music is the lowest form of the art.[8] In 2011 Seth Monahan made a strong case in favour of biographical analysis in Mahler's Sixth Symphony, albeit from the point of view of the analyst more than the composer.[9] Yet, this affords little validation to a composer who may wish to explore autobiographical aspects of their own works when P. E. Vernon has declared that composer's introspections are 'particularly untrustworthy'.[10] Then there is the issue of the 'purity' of the medium, keeping it free from the contamination of other art forms. Even if Richard Taruskin has shown that there is no such thing as 'pure' music (since it implies the isolation of music from the humans who compose, perform, and listen to it),[11] the value judgement against programmatic music is not erased. There are degrees to which a work can be called absolute or programmatic and the implication stands that the more programmatic a work is, the less pure or serious a piece of art it might be. Finally, when Frankland and Pengelly assert that they cannot see why the attachment of a title should give one a 'better understanding of the music',[12] a composer

[6] For a representative overview of this type of back and forth consult Saam Trivedi, 'Resemblance Theories', in *The Routledge Companion to Philosophy and Music*, ed. by Theodore Gracyk and Andrew Kania, Routledge Philosophy Companions (New York: Routledge, 2014), pp. 223–32.
[7] Susan McClary, 'Narrative Agendas in "Absolute" Music: Identity and Difference in Brahms's Third Symphony', in *Musicology and Difference: Gender and Sexuality in Music Scholarship*, ed. by Ruth A. Solie (University of California Press, 1995), pp. 326–44 (p. 328); Anthony Newcomb, 'Once More "Between Absolute and Program Music": Schumann's Second Symphony', *19th-Century Music*, 7.3 (1984), 233–50 <https://doi.org/10.2307/746379>.
[8] '… to Debussy all musical representation, to put it simply, is bad…' Peter Dayan, 'On Nature, Music, and Meaning in Debussy's Writing', *19th-Century Music*, 28.3 (2005), 214–29 (p. 217) <https://doi.org/10.1525/ncm.2005.28.3.214>; William Wallace, 'The Scope of Programme Music', *Proceedings of the Musical Association*, 25 (1898), 139–56 (p. 140); Arthur L. Salmon, 'Programme Music: Its Limitations and Abuse', *The Musical Times*, 60.919 (1919), 464–65 <https://doi.org/10.2307/3701959>.
[9] Seth Monahan, '"I Have Tried to Capture You …": Rethinking the "Alma" Theme from Mahler's Sixth Symphony', *Journal of the American Musicological Society*, 64.1 (2011), 119–78 <https://doi.org/10.1525/jams.2011.64.1.119>.
[10] P. E. Vernon, 'The Personality of the Composer', *Music & Letters*, 11.1 (1930), 34–47 (pp. 46–47).
[11] Richard Taruskin, 'Is There a Baby in the Bathwater? (Part I)', *Archiv Für Musikwissenschaft*, 63.3 (2006), 163–85 (p. 179).
[12] J. T. Frankland and Hubert Pengelly, '"Ops. v. Titles"', *The Musical Times*, 70.1040 (1929), 924–25 (p. 925) <https://doi.org/10.2307/914265>.

may feel obliged to keep their programmes private, lest they be guilty of manipulating the listener on grounds external to the craft of composition.

These criticisms of programme music are confronted in different ways by the works in this portfolio. Chapter One breaks down categorisations of value in distinct types of sonic imitation in music. Chapter Two confronts notions of purity in the art form. Chapter Three investigates the legitimacy of attaching autobiographical details to a work. Finally, Chapter Four considers the compositional process of two works to which programmes were attached only after a certain amount of compositional progress had been made. While nothing in this portfolio constitutes programme music in so overt a sense as to be a tone poem or a directly transcribed narrative, the extra-musical elements used and their criticisms in the literature afford us a vantage point from which we may neatly take in the collection as a whole.

Chapter 1 Value-judgements in Imitative Music

Behold a Great Red Dragon (for choir, 2016) was the first work in the portfolio and betrays some of my insecurities around writing programme music at the beginning of the research. This chapter begins by illustrating examples of where I self-consciously created distance between the extra-musical concepts and the music itself. One programmatic aspect that could not be downplayed, however, was imitation using extended techniques, due to the stipulations of the commission. 'Imitation' is defined in this context as any sonic imitation of extra-musical sounds. This chapter will recount criticisms of imitation in music as found in the literature. How this choral work dealt with such criticisms is a useful precursor to the discussion of *Edi Beo Thu* (for piano trio, 2017) later in the chapter. This second work is more confident than the first work in challenging the critical reception of imitation and, between both compositions, the criticisms in the literature can be undermined.

Text and Choice of Language

A religious subject matter was advised as part of the commission and I chose my text from the Book of Revelation 12.3-4. I struggled with the choice of using the English language. I often prefer the distancing effect of Latin for religious subjects. My setting of *St Patrick's Breastplate* in English (*Lorica*, 2014) is a decision I regret. Listening to it now, the English text conjures an atmosphere of being at mass, whereas a Latin setting (such as I had done for my *Tenebrae Factae Sunt*, 2009) honours the meaning of the text without creating the same associations, at least for me. If I ever revise *Lorica* it will likely include a change of language, as Stravinsky had once done.

> The choice [of Latin] … had the great advantage of giving me a medium not dead, but turned to stone and so monumentalized as to have become immune from all risk of vulgarization.[13]

This consideration of language seems to place me on the side of something closer to absolute music when it comes to the use of religious texts, since I require some distance between the sound and the semantic meaning be retained. It affords me the option of ignoring the words as a listener, should I wish to. With this text, however, there was nothing in it to remind me of quotidian vernacular music and the content was so unique and impressive that it would not do to hide it behind Latin (See Appendix A Item A.2). Even so, a general preference for

[13] Quoted in Alex Ross, *The Rest Is Noise: Listening to the Twentieth Century* (Farrar, Straus and Giroux, 2007), p. 126.

obscuring text behind a different language speaks to an effort to downplay extra-musical associations at the time of this work's composition.

The drama of the biblical passage in the Book of Revelation 12:3-4 inspires musical responses that are emotional and difficult to parse into a commentary. It is a limitation of our analytical language acknowledged by Cook and Dibben. They write, 'rather than layering an emotional interpretation over a structural analysis, we must try to amplify analysis itself to account for the semantic or representational properties.'[14] It is beyond the scope of this thesis to tackle such issues and the techniques and devices used in the general text setting are not new or unique. To account for them here would be to descend into a mere description of the work. For *Behold a Great Red Dragon*, any dramatic success is owed to intuitive processes because I lacked the confidence of my convictions at this juncture to align more self-consciously crafted musical concepts with the text, as will be demonstrated in this next section.

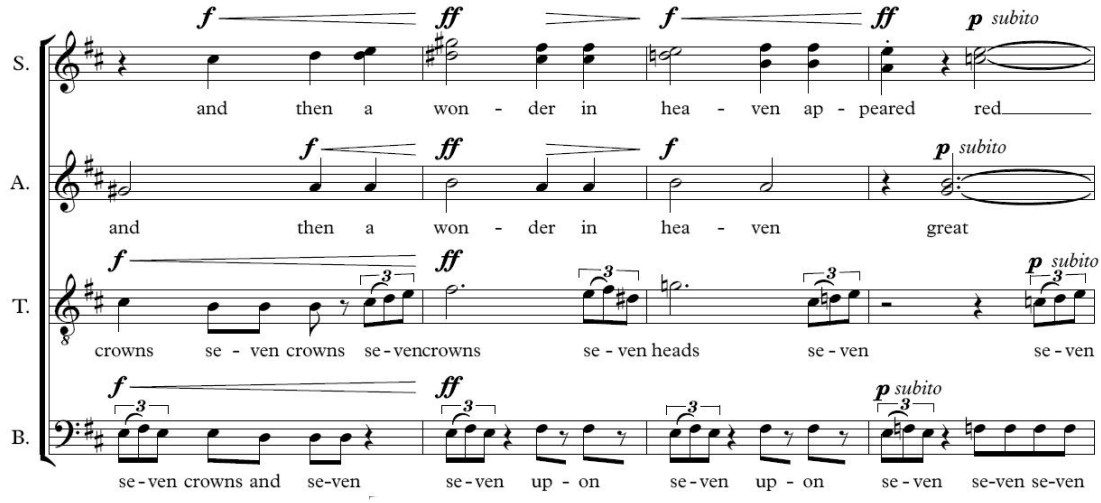
Harmonic Narrative

The harmonic device upon which the work is structured betrays my interest in narrative but I shied away from having it link directly with the extra-musical material. I have long been drawn to metaphors which anthropomorphise different key centres, or recurring elements of any *Grundgestalt* I identify.[15] This dates back to my study of Schubert's late sonata forms for my M.Litt. That is not to say it was necessarily something Schubert did, merely my way of analysing Schubert's work. It helped me find solutions to some of the liberties he took with the form and it had a lasting impression on me.[16] McClary's hermeneutic reading of Brahms' Third Symphony uses similar language.[17] It is natural to use metaphorical terms when describing music[18] but I found my choice of metaphor consistently had to do with battle, or with a will ascribed to certain pitches or pitch collections in specific contexts. The crux of a movement could hinge on a sharp scale degree 'conquering' its natural equivalent. This simple but personally captivating contrivance helped me structure *Behold a Great Red*

[14] Nicholas Cook and Nicola Dibben, 'Emotions in Culture and History: Perspectives from Musicology', in *Handbook of Music and Emotion: Theory, Research, Applications*, ed. by Patrik N. Juslin and John Sloboda (OUP Oxford, 2011), pp. 45–73 (p. 61).
[15] A 'Grundgestalt' is defined here as a defining or disruptive moment that sparks off debate and explains the salient features of an entire movement, rather than the alternative literal translation as a 'motive'. Hali Fieldman, 'Schubert's Quartettsatz and Sonata Form's New Way', *Journal of Musicological Research*, 21.1–2 (2002), 99–146 (p. 118) <https://doi.org/10.1080/01411890208574799> footnote 41.
[16] Adam Cullen, 'Schubert's Chamber Music as a Road towards a "Grand Symphony"' (unpublished M.Litt, National University of Ireland, Maynooth, 2009).
[17] McClary, p. 338.
[18] Robert Raines, *Composition in the Digital World: Conversations with 21st Century American Composers* (Oxford University Press, 2015), p. 105.

Dragon. I alternate between using up to the first three sharps in the circle of fifths and having all natural pitches. Using non-functional harmony, I introduce these sharps in an order contrary to their key-signature (i.e. anything other than F#, followed by C#, then G#). I imagined in composing this piece that these three pitches were invaders, intruding on the all-natural scale and being repeatedly fought off. Then, in a final effort, the invading forces introduce a D# towards the end of the piece, which is immediately deflected by a D natural and from there till the end of the work, no further accidentals appear (save for the F# at bar 88 which is discussed later, see Example 1.1). Programmatic though it sounds, it has no bearing on the subject matter of the text.

Example 1.1: *Behold a Great Red Dragon* bars 65-68



Overall, the harmonic structure centres on G. The bass line generally suggests a rising scale starting on G2 and finishing on G3 at the end of the piece. Along the way, accidentals appear which sometimes confirm a sense of G as a tonal centre and sometimes undermine it. By bar 45, all sharpened pitches have been replaced by their natural counterparts. Now, G is being undermined by the F natural. At bar 59, all the sharp pitches come back as before but now with the addition of D#. This further undermines G with an altered dominant but as quickly as it arrives, it is gone again. For the rest of the piece only natural pitches are used, save for a single F# in the final part (at bar 88) when the bass scale has risen to G3, ending the piece with as much of a sense of a G tonality as it is going to get in a work with generally non-functional harmony (this entire process is tabulated in Figure 1.1).

Figure 1.1: Accidentals in each section of *Behold, a Great Red Dragon*

Rehearsal Mark	Added # pitches	Primary bass note
A	F# C#	G
B	F# C# G#	D and E
C	F#	A
D	F# G#	Tetrachord from A to D
E	All natural	G scale from tonic to dominant D
F	All natural	B (looked like a scalar return to G, but it is deflected)
G	F# C# G# D#	D and E again, but with more varied harmony
H	All natural	As above, but with hints of F natural too
I	All natural	Scale from E down to G, most complete G scale yet
J	F#	G3 complete with allusions to F#

The effect of the D# is comparable to that found in the narrative myth form identified by Christopher Vogler as 'Resurrection', as seen in his guide to Joseph Campbell's mythological studies (Example 1.1).

> For a story to feel complete, the audience needs to experience an additional moment of death and rebirth… Heroes have to undergo a final purging and purification before re-entering the Ordinary World.[19]

A myth-form narrative seems appropriate for the text's subject matter but not its narrative structure. The text does not tell an entire story, just a scene with a stunning predicament.[20] The harmonic narrative could also be said to match the narrative structure defined by K.M.

[19] Christopher Vogler, *The Writer's Journey: Mythic Structure for Writers* (Michael Wiese Productions, 2007), p. 197.
[20] John Truby, *The Anatomy of Story: 22 Steps to Becoming a Master Storyteller* (Faber & Faber, 2007), chap. 3.

Weiland as a 'flat character arc' whereby a first set of conditions is threatened by an opposing set of conditions before the first set struggles and finally succeeds in reasserting itself. This sounds like a straightforward A B A structure, except that section B is constantly interrupted by new assaults (there is the battle metaphor again) from material from section A. It also differs from the Hegelian dialectic we often associate with opposing pitch collections in sonata form or a heroic-Romantic plot because the re-asserted material from section A does not contain any of the material from section B synthesised into its makeup (A B A1),[21] hence, the 'flat character arc' analogy fits best.[22]

If the work is defined in terms of some version of a G tonality asserting itself over time, it never fully escapes the threat of other tonal centres. The final chords are saturated with repeated C naturals. It is essential for the character of the piece that traditional harmonic functionality does not take over, but this limitation means the progress is limited. The death and resurrection moment with the D# illustrated in Example 1.1 is marked by the dynamics but occurs at neither the endpoint of a phrase nor a relatively important point in the text, so it cannot be said that the narrative 'hero's journey' metaphor I used in the harmonic structure fits the subject or presentation of the text. This misalignment speaks to my natural tendency to undermine and hide the programmatic choices I made in composition. I wanted to benefit from a structure that captured my imagination but I created a distance between this structure and the text so the music would seem less programmatic. This was a self-conscious decision that I do not stand by now, but which is a good representation of the trouble I was putting myself through at the beginning of this research.

Overt Extra-Musical Association and the Literature

Behold a Great Red Dragon was commissioned by the Enchiriadis Chamber Choir's director, Michael Dawson.[23] It received a performance at a choral-writing workshop given by Morten Lauridsen at the Rostrevor Choral Festival in 2016. Dawson asked for a fast, challenging piece with extended techniques; something to showcase the choir in competitions.[24] When setting to work on this commission, I had in mind some existing choral works by Sydney Guillaume, Ivo Antognini, and Zděnek Lukáš. Guillaume's *Kalinda* was a popular 'showstopper' for the choir and Ivo Antognini's *There is Another Sky* found a place

[21] Alex Ross, *Listen to This* (HarperCollins UK, 2010), p. 431.
[22] K. M. Weiland, *Creating Character Arcs: The Masterful Author's Guide to Uniting Story Structure* (Penforasword, 2016).
[23] Since renamed Cór Fingal, and now under the directorship of Eoin Conway.
[24] This is the only work in the portfolio to feature extended techniques/timbres. As a general rule I have been avoiding this aspect of the sonic palette to better focus on developing my style in harmony, melody, rhythm, and texture with traditional timbres.

alongside it in programmes.[25] *Kalinda* is an exciting piece with some novel techniques and dynamic Haitian rhythms. *There is Another Sky* is replete with imitative noises and extended techniques. In seeking to fulfil the brief, the idea was to write a piece that would sit alongside these works in future programmes. Once I chose my text, Dawson expressed a desire for me to write extended techniques in imitation of a dragon. This challenged me to overtly acknowledge the extra-musical stimuli and there are comments in the literature which articulate why I felt uncomfortable with the request.

Kuo-huang identifies three types of programme music, admitting that there is always some overlapping of categories. The branches are Psychological, Descriptive, and Imitative, the last of which he describes as, 'the inclusion of passages in imitation of natural sounds. This technique enjoys a wider popularity in China than in the West, a point of cultural difference.'[26] Wallace, writing many years earlier (and, more specifically, of Western music) also finds it useful to divide programme music into three types:

> First, music which attempts to symbolize sounds not primarily produced by musical instruments, as, for example, the wind, thunder, the song of a bird. Second, music which attempts to symbolize in sound visual impressions, such as the flight of a bird, the movement of water or of fire, the tranquillity of nature. It will be seen that these are objective and that they also suggest rhythm. Third, music which attempts to symbolize in sound ideas which are entirely subjective and appeal to the intellect, such as love, revenge, grief-all the emotions, in fact. I scarcely need to point out that the last is of infinitely greater value, musically, than the others.[27]

I would like to focus here on the imitative category as defined in the above quotations. That Kuo-huang should say the technique enjoys more popularity in the East certainly rings true when one consults much of the early twentieth-century musicological literature. Debussy distinguished between straightforward reproduction and the use of imitation in a grander function of art, saying the former was 'a technical matter of no interest to the artist'.[28] Salmon writes:

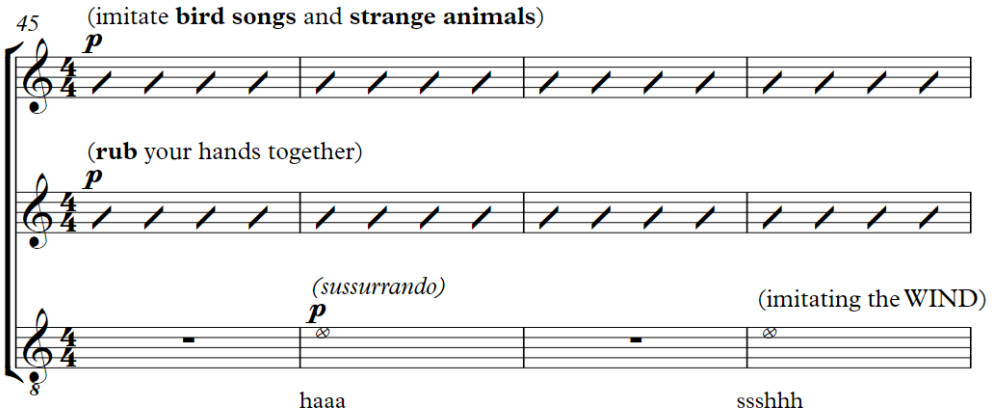
> [...] the representation of a farmyard, giving the lowing of the cattle, the grunt of the pig, the turkey's gobble; or the presentment of a menagerie, giving the different wild-beast cries; or the imitation of a clock-store, giving the various sounds of winding, the

[25] Sydney Guillaume, *Kalinda* (U.S.A.: Walton Music Corporation, 2003).
[26] Han Kuo-huang, 'Titles and Program Notes in Chinese Musical Repertoires', *The World of Music*, 27.1 (1985), 68–77 (pp. 72–73).
[27] Wallace, p. 140.
[28] Dayan, p. 217.

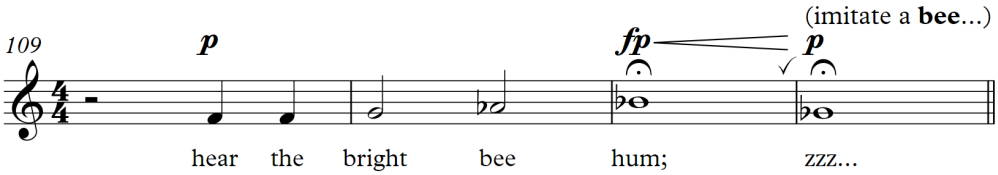
> whizzing alarms, the different-toned striking. To unrefined ears this is a marvellous triumph of musical realism; we may be all pardoned if it simply amuses us. This may be styled programme-music at its lowest.[29]

With that somewhat arrogant dismissal in mind, let us turn to Ivo Antognini's *There is Another Sky*. It contains numerous imitative examples (Example 1.2 and Example 1.3 show passages meant to imitate a forest and the buzzing of bumblebees respectively) and they are musically effective. I hoped to create something similarly striking, but perhaps in a way that was less obvious.

Example 1.2: Ivo Antognini, *There is Another Sky* extract, bars 45-48



Example 1.3: Ivo Antognini, *There is Another Sky* extract, bars 109-112

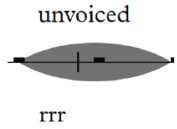


For the most part, *There is Another Sky* is imitative music by definition. The categorisations by Kuo-huang and Wallace place it in the category which is supposedly viewed as least worthy and easily dismissed by Western audiences, just as Salmon dismisses the style.[30] I do not know that such categorical statements can be made with sweeping authority but still, the worry that there might be some truth to them hung over me.

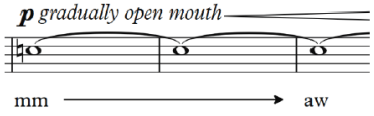
[29] Salmon, p. 465.

[30] Ivo Antognini is unconcerned with such opinions in musicological circles. In email correspondence he wrote, 'I can certify that I did not worry at all about the old stigma around the two different techniques [programme and absolute music].' Ivo Antognini, 'Thesis Question about "There Is Another Sky"', 20 May 2019.

Figure 1.2: Cullen, *Behold a Great Red Dragon*, performance directions



Breathe out, unvoiced, while rolling 'r'. Increase and decrease dynamics to match the contour of the shape.



Start by humming and then gradually open mouth.

Create rapid 'clicking' noises with the tongue, alternating randomly between placements at the front and back of the mouth. Finger clicks may be incorporated if the tongue clicks are not coming through loud enough. Increase and decrease intensity and dynamic to match the contour of the shape.

The devices displayed in the legend (Figure 1.2) are my invention for conjuring up some 'dragon-like' sounds. Now that they are written, one may ask if these truly belong to that class of sounds frowned upon by Wallace and Salmon (whether they are right to frown or not is a broader question but let us meet them on their own terms). Consider the different types of imitation Wallace describes:

> The instances where it is possible to reproduce sounds which have an existence apart from the orchestra, such as the dynamic sounds of nature, are not many. The effects of a distant cannon, of wind, of thunder, of the song of a bird, are possible. Humperdinck has contrived orchestrally the creaking of the hinges of a door in the third act of 'Hansel and Gretel.' The Pastoral Symphony contains many well-known examples. The hum of a bee, the whirr of a spinning-wheel have been conventionally treated in the orchestra. Military music is all objective – it conjures up a familiar image, and dance rhythms come under this category also. A horse gallop may be deftly suggested, but here it is not the actual sound of the hoofs nor the rattle of the harness, but the rapidity of movement and the reiteration of a series of well-marked rhythms that are conveyed by the music.[31]

The purring and clicking of the dragon seem to be a literal representation but no corollary exists in real life. It may echo back to sound effects used in films and television, but even

[31] Wallace, pp. 140–41.

there it cannot be said that there is much consensus from one production to the next about how exactly a dragon should sound. It is a contrivance that takes its inspiration from the animal kingdom, but even then the sound designers mingle multiple signals so that no individual sound can be identified.[32] In short, the extended techniques employed here blur the lines between different forms of imitative programme music by literally imitating something which does not exist in the literal world. This subtle but subconsciously understood difference puts my use of imitative devices in some other category to that of Antognini's buzzing bees and birdcalls.

This distinction does not, however, derail the categorisations and value-judgements cited in the literature. It dodges them on a technicality. The rest of this chapter skips forward a year to the composition of *Edi Beo Thu* for piano trio which approaches the concept of imitation once more. While it considers imitation from a different perspective, it does so with increased confidence and issues a greater challenge to the literature, especially when the results are considered in conjunction with the experiences of writing *Behold a Great Red Dragon*.

Imitative Music in *Edi Beo Thu*

In *Edi Beo Thu* (2017, for piano trio), I made use of speech inflexions and rhythms to explore value-judgements linked to imitative music, subjecting them to a process that made them barely recognisable. This raises the question of whether an increased level of abstraction brought to imitative music might allow for greater subjectivity, thus raising the value of the music in the light of comments by Kuo-Huang, Salmon, and Wallace.[33] As a brief reminder, they collectively implied how value-judgements are ascribed. That which symbolises in sound something which already existed in sound is the least valuable. Greater value is given to music inspired by a more sonically abstract source. *Edi Beo Thu* keeps a relationship with the sound of a human speaking but ignores the meaning of the words and finds a way to change the sounds into something new.[34]

Cathal Twomey (a singer and academic I met through the Maynooth University Chamber Choir) provided me with a recording of himself reading the anonymous Middle

[32] Clancy Morgan, 'How Dragon Sound Effects Are Made', *Business Insider* <https://www.businessinsider.com/how-sound-designers-create-dragon-sound-effects-game-of-thrones-drogon-2018-8> [accessed 12 December 2018].
[33] Kuo-huang, pp. 72–73; Salmon, p. 465; Wallace, p. 140.
[34] Stacey writes, 'The important thing for the study of music and text is that the "noise" of spoken language may now be considered as music.' Peter F. Stacey, 'Towards the Analysis of the Relationship of Music and Text in Contemporary Composition', *Contemporary Music Review*, 5.1 (1989), 9–27 (p. 15) <https://doi.org/10.1080/07494468900640501>.

English poem *Hymn for the Annunciation* (See Appendix A Item A.3 for the text) and that recording was the starting point for *Edi Beo Thu.* Though the title is taken from the first words of the poem, no attempt is made to represent the text's meaning. Before going into the minutiae of how the chosen sound source was manipulated, it will serve well to give a brief overview of the structure of the trio.

The work may be thought of in two general sections. The first section (up until bar 29) contains all the transcriptions gleaned from the recorded source. It plays out according to strict rules and only in the latter stages do more intuitive gestures find a place in the music. The second section, comprising the rest of the piece, abandons any obligation to the source and the music from the first section becomes the starting point for a through-composed process. Material from the first section is simplified and subjected to greater repetition. Intuitive mutations (e.g. new rhythmic figures) are introduced and gradually take over the texture. By the end of the work, gestures and patterns from the first section are brought back in their original form to be mixed with figures very much inspired by the intervening music. The processes that tie both the through-composed, intuitive music and the opening section together are a shared set of pitch collections and harmonic procedures, all of which have been derived from the source recording. Therefore, even though gestures audibly related to the poetic reading disappear, their DNA permeates the entire work and governs the treatment of any new ideas intuitively introduced in the process of composition.

Transcribing Prosody

Many composers have drawn from the musicality of the spoken word. I focused on just two when developing my own method for transcribing and incorporating prosody into the trio: Dylan Rynhart and Harry Partch. For the title track of Fuzzy Logic Ensemble's 2012 album *Mouthpiece*, Rynhart uses a recording of his mother as the object for transcription. A saxophone and keyboard accompany the playback of the spoken-word material to wonderful effect. A different process is heard in Harry Partch's *Bitter Music*. No audio playback is included; there is just a score for singer and piano. Rather than singing or speaking the text, the vocalist sings the same melody as that of the piano part; an interesting degree of separation between the original material and the music given that it is performed by a human voice. In *Edi Beo Thu*, I avoid vocals and electronic reproduction of the original audio. Instead, I have transcribed prosody from metred poetry, which is more traditionally musical given its lack of naturalness as speech. It is not metronomic and fluctuations in tempo often yield interesting results.

Rynhart commented on the highly subjective element involved in transcribing and notating speech and argues that this makes the resulting language 'personal and unique'.[35] This subjectivity automatically confuses the categorisations of imitative music wherein objectivity and subjectivity occupy opposite ends of a qualitative divide. I was interested in addressing those divisions more overtly by combining a subjective and objective transcription simultaneously as generative material. Note that Rynhart's *Mouthpiece* covers this ground in that he presents his subjective interpretation of the transcription alongside playback of the recorded voice, which is, of course, objective. However, the result illustrates the relationship between source and transcription in a way that highlights the imitation and so allies the result more closely with the objective side of the divide.

Rynhart admitted struggling to accurately notate the rhythms of speech. Having begun transcribing by ear in a subjective manner he found too much accuracy was lost and so he finally settled on Celemony's Melodyne software to automate the process while allowing for easy modification of the result to ensure accuracy.[36] That sounds objective, but Rynhart's observation regarding subjectivity was a result of performance practicalities and how he manipulated the material to meet those limitations. The process of transcription for my work was quite involved and there is a significant amount of exposition to get through before meaningful musical examples from the composition can be pointed out. For brevity's sake, many details have been relegated to the appendices, yet there is still a certain chronology in the method whereby an approach might be abandoned but the results built upon regardless. This makes it impossible to skip over certain procedural steps entirely, even though they were a misstep in the grand scheme of things.

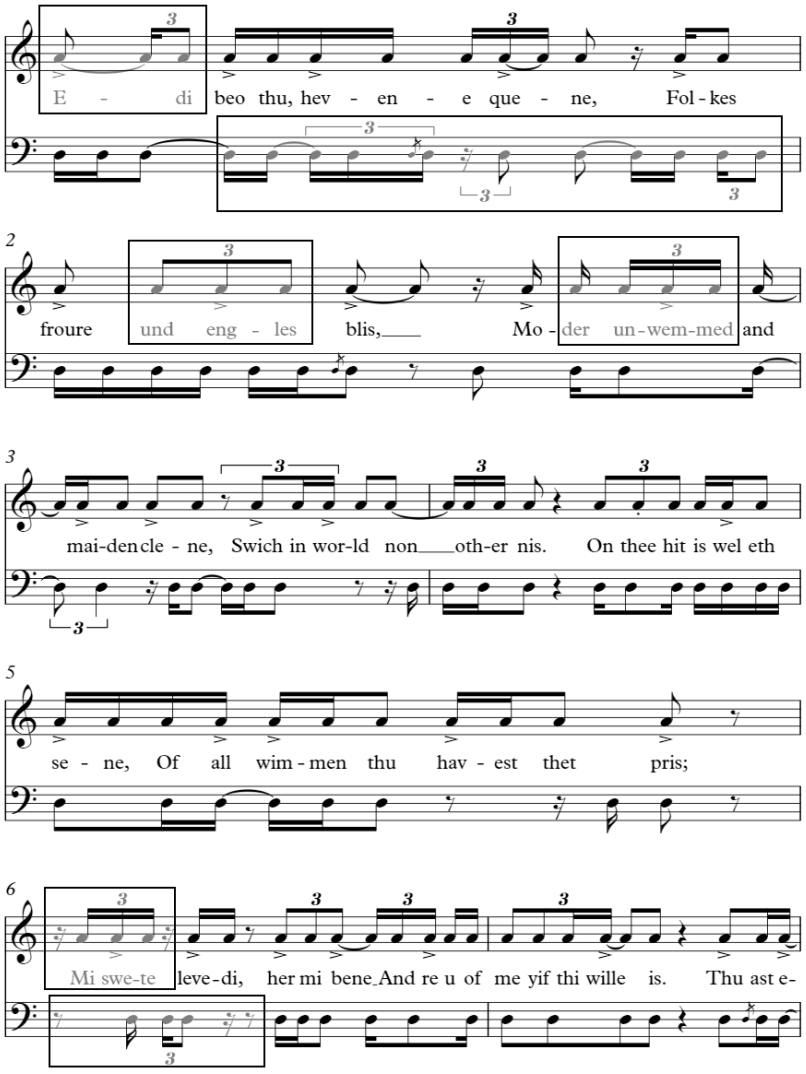
Rhythmic Transcription

The rhythms of the recorded performance, rather than the pitch content, form the basis of *Edi Beo Thu*. According to Arthur Berger, rhythm in poetry is a greater indicator than pitch of the innermost manifestations of human emotions (quickening of the pulse, etc.) and music is poised to explore this even more vividly.[37] Transcribing speech, despite the implications of objectivity suggested by Wallace in the first two (lesser) categories of imitation, is indeed a subjective process. Recall that for Wallace it seemed the subjectivity of the more abstract forms of imitation was a large determinant of greater value. I elected to design a method of

[35] Dylan Rynhart, 'Original Composition' (unpublished PhD, National University of Ireland, Cork, 2010), p. 17.
[36] Rynhart, pp. 15–16.
[37] Arthur Berger, 'Music as Imitation', *Perspectives of New Music*, 24.1 (1985), 108–18 (p. 109) <https://doi.org/10.2307/832763>.

rhythmic transcription that would overcome a seeming contradiction, to combine the subjectivity declared by Rynhart with the objectivity implied by Wallace. The rhythm of the Twomey recording was transcribed by ear and the result contrasted with a separate transcription created with the aid of a computer (using beat detection analysis in Cubase Pro 8). The result was two 'interpretations' of the rhythm, one subjective and one objective (see Example 1.4, boxed notes represent rhythms which were simplified – more on that later).

Example 1.4: Aural (treble clef) and Computer (bass clef) rhythmic dictations



The aural dictation in the treble clef regularly contains significantly different rhythmic detail from that in the computer dictation in the bass clef. This is because the aural dictation focused on the timing of syllables, while the dictation carried out by the computer also counted any significant change of pitch as a new transient in the waveform and represented it rhythmically. Combining both interpretations guaranteed the resultant music a certain degree of abstraction from the source recording. Consequently, trying to stay true to the recording both as language (grouping rhythms by syllable) and as sound (grouping rhythms by transient), circumvents issues of subjectivity or objectivity in the transcription.

Generating Pitch Material

Pitch material in *Edi Beo Thu* was derived not from the pitches present in the recording but from fluctuations in tempo. This continues the focus on rhythm rather than pitch and tempo is a better representation of the 'quickening pulse' anyhow. When creating the beat detection analysis in Cubase, a series of shifting tempo points was tabulated. In the same way the varying speed of a tape's playback raises or lowers the pitch of recorded sound, a set of pitches could be generated to match the contour of tempo shifts in the recording. Fifty-six tempo changes on fifty-six beats were averaged-out to represent one change for every 4/4 bar of the rhythmic dictation. Figure 1.3 shows these tempo shifts and converts them into pitch adjustments. Given the capability of the strings to play microtones, different pitch shift amounts were derived for the stringed instruments, with the pitch shifts being rounded-off to the nearest semitone for the piano interpretation. All the results of the piano calculations were multiplied by ten to preserve a variety of changes that might have been buried behind a decimal place when it came to rounding-out pitches to the nearest semitone. To calculate string parts playable to the nearest quarter-tone, the smallest value was multiplied by a number that would generate a quarter-tone (in this case, 5.55) and then that multiplication was applied to all other pitches.

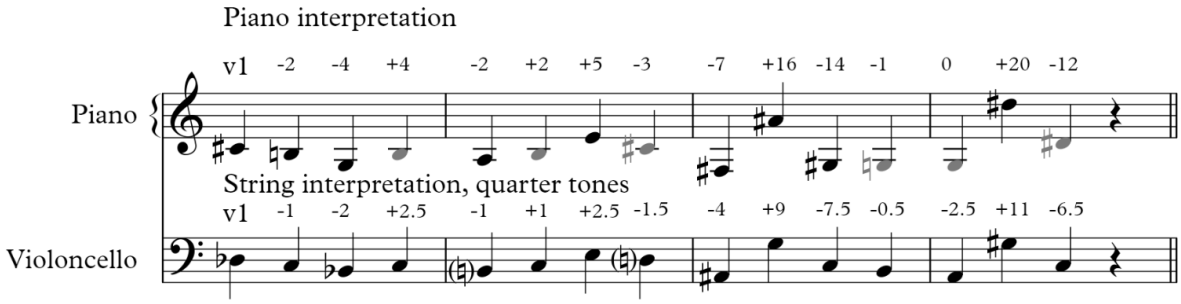
Figure 1.3: Pitch shifts implied by fluctuations in the bpm of the recording

Bar Number	Bpm	Pitch shift in semitones	String Interpretation	Piano Interpretation
1	73.747	-	0	0
2	74.266	-0.16	-1	-2
3	72.953	-0.35	-2	-4
4	71.250	+0.44	+2.5	+4
5	69.864	-0.15	-1	-2
6	71.240	+0.15	+1	+2
7	71.907	+0.49	+2.5	+5
8	72.713	-0.26	-1.5	-3
9	73.813	-0.72	-4	-7
10	74.702	+1.64	+9	+16
11	70.718	-1.35	-7.5	-14
12	70.560	-0.09	-0.5	-1
13	73.673	-0.48	-2.5	0
14	77.367	+2.01	+11	+20
15	-	-1.15	-6.5	-12

Having two interpretations of the source material and two principal timbres in my instrumentation, aligning one to the other seemed natural. I had considered a microtonal piano but elected to retain this distinction between the timbres and interpretations. Eventually, the decision to use quarter-tones was abandoned altogether. The material was so dense that microtonality seemed an unnecessary burden on the ear and performers and the

string calculations were rounded off a second time to form new semitones. The result produced two separate chromatic interpretations of the shifting tempi realised in pitch material (see Example 1.5).

Example 1.5: Two melodic interpretations of the pitch shifts (piano and strings)



The melodic patterns generated in Example 1.5 are but one of several pitch collections devised for this piece, all based on different multiples of the shifting tempi. Calculations for the different multiples were based on the largest melodic leaps in Example 1.5. Downward leaps were considered as negative intervals and a new melodic pattern based on a negative multiple resulted in a pattern of inverted intervals. This formed the basis of a strategy for developing and manipulating material. That is, the forming of processes based on the initial transcription which could be applied equally to the music of the opening section and the through-composed music that followed.

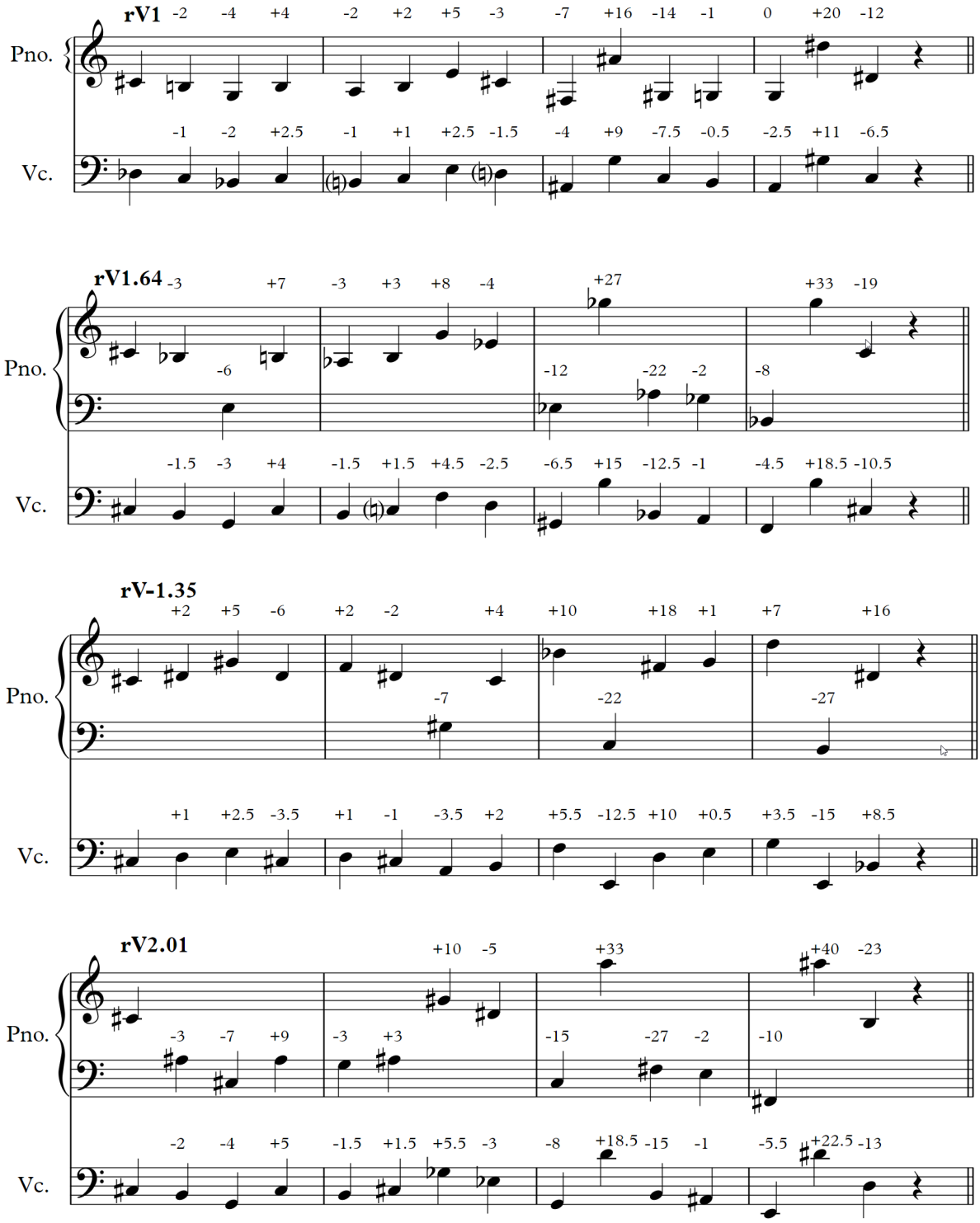
Processes for manipulation that carried through from the first section

The musical goal was to unify the first and second sections of *Edi Beo Thu* through systems of development equally inspired by the recorded recitation of the poem. This section will detail those aspects of the transcribed material that were suitable for application to all the music in the piece. The discussion will begin with considerations of pitch and move on to rhythmic elements.

The various pitch collections are labelled with ‘rV’ and a number. The letters stand for ‘revised version’ (honouring the shift from a quarter-tone work to a chromatic work) and the number indicates the positive or negative value by which pitches were multiplied. All pitch collections start on C#. This pitch was chosen since it is the lowest fingered pitch on the cello and could feature the low cello prominently in dramatic or climactic moments if needed. Also, starting each pitch collection from the same ‘root’ serves to highlight their differences while also offering the opportunity to ground sections of the work with a common pedal tone. For a complete list of the melodic patterns that define string and piano interpretations of the five pitch collections used in the piece, refer to Figure 1.4. The pitch

collections are; rV1, rV1.64, rV-1.35, rV2.01, rV-1.15 and Figure 1.5 rearranges these patterns as scales.

Figure 1.4: Pitch shifts after quarter tones were removed



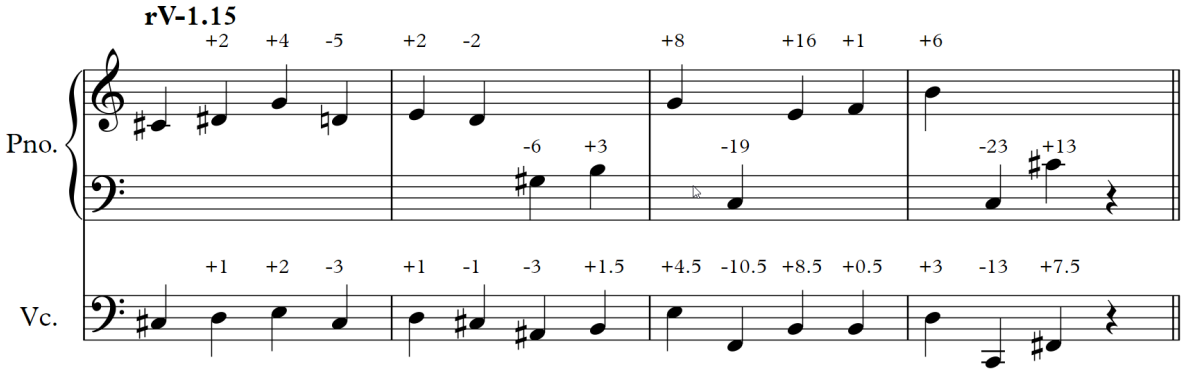


Figure 1.5: Comparison of integers

rV1	Stage	I	II	I	III	I	I	I	I	II	
Piano	Pitch	C#	D#	E	F#	G	G#	A	A#	B	
	Integer	P1	P2	P3	P4	P5	P6	P7	P8	P9	
Strings	Pitch	C#	D	E	G	G#	A	A#	B	C	
	Integer	S1	S2	S3	S4	S5	S6	S7	S8	S9	
rV1.64	Stage	I	II	III	II	I	I	I	I	I	
Piano	Pitch	C#	D#	E	F#	G	G#	A#	B	C	
	Integer	P1	P2	P3	P4	P5	P6	P7	P8	P9	
Strings	Pitch	C#	D	F	G	G#	A	A#	B	C	
	Integer	S1	S2	S3	S4	S5	S6	S7	S8	S9	
rV-1.35	Stage	I	I	II	I	II	I	II	I	I	II
Piano	Pitch	C#	D	D#	F	F#	G	G#	A#	B	C
	Integer	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Strings	Pitch	C#	D	E	F	G	A	A#	B		
	Integer	S1	S2	S3	S4	S5	S6	S7	S8		
rV2.01	Stage	I	I	I	I	I	III	III	I	I	II
Piano	Pitch	C#	D#	E	F#	G	G#	A	A#	B	C
	Integer	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Strings	Pitch	C#	D	D#	E	F#	G	A#	B		
	Integer	S1	S2	S3	S4	S5	S6	S7	S8		
rV-1.15	Stage	I	I	II	I	I	IV	IV	I	I	
Piano	Pitch	C#	D	D#	E	F	G	G#	B	C	
	Integer	P1	P2	P3	P4	P5	P6	P7	P8	P9	
Strings	Pitch	C#	D	E	F	A#	B	C			
	Integer	S1	S2	S3	S4	S5	S6	S7			

The resulting pitch system can be considered horizontally (melody/anything perceived over time) and vertically (harmonically). Examples of horizontal usage primarily account for the sequential use of one pitch collection followed by another. Degrees of similarity between the pitch collections were analysed so that at any given moment greater or lesser degrees of commonality between the string and piano versions of any one pitch collection could be selected. Roman numeral ‘stages’ in Figure 1.5 describe how similar piano and string scales

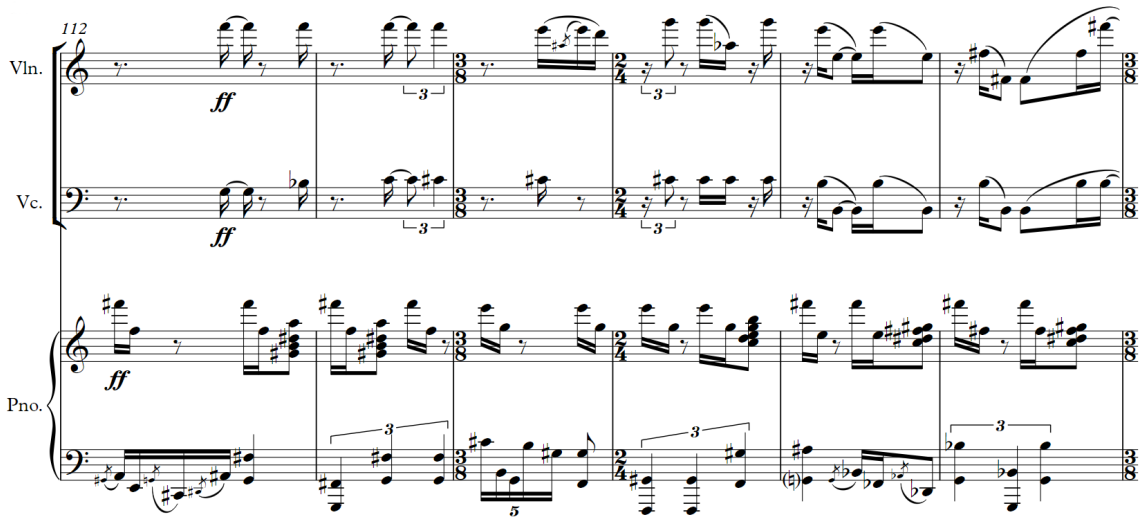
are at each integer. The higher the roman numeral, the less similarity between piano and string scales at that scale degree. Figure 1.6 uses this data to calculate the overall degree of similarity between each scale version.

Figure 1.6: Degrees of similarity between string and piano scales in each pitch collection

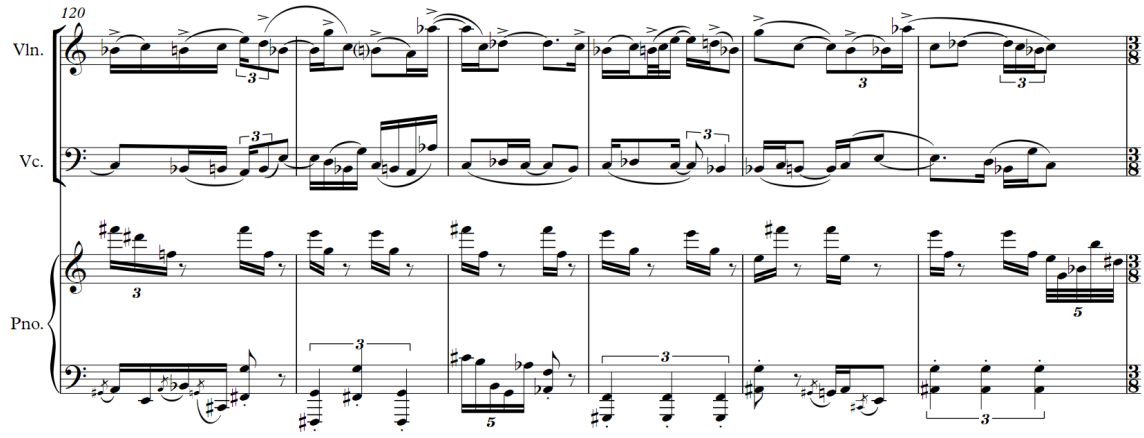
Version	Affinity between interpretations
rV1	85%
rV1.64	85%
rV-1.35	86%
rV2.01	83%
rV-1.15	74%

Example 1.6 shows the piano part at a point where the pitch collection changes suddenly every two bars. The effect is of a distinctive harmonic change. Contrast this with a reappearance of this material in Example 1.7 where the pitch collections are blurred with the right hand offsetting its pitch collection against the left hand.

Example 1.6: *Edi Beo Thu*, bars 112-117, new pitch collection every two bars

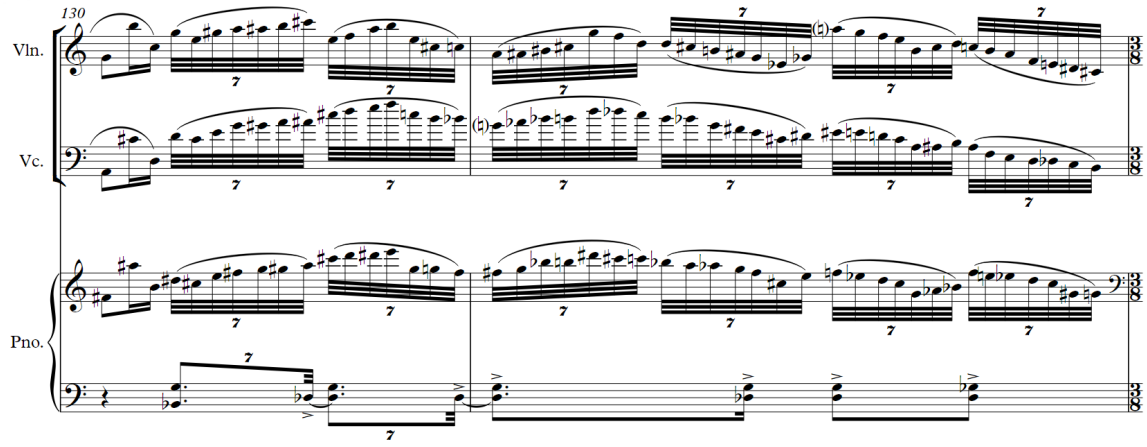


Example 1.7: *Edi Beo Thu*, bars 120-124, pitch collections offset by the right hand



At the end of the work one can spot many of these pitch collections shifting in rapid succession, often changing for every beat such as the passage in Example 1.8, where the degrees of similarity between string and piano pitch collections were considered carefully. The goal of the passage was to summarise the pitch collections used in the piece in a quick collage, juxtaposing them against one another. The piano right hand shares the same figuration as the strings to highlight how scales in the strings and piano that are relatively similar can be alternated with more contrasting scales. The spectrum of affinity between piano and string interpretations of any pitch collection is limited. It covers between 74-86% similarity between scales, but the similarities and differences can be exaggerated by choosing to include more or fewer disagreeing pitches in any one passage.

Example 1.8: *Edi Beo Thu*, bars 130-131, collage of contrasting pitch collections

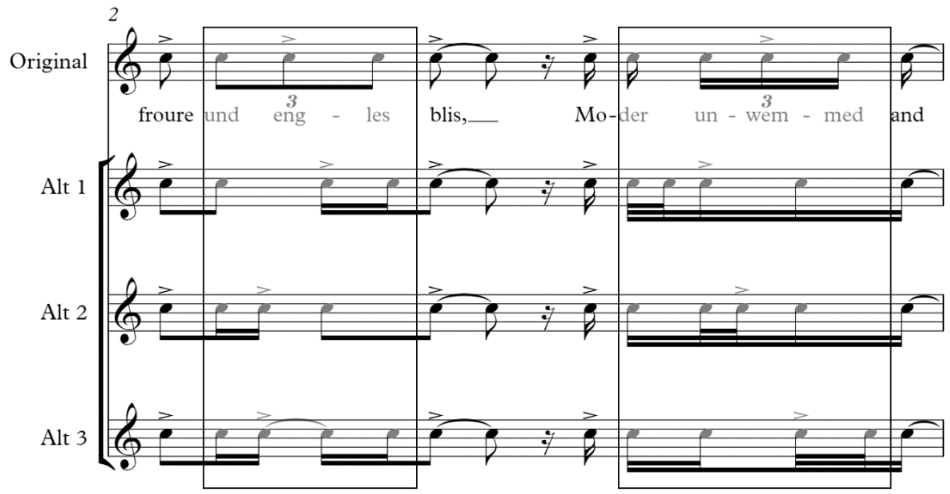


The vertical implementation of the pitch collections was uniform throughout the rigid opening section and the more freely composed material. With the pitch collections arranged as scales, each integer of the piano and string interpretations was assigned scale degree numbers. Traditional tonal practices were mapped onto these new scales as a starting point for composition, though I retained the right to veto any results that I considered not to hold up musically. The process of mapping traditional tonal practice onto the new scales simply meant adding more emphasis to chords that aligned with tonic or dominant scale degree numbers and/or constructing them using their scale degree numbers. For example, the dominant seventh of a major scale uses scale degrees 5, 7, 9 (or 2), 11 (or 4), with the possibility of the fifth of the chord being omitted. Those same scale degrees when applied to the string or piano interpretations of each pitch collection had the potential to grant any kind of chord, consonant or dissonant. This automatically provided variation when repeating a passage in a new part or scale because not all pitch interpretations or collections contain the same number of scale degrees. If the 'fifth' of a chord were omitted in this work, that

note would often be chosen as the root for the following chord. In Example 1.6, the violin introduces an F6 at bar 112 which belongs neither to the piano nor the string scales within rV2.01. It is being used as a pivot tone to prepare the next pitch collection. The violin F6 becomes the new bass note (F1) two bars later for rV-1.15. Then a violin G6 is introduced which does not belong in the string scale of rV-1.15 but anticipates the bass note that follows (G2 and G1). Sometimes a triad is formed, sometimes a cluster chord. The results were almost random, but a guiding hand intervened whenever the results of the system were not musically satisfactory.

Quite often the rhythms would prove difficult to perform, such as in Example 1.9. While the final piece remains challenging, efforts were made to simplify some of these rhythms. The motivation for simplification was practical rather than artistic, nevertheless, the musical integrity of the material was maintained. Three alternative rhythmic figures were devised for each difficult fragment (see Example 1.9).

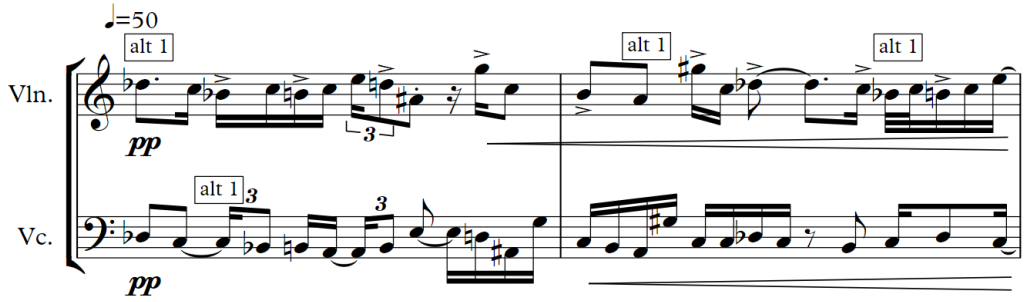
Example 1.9: Original rhythm on top stave; simpler alternatives beneath



The alternative figures each resemble something of the nature of the original rhythm. The intention was to alternate between different rhythmic cells when the original pattern would have been repeated so that, over the course of the work, the original rhythm was represented by global approximation. This differentiates my concessions to performance from Rynhart's, making mine objective where his were subjective. Example 1.10 shows the opening bars of the piece. 'Alt 1' denotes points where the original rhythm has been replaced with a fragment from the 'alt 1' stave shown in Example 1.9. The violin takes its rhythm from the aural transcription and the cello takes its rhythm from the computer transcription. The accumulating effect of the competing rhythms obscures the imitation. While speech rhythms can be quite complex, this is analogous to two simultaneous speakers (more so when the piano becomes involved). The result is sonically abstract and yet the music (at least in the

opening section) is constrained to imitating the source. The pitch content contributes to this effect since it is not idiomatic to vocal writing and what we might expect from prosody.

Example 1.10: *Edi Beo Thu* bars 1-2 showing alternate rhythms



The piano, absent from the opening bars, also owes its rhythmic design to the aural transcription. The aural rhythm (shown in the violin) was augmented so that the note values were doubled. The result was placed in the piano left hand and took 28 bars to complete. After fourteen bars, the strings had run through their rhythmic material and so they repeated it, this time using different alternate rhythmic cells, as discussed above. One deviation from this process was to delete the opening bars of piano material so that the listener was not bombarded too quickly with so many competing rhythms. Doing so allowed the string parts to be heard as a pair which might be played against the piano and helped to set up the device of playing string and piano versions of the pitch collections off one another; a device which served throughout the piece.

Conclusion

Wallace and Salmon argued that imitative music based on source material which was already symbolized in sound was more like a gimmick than something truly valuable musically. While I think the argument arrogant and short-sighted (the currency of much good music could be devalued with such an imposed musical value system, including that of Rynhart and Partch), I believe it is still worth engaging with the assumption directly. The first section of *Edi Beo Thu* is modelled strictly on sonic information found in the recorded source material, and yet it forms some of the least accessible music in the portfolio (this is not meant as a positive or negative appraisal but is certainly at odds with any notion of gimmickry).

My default compositional method is to through-compose from the first bar to the last, constantly consulting the playback to determine how long an idea should develop before a change is warranted and identifying opportune times to return to earlier ideas. The first section of *Edi Beo Thu* was an unnatural process for me and even now I feel its merits are more academic than artistic. However, the framework put in place to develop intuitively-

generated ideas after the first section was a valuable one. It gave me the tools to develop individual sections for longer before warranting change. A large part of that was the organisation of pitch collections and I carried some version of that process forward in the orchestral piece and the wind quintet, to be discussed in Chapter Four.

Considered together with the experience of writing imitative music in *Behold a Great Red Dragon*, one may recall that Kuo-Huang admitted the possibility of hybrids across the categories at the outset. However, the three categories suggested independently by Wallace and Kuo Huang are dispersed across a spectrum where the first and last categories are the most dissimilar. This implies that hybrids, should they occur, would be combinations of adjacent categories. *Behold a Great Red Dragon* and *Edi Beo Thu* manage to combine elements from the categories most diametrically opposed to one another. As such they are not hybrids but examples that undermine assumptions about the spectrum upon which the division into categories is based. If the categories are unsound, any sliding-scale of value-judgement tied to them is unreliable.

Chapter 2 'Purity' and the Isolation of Art Forms

A key element of the contention that programmatic music could be lesser than absolute music is a notion of 'purity', or the autonomy of different art forms such as Eduard Hanslick endorsed.[38] The connection between text and music is an obvious convergence of art forms with a long history of scrutiny.

> From Plato to the present day, philosophers and scholars dedicated to maintaining the purity and individuality of the arts have decried the marriage of music and texts, while others have encouraged and praised the union. Writers and poets have taken similar positions between the two extremes. Some authors have forbidden musical setting of their works; others have welcomed musical settings and collaborated willingly with composers.[39]

Cook and Dibben go into such a history, suggesting that music once liberated itself from the literary and visual arts but eventually succumbed to them again, this time with text outside the music.[40] I understand from this that the re-joining of text and music is burdened with some sort of cross-contamination between art forms, at least in the eyes of some. This chapter seeks to address this concept of purity which bubbles under the surface of many programmatic vs absolute music debates. It is difficult to tackle this concept with music in a way that is verifiable; there is a certain 'instability' of the results.[41] However, music can be used to alter a less abstract art so that, for example, a text is changed in a verifiable way (it being less abstract than music).

> The very proposition that musical ideas and their unfolding can be better understood by being matched on to some other – more or less precise – verbal or visual underpinning remains theoretically problematic. Seen in the light of a semiotic theory of signification, the 'problem' can be summarized as follows: programme music collapses together two different systems of signs, which theoretically can lead to privileging one and suppressing the other instead of allowing both to participate in the process of signification. Each system struggles for supremacy, and each should be given its own space to exist.[42]

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[38] Sanna Pederson, 'Defining the Term "Absolute Music" Historically', *Music & Letters*, 90.2 (2009), 240–62 (p. 250).
[39] Robert Stephan Hines, *Choral Composition: A Handbook for Composers, Arrangers, Conductors, and Singers* (Greenwood Press, 2001), p. 35.
[40] Cook and Dibben, pp. 48–49.
[41] Dayan, p. 219.
[42] Vera Micznik, 'The Absolute Limitations of Programme Music: The Case of Liszt's "Die Ideale"', *Music & Letters*, 80.2 (1999), 207–40 (p. 215).

A rebuttal of any contention for purity and isolation of the art forms – where music is one of the art forms in question – may be the following; using music and the conventions of choral text-setting to revise a poem. This chapter does just that and, furthermore, will revise a poem that has been criticised for depending on its musicality in oration for its effect. In response to Micznik, the composition to be discussed in this chapter will use one system of signs to adjust a second system of signs for the benefit of one complete experience. There is no reason why a successful work cannot play off two systems struggling for supremacy. That's just sonata form across a different medium.

Debates around the isolation of art forms are not unique to musicology.[43] Camlot summarises a bumpy critical history for Tennyson's *Charge of the Light Brigade*, one of the more famous Victorian recitation pieces.[44] (For the full text of the poem, consult Appendix A Item A.1.)

> […] the formal, metrical choices and dramatic repetitions […] and the thoroughly declamatory treatment of the historical event must also have had much to do with the decline [of the poem's critical reception…] and led to the attitude expressed by R.M. Milnes that 'The Charge' is 'a real gallop in verse, and only good as such'. [… In the 1920s, Elsie Fogerty] argued strongly that 'above all, we must throw away the horrible false tradition of "recitation," which stood self-condemned in that it never succeeded in interpreting anything but the worst, the most vulgar and meaningless of verse'. Recitation selections came to indicate poor taste and vulgar interpretation […] the delivery of assonance, consonance, weighty repetition, strong rhyme, and markéd metre. There have been few contemporary critical attempts to prove that 'The Charge' demonstrates [as Lovelace put it] 'a level of artistic sophistication … exceeding that of an ordinary "gallop in verse"'.[45]

These criticisms sound strikingly similar to early twentieth-century appraisals of programme music by the likes of Frankland, Salmon, and Wallaschek.[46] What is more, it sounds as though the poem is being criticized for being musical. Its rhythms and repetitions (the latter no doubt saturated to some degree by the 'Speech to Song Illusion')[47] are taken to task as

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[43] Hines, p. 35.
[44] Jason Camlot, 'The Charge of the Light Brigade (Review)', *Victorian Review*, 35.1 (2009), 27–32 <https://doi.org/10.1353/vcr.2009.0055>.
[45] Camlot, pp. 27–28.
[46] Frankland and Pengelly; Salmon; Amy Graziano and Julene K. Johnson, 'The Influence of Scientific Research on Nineteenth-Century Musical Thought: The Work of Richard Wallaschek', *International Review of the Aesthetics and Sociology of Music*, 37.1 (2006), 17–32.
[47] Diana Deutsch, 'Diana Deutsch - Speech to Song Illusion' <http://deutsch.ucsd.edu/psychology/pages.php?i=212> [accessed 20 December 2018].

mere fodder for orators; as text failing the New Critical idea of voice as an 'abstract, unifying force'.[48] Christopher Ricks defends the poem when analysing the work accompanied by the 1890 recording of Tennyson himself reciting it.[49] He calls upon the swoop of the poet's voice, the incredulity of the delivery, in short, the *music* of the speaker to help assess the value of the poem. Camlot says that Ricks conflates the New Critical idea of voice 'with the dramatic conception of speaking voice as formulated by oral-interpretation critics.'[50] Again, a programmatic element emerges where one art form (poetry) leverages another art form (oration) to enhance its effect. Boulez, on the other hand, would place oration and silent reading together and hold them separate from a musical setting of a text.

> If you want to 'understand' the text, then read it, or get someone to speak it for you: there will be no better solution. The more subtle [musical] working that I am now suggesting implies a previous knowledge of the poem. I reject the idea of 'musical reading' or reading with music.[51]

Whatever way the sound, text, and meanings may be divided, it seems an attractive proposition to engage with a work so criticised for what can be taken as its musical qualities and magnify/nullify the issue by setting it to music. There is, however, another factor that dates the poem and is worth addressing.

> […] the reception history of the poem reveals how it 'has not merely fallen out of favor … but … has come to seem mildly ludicrous, slightly contemptible'. McGann focuses on 'the historical events,' 'their ideological significance,' and Tennyson's 'attitudes towards these matters' as primary reasons for the decline of 'The Charge' from critical favour […] The poem's historicity—the fact that it is a period piece—has allowed it to serve as an aesthetically compromised example of verse in contrast to Tennyson's 'deeper, more universal' poems.[52]

There is a patriotism to the poem that seems almost inappropriate; a war-time band-aid which, in the sober light of time-passed, fails to rebrand a human tragedy as a noble sacrifice. The effort to dull the loss of life with patriotic platitudes only serves to distance the text from the awful reality it hopes to portray. Tennyson himself had made some revisions, contributing to making the work less local, more abstract, and universal.[53] For me, his

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[48] Camlot, p. 28.
[49] Christopher Ricks, *Tennyson* (University of California Press, 1989), pp. 230–31.
[50] Camlot, p. 28.
[51] Boulez quoted in Robert Adlington, *The Music of Harrison Birtwistle* (Cambridge University Press, 2006), p. 94.
[52] Camlot, p. 27.
[53] Camlot, p. 29.

abstracting revisions did not go far enough. As if to prove my point, in 2018 a pop song was released by a group called the Tallywags under the title *Charge of the Light Brigade*.[54] The lyrics make fleeting references to the original poem, but reframe everything as a point of national pride, as though the battle commemorated were a success. The song is a self-styled anthemic rallying cry for an English world cup victory. This sort of misinterpretation is facilitated by the patriotism which still resides in the poem.

As a response to the criticism that Tennyson's poem was not served well by its musical devices, I sought to modify *Charge of the Light Brigade* with musical conventions in my 2016 choral work of the same title.[55] Obviously, by setting the work to music it would be a simple matter to exaggerate the musical metre and structure of the source material. However, I also hoped to address some of the criticisms levelled against the poem's content by editing and eliding the text in musical phrases. I felt at liberty to set only the stanzas that suited me and I hoped to make use of aspects of text-setting that are natural to a choral setting. Even with the best intentions of fidelity to a text, once choral music introduces polyphony, the sonic result is often that sentences, words, or phrases become unclear; a textually confusing 'empty pleasure of the ear' the Council of Trent took pains to mitigate.[56] Consciously harnessing those naturally occurring distortions of text accommodated covert modifications to the source material. Listeners might not notice the changes as evidence of the composer's editing so much as the normal by-product of choral singing. With this aim, the undermining of the original text would involve fragmentation. Works in the literature which spring to mind include the beginning of Milton Babbitt's *Philomel* (1964), where the words 'Philomel' and 'Tereus' are ever so gradually formed through puns like 'feeling a million trees'.[57] Other references are Luciano Berio's *Sequenza III* (1965) where individual words are stretched out into their consonants and syllables or Birtwistle's *Entr'acts and Sappho Fragments* (1964) of which Adlington writes:

> The first, fourth and fifth of the settings wrench asunder the words of the translated poem, separating them with rests and treating them to contrasting dynamics or articulations: great pressure is placed on the semantic cogency of the text as a result.[58]

[54] The Tallywags, *Charge of the Light Brigade* (Tallyrecords, 2018).
[55] For a text derided (vicariously) for its musicality, Tennyson's poem was not nearly as musical as it could have been. As a recitative work it falls behind its fellow popular favourite, Edgar Allen Poe's *The Bells*, which makes much greater use of repetition and metrical devices.
[56] Ross, *Listen to This*, p. 50.
[57] John Hollander, 'Notes on the Text of Philomel', *Perspectives of New Music*, 6.1 (1967), 134–41 (p. 136) <https://doi.org/10.2307/832415>.
[58] Adlington, p. 75.

I had experimented with this in my own work *Eikon* (2014) in which a single text was presented in a jibberish coagulation of its English, Latin and Greek translations, before finally coming together in the final movements. The fragmentation of the text in *Charge of the Light Brigade* occurs on the level of phrases rather than words. It is not meant to render a reading indecipherable, but to subtly change the emphasis from one of finding solace in the bravery of soldiers dying in a tragic blunder to a focus on the waste of life and folly of such palliative efforts.[59] Sometimes the phrases do not make literal sense, but as Adlington goes on to write:

> In all instances, the general effect of textual fragmentation is to allow greater flexibility in the sorts of interaction that may be established between language and music. Disrupting syntactic or semantic continuity in a text undermines the concreteness of verbal imagery, and this in turn enables a more effective pull and tug between musical and verbal meaning.[60]

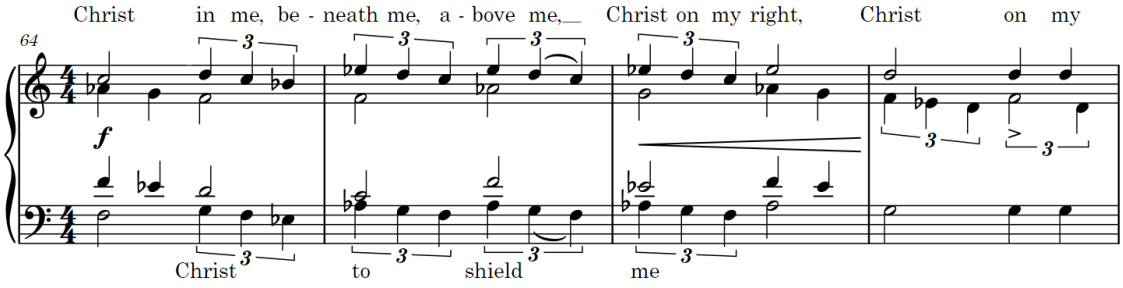
The line, 'into the valley of death' from *Charge of the Light Brigade* is a clear reference to Psalm 23's 'yea though I walk through the valley of the shadow of death I will fear no evil: for thou art with me; thy rod and thy staff they comfort me.'[61] I quoted the chant at some point in the early sketching of the piece, but it was modified in the composing of the work to such an extent that it has become unrecognisable. However, the context of the psalm struck me as a useful counterpoint to the wild violence in the poem. For example, the lines, 'Cannon to right of them,/ Cannon to left of them,/ Cannon in front of them' naturally conjure some frenetic scene, but the psalm evoked is one of finding comfort. The repetitive language in these lines is a clear example of the type of musical rhythmic quality that fuelled the engines of critics. To embrace the musicality of the text fully, a musical analogue for those lines might be substituted. Though very different in meaning, the music of these lines and their sounds are very close to the lines from the prayer *St. Patrick's Breastplate*, 'Christ beneath me,/ Christ above me,/ Christ on my right,/ Christ on my left'. Schematically this is close to Tennyson's text and semantically is close to the Psalm he alludes to in his poem. I had previously set *St Patrick's Breastplate* for choir (*Lorica*, 2015*)*, and curiously had made this passage sound quite violent. A reference more representative of the comforting nature implied by Psalm 23 would be Martin O'Leary's setting of the same text *Lúireach Phádraig*

[59] Stacey stratifies the condition of a text as being in its original form or 'prime condition' or being fragmented to different degrees. My treatment of Tennyson's text seems to be fragmentation disguised as prime condition, since I do not wish to draw the fragmentation to the audience's attention. Stacey, p. 21.
[60] Adlington, p. 73.
[61] Psalms 23:4.

(2015) for double chorus.[62] O'Leary sets this text in a manner that sounds like a protective religious mantra layered in sound, rather than the panicked parrying of arrows of my own treatment (compare Example 2.1 and Example 2.2). Keeping these reference points in mind while composing *Charge of the Light Brigade*, I temporarily substituted the 'Cannon' text for the Lorica text (see Example 2.3). The resulting music framed this violent episode in a sombre, peaceful tone more appropriate to the biblical reference. The voices enter sequentially in protective layers. Of course, we know the soldiers will die but hopefully, this will go some way to showing the trust they placed in their superior officers, even when the order was clearly given in error. Once the music was discovered, I changed the text back to the 'Cannon' material, thus keeping in line with the aim that the listener would not notice the interference, but simply experience the poem differently. The effect is achieved through a kind of deliberate misreading, which finds some validation in the work of literary critic Harold Bloom, as summarised below by Kevin Korsyn:

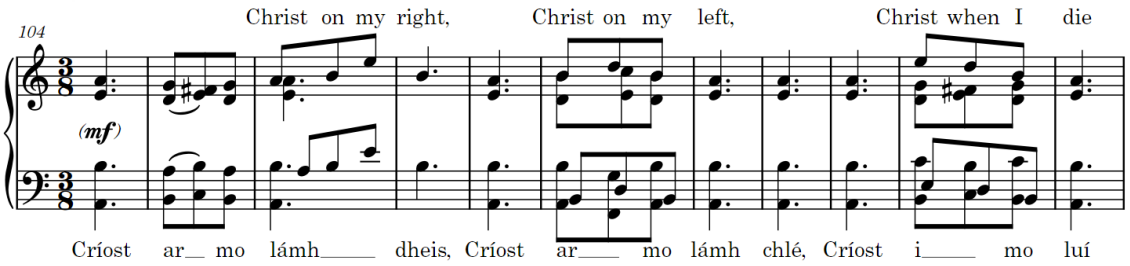
> For Bloom, every poem is a misreading or misprision of a precursor poem or poems. The parent poem may be composite, it may be partly imaginary, it may even be one of the poet's own poems (the poet may attempt to become his own precursor). 'Misreading' is not a pejorative term for Bloom. Misreading can be strong or weak, but it is inescapable.[63]

Example 2.1: Adam Cullen, *Lorica*, reduction of bars 64-67

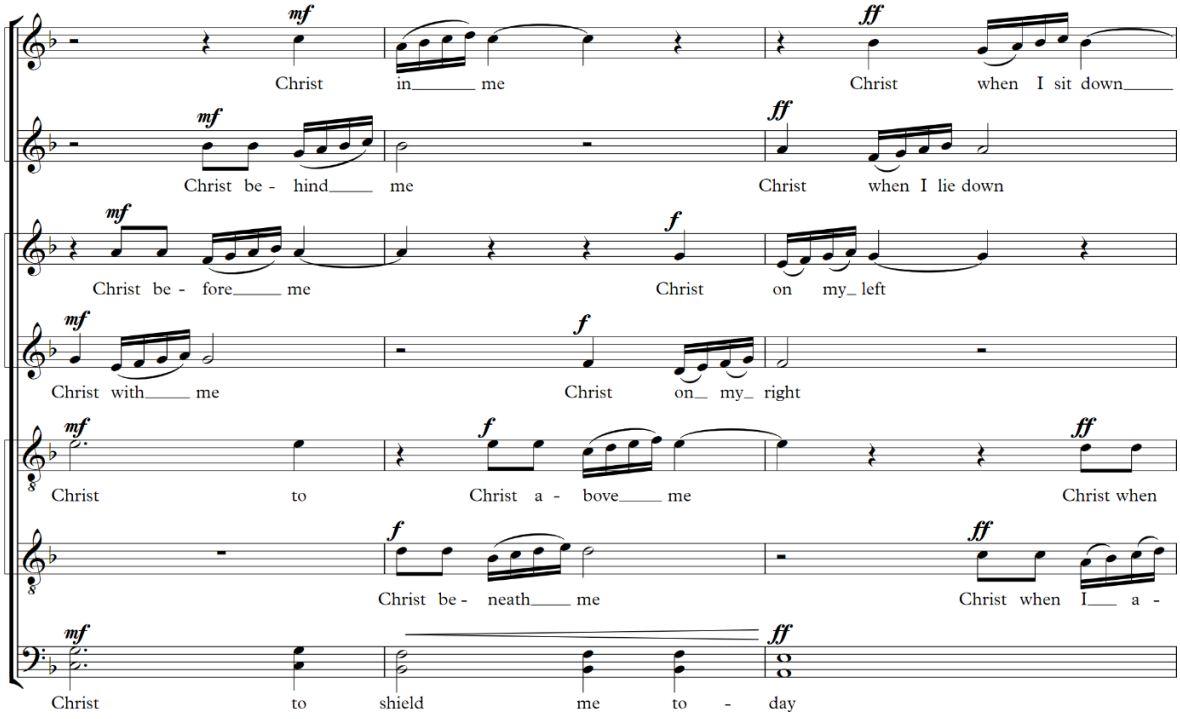


[62] Recordings of both works are available on the Maynooth Chamber Choir album, *Lorica*, conducted by Michael Dawson.
[63] Kevin Korsyn, 'Towards a New Poetics of Musical Influence', *Music Analysis*, 10.1/2 (1991), 3–72 (p. 10) <https://doi.org/10.2307/853998>.

Example 2.2: Martin O'Leary, *Lúireach Phádraig*, reduction of bars 104-15



Example 2.3: Adam Cullen, *Charge of the Light Brigade* with alternate text



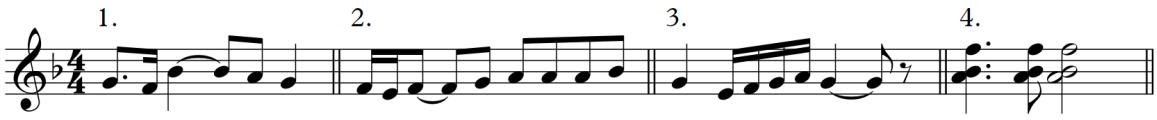
The repetitive rhythmic language for which the poem was criticized is naturally elaborated upon in the music. 'O the wild charge,' which is an isolated phrase, is subject to repetition and textual elaboration to emphasise and intensify its meaning. At bar 42 the altos sing, 'O the wild charge, they made charge, O the wild charge, wild the wild charge...' The repetition varies the order of the words and the sentence is changing, but all these manipulations should strike the choral listener as nothing more than the usual treatment of text in many a choral work.[64] Similarly, eliding lines together while extracting intermediate material creates an experience quite common to choral text-setting, though it is normally a result of musical decisions rather than something performed through a conscious desire to modify the text.

[64] One might think of 'melodic math'. A term devised by pop mogul Max Martin where words are chosen less for their meaning and more for their sound. John Seabrook, *The Song Machine: Inside the Hit Factory* (W. W. Norton, 2015), p. 40.

For example, I removed all lines delineating nationalities. At one point, the original text reads, ‘Right through the line they broke;/ Cossack and Russian/ Reeled from the sabre stroke’. In the poem, this is meant to be a moment of small victory with the English giving as good as they are getting, but it is still a patriotic celebration of death. The practical conventions of part-singing allow for grammatical ambiguity and so the poem is usurped not merely to fulfil a musical purpose but to fundamentally alter parts of the text.

When the interference gets more extreme, the implementation of grammatical ambiguity and textual restructuring relies on short melodic motifs (see Figure 2.1). From bar 47 to 58 the text is cut up into re-ordered lines from stanzas four and five of the poem. They are pieced together into new sentences, just as motifs associated with other parts of the poem are being recalled.

Figure 2.1: Four melodic motifs in bars 47-58



Motif 1 in Figure 2.1 is a new idea used to distinguish this section from the preceding material. Over the next ten bars, it is paired with motifs 2, 3, and 4, each of which was already established earlier in the piece and should function as hooks for the listener. A collage is made of these motifs, amongst which literal meaning of the text is occasionally frustrated by non-sequiturs (e.g. ‘they that had fought so well, noble six hundred, came through the jaws of death, they that had fought so well.’). In this example, a musical logic is retained by the repetition of the motifs and the fragments of text. Doing so directly embraces the criticism of the recitative function of the poem, dissolving the meaning into the sound of the words and the setting of the words. But from that dissolution of meaning and sound, new meaning emerges in the following lines as the poem is broken apart and put back together to honour my intent for the work’s revision; for example, ‘Left of six hundred, plunged in the bat-try smoke, while horse and hero fell, reeled from the sabre stroke, right thro the line they broke. From the mouth of hell into the valley of death.’ It is not hard to find meaning in these lines, which for the most part retain a rhyming scheme despite coming from several different stanzas. The melodic motifs, which by now are familiar to singer and audience alike, assist in joining the lines together with an internal musical logic. In other words, even as the sentences descend into ambiguity, their underlying musicality holds the sentiment together and when they finally align once more, the meaning becomes focused. Even if the audience already felt the sentiment, it should start to hit home more concretely now in a moment

analogous to what narratologist John Truby calls the thematic revelation;[65] a convergence of disparate materials into one point of understanding. As Adlington said of Birtwistle's fragmentation practices, 'strategies that at first appear intent on disrupting comprehensibility can also give rise to new meanings.'[66] While the sentences may become ambiguous, the words do not. The repeating fragments of text aid comprehensibility as much as their reordering could obscure it. This is thanks to how the listener judges the intelligibility of individual words to be increased when they have been repeated.[67]

The finale at bar 67 makes use of the convention of repeated text to augment the sentence chosen to end the piece. The line, 'when can their glory fade?' is the first line of the final stanza and is emblematic of the jingoistic veneer that dates the poem. My aim was to have this sentence transformed by the time it appeared in the work; using not just grammatical ambiguity made intelligible by musical logic, but also the confusion that can arise from homophones, essentially utilising the power of the pun to change the meaning of the text. By the final bars, the sentence 'when can their glory fade?' has become, 'when can the gory glory fade into the valley of death?' The ubiquitous use of the motif for the text of 'into the valley of death' makes its appearance at the end of the work sound inevitable.

Conclusion

Charge of the Light Brigade broadly addresses the criticism of programmatic music as something 'impure'; a type of music that wastes music's uniquely abstract potential by leaning on other art forms.[68] It does so by looking to a famous poem which has suffered parallel criticism as a literary work relying on inherently musical devices for its effect. While the poem arguably has some weaknesses, musicality is not necessarily the most important of them, if it can be categorically called a weakness at all. With *Charge of the Light Brigade,* I attempted to overcome some of the poem's more important flaws by shifting the focus from patriotism to the horrors of war. This was engineered not only by setting the poem to music and controlling the drama through sound, but by editing and repeating parts of the text. Assuming I was successful, the poem overcame the flaw which dated it most not by abandoning the traces of a declarative style that tied it to a fashion, but by leaning more heavily into its innate musicality and fully embracing another art form.

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[65] Truby, pt. 651.4.
[66] Adlington, p. 68.
[67] Randolph Johnson, David Huron, and Lauren Collister, 'Music and Lyrics Interactions and Their Influence on Recognition of Sung Words: An Investigation of Word Frequency, Rhyme, Metric Stress, Vocal Timbre, Melisma, and Repetition Priming', *Empirical Musicology Review*, 9.1 (2014), 2–20 (p. 2).
[68] Korsyn, p. 12.

Chapter 3 *The Cyborg Resurrection* for Solo Guitar

Introduction

The title '*The Cyborg Resurrection'* (for guitar, 2016-7) describes my renewed relationship with the guitar. I had to stop playing the instrument because of practice-related injuries in 2004. I had put the instrument out of my mind until the composition of this work, which was achieved in part by trying ideas on the instrument and developing them on the computer. A 'cyborg' being part man and part machine, it seemed an appropriate reference for the partly physical, partly software-based composition method that would resurrect my relationship with the guitar. Despite the title, this is the first work in the portfolio which was generated without reference to any clear extra-musical idea and, for a long time, it was titled simply, *Guitar Piece*. On reflection, I realised that the composing methodology was influenced by my injury and the title was updated. The work was presented and discussed in a lecture-recital at the 2nd Dublin Guitar Symposium in February 2019 and the 'Contemporary Approaches to Music Composition and Sonic Arts: Practice as Research' symposium at DCU in March 2019. A significant portion of the lecture was autobiographical, describing the circumstances of my history with the guitar, the injury that influenced the composition, and what coming back to the guitar meant to me after a twelve-year estrangement from the instrument.

Presenting the work with a narrative raises questions about how such a piece sits against the arguments of programmatic versus absolute music. I believe the closest analogue is that of the anecdote. A few brief words will be said about the perceived credibility of anecdotes (particularly autobiographical ones) in relation to music. This is to set the ground before relaying the real-life narrative that surrounds *The Cyborg Resurrection*. Once the methodology that is a part of that narrative has been covered, we may return to the literature and embrace further examples of how this type of 'programme' is understood and see how it fits against the present work.

The Credibility of Anecdotes in Serious Music Scholarship

Composers themselves, to say nothing of apocryphally-sourced tales, are not always trusted when it comes to autobiographical details regarding their works. As P. E. Vernon writes, 'The original biographical data that I have used are far from reliable, composers' introspections being particularly untrustworthy.'[69] It can also happen that the composer *denies* any autobiographical association and is still not believed. Consider Mahler, who

[69] Vernon, pp. 46–47.

eschewed programmatic connotations after the beginning of the twentieth century[70] but still many willingly embrace Alma Mahler's programmatic insertions in the Sixth Symphony after the composer's death. Even though Alma has been disproven on several points, her domestic programme persists, and newer domestic programmes are being created.[71] Consider the following description of Stravinsky and the *Rite of Spring* by Daniel Chua and we find how hard it is for a composer to control the narrative that becomes attached to a work.

> Stravinsky wanted the *Rite* to be his; all that noise at the première had to be eliminated, along with the clutter that seemed to clog up his music… Stravinsky wanted to suppress 'all anecdotal detail' in order to re-package the *Rite* as a purely "musical construction"; the work was now "architectonique", he said, as opposed to "anecdotique"… Stravinsky even went as far as to eliminate his own extra-musical contribution; his famous dream of a sacrificial virgin dancing herself to death was no longer the vision that inspired the work but was sidelined as a secondary "idea that came from the music"… Stravinsky campaigned to turn the noisy ballet into the silent structure of a score that could forget its history. At last, having eliminated its origins, the music could be heard as absolute, pure and structural – and so become the earth-shattering masterpiece of twentieth-century music.[72]

So why use an anecdote at all if it is so often suppressed by serious scholarship, or so stubbornly difficult to remove when it does manage to become attached? Annette Richards recounts here some positive aspects of the anecdote:

> In the historiographical project of the late eighteenth century, anecdotes function in a way similar to the portraits to which they were so often attached. As literary scholar Paul Fleming has recently suggested, the immediacy and unpredictability of the anecdote explodes the long historical narrative: 'Only an anecdote opens up history,' Fleming writes, 'because only an anecdote (as opposed to large historical narratives) allows history (as the unforeseeable) to truly happen'… Anecdotes and portraits perturb the historical narrative, complicating historical distance with a sense of presence, and troubling the relation between character, event, and, in the history of music, artistic production. In the same way, the portrait—slippery, unreliable, and vivid, as Lavater showed—interrupts chronological narratives with individual

[70] Ross, *The Rest Is Noise*, p. 22.
[71] Monahan.
[72] Daniel Chua, 'Rioting with Stravinsky: A Particular Analysis of the Rite of Spring', *Music Analysis*, 26.1/2 (2007), 59–109 (pp. 59–60) <https://doi.org/10.1111/j.1468-2249.2007.00250.x>.

> experience, personal achievement, the complex and unpredictable vortex of character. As Granger's *Biographical History of England* demonstrated, portrait and anecdote could not only open up history, they could create it.[73]

I will return to these sentiments shortly. For the present, it is time to relay the autobiographical narrative that pertains to *The Cyborg Resurrection*. During my undergraduate studies in the academic year 2003/2004, I was playing through pain and not telling my teacher. I developed issues with my tendons and have not been able to play the guitar since. After numerous failed treatments it became clear I was not getting better and I packed up my guitars, stowed them in the attic, and stopped listening to classical guitar music. I had always composed on the guitar or on the piano, but I could no longer play either and adopted the practice of composing straight into Sibelius notation software. As part of my research, I was challenged to write something for the guitar, and it was a daunting proposition. Attempts to compose straight into the computer felt too divorced from the instrument and uninspiring. Attempts to play on the instrument were also naturally hampered by my injury. It was possible to play for a reasonable stretch of time if I relied upon the muscle memory of familiar patterns, but those patterns of picking and those familiar chordal configurations can be a significant barrier to composing music that sounds fresh. On the other hand, attempting more daring techniques inevitably resulted in physical pain. How I overcame this first hurdle begins with Movement I. Note that the autobiographical narrative is not complete with this introductory paragraph. It permeates the experience of composing the work from movement to movement and it includes the technical challenges and accomplishments along the way. As such, the commentary on the work will be extensive and we will not return to the issues of anecdote until all four movements have been discussed fully.

Movement I

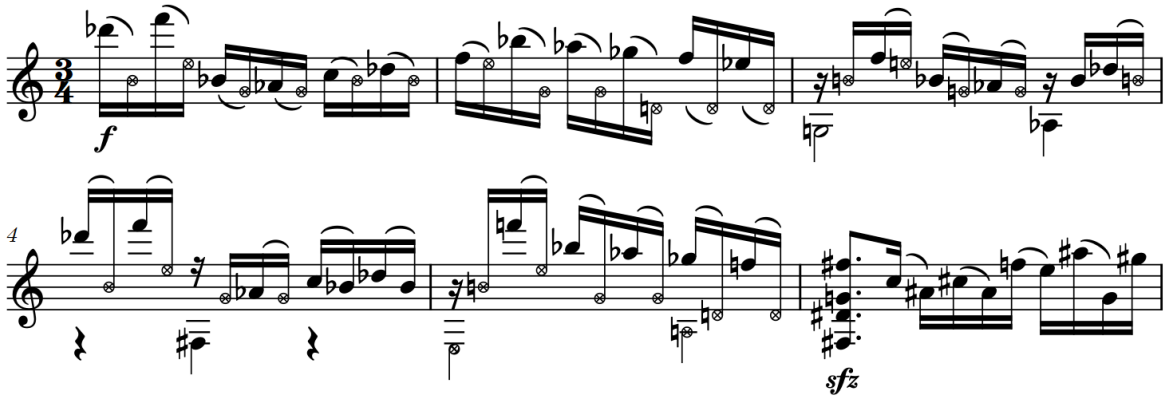
Slurred notes on extremely wide intervals became the starting point of the piece (see Example 3.1). It is not a typical way of playing the instrument, but it is a prime example of my injury influencing the musical material directly. By writing a single line of 'pull-offs', I was maximising the time I could sit with the instrument.[74] I avoided barred chords and tricky

[73] Annette Richards, 'Carl Philipp Emanuel Bach, Portraits, and the Physiognomy of Music History', *Journal of the American Musicological Society*, 66.2 (2013), 337–96 (pp. 373–74) <https://doi.org/10.1525/jams.2013.66.2.337>.

[74] 'Pull-offs' describe a guitar technique for slurring from a higher to a lower pitch. A slur in the opposite direction is called a 'hammer-on'. There are subtle differences between these terms and so the more esoteric guitar-terminology will be favoured throughout this chapter rather than the more generic term 'slur'. Also, pull-offs are less physically demanding than hammer-ons.

figurations to minimise discomfort. I have indicated the open strings on the guitar with crossed noteheads to show how little physical contact I made with the instrument.

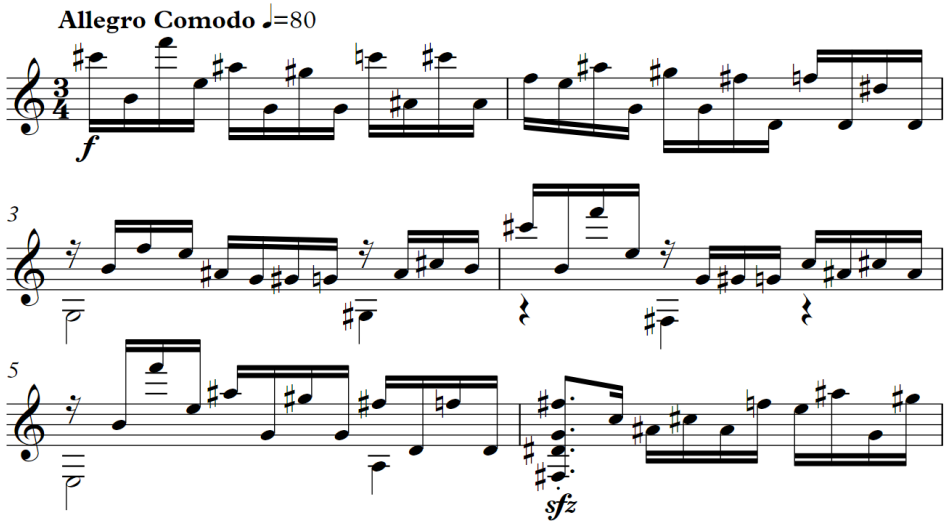
Example 3.1: *The Cyborg Resurrection*, movement I, original opening



I transcribed what I had so far into Sibelius and then set to work analysing what had been developed. I analysed the intervals and harmony and designed a system for extending the character of the written music. While the large, slurred intervals were a chief feature of the passage, I found the pitch material was of greater interest. Two voices (an upper ascending interval between the first and third semiquavers, and a lower ascending interval between the second and fourth semiquavers) emerged as an idea conducive to easy manipulation. This invited the perceptual pairing of non-adjacent pitches. I listed the intervals created by each pair and noted whether they occurred on a rhythmic accent, whether they ascended, descended, or repeated a unison, and created a repository of easily manipulated information so that new versions of this opening material could be developed throughout the piece.

The greatest discovery in performance of the movement, I owe to the performer Darren Loughran, and involved a revision of this opening. The slurs which I had used to help me get around playing the instrument properly did not convince a musician who was deeply engaged with the guitar. He observed that the extreme range of the pull-offs on the gut strings resulted in an empty tone and uncontrollable dynamics and suggested fretting all the notes and changing some of the octaves. The result is an opening that fits nicely under the fingers without sacrificing tone (Example 3.2).

Example 3.2: *The Cyborg Resurrection*, movement I, bars 1-6

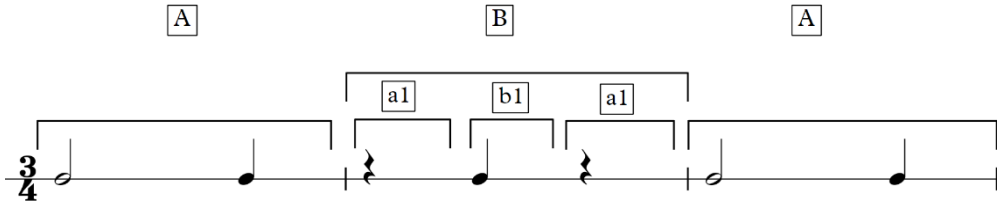


The freely atonal harmonic language derives from an approach to the fretboard that avoided the physical shapes and patterns built up in muscle-memory. Each bar contains between seven and nine discrete pitches. It took five bars to account for each of the twelve tones at least once (see Figure 3.1). The one and only appearance of A natural as the last note of the bass theme propels the pitch collection forward at the last moment and sends it crashing headfirst into the chord at bar six.

Figure 3.1: Distribution of pitches by bar and part (black cells indicate bass line, grey indicates other parts, white cells indicate the absence of a note in a bar)

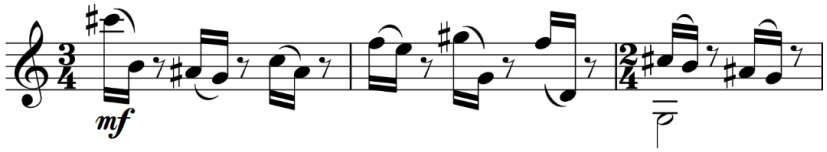
Bar 5												
Bar 4												
Bar 3												
Bar 2												
Bar 1												
Pitch	**A**	**Bb**	**B**	**C**	**Db**	**D**	**Eb**	**E**	**F**	**Gb**	**G**	**Ab**

Figure 3.2: *The Cyborg Resurrection* Movement I Structure from bass theme



For structural inspiration, I turned to the bass theme of bars three to five (see Example 3.2). The rhythm of the bass theme being identical in bars three and five suggested a ternary structure to the theme. I elected to model the structure of the movement off the repetitions and proportions suggested by this bass line. Figure 3.2 shows the rhythmic pattern ascribed various sections (ABA) with section B being further subdivided into its own ternary structure (a1 b1 a1). The sections labelled 'A' observe a 2:1 ratio (as suggested by the minim-crotchet pattern) and sections labelled 'a1' (represented by rests) make liberal use of rests in the musical material (see Example 3.3). In practice, and following revisions, this structural outline was only partially observed. For example, the material from bars 30-45 represents the final third of section A, but listeners might notice the tempo change to *Andante* at bar 21 in such a manner. Promising sections were lengthened, tiresome sections curtailed, and tempo changes were added to lend variety and facilitate playability. This obviously adjusted the proportional durations envisioned in Figure 3.2, but I am happy to let abstract notions take a back seat when it comes to the practicalities and moment-to-moment artistic decisions inherent in making music.

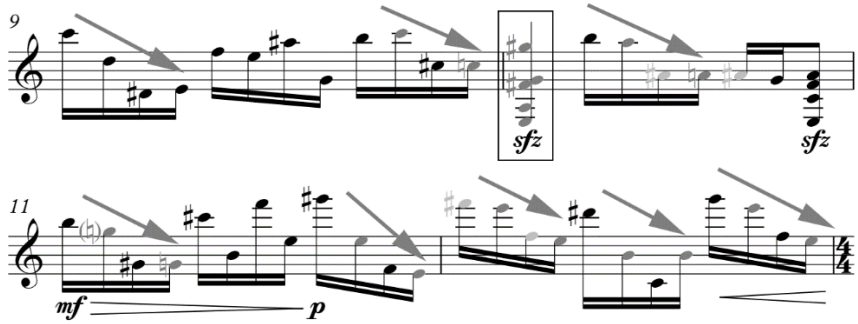
Example 3.3: *The Cyborg Resurrection*, movement I, Section B, bars 45-47



The final section A, beginning at bar 93, omits the final third of the section, but the development of that material was explored just previously in section b1 and so a return to it was not necessary. This also allowed the movement to finish at a brisk pace. The structure of the first movement was devised conceptually but does not exemplify the kind of malleability of compositional material that is made easy with notation software. It is worth acknowledging here how different an experience playing the guitar is from playing an instrument like the piano, which is much more closely analogous to the layout of notes on a stave and more readily invites thinking in notation-centric compositional play. Composing at the guitar facilitates this to a much more limited extent. I found the harmonic language on

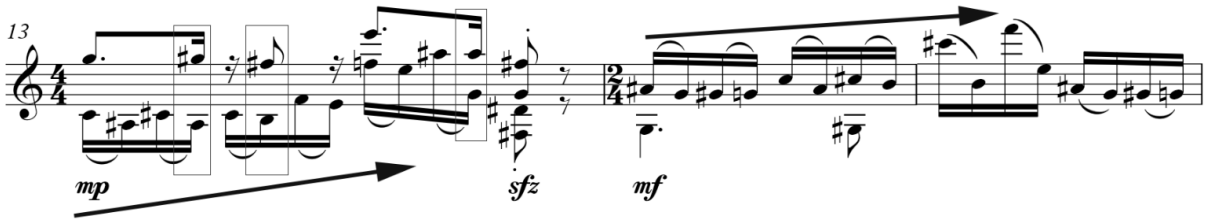
the fretboard by avoiding traditional shapes. Using such strange shapes, however, made it harder to plan variations of the material. Returning to notation simplified the process. The following examples highlight the increasingly complex manipulation of musical materials in the early parts of the first movement which were so much easier to develop in notation alone. In Example 3.4, new falling figures (arrows) extend the pattern of intervals from the improvised material by exaggerating the unison relationships between some interleaved pairs, using octave transpositions to get more music out of the material without adding new ideas (unison and octave pairs are presented in grey noteheads). Also, note bar ten where the boxed chord is made up of notes from the bass theme (A, E, F#, G, G#).

Example 3.4: *The Cyborg Resurrection*, movement I, bars 9-12



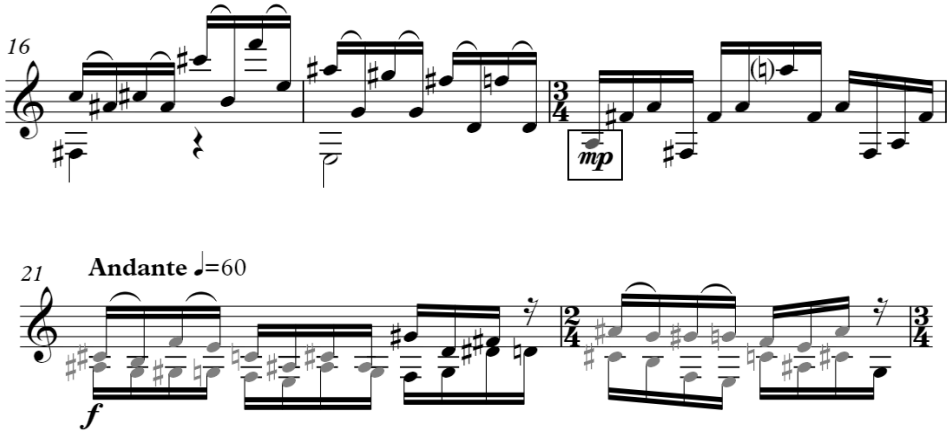
Example 3.5 shows the emphasis shifting from falling shapes to rising figures (arrows) from the original material. They appear in conjunction with the bass theme but now set as a rhythmically diminished soprano line (bar 13). In that same bar, an unidiomatic pattern occurs; striking notes in an upper melody while the lower voice slurs pull-offs (boxes). This is an example of breaking idiomatic patterns and pushing the technique of the instrument.

Example 3.5: *The Cyborg Resurrection*, movement I, bars 13-15



In Example 3.6, the final crotchet of the bass theme is replaced with a semiquaver in bar 18 (boxed note), merging the bass theme into the characteristic rhythm that dominates most of the section. The semiquaver pattern that normally accompanies the bass theme was offset, lending some inevitability to this coincident moment. In the *Andante* section, parts of the opening are paired against each other (grey noteheads in bars 21-22 show where soprano and bass lines were swapped around).

Example 3.6: *The Cyborg Resurrection*, movement I, bars 16-18, 21-22



The pattern continues in the following bars, alternately cutting or restoring the last beat of patterns heard earlier. It is also repeatedly interrupted by the bass theme, harmonised by the notes of the theme itself under retrograded material. As each section builds on the manipulations of the last, the work continues to grow more abstracted from the original material and it does so in a way that is consistent with the rhythmic and pitch material, whereas composition at the instrument would physically encourage a development of material in ways more consistent with guitaristic practice. Consistently sustaining a language that broke with traditional physical pattern on the instrument made for a work that was relentless. The performer commented that this provided the most challenging aspect of the movement (indeed, this movement was the most difficult piece he had ever faced at the time of writing). There were no patterns the performer could incorporate from previous repertoire to assist him. Consequently, his technique was challenged in unique ways and when he went back to play technically advanced works from the standard repertoire, they no longer posed the same difficulties.[75]

I could visualise the finger stretches and, for the most part, managed to write something that was physically possible on the instrument. Even so, while *most* of the chord shapes and stretches were possible in isolated moments, Darren found they were not always practical when strung together, especially at speed. A compromise could be found by slowing the speed at certain instances, changing around some octaves, or reducing dyads to single notes at points where the ear would not easily notice. In one or two isolated incidents a note or rhythm would be modified for playability. The piece has come into being the only way it could have; starting with a novel, physically-undemanding technique to find an idea, using the computer to turn that idea into a piece strong enough to withstand changes in

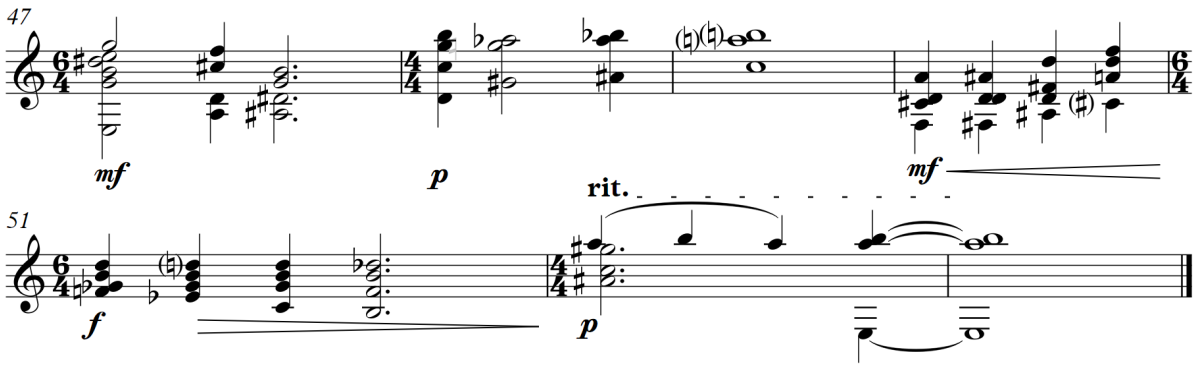
[75] Interview at a performance of the work in DCU as part of the lunchtime recital series on 10/04/2019.

octaves and tempi, and having a performer without my physical limitations bringing his experience to bear on the work.

Movement II

After my positive experience with the first movement, I improvised at the guitar in full hand-shapes as opposed to tentative single note pull-offs.[76] Searching for unconventional harmony in standard tuning was tantamount to searching for unconventional shapes. While it is straightforward to produce strange harmonies on paper or on the computer, an exploration of shapes on the guitar itself was the best way to ensure idiomatic compliance.

Example 3.7: *The Cyborg Resurrection*, movement II, bars 47-53



A resulting chord sequence and melody was transcribed into the computer and analysed (see Example 3.7). Something about the improvised sequence felt too full and final to be developed, a point of arrival rather than departure. Unlike the first movement which needed some important revisions when it came to the performer's input, this movement presented no significant problems.

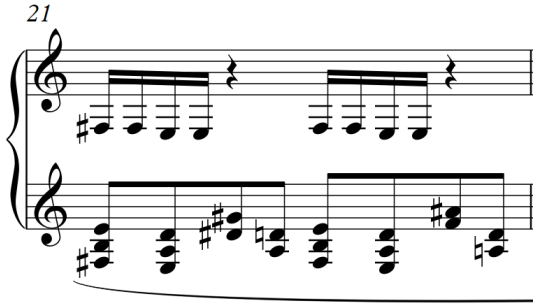
Movement III

By the third movement, I wanted to tread some different ground. In the years since my injury, there has been an explosion of popularity in two-handed tapping on acoustic guitars (Preston Reed, Jon Gomm, etc). I took this opportunity to write something roughly in that genre. I was aware of some Benjamin Dwyer *Études* that applied the technique to the nylon-stringed guitar and took a cue as to how to notate the work from them, settling on two staves.[77] Unlike the other movements, this piece required constant referencing between the instrument and the computer. While the piece has its challenges, I tried to make it ergonomic. The novelty of the technique also protected me from some of my unhealthy habits on the instrument and

[76] Not to suggest that I was getting physically better, but I knew I'd be writing a slower movement, which helped me explore the instrument with less physical tension.
[77] Benjamin Dwyer, *Twelve Études for Guitar* (Contemporary Music Centre, 2008).

I was able to play longer without pain. I came across some notational challenges. For example, the notation of bar 21 made the piece appear unplayable owing to the simultaneous appearance of the same bass note in two different rhythms (see Example 3.8).[78]

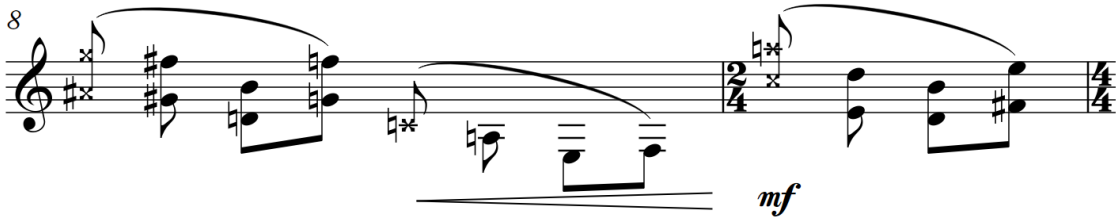
Example 3.8: *The Cyborg Resurrection*, movement III, bar 21, one stave per hand



Here is an unusual example of being too familiar with the instrument. I was trying to break the rules of notation to make things psychologically easier. F#2 and E2 appear in both the right and left hand but in semiquavers in one and in quavers in the other. I did not expect an uninterrupted quaver to be heard; I was describing what the left hand was doing (fretting those notes for the duration of a quaver) while the right hand activated those notes to the value of two semiquavers per quaver. The independence of the two hands creates an anomaly that I hoped would be easily understood given the context of the previous bars. In hindsight, it would have been better to omit the quaver bass notes altogether and let the performer discover the ergonomic layout for himself. Eventually the two-stave approach was used much more sparingly. In examples below the final format will be visible where notes tapped by the right hand are represented with a crossed notehead and a different stem direction.

Achieving good sustain and projection while tapping on unwound (treble) nylon-strings can be a challenge. Feedback on the opening of the third movement (see Example 3.9) advised that anything above a very quiet dynamic was unlikely to sound.

Example 3.9: *The Cyborg Resurrection*, movement III, bars 8-9

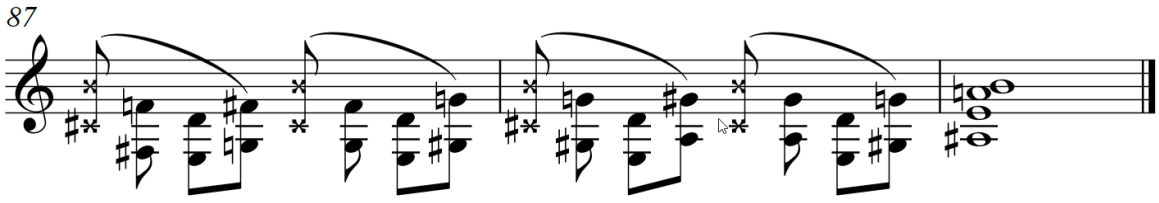


[78] Darren Loughran, 'The Mad Notes', 16 November 2018.

This was a moment where we were able to collaborate on a level such as is only possible when both composer and performer have a great familiarity with the instrument.[79] There was some miscommunication happening on the page, but sitting down together and taking turns on the instrument it became clear that we were approaching the technique in different ways. Darren was tapping when he played the passage and lifting his finger straight off the tapped note, observing the slur insofar as he did not strike the next note. Technically, then, he was doing what the notation asked. But he was not getting the volume or tone the dynamic indications demanded. By contrast, when I played it, I would tap the notes and rather than release, I would pull the notes upwards until the strings snapped free beneath my fingertips, thereby injecting a significant amount of energy into the dyads that followed the tapped notes. The key was in noticing that the technique, as shown in the example above, does not just show a 'tapped' note (T) in the right hand, but also a slur which starts with the tapped note and crosses the stave onto the notes of the left hand.

Immediately Darren felt the difference and started to experiment with this version of the technique. Extending the previous observation that taps might sound a lot stronger on the wound strings, we tried the passage out on the 4th and 6th strings. This was a physical transposition rather than a strict notational one and it took advantage of the unequal division of intervals in the guitar's standard tuning to automatically vary the harmony (6ths becoming 7ths, for example).[80] The sound on the upper strings had been salvaged by the right-hand pull-off, but the passage transposed physically to the bass strings combined with this approach made for something particularly robust. It ended up being added on to the end of the piece as a final flurry of energy, part of which can be seen in Example 3.10.

Example 3.10: *The Cyborg Resurrection*, movement III, bars 87-89

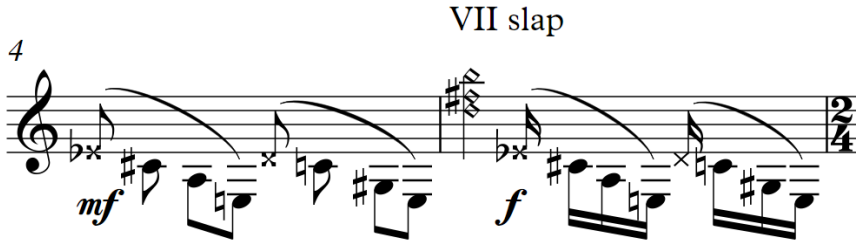


Even though I had worked out everything at the guitar myself, I made certain allowances that turned out to be ill-advised. For example, in bar 6 (see Example 3.11) I called for a right-hand slap on some open harmonics. I found I could get the effect to speak in only one out of

[79] I recall a quote from Michael Rouse. '… I don't think a lot of composers have much understanding of the instrument. After having worked on that piece for a year [guitar concerto premiered by Sharon Isbin], I can confidently say that I still did not understand the instrument any better than I had at the beginning. Fortunately she plays the piece beautifully.' Quoting Michael Rouse, Raines, pp. 39–40.
[80] Similar to Shostakovich's *Fugue no. 1 op.87* in which the subject of the fugue starts on different notes but is always played on the white keys of the piano.

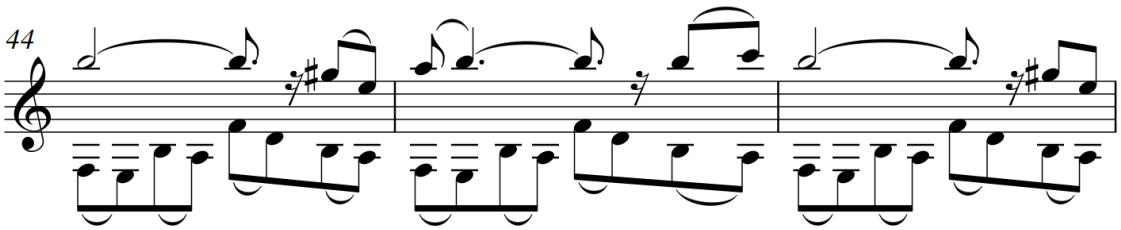
every five or six attempts but assumed a practising performer would fare better. Unfortunately, that kind of logic applies better to techniques that benefit from practice and are not at the mercy of the vagaries of the instrument. It did not matter that I was out of practice, the technique, at least in the context in which I had set it, was simply unreliable.

Example 3.11: *The Cyborg Resurrection*, movement III, bars 4-5



Issues of sustain and projection arose again in Example 3.12. The left hand fatiguingly repeats a slurred ostinato while the right-hand taps and glissandos out a melody on the treble string. Darren experienced chipped nails and physical discomfort when practising this section. This is a disastrous result and it is frightening to think that I could pass on the damage I did to myself by the music I write. My own story would easily be hijacked here. A revision of the section suggested by Darren meant slurring only every pair of notes in the ostinato so the thumb could assist in note activation and control, while the melody line could be played (minus the slides) with harmonics.

Example 3.12: *The Cyborg Resurrection*, movement III, bars 44-46



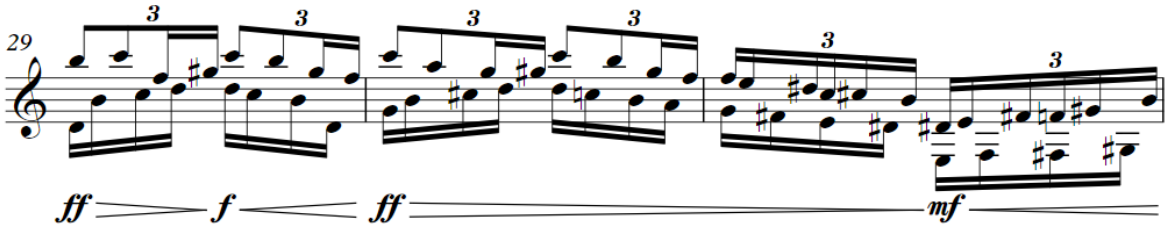
Movement IV

Coming to movement four I tried a different methodology and it was connected to my changing attitude and emotional state. It was now time to take advantage of one of the main features that is assumed of almost any piece when composed for an instrument that the composer does not play, but which I had not really embraced. Imagining myself to be the performer had the disadvantage of rendering some parts of my notation unclear. But imagining someone else as the performer had the advantage that I could write material with which I knew even an uninjured version of myself would struggle. I could write to my performance weaknesses as comfortably as I could write to my performing strengths (were

the injury not an issue). In my case, that meant writing polyrhythms (see Example 3.13). Daniel Wohl talks about how the computer facilitates such ambitions.

> I've read articles about how notation software has changed composition; for instance, I don't think we would have David Lang's music without notation software. I think he talks about how his use of notation software really influenced his way of thinking about rhythm. I think that would go for Michael Gordon too.[81]

Example 3.13: *The Cyborg Resurrection*, movement IV, bars 29-31



The Anecdote as Programmatic

Most serious scholarship tries to avoid the anecdote, and many have been lost to history. It might be argued that the demise of anecdotal histories parallels the treatment of programmes in the face of absolute music.

> [C.P.E. Bach's] music's critical demise has all to do with the same issues that attracted portrait collectors and music historians (or portrait collectors-cum-music historians) in the eighteenth century, and worried historians in the nineteenth: the absorption in the moment, interest in character often slipping over the edge into caricature, detours akin to anecdote and joke, and a lack of obvious cohesion and purpose.[82]

To my mind, the work was composed without any programme but when I reflect on my attitude towards the project and my history with the instrument, the composition clearly took place as part of a narrative of overcoming. The fact that I chose to share this narrative at three performances of the work in Dublin between February and April 2019 displays that I think there is some value in the association of the work with the story. I believe the story is a positive one for guitarist-composers and performers in general (guitarists attending each lecture-recital told me as much). But positive as it may be, it brings the experience of the work into the realm of autobiographical anecdote and programme. As touched upon earlier, anecdotes undo the authorial distance of strict histories (portraiture and anecdotes are interchangeable terms for Richards in this context).

[81] Quoting Daniel Wohl, Raines, pp. 250–51.
[82] Richards, pp. 390–91.

> If the portrait ruptures the boundary of the past, suddenly reconfiguring a vivid present, the effect of portraiture in the eighteenth-century historical narrative momentarily expands chronological succession, destabilizes the sense of historical authority and authorial distance, and demands a sudden sympathy from the reader…[83]

This could be seen in the present context as a nod in the direction of extending analysis to incorporate something more personal and therefore more capable of analysing music fully, such as that called for by Cook and Dibben.[84] We already saw in the cases of Stravinsky and Mahler how composers are not always taken at their word when it concerns attaching or detaching autobiographical details to/from their work, but such extension of analysis is still worth pursuing. This doubt has less to do with the composers' authority as it has to do with historical musicology which tries to be the most objective of all the human sciences (see the following quote) in the face of an art form that is inherently abstract.

> Historical musicology is the most scientistic of humanistic disciplines, and also the most inflexible with regard to textual conceptions… As Richard Taruskin notes, musicologists, 'better than any other group of humanistic scholars,' have learned over their discipline's relatively short history 'to distrust conjecture, indeed to deride it, and to regard as real only what can be seen and touched.' While comparative literature, say, sets great store on critical imagination and initiative, in historical musicology these same interpretive processes are beholden to more stringent ideas of work and text. In its defense, musicology must owe some of this mistrust and fear to a major uncertainty: the musical work, the center of its disciplinarity for a century, is fated to remain textually decentered. A notated musical score represents a set of often ambiguous instructions, while the prose text offers a highly determinate phonetic analogy to its message. As heard, a musical work does not map onto its printed score with nearly the same directness and precision.[85]

Again, to Richards, who has something to say about a composer placing the anecdote/portrait at the centre of your own canon.

> For C. P. E. Bach, as for his contemporaries, portraits were not merely decorative, nor were they simply the culmination of a life-long obsession… Bach's portrait collection presented a brilliant account, remarkably deep and broad, of the historical context for

[83] Richards, pp. 389–90.
[84] 'Rather than layer an emotional interpretation over a structural analysis, we must try to amplify analysis itself to account for the semantic or representational properties.' Cook and Dibben, p. 61.
[85] Arved Mark Ashby, *Absolute Music, Mechanical Reproduction* (University of California Press, 2010), chap. Introduction, paragraph 5.

> his own achievements, delineating the past and present of musical culture as he knew it.[86]

I hesitated in sharing my story; the strange middle ground between composition and musicology which a commentary such as the present one represents enters on academically shaky ground (whether it should legitimately be considered so or not is a point I leave Richards to defend). But it does make sense to want to control the presentation of one's work, whether that means including or excluding such stories. Steven Zohn makes a case in the article, 'Images of Telemann: Narratives of Reception in the Composer's Anecdote, 1750-1830' for revisiting anecdotes, especially autobiographical ones that come from Telemann himself. They tell us much about the time in which they were written and the culture of legacy into which Telemann wished to involve himself.[87] The stories typically follow one of several tropes. The closest fit for my story is the trope of how a young musician is denied the opportunity to make music but works hard through the darkness to the light to make music again. Telemann shared such a story from his childhood and as such marked himself as part of a cadre of similarly afflicted composers (including Handel and Bach). Zohn argues that ignoring these anecdotes and autobiographical details robs us of interesting information and clues about the time in which the composer lived, and the attitudes the composer had towards how they and their music were presented. It is an element of control we have been encouraged to take less seriously by the omission of such details from the historically rigorous record and as such the absolute vs programme attitude raises itself analogously, this time with an objective, distancing history seen as absolute, and an anecdotal history being undervalued, not necessarily for what it fails to tell us about the facts, but for what succeeds in telling us about humanity.

My anecdote not only gives background to the composition but also offers insights into the details of the musical processes that brought the work into being. I believe this must go some way towards combining the anecdotal and objective musical history of a piece (or the musical and the extra-musical). My extra-musical association might not influence an interpretation of the music, but it may influence an appreciation of it and the circumstances from which it grew.

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[86] Richards, p. 390.
[87] Steven Zohn, 'Images of Telemann: Narratives of Reception in the Composer's Anecdote, 1750-1830', *The Journal of Musicology*, 21.4 (2005), 459–86 <https://doi.org/10.1525/jm.2004.21.4.459>.

Chapter 4 A Programme's Influence on Written Music

Introduction

The programmatic elements in *The Tenacious Alarm (and the Man who went Deaf in his Sleep)* (for wind quintet, 2018) and *Tachyon : Observer* (for orchestra, 2017 rev. 2019) came late in the compositional process. Both works started with precompositional systems to generate material and a significant amount of music was composed with these systems alone. However, in each case, the compositional process came to a halt because of a lack of clarity or direction. Only when a programme was adopted did the issues dissolve and the pieces become complete. Frankland and Pengelly show a limited appreciation for the potential of programmes to fulfil any such function when they write, 'at the risk of being branded a "wet blanket" or a "spoil-sport", I cannot understand why the attachment of a title is going to make one have a better understanding of the music...'[88]

No doubt their comment is aimed at listeners rather than composers, but I approach my own compositions as both composer and 'first listener', listening to computer playback at every step of the compositional process. Frankland and Pengelly's sentiment discounts my experience of applying a programme to an unfinished work, yet the compositional solutions employed were directly and practically indebted to the attachment of a title and programme.

This chapter naturally divides into work carried out before and after the programmatic element was discovered in each piece (explanations for the titles will be provided at this dividing point since they have no relevance before this). The analytical commentary for each work will be weighted differently in each half of the chapter since the programmatic element was adopted later in one work than in the other. The first half of the chapter will be balanced more in favour of *The Tenacious Alarm* and the second half will focus more on *Tachyon*. At times the discussion goes into significant detail on compositional processes, regardless of the attachment of a programme. Much of this chapter is devoted to explaining compositional processes which may be of use to other composers. As such, the reader is forewarned that the topic of programmes and extra-musical stimuli is temporarily deferred for portions of this discussion since some of the processes are particularly involved.

Composition Before a Programme

There are two harmonic systems at play in the orchestral work, *Tachyon : Observer*. The first is freely atonal and requires no elaboration. The second harmonic system is a set of

[88] Frankland and Pengelly, p. 925.

pitch collections associated with different timbres. A seven-note pitch collection was developed by improvising at the piano and three variations followed. Each of these four pitch collections was assigned to a different orchestral family. Together, the pitch collections could account for all twelve chromatic pitches, which allowed for seamless transitioning between the first and second harmonic systems. The pitch collections and associated orchestral families are presented in Figure 4.1.

Figure 4.1: Orchestral families and associated pitch collections

Family	**Pitch collection**						
Woodwinds	A	A#	C#	D#	F	F#	G#
Percussion	D#	E	G	A	B	C	D
Brass	A#	B	C#	E	F#	G	G#
Strings	C	C#	D#	F#	G	A	A#

The practical musical opportunities these pitch collections accommodated were an automatic and consistent variation when doubling a melody with instruments in different families, or variation as a motif jumps from one family to another. As different families are combined, some have greater or fewer similarities between their pitch collections (reminiscent of the degrees of affinity explored between string and piano scales in *Edi Beo Thu*). Any time I wished to expand beyond these confines, the freely atonal harmonic system could be called upon and transitioned to slowly or quickly, depending on the dramatic needs of the moment. Several sketches were written with this basic premise, but no natural tension existed between the two harmonic systems. Harmonic progress was not easily sensed since each system could be freely interchanged without end.

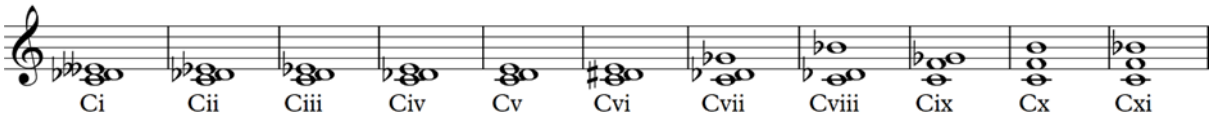
By contrast, the quintet *The Tenacious Alarm* began as an attempt to address such a compositional problem of pitch organisation. The pitch system employed here was influenced by comments I read in Kevin O'Connell's doctoral thesis describing the difficulty of using chord progressions in post-tonal music.[89] His comments are easily extended to say that without tonic-dominant relationships, it is difficult to establish dialectics with the same internal logic and urgency as a classical sonata form. The goals of the system in the quintet were to develop a flexible framework that allows for atonal-sounding music to retain some of the structural benefits of the tonal system. The proposed harmonic system provided a way

[89] Kevin O'Connell, 'Portfolio of Original Compositions and Analytical Commentary' (unpublished PhD, Dublin City University/St. Patrick's College, 2007), pp. 90–93.

of devising pitch collections that relate to one another and leverage circle-of-fifth-style relationships approximating traditional key systems and the modulation between them.

To begin with, triads were constructed. Elliott Carter and Allen Forte had already compiled lists of every possible chord and naming systems to go with them, but I wanted to develop a naming convention that would acknowledge and assist the contextualisation so important to a system of interrelated pitch collections.[90] I devised an assortment of eleven triads, all starting from the same root, and named them according to their order and starting pitch. For example, Ci, Cii, and Ciii define the first three chords calculated from C (Figure 4.2).

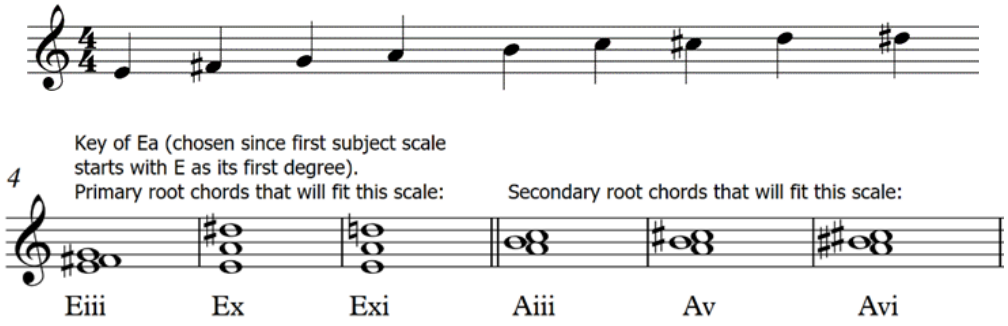
Figure 4.2: Eleven triads built from C



This set of chords contains nine of the twelve chromatic pitches. Transposition of these chords to another root note is necessary if the composer wishes to include any of those missing pitches (G, G#, A). In a conventional system, scales would be derived from the chord set, but in this system, a scale was created which contrasted slightly with the pitches available in such a set (Figure 4.3 shows a scale starting on E). Comparing this scalar pattern with the pitches available in a chord set like Figure 4.2 (albeit with a root of E) would demonstrate that three scalar pitches could not be accounted for in the chord set. Should one wish to harmonise those additional pitches in the chords, it would be necessary to make use of chords from another pitch set. By design, chords transposed to a set a perfect fifth away fulfil this requirement. For example, a selection of chords with a root of E and a selection of chords with a root of A would account for all the pitches in the provided scale, also seen in Figure 4.3. This creates a mutual dependence between chord sets with a tonic-dominant/tonic-subdominant relationship in their root pitches. The entire collection only makes use of those chords from each of the two chord sets which support the chosen scale. As such, a limited spectrum of the chromatic scale is present and melodic transposition of the scale necessitates a modulation to a new pair of chord sets.

[90] David Schiff, *The Music of Elliott Carter* (Cornell University Press, 1998).

Figure 4.3: Nine-note scale and the chords from a chord set based on E and a chord set based on A which supports it



Combining the scale with its supporting pitches from two sets of chords creates a kind of key (or 'key area'). One could perhaps describe the scale according to a mode (although I haven't been able to find a mode or scale that matches it), but such a definition is not necessarily helpful. What is important is the chordal structures that underlie it in this system and the predominance of pitches a perfect interval apart.

I named the key based on the note names that made up the root notes of each chord set used, the first is capitalised and the second is in lower case, for example, 'the key of Ea'. Chords of four or more parts could be created by combining smaller chords or invoking scalar decoration. The key of Ea is missing the pitches F, G#, and A#. Dominant and subdominant key areas can be modulated to by introducing and removing certain pitches. For example, the key of Ea can modulate to the key of Be by introducing G# and A#, and the chord Eiii can function as a pivot chord. One can continue to the dominant of Be, or move back towards Ea by reintroducing D#, which also happens to be analogous to a leading note for that key area. The system was tested with a brief composition included as Appendix B (this is not intended as part of the portfolio, it is merely included as supporting material). The aim of this short piece was to establish an audible 'home' key area, modulate to its dominant key area, then return to the home key and finish with a single root note which should feel undeniably like a sort of tonic, despite the lack of traditional harmonic function. I found after this preparatory work that stacking the different chords together was cumbersome and the same effect could be achieved by freely mixing the notes of the scale while liberally including the root notes that defined the chosen key area.

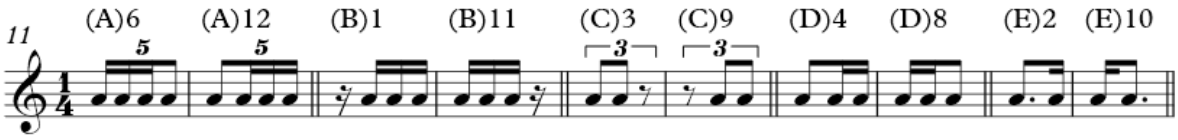
In *The Tenacious Alarm*, the harmonic structure starts in the key of Ea, and gradually cycles all the way through the circle of fifths. I wanted the harmonic aspect to be the main element of the piece, so I restricted myself in numerous ways. The piece rarely strays beyond a texture of trios versus duos. The tempo is relatively steady throughout and articulations are extremely limited. The variety in character from one part to the next is minimal. To keep the

music moving, then, it was often necessary that some shift would happen in the harmony. For a gradual change, pivot chords could be used and the foreign pitches could be introduced gradually. For a more sudden contrast, numerous foreign pitches could be presented together without any kind of preparation.

Robert Morgan describes a process of modulation in Debussy's *La Cathedral Engoutie* which has some parallels. Certainly, the treatment of a pitch collection as largely equal until a grounding pitch is introduced could be a way to engineer a similar sound. However, the modulation Debussy employs tends to be concerned with colour. A change of mode based on the same 'root' note, for example. His contribution was to break from harmonic teleology whereas mine is to find a new way back to logical, harmonically charged progressions between pitch collections that are not making use of traditional, functional harmony.[91]

I wanted to create a rhythmic system that could be related to a pitch system. The basis for creating correlation was an entirely academic exercise to generate material and was peculiar to the material at hand. In the end, the result was five rhythmic cells (and their retrogrades) which would form the rhythmic basis for the piece (Figure 4.4).

Figure 4.4: Rhythmic cells used in *The Tenacious Alarm*

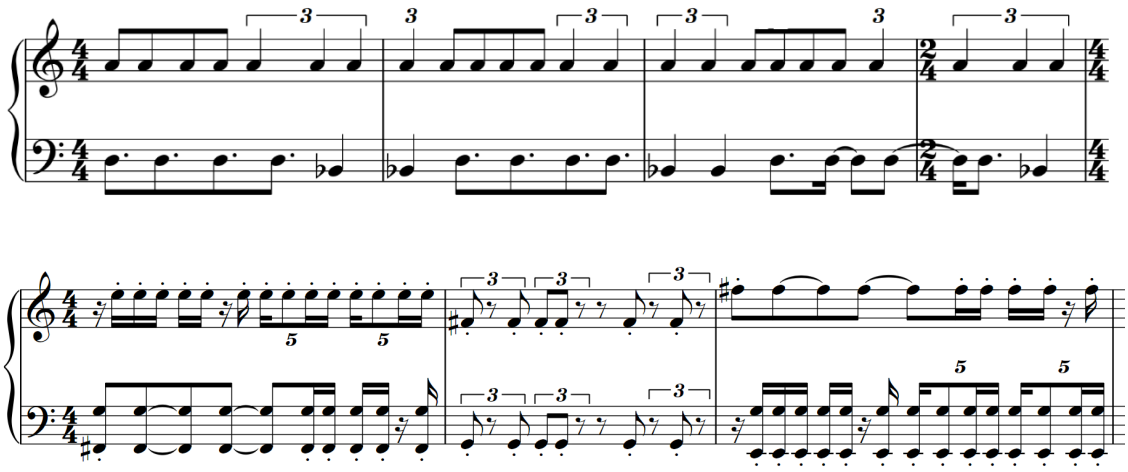


The first draft eschewed melody in favour of a general texture with repeated rhythms. This was to maintain the focus on the chordal changes brought about using the harmonic system discussed above. The result was undeniably similar to *Yo Shakespeare* by Michael Gordon (1992).[92] A reduction of the opening bars of Gordon's work is shown in Figure 4.5 (top stave) and the bottom stave shows a piano reduction of the original opening bars of *The Tenacious Alarm*. The repeated notes, similar tempo and timbre (when instrumentation is accounted for) and clear chordal changes invited comparison between the works. Gordon used a simpler harmony and focused on a repeated rhythm with an unusual division of triplets. While Gordon's rhythm is complex for the performer, it is natural in effect for the listener and a groove sets in easily. Consequently, Gordon's work had a momentum that mine lacked and the repeated pitches sounded less effective without that driving force. My

[91] Robert P. Morgan, *Twentieth-Century Music: A History of Musical Style in Modern Europe and America* (Norton, 1991), p. 44.
[92] Michael Gordon, *Yo Shakespeare* (New York: Red Poppy, 1992).

work sacrificed that energy in favour of constantly-shifting subdivisions of the beat and needed something else. A different model was sought for the next draft.

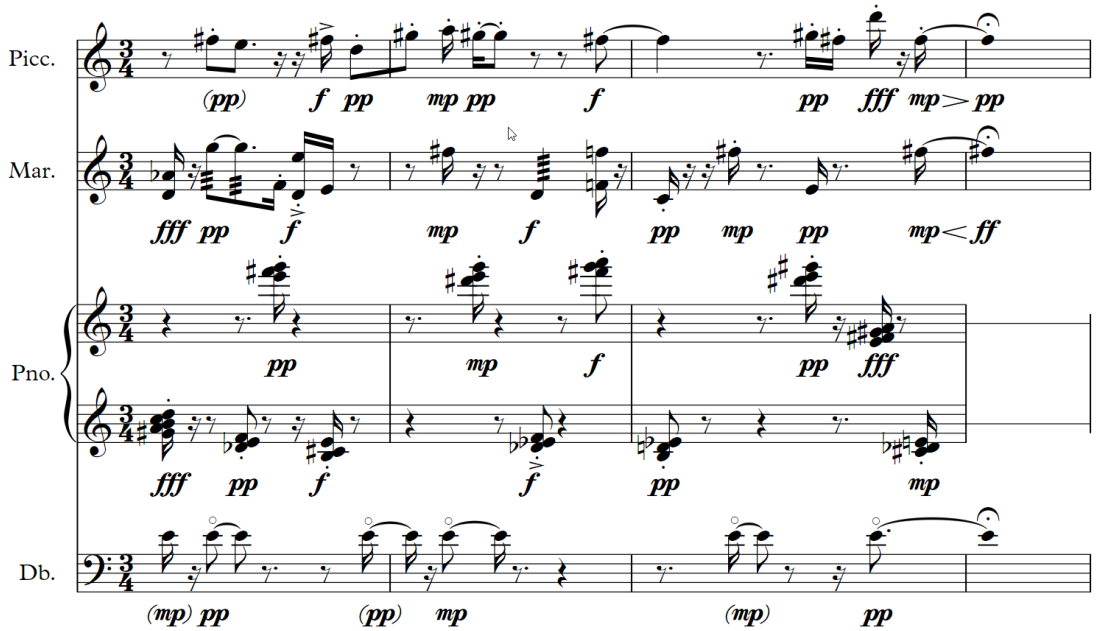
Figure 4.5: Michael Gordon, *Yo Shakespeare* (top stave) opening contrasted with *The Tenacious Alarm's* original opening (bottom stave)



Harrison Birtwistle's *Carmen Arcadiae Mechanicum Perpetuum* (1978) has an angular melodic style repeatedly interrupted by long, held notes (Example 4.1).[93] By incorporating similar melodic shapes into my rhythmic and harmonic material (Example 4.2) I could generate the propulsive energy found in *Yo Shakespeare* and keep it going by omitting the long, held notes for most of the piece. The sustained durations were reserved for the slower section right before the finale (Example 4.3), providing a structural contrast with the rest of the work and preparing the ear for a climactic return to the faster material. While this makes it sound as though the work was essentially complete without any recourse to a programme, it was not until a programme was added that the work came to life in any musical sense, as is discussed later.

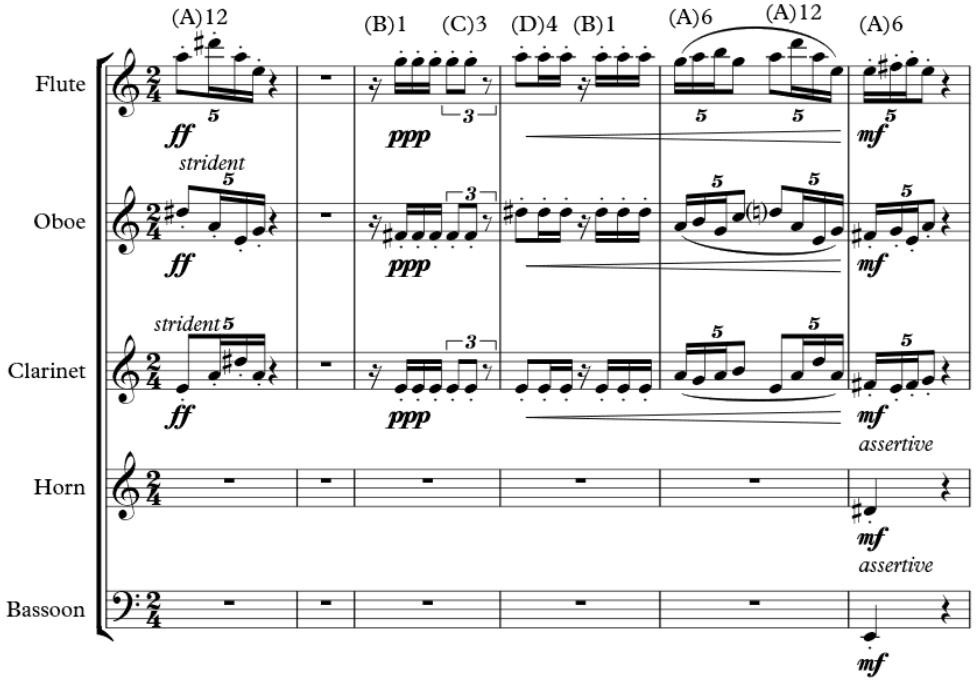
[93] Harrison Birtwistle, *Carmen Arcadiae Mechanicum Perpetuum* (London: Universal Edition, 1978), p. 5.

Example 4.1: Harrison Birtwistle, *Carmen Arcadiae*, bars 45-48, reduction

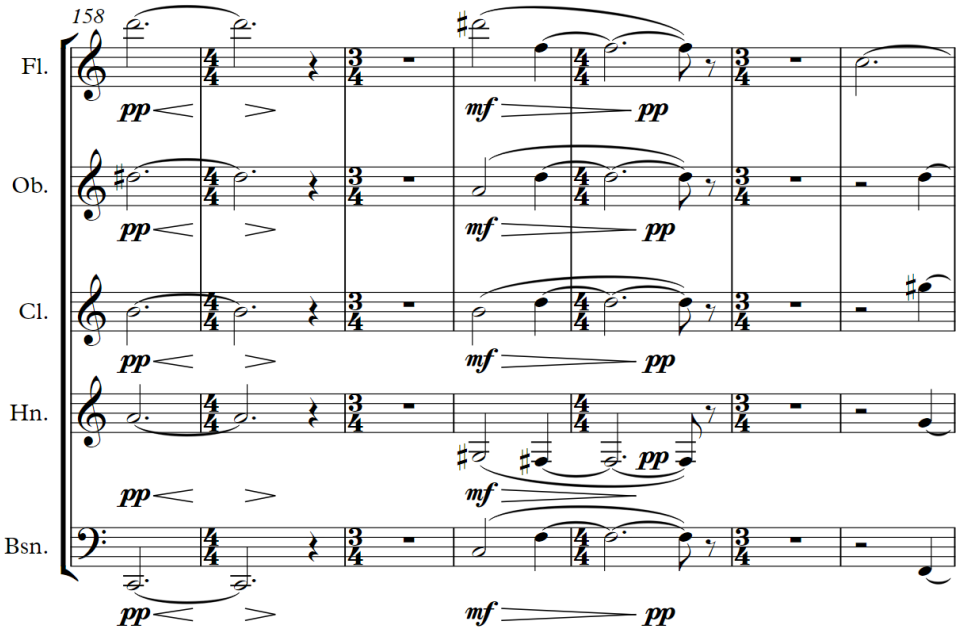


The trio versus duo texture of Example 4.2 gives way to the slow material in Example 4.3, but usually variety and character are achieved in subtler ways, e.g. the alternation between different scalic figures within a cell, repeated notes, and octave leaps. Some held notes appear along the way (Example 4.4) and do not belong to any rhythmic cell, but they are necessary to prepare the ear for the long-held notes that occur closer to the end of the piece.

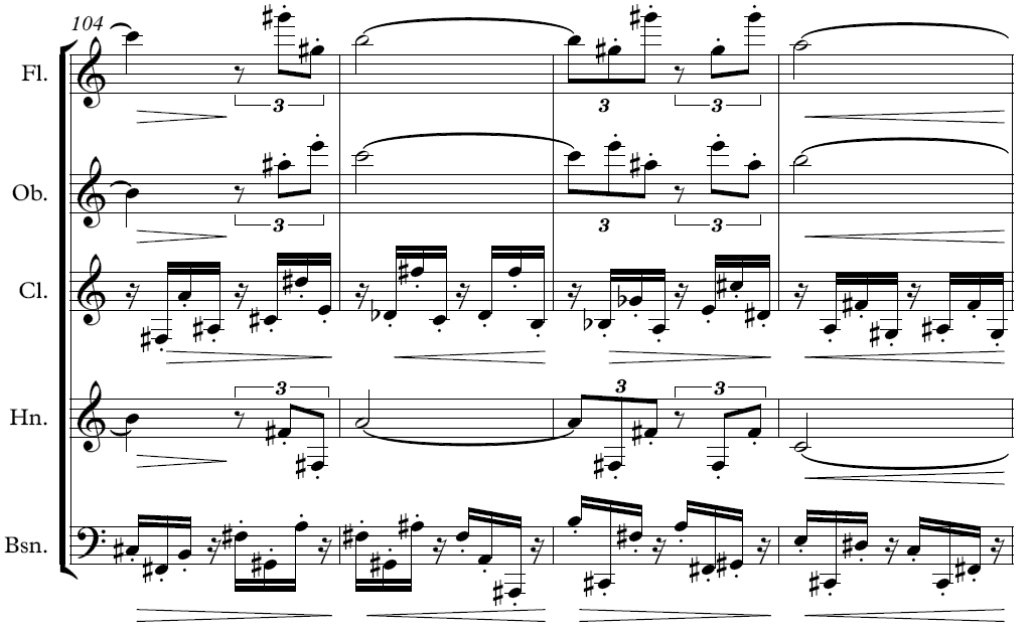
Example 4.2: *The Tenacious Alarm*, bars 1-6



Example 4.3: *The Tenacious Alarm*, bars 158-164



Example 4.4: *The Tenacious Alarm*, bars 104-107



Applying a Programme Note

The merits of the pitch system devised for *The Tenacious Alarm* were perhaps best explored in Appendix B where they formed the structural basis of the harmonic study. In *The Tenacious Alarm*, however, the movement from one pitch collection to another happened over such a long period of time that it is hard to imagine any sense of denouement would be achieved by returning to the original key area. Having conceived of *The Tenacious Alarm* in a dryly academic way, I felt it lacked emotion, expressivity, or meaning, even though it was almost complete. The pacing was difficult to judge, and the expressive gestures and dynamic

indications seemed rigid, forced, and unmotivated. At this point the work was untitled and I determined that developing some programme might assist in finishing the piece. To find a programme that would be organically linked to the music, I listened back to what I had written so far and allowed whatever the music suggested to my imagination to become the basis for a programmatic revision. I conjured an image of an anthropomorphised alarm clock trying in vain to awaken a sleeping figure, hence the title *The Tenacious Alarm (and the Man who went Deaf in his Sleep)*. It played out in my mind like an animated short film and I could mould the dynamics and pauses to better match the drama playing out in my head. Sections could be lengthened or shortened to better accommodate the pace of this newly discovered action, all without doing damage to the musical integrity of what had been written so far. I did not need to follow this narrative all the way to the end of the work. I had found a way to expressively shape the music in the first half of the piece, after which enough critical mass was formed to continue without the programme in mind. By finding some dramatic meaning in the opening, it was possible to overcome the limitations of harmonic teleology in the quintet (as opposed to the test composition in Appendix B). By defining the dramatic energy of the work in the early stages, it became easier to intuit whether the closing material achieved a satisfying ending to a well-proportioned work.

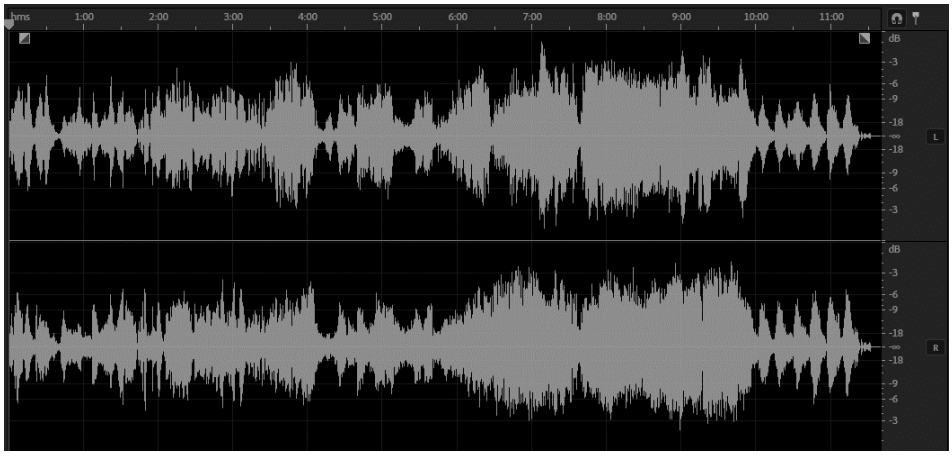
Tachyon : Observer struggled to make progress after the initial sketches. It had a simpler harmonic device (the two systems mentioned earlier) but there was little sense of forward motion or structure. The two harmonic systems did, however, suggest some sort of binary scenario and so a programme with two perspectives was sought. The answer was found in a term from physics, the 'tachyon'. A tachyon is a theoretical particle which can travel faster than the speed of light. As such, from its perspective, all time is going backwards. I was intrigued by the anthropomorphised 'point of view' given to the particle and extended it to include a fictional observer, looking back at the tachyon. The two travelling through time in opposite directions but sharing a moment of mutual awareness as they passed. Some simple musical realisations of going forward and backwards in time were considered and dismissed, such as mirror form, or having a musical idea accompany the retrograde of itself. Both options best describe the same material going forward and back through time, not two distinct entities with their own traits and on their own journeys.

I had the computer perform my sketches backwards. Different versions were attempted, these included a simple retrograde of the material; reversing the order in which bars were played (without reversing the music within them); or a combination of both. Experimenting in this way revealed that some sections sounded much more alive,

unpredictable and effective, while others were simply better left in their original formation. Various new sketches (forwards and retrograde) resulted which could be put together as a collage.

The way the work came together did not lend a natural narrative arc to the material. The programme I had chosen does not come with such a property and, while it helped give the piece momentum and some sense of purpose, finding an overall shape for the work still eluded me. I considered the practice used by some composers of sketching out a shape for a work in preparation for composition.[94] It felt too late for that here, so I exported the score as a wave file and analysed the wave shape in an audio editor. I simply watched for the dynamic proportion of the work and rearranged the sections so that the largest climax occurred nearer to the end of the work (Figure 4.6). It seemed a self-evidently logical and satisfying shape, though my impression may have been influenced by traditional narrative practice which sees tension steadily rise until a point just before the end, following which a wind-down is typically in order.

Figure 4.6: Waveform of *Tachyon : Observer* in Adobe Audition



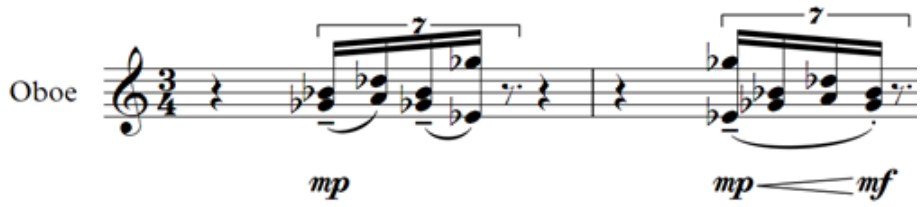
The two harmonic systems imply a process of melodic development; a melody could appear in its most complex form in the freely atonal harmonic system and become simplified when quoted in the more limited confines of the second harmonic system. Should the first harmonic system return, and the melody be required a third time, one has a choice between using the original or the simplified versions. Given the programmatic element of the work and the logical flow of musical argument, either choice could be taken as a comment on moving forwards or backwards through time; a flexibility which makes the paradox at the heart of the programme richer. However, the programme and the processes can be seen more

[94] David Cope and Jerry Lee Ford Jr, *Techniques of the Contemporary Composer* (Schirmer Books, 1997), pp. 1–2.

clearly by showing how the tachyon and the observer were characterised and represented in the score.

In many other works in this portfolio, variation has been achieved through the rotation of pitches within a bar or a phrase. It is particularly evident in the final movement of *The Cyborg Resurrection* and throughout *Tachyon : Observer*. The use of rotation in the orchestral work is extended so that rhythms and pitches are rotated and new patterns processed. Material no longer simply varies but is gradually and fundamentally changed. Since the rotational process could cause either great change or simple variation depending on the source material, I created gestures that would embrace either result and associated each with either the tachyon or the observer. I chose to make the tachyon relatively unchanging and represented it with any short rhythmically non-retrogradable phrase (Example 4.5). By using constant pitch values in short, fast fragments, rotating the pitches from one instance to the next helped keep the gesture sounding fresh but avoided developing it forward in time. The melodic content did not matter and, in such fragmentary phrases, is not very perceptible. For this work, I will refer to it as the 'tachyon gesture'. It takes different forms throughout the work, sometimes it is in full sextuplets, for example, but the ear can always latch onto it as one distinct idea.

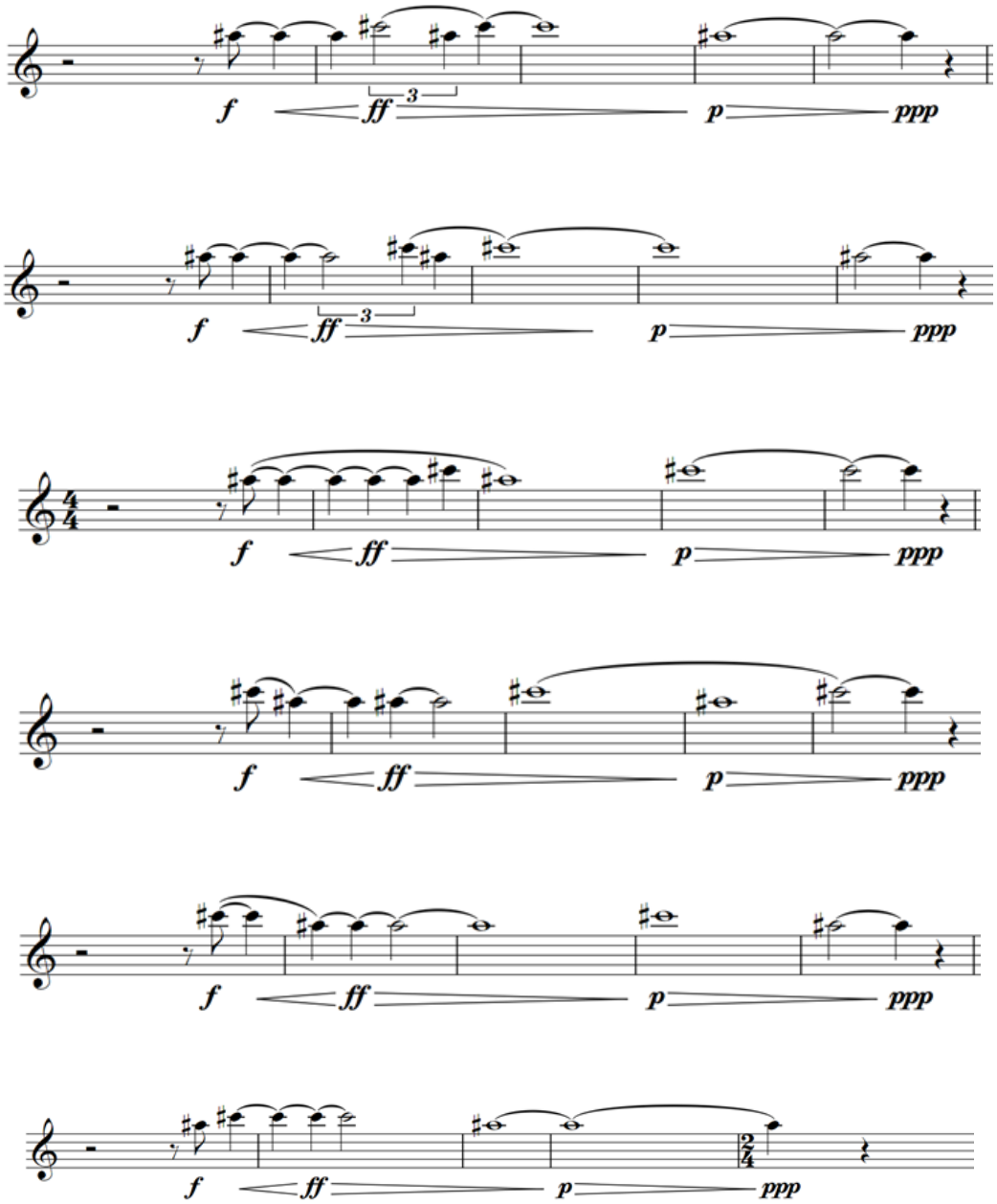
Example 4.5: Sample of the 'tachyon gesture' with rotating pitches



By contrast, the 'observer' was represented by long melodic lines with varied rhythms. The contrast between the short, fragmentary lines of the tachyon gesture and long, melodic phrases of the 'observer gesture' are the focus, rather than any particular melody. Any long phrase is considered an observer gesture and any short, rhythmically even phrase is a tachyon gesture. It was important that the long phrases bear some connection with the programmatic idea of an observer who appears (from the point of view of the tachyon) to be going backwards in time. Since a person acquires memories, knowledge and characteristics as they grow older, I chose to represent an observer's backwards ageing by having a gesture become simpler each time it appeared. To see how this effect was achieved with the process of rotation, consider Example 4.6. The first stave shows an observer gesture at its first appearance. In the second stave, the pitches and rhythms have been rotated. The barlines impose themselves on the displaced pitch durations, dividing previously whole beats across

a barline, etc. With each stave, a further rotation of pitches and rhythms is applied. Occasionally, the new melody suggests some repeated notes. Each time this happens, they are joined together and, gradually, the phrase becomes melodically and rhythmically simpler. Meanwhile, the same rotations can be applied to the tachyon gesture and it will almost always remain just as complex as it ever was. One is changed by time, the other is impervious to those same operations.

Example 4.6: Successive rotations and simplifications of an 'observer gesture'

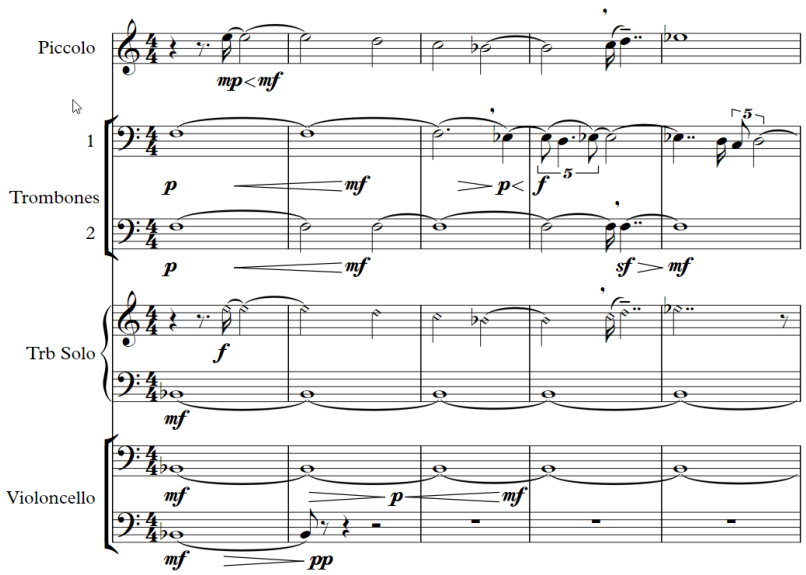


The entire work operates according to these processes. Short and long gestures following operations of rotation and simplification (where possible), freely moving between two harmonic systems. Sometimes entire sections are reversed, and sometimes only the reversed version of a passage remains. The work was structured in an intuitive manner once the above

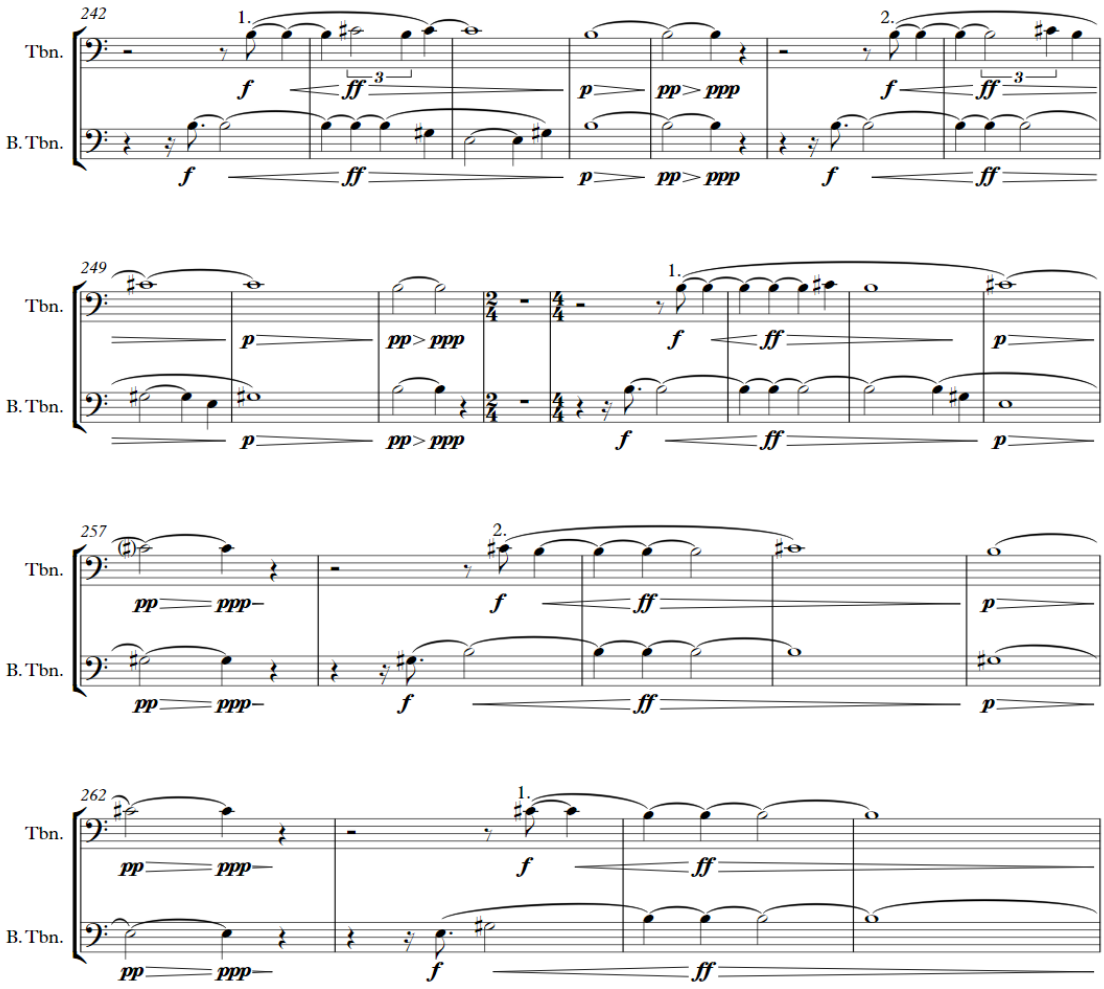
devices were laid down and some preliminary sketches were achieved. And, as mentioned earlier, a quick waveform analysis was used to correct-course when the work became large and unwieldy.

I was interested in having a largely violent piece with an extended, soft coda with a more traditional language to close out the piece. References fresh in my mind at the time were Charles Ives' *General Booth Enters into Heaven* (1914, piano and baritone) for the occasional tonal oases amidst thrillingly atonal work, and the central quiet passage in Pascal Dusapin's *Watt* (1994), concerto for trombone and orchestra (see Example 4.7). Though characterised by an extended technique (the trombonist singing through the instrument), the harmonic and melodic character of the passage is far more traditional than the surrounding material. I felt that these moments in Ives and Dusapin were all the more beautiful for their dissonant context and so included some functional harmony towards the end of *Tachyon : Observer* (Example 4.8). Something was needed to end the piece. The movement back and forth between the two harmonic systems could go on indefinitely, as could rotations of the tachyon gesture. Reducing the work to simple harmonies and phrases is in keeping with the rotation processing of the observer gesture. The repeating figure which closes out the work is the melodic rotation of the observer gesture taken to a point of stasis, whereupon it cannot be simplified further and is no longer so dissimilar from the tachyon gesture in its content. However, in the 2019 revision the harmony was made less functional again. It was devised intuitively, consciously referring to neither of the harmonic systems that occupied the rest of the piece. Thus, it could end the piece, as the functionally harmonic version did, but sounded less like a mistaken change of character.

Example 4.7: Pascal Dusapin, *Watt*, Concerto for Trombone and Orchestra, bars 146-150



Example 4.8: *Tachyon : Observer*, bars 242-265 (prior to revision)



Findings

Frankland and Pengelly's asserted that the attachment of a title could not allow a better understanding of the music. Certainly this does not bear on a piece that is still being written. *The Tenacious Alarm* and *Tachyon : Observer* are neither imitative nor autobiographical, and they have enough internal logic to buoy interpretations on a purely musical level. However, they would not have come to be as they are were it not for the imaginative conceptual effort and direction afforded by their programmes. *Tachyon* barely made it past the first few sketches without a programme, and *The Tenacious Alarm* was the remains of an exhaustively mined system, with no expressivity left to offer and no way to frame its drama until its programme was discovered. Of course, it is possible Frankland and Pengelly's words are being applied here to a context for which they were not intended, but one final observation may put the contention and the defence on unequivocally equal footing: the role of the performer. *Tachyon* has not received any attention from performers, and so it will be put aside for now, but *The Tenacious Alarm* has benefitted from interaction with musicians. While I could not find a quintet with time to look at the work, I was able to find a clarinet

trio and pianist and so I arranged a version of the work for those forces. It can be heard in the accompanying audio CD, but this is not the version submitted for the portfolio. The dissonances were considered with a different timbre instrument in each voice to soften their effect. The more homogenous arrangement with three voices in clarinet and two in piano makes for a harsher result, but it was useful for testing the work.

The clarinet and piano arrangement proved much more difficult than I anticipated, particularly for the pianist. Several parts were revised to facilitate memorisation and reduce risk (another reason why this is not the version submitted for the portfolio). The clarinet trio had less experience with the soprano instrument and many pitches were moved to a lower octave. The rhythms proved intensely challenging for all but the unconventional harmonic language, when reduced to a single instrument in a practice session, seemed to make little sense. In short, there was no event for the musicians to use as a memory hook. The pianist could not learn a section using any theory and, in desperation, he wrote to me asking if there were some sort of programme I had in mind while composing the work and, if so, would I mind sharing it. Apart from the title, I had kept this information to myself, partly feeling like it was too childish to share. Consequently, I wrote out my notes in full and amended them to the programme in the score. Not only did the attachment of a programme note help me to finish composing the music, but it quite literally helped a professional third party understand the music better.

To conclude, it is interesting to contrast two quotes from the literature. The first comes from Liszt and it is critical of programmes added in this way.

> [Liszt] criticizes programmes outlined 'after the event', which 'tear to pieces with words the soul's most delicate web, in an attempt to explain the feeling of an instrumental poem which took its shape precisely because its content could not be expressed in words, images, and ideas'.[95]

Doubtless, Liszt's words bear true for certain scenarios, but I do not believe they hold true for the pieces discussed in this chapter. The very practical experience with the pianist performing the clarinet and piano version of the quintet is echoed in empirical testing reported by Robert H. Woody and Gale E. McPherson:

[95] Liszt quoted in Micznik, p. 211.

> Musicians often bring to mind imagery in order to evoke emotions for performance… many music teachers are firm advocates of this approach… a purely felt-emotion approach tended to be used by the least and most experienced musicians.[96]

[96] Robert H. Woody and Gale E. McPherson, 'Emotion and Motivation in the Lives of Performers', in *Handbook of Music and Emotion: Theory, Research, Applications*, ed. by Patrik N. Juslin and John Sloboda (OUP Oxford, 2011), pp. 401–24 (pp. 413–14).

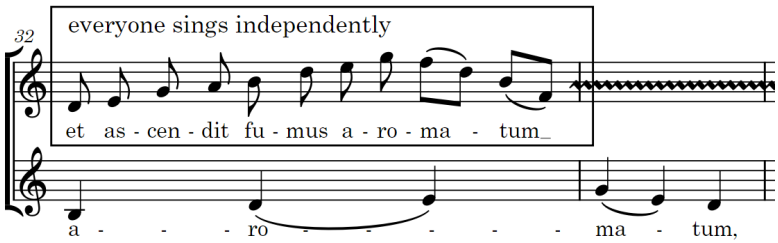
Conclusion

From the self-conscious use of extra-musical stimuli in the first choral work of the portfolio, to the overt engagement of extra-musical associations in the quintet, I underwent a transformation in my thinking about programme music. Gradually discovering with each composition just how debatable programme music's criticisms could be was freeing. Even though the most overt programme in the portfolio (the quintet) was only invoked after I encountered difficulties with the more 'purely' contrived material; and even though I still felt compelled to keep much of the details of the quintet's programme secret until practical concerns of performance dictated I make such details available; there was still marked growth in my attitude to extra-musical stimuli. In future works I look forward to embracing them without the fear of coming across as intellectually 'less serious' for having done so. This is, of course, very personal. It may be of benefit to other composers in and of itself, but I would like to devote the majority of the conclusion to practical concerns and other lessons learned which may be of greater value to the reader.

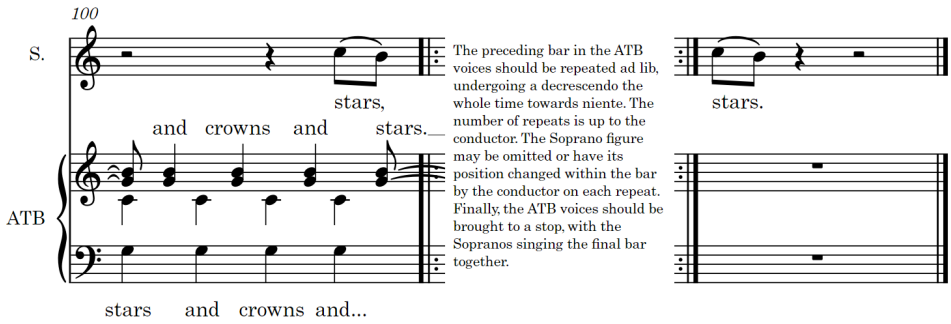
Observations and processes that may be of value to others

Some practical observations can be drawn from my experience composing the works in this portfolio. Extended techniques notated with symbols of my own invention for *Behold a Great Red Dragon* came off with minimal confusion in workshops. Choral conductor Dr Roisín Blunnie commented in rehearsal on a novel sense of control in the slightly aleatoric ending; this warrants differentiating my use of the technique from the aleatoricism more typically used in the choral repertoire. Javier Busto's *O Magnum Mysterium* (1949), Rihards Dubra's *Stetit Angelus* (2009), Mark Winges' *Pandora's Gift* (2014), and Michael Dawson's *Caoineadh na dtrí Mhuire* (2015) make use of aleatoricism in the form of heterophonic passages, creating a texture against which the other parts play out (see Example 4.9 for an extract from Dubra). In *Behold a Great Red Dragon* the heterophonic material is replaced with a bar of conventionally notated music which repeats but the conductor is given control over the presence of a short, two-note phrase in the soprano line (Example 4.10). Chance elements in the choral repertoire appear to be explored frequently in the examples above but examples, where the conductor is given control of the repetition and placement of material over a repeating background, seem to be used less often.

Example 4.9: Rihards Dubra, *Stetit Angelus* bars 32-33



Example 4.10: *Behold a Great Red Dragon*, from bar 100



Charge of the Light Brigade is musically straightforward. If there is any concept that might be taken and applied to future compositions it is a freedom to refashion a source text.

> … commentators and practitioners at various times have argued on the one hand that vocal music should 'serve' the demands of the verbal text (especially when this has previously led a purely literary life of its own), or on the other that literary concerns must be of subsidiary importance to the demands of the music.[97]

Jonathan King presents both sides of this debate with Monteverdi's 'seconda practica' (music as a servant to the words) versus Mozart's declaration that, in opera, the poetry must be obedient to the music.[98] *Charge of the Light Brigade* is a challenge to both positions since it is not an opera, and the poem has certainly already had its own literary life. However, I am not making one subservient to the other but manipulating them both to realise a vision of what I think the poem could be. As King goes on to say of Mozart, 'both the poetry and the music… are themselves subservient to the drama.'[99] In my case, there was an aspect of the poem that I wanted to set to music, and other elements required alteration to serve that vision.

In *Edi Beo Thu* the cataloguing of tempo information with beat detection analysis and the conversion of that information into pitch material was an exciting discovery I have

[97] Jonathan King, 'Text-Setting', *Grove Music Online*, 2001 <https://www.oxfordmusiconline.com>.
[98] King.
[99] King.

not found a precedent for. It may offer new ways of drawing melodic shapes from recorded material, including unpitched sources. Also, it offers a way to generate alternate melodic material from a source that might otherwise be only transcribed traditionally. Combining an oral transcription with tempo-generated pitches is a tool other composers might find useful.

The Cyborg Resurrection generated techniques of guitar playing that, as far as I know, are new to classical guitar. Or, if they are not new, are uncommon enough to warrant careful description in the score. At several points along the way, I was told that a requested passage was unplayable. Usually this was a failing of notation combined with a novel technique that I had not yet found the best way of describing (though occasionally it was simply the novelty of the technique). These developments can be of use to composers as well as guitarists who wish to make use of the increased mechanical capacity these techniques allow.

The harmonic system developed for *The Tenacious Alarm* provided a reliable system of harmonic variation in the quintet, though a similar effect could perhaps be achieved with a simpler pitch set which is transposed consistently. However, the greater value was more obvious in the harmonic study in Appendix B. The system was designed to be flexible. The sets of chords having been established, it was my intention that the *scale* used could be different for new pieces. Only a limited number of scales will make use of the 'key areas' with tonic-dominant relationships, but a composer may wish to explore other relationships. The quintet and the harmonic study barely scratch the surface of this technique. It would take many more works to test the flexibility of the system, but even as its limits are uncovered, interesting musical discoveries could be made, and this is something I intend to explore further.

The individual harmonic systems used in *Tachyon : Observer*'s different orchestral families was a useful method for distributing material across many timbres with automatic variation. In future compositions, it would be interesting to find a way for the harmonic systems of different families to trade places in a sort of vertical modulation. Perhaps by finding not only common tones, but similar timbres between instruments of different families and using those as pivot tones to exchange pitch collections.

I noticed some shortcomings in my composing methods as the research progressed. At the beginning of the research, I tended to incorporate too many ideas into a single work, one example of this is an early draft of *The Cyborg Resurrection*. Originally it was a one-movement work with many disparate and undeveloped ideas. A solution was found by dividing the work into movements, each of which would prominently feature and develop

its own identity using fewer materials. Hopefully this is self-evident in the version in this portfolio.

A technique that features regularly in the portfolio but proved an unnecessary difficulty for performers is the device of rotating pitches within short phrases. It was employed as a way of generating variety in motifs that otherwise would have repeated. Usually, the sequences were composed as a direct repeat of these parts for the duration I desired. Adding rotations generated a sense of greater vitality and unpredictability and sometimes allowed for sections to extend an idea. This was a clear solution to my tendency to fabricate new material too often in a piece. However, this caused problems for performers in fast, difficult music where memorisation was rendered all but impossible. Going forward, I will need to find a new solution to this problem. Straight repetition is, of course, an option, but it is hard to go back when one has become accustomed to greater variety. Potential solutions include presenting a player with a set of pitches as a chord and asking them to play them in a particular rhythm, but never in the same order. A ubiquitous feature of Raines' interviews with composers such as Steve Reich was the idea that being a successful composer had a lot to do with writing music that musicians loved to perform.[100] As such it behoves me to find practical solutions and perhaps relegate my present versions of the rotation technique (and the juxtaposed beat subdivisions of *The Tenacious Alarm*) to computer-performed parts.

Aspects of Programme Music still to be addressed in my methods

This monograph is a practical compositional response to documents which seek to restrict the freedom and imagination of the composer interested in extra-musical associations. The unique conditions of each composition in my portfolio have regularly shown exceptions to sweeping claims made against programme music in the literature. There are many other areas of programme music I would like to address. Specifically, reference was made to narrative structure at some points in the commentary. There have been narrative readings of works for a long time, often validated by the work of narratologists like Vladimir Propp who based his story theory on the analysis of Russian fairy-tales.[101] Narrative structure is a field with many schools of thought and new variants being propounded every few years by story consultants. In my future compositions, I intend to explore these theories in music. Whether that is the myth form popularised by Campbell and Vogler, the genre and step-based methods of John

[100] Raines.
[101] John L. Fell, 'Vladimir Propp in Hollywood', *Film Quarterly*, 30.3 (1977), 19–28 (p. 19) <https://doi.org/10.2307/1211770>.

Truby, the hero-goal sequences of Eric Edson, or combinations of those and other systems, I am interested to see what arrangements of musical logic can be made by tapping into our shared story-experience while also taking conscious control of the signifiers therein.[102] I would consider a success in this field to be a work which manages to marry the qualities of musical phenomena to the principal aspects of story in a way which evokes a sense of desire, conflict, character and resolution. A composition which structurally makes aural and psychological sense but does not depend on prior knowledge of the systems upon which it is based for it to be effective. In a way, it is programmatic music that functions like absolute music and confidently continues the postmodern realisation that there is not really any difference at all.

[102] Joseph Campbell, *Hero with a Thousand Faces*, 3rd Printing edition (Princeton, NJ: Princeton University Press, 1973); Vogler; Truby; Eric Edson, *The Story Solution: 23 Actions All Great Heroes Must Take* (Studio City, CA: Michael Wiese Productions, 2012).

Adam Cullen

Behold a Great Red Dragon

for choir (SSAATTBB)

2016

Duration c4:20

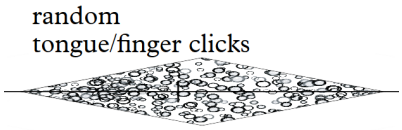
Text from Revelations 12:3

Commissioned by Michael Dawson and Enchiriadis

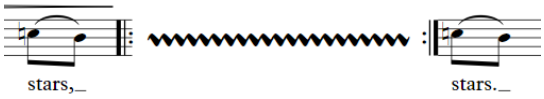
Book of Revelation 12:3-4

And there appeared another wonder in heaven;
and behold a great red dragon,
having seven heads and ten horns,
and seven crowns upon his heads.
And his tail drew the third part of the stars of heaven,
and did cast them to the earth:
and the dragon stood before the woman
which was ready to be delivered,
for to devour her child as soon as it was born.

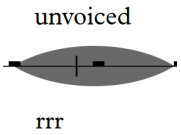
Performance Directions:



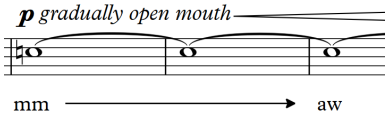
Create rapid ‘clicking’ noises with the tongue, alternating randomly between placements at the front and back of the mouth. Finger clicks may be incorporated if the tongue clicks are not coming through loud enough. Increase and decrease intensity and dynamic to match the contour of the shape.



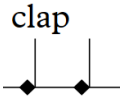
The pattern in the preceding bar should be repeated ad lib, undergoing a decrescendo the whole time towards niente. The number of repeats is up to the conductor. The Soprano figure may be omitted or have its position changed within the bar by the conductor on each repeat. Alternatively, individual singers may choose their own preferred beats or off-beats for a clouding effect. Finally, the ATB voices should be brought to a stop, with the Sopranos singing the final bar together.



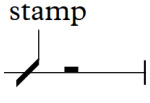
Breathe out, unvoiced, while rolling ‘r’. Increase and decrease dynamics to match the contour of the shape.



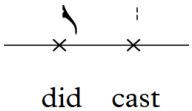
Start by humming and then gradually open mouth.



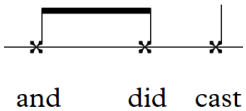
Clap hands.



Stamp on the ground.



Whisper.

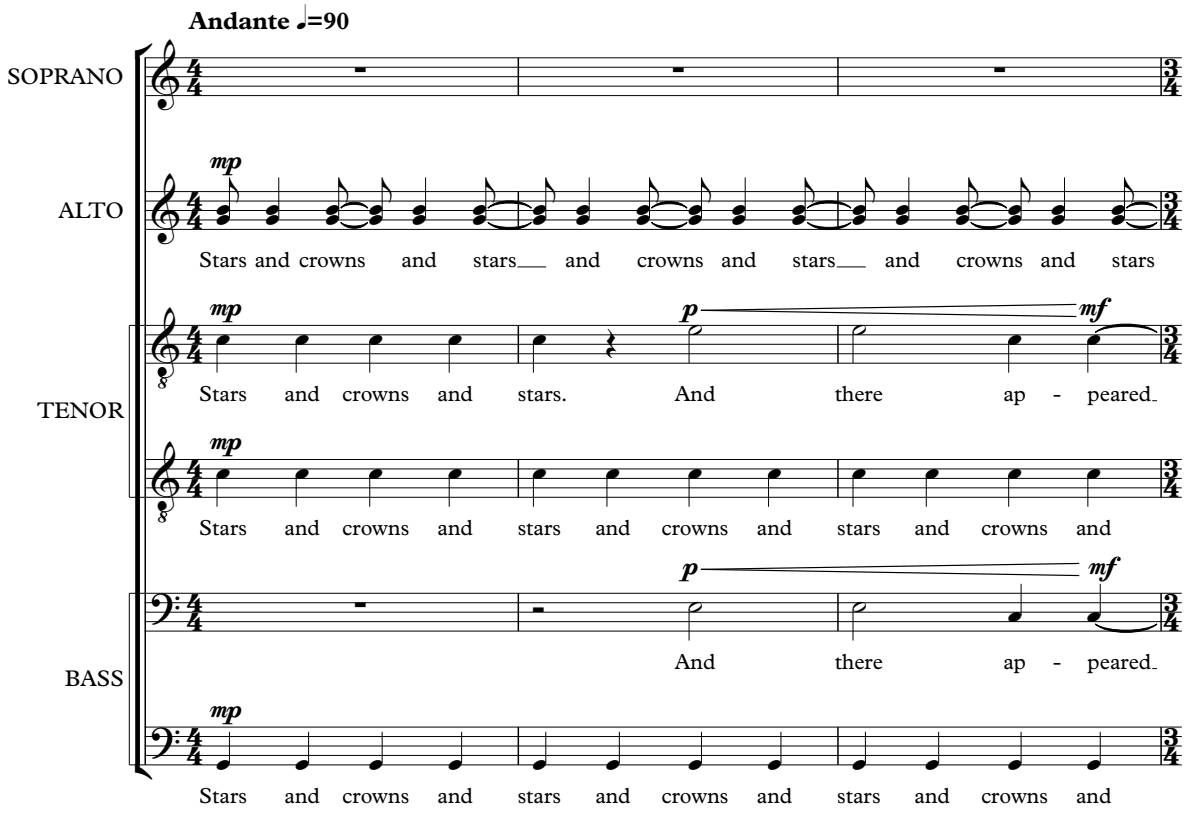


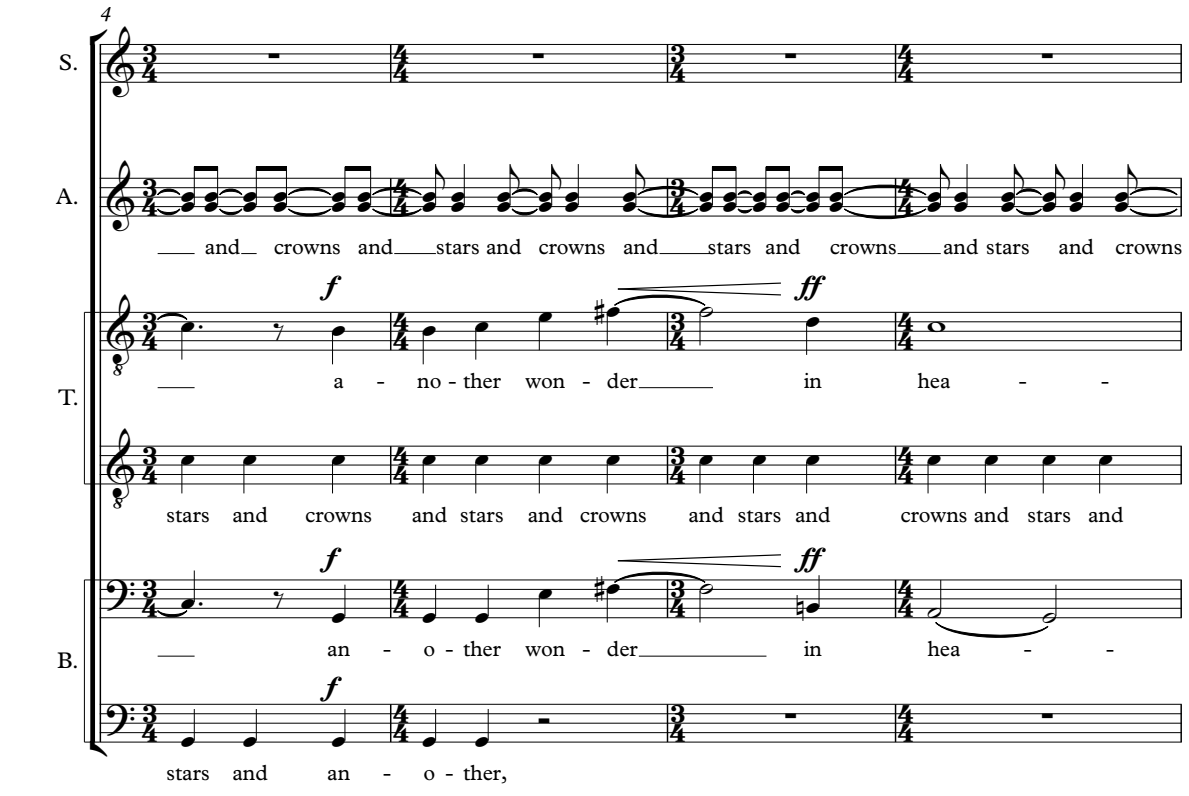
Speak or shout as directed. Notes to be held for their full duration.

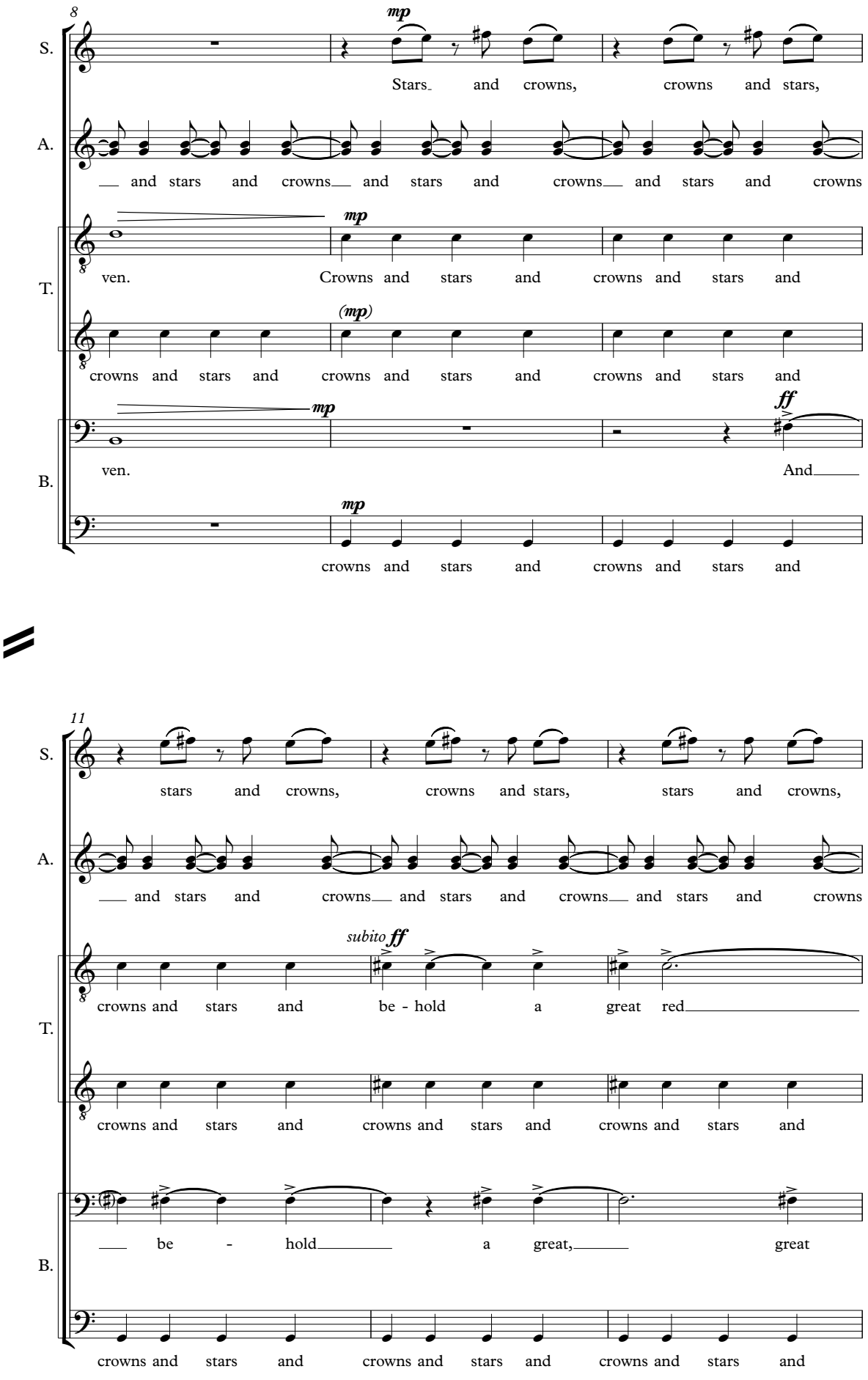
Behold a Great Red Dragon

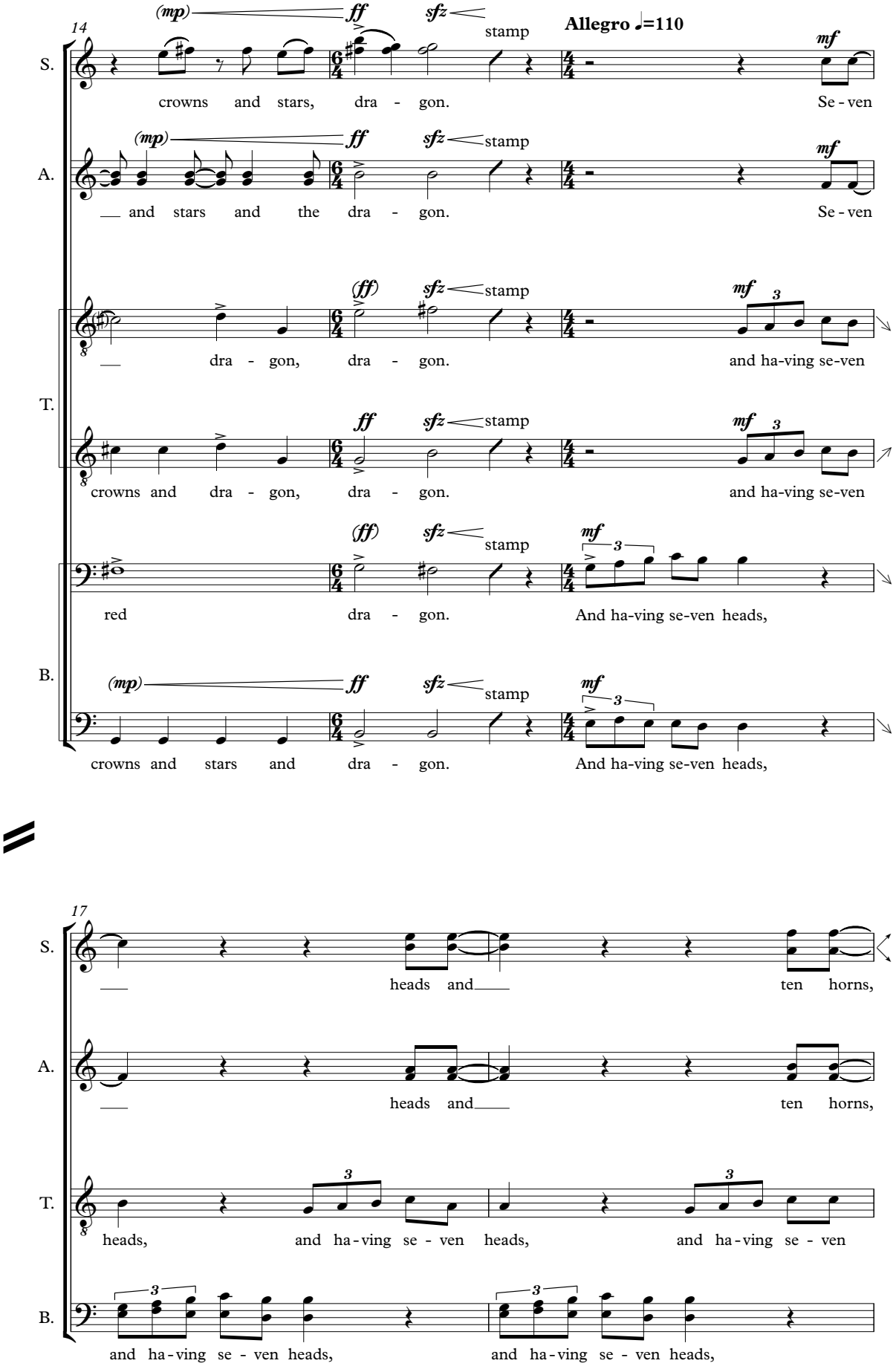
Book of Revelation 12:3

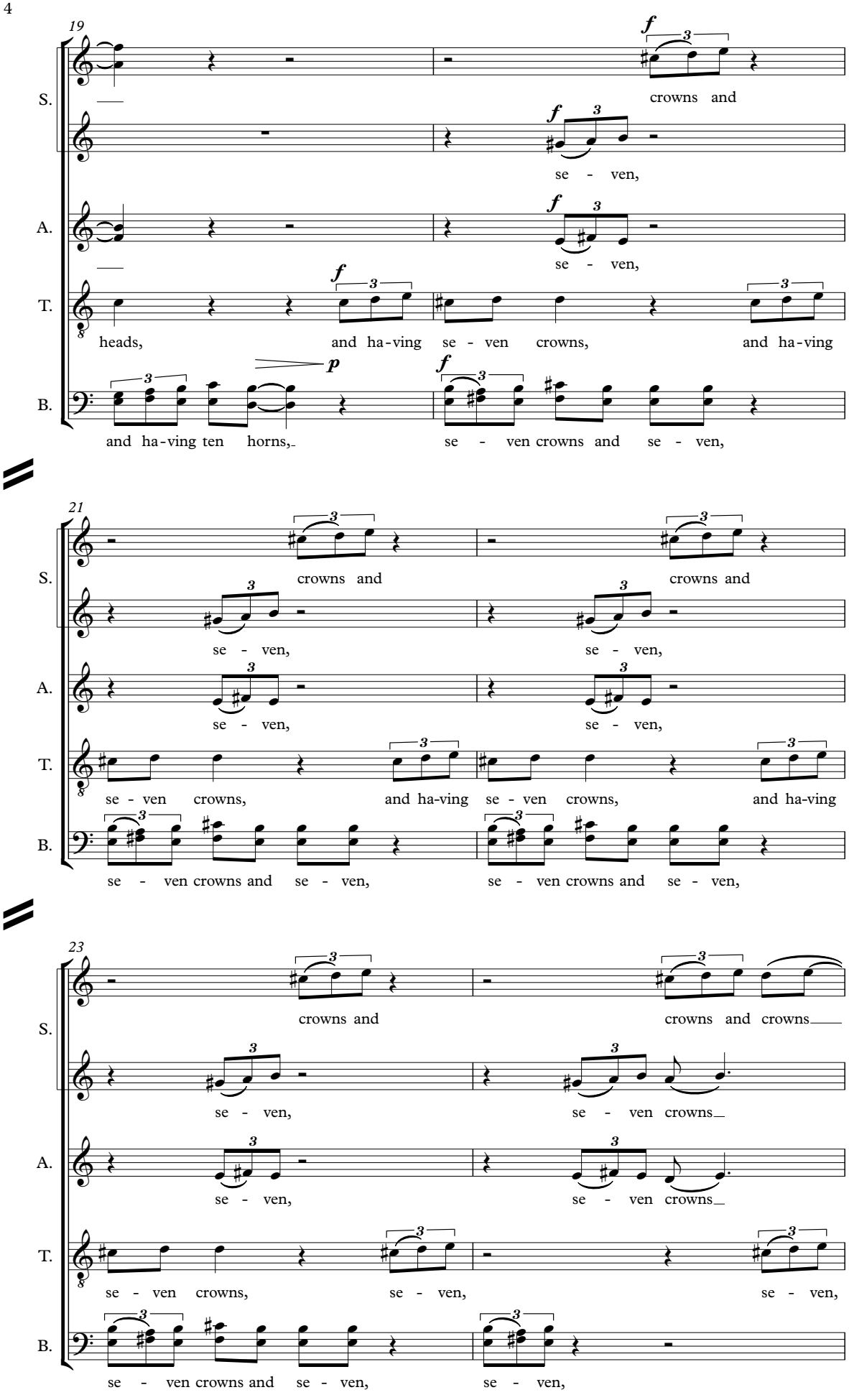
Adam Cullen

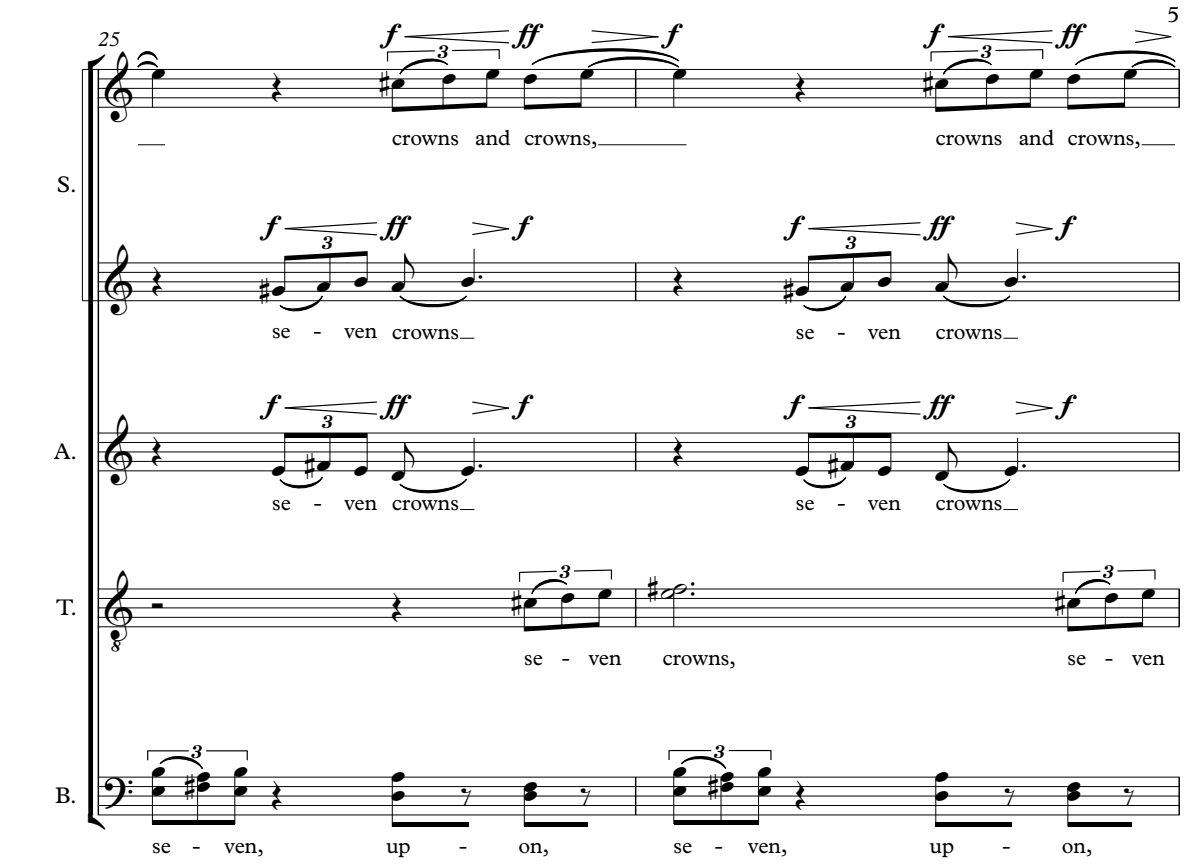


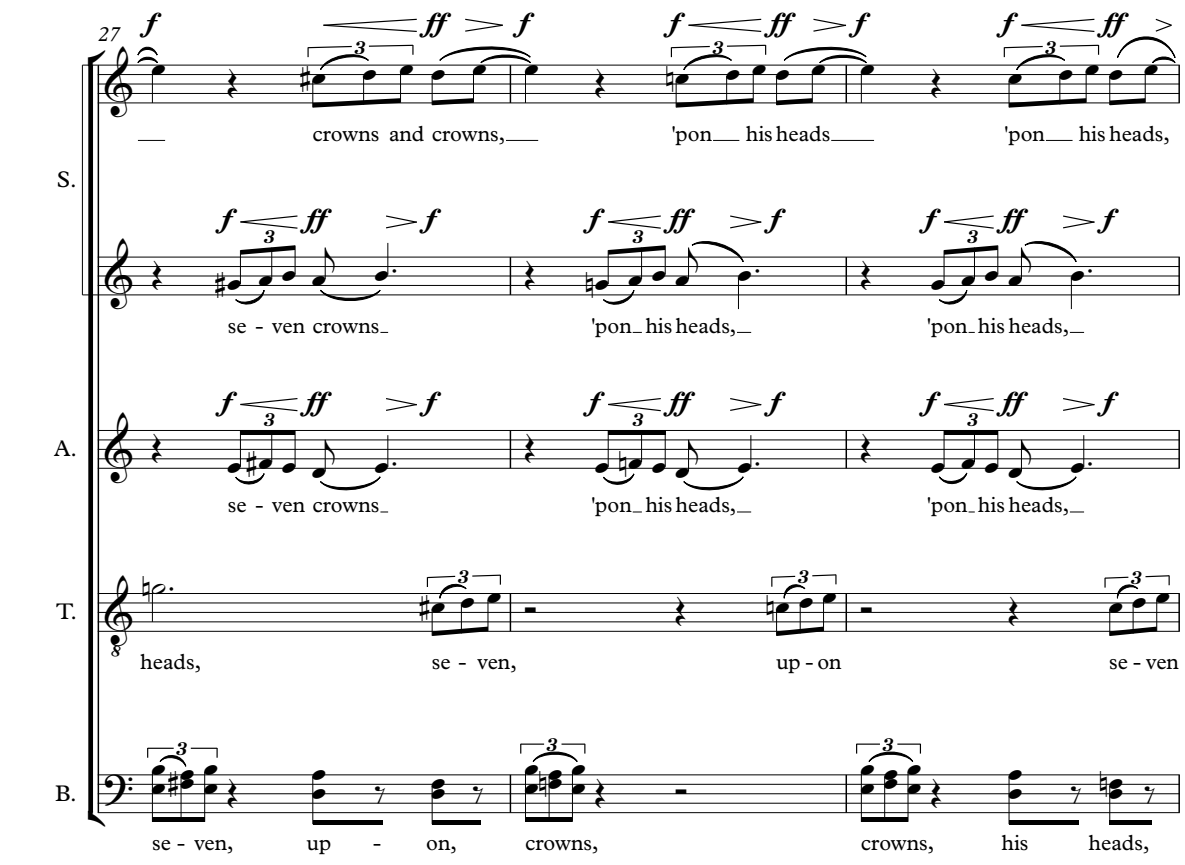


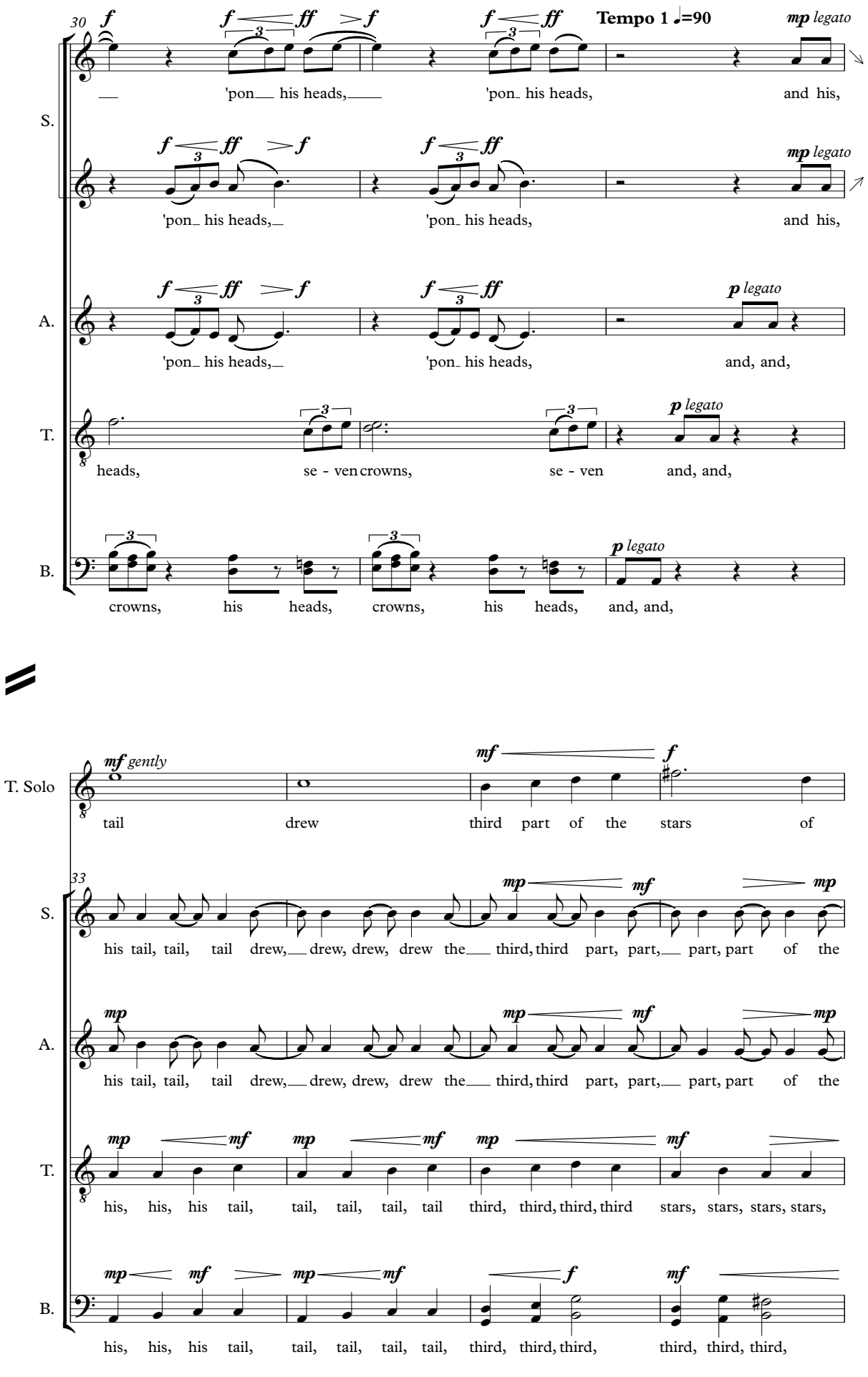

8
S.
mp
Stars and crowns, crowns and stars,
A.
and stars and crowns and stars and crowns and stars and crowns and stars and crowns
T.
mp
ven. Crowns and stars and crowns and stars and
(mp)
crowns and stars and crowns and stars and crowns and stars and
B.
mp
ff
ven. And
mp
crowns and stars and crowns and stars and
11
S.
stars and crowns, crowns and stars, stars and crowns,
A.
and stars and crowns and stars and crowns and stars and crowns
subito ff
T.
crowns and stars and be - hold a great red
crowns and stars and crowns and stars and crowns and stars and
B.
be - hold a great, great
crowns and stars and crowns and stars and crowns and stars and

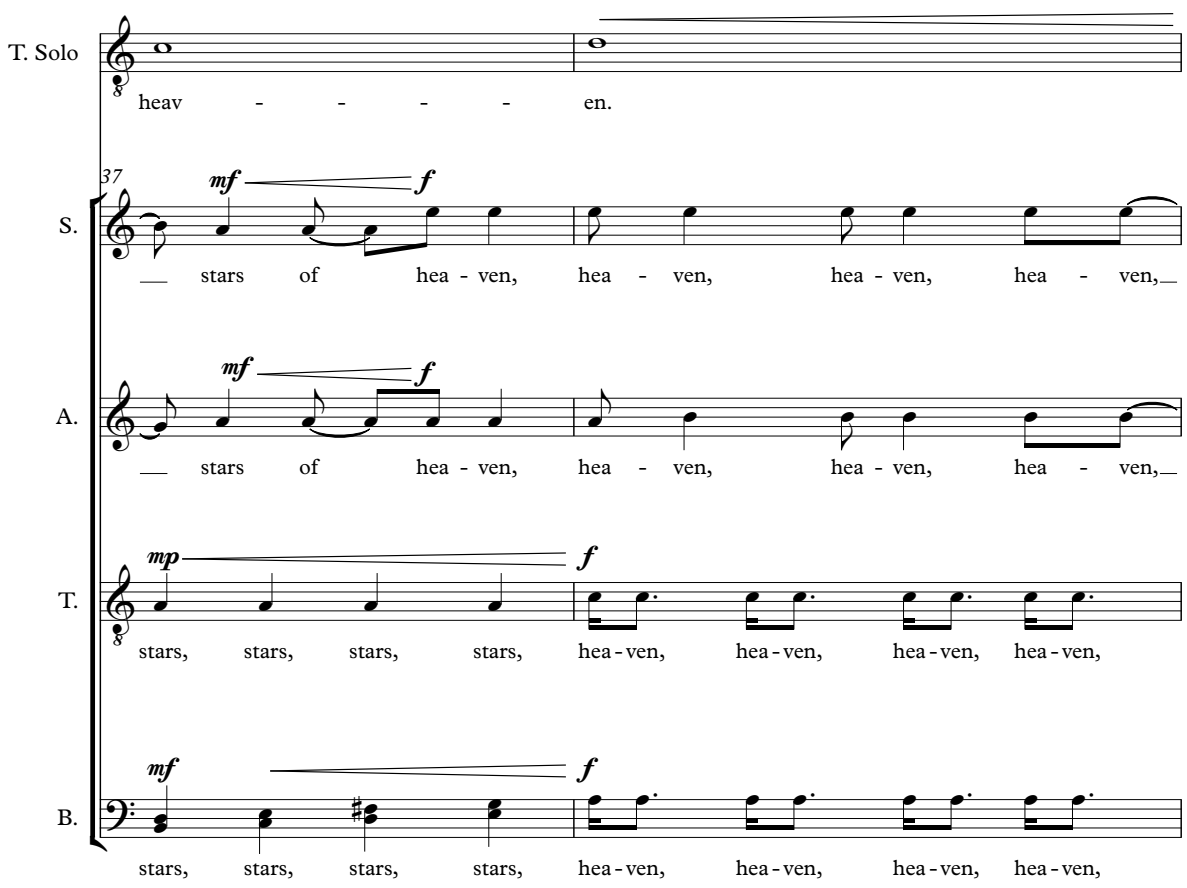

14
(mp)
ff
sfz
stamp
Allegro ♩=110
mf
S.
crowns and stars, dra - gon. Se - ven
A.
and stars and the dra - gon. Se - ven
(ff)
T.
dra - gon, dra - gon. and ha-ving se-ven
crowns and dra - gon, dra - gon. and ha-ving se-ven
red dra - gon. And ha-ving se-ven heads,
B.
crowns and stars and dra - gon. And ha-ving se-ven heads,
17
heads and ten horns,
heads, and ha-ving se - ven heads, and ha-ving se - ven
and ha-ving se - ven heads, and ha-ving se - ven heads,

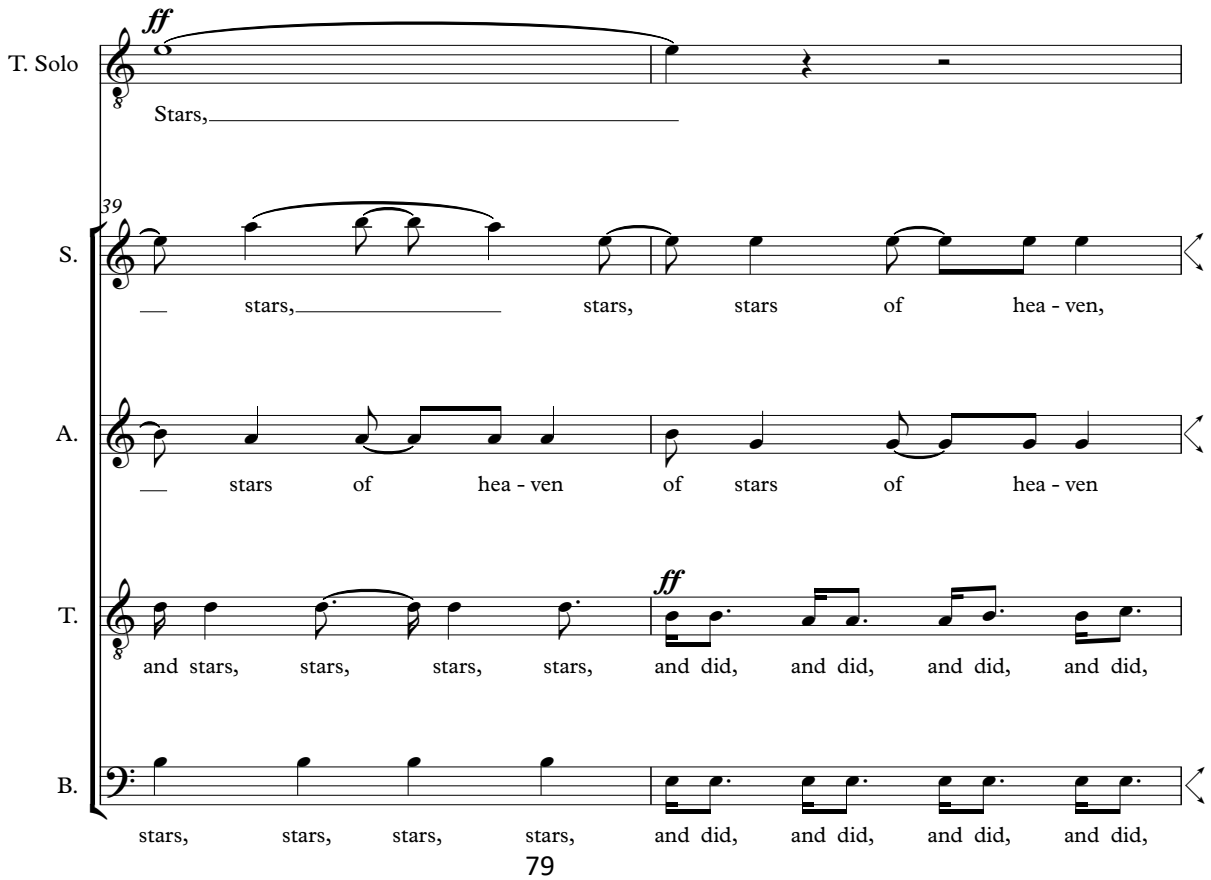

19
S.
crowns and
se - ven,
A.
se - ven,
T.
heads, and ha-ving se - ven crowns, and ha-ving
B.
and ha-ving ten horns, se - ven crowns and se - ven,
21
S.
crowns and crowns and
se - ven, se - ven,
A.
se - ven, se - ven,
T.
se - ven crowns, and ha-ving se - ven crowns, and ha-ving
B.
se - ven crowns and se - ven, se - ven crowns and se - ven,
23
S.
crowns and crowns and crowns
se - ven, se - ven crowns
A.
se - ven, se - ven crowns
T.
se - ven crowns, se - ven, se - ven,
B.
se - ven crowns and se - ven, se - ven,

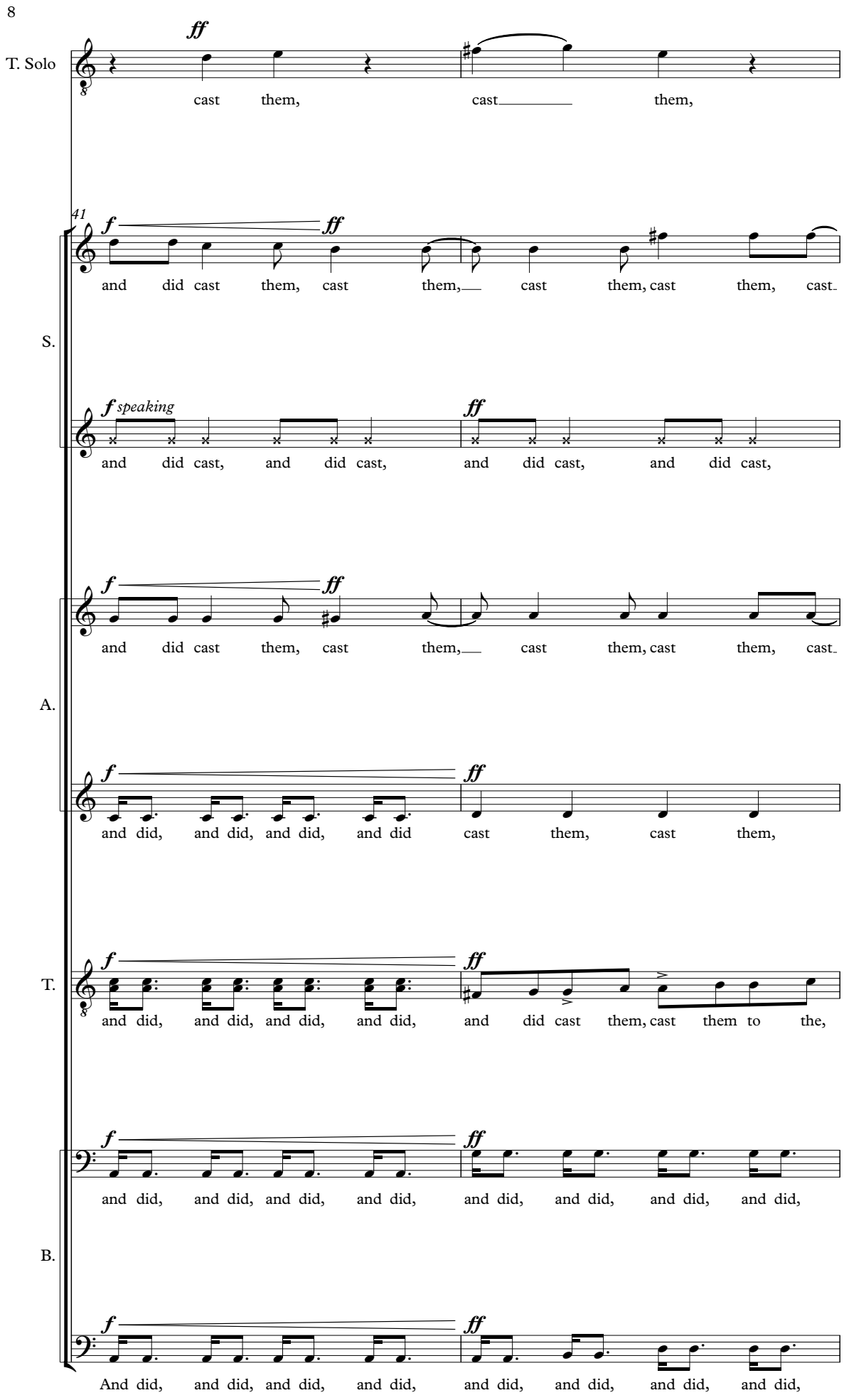

25
S.
crowns and crowns,
crowns and crowns,
A.
se - ven crowns
se - ven crowns
T.
se - ven crowns,
se - ven
B.
se - ven, up - on, se - ven, up - on,


27
S.
crowns and crowns,
'pon his heads
'pon his heads,
A.
se - ven crowns
'pon his heads,
'pon his heads,
T.
heads,
se - ven,
up - on
se - ven
B.
se - ven, up - on, crowns, crowns, his heads,

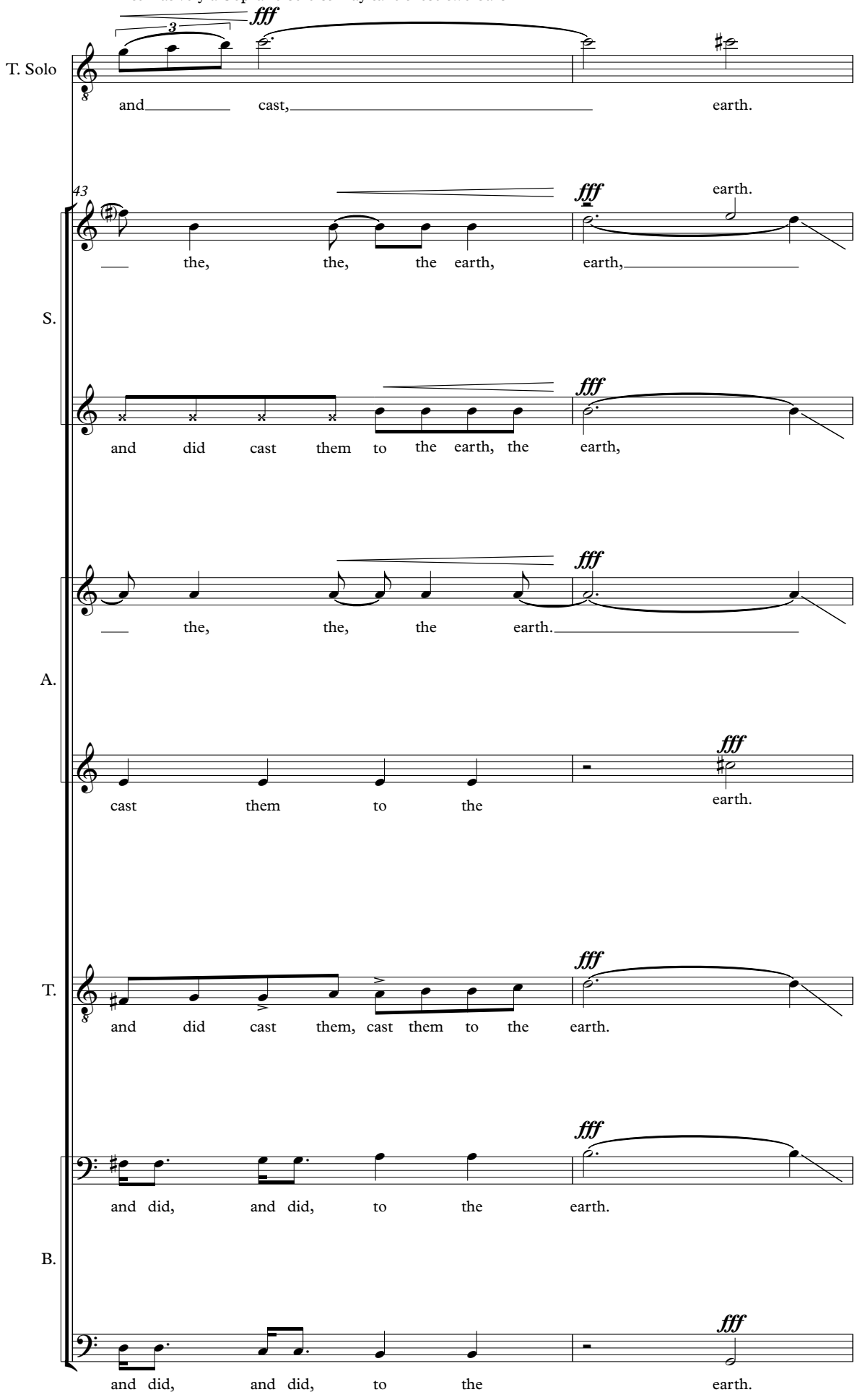

30
Tempo 1 ♩=90
S.
A.
T.
B.
'pon his heads, 'pon his heads, and his,
'pon his heads, 'pon his heads, and his,
'pon his heads, 'pon his heads, and, and,
heads, se - ven crowns, se - ven and, and,
crowns, his heads, crowns, his heads, and, and,
gently
T. Solo
tail drew third part of the stars of
33
his tail, tail, tail drew, drew, drew, drew the third, third part, part, part, part of the
his tail, tail, tail drew, drew, drew, drew the third, third part, part, part, part of the
his, his, his tail, tail, tail, tail, tail third, third, third, third stars, stars, stars, stars,
his, his, his tail, tail, tail, tail, tail third, third, third, third, third, third,

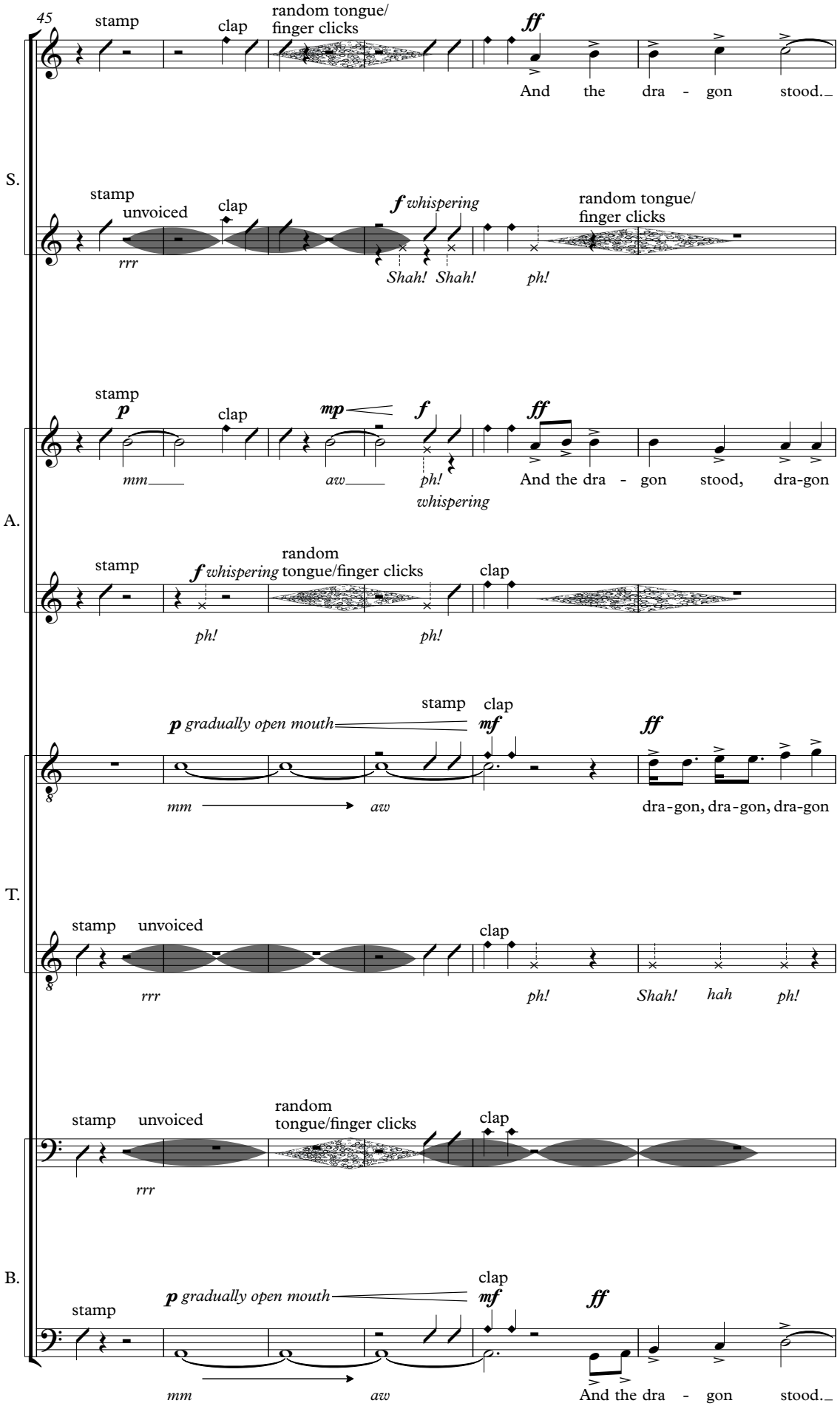

T. Solo
heav - - - - - en.
37
S.
mf f
stars of hea - ven, hea - ven, hea - ven, hea - ven,
A.
mf f
stars of hea - ven, hea - ven, hea - ven, hea - ven,
T.
mp f
stars, stars, stars, stars, hea - ven, hea - ven, hea - ven, hea - ven,
B.
mf f
stars, stars, stars, stars, hea - ven, hea - ven, hea - ven, hea - ven,

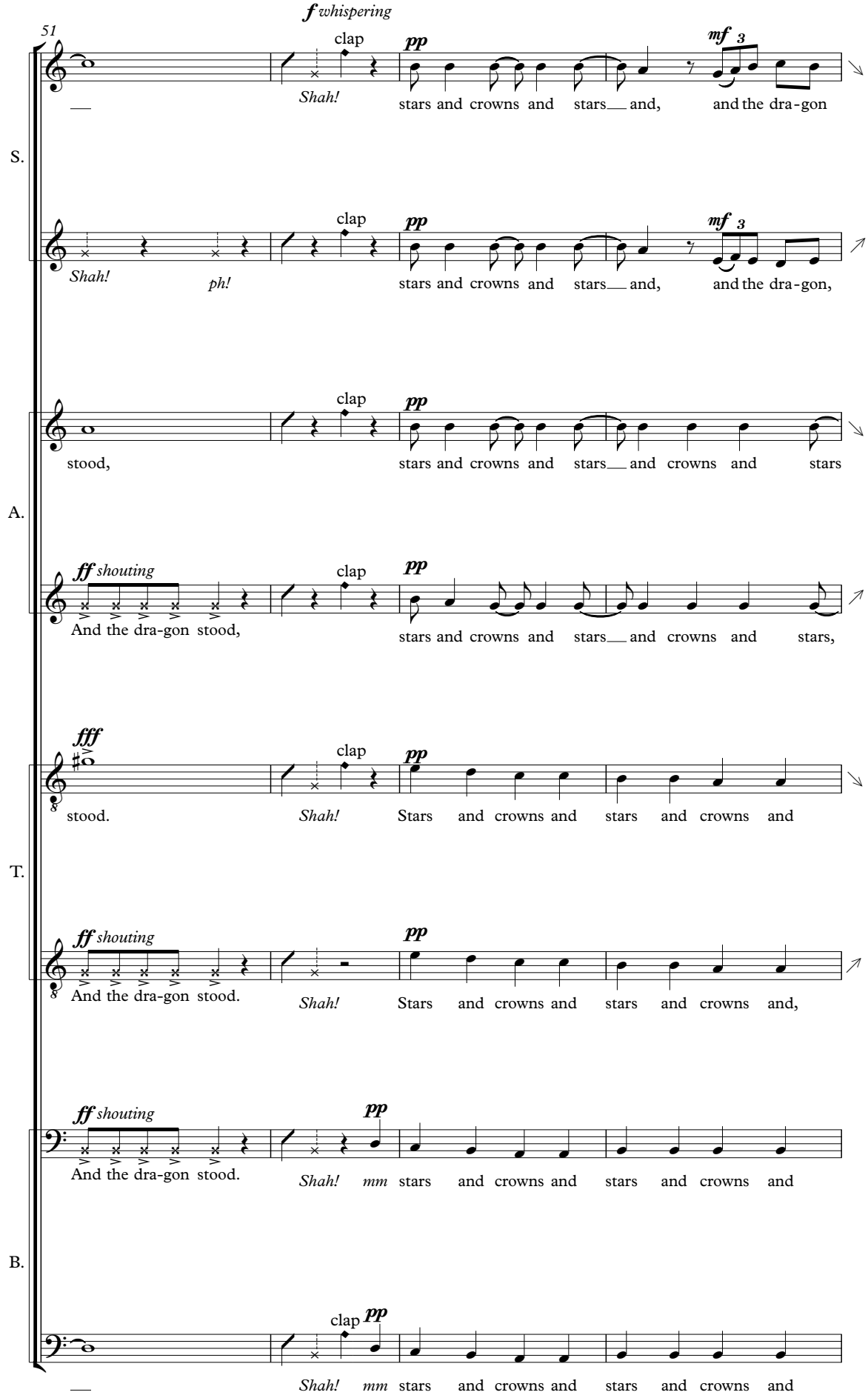

T. Solo
ff
Stars,
39
S.
stars, stars, stars of hea - ven,
A.
stars of hea - ven of stars of hea - ven
T.
ff
and stars, stars, stars, stars, and did, and did, and did, and did,
B.
stars, stars, stars, stars, and did, and did, and did, and did,

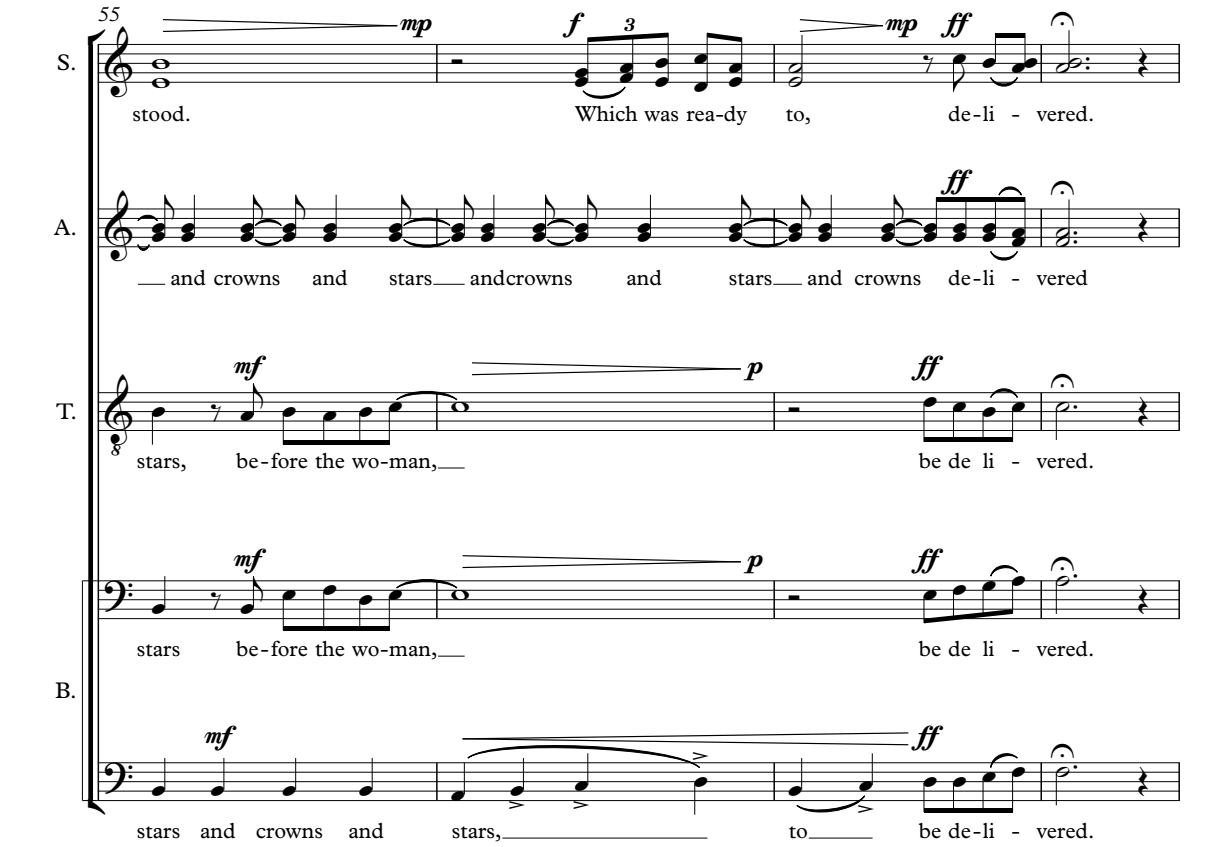

8
T. Solo
ff
cast them, cast them,
41
S.
f
ff
and did cast them, cast them, cast them, cast them, cast
f speaking
ff
and did cast, and did cast, and did cast, and did cast,
A.
f
ff
and did cast them, cast them, cast them, cast them, cast
f
ff
and did, and did, and did, and did cast them, cast them,
T.
f
ff
and did, and did, and did, and did, and did cast them, cast them to the,
B.
f
ff
and did, and did, and did, and did, and did, and did, and did, and did,
f
ff
And did, and did, and did, and did, and did, and did, and did, and did,

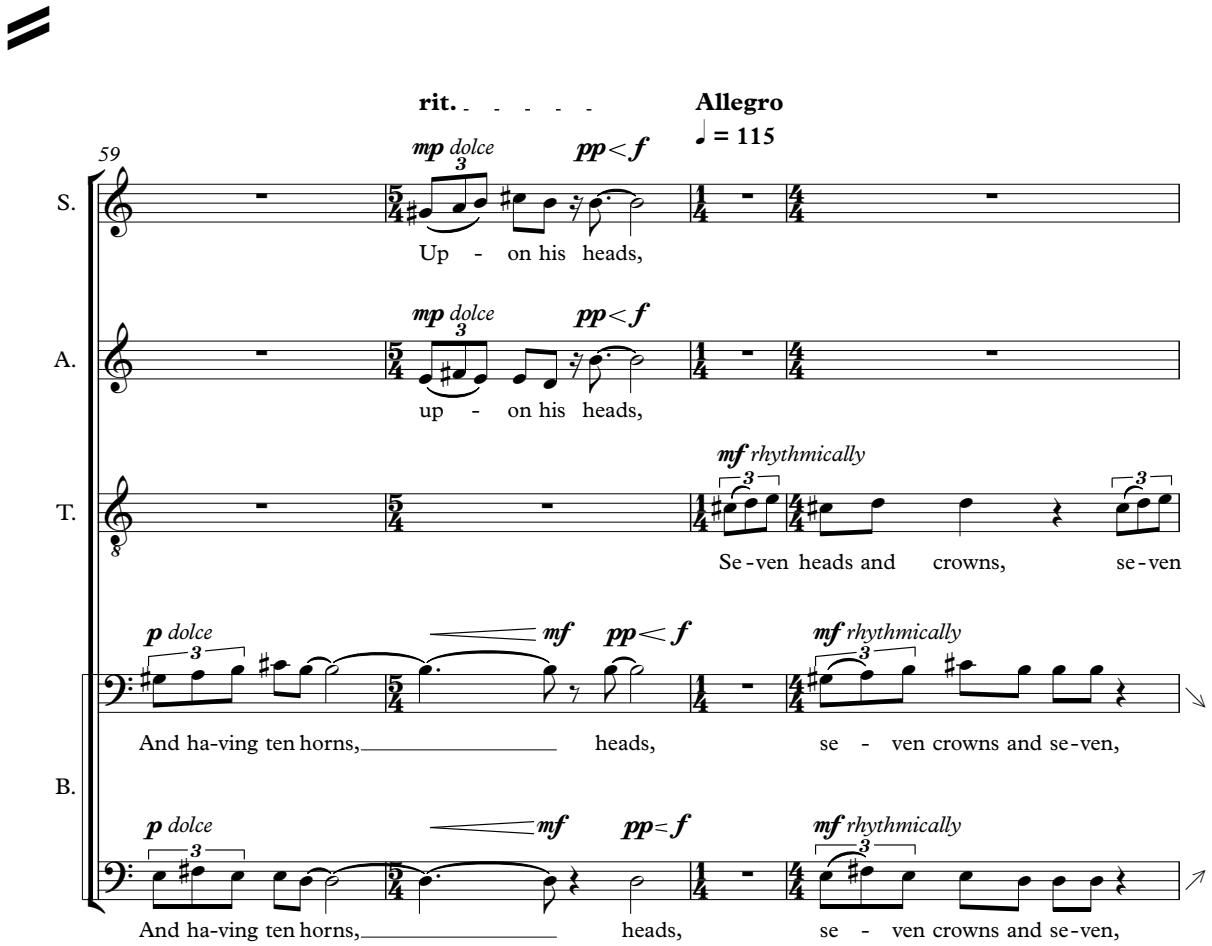
Alternatively a Soprano soloist may take these two bars

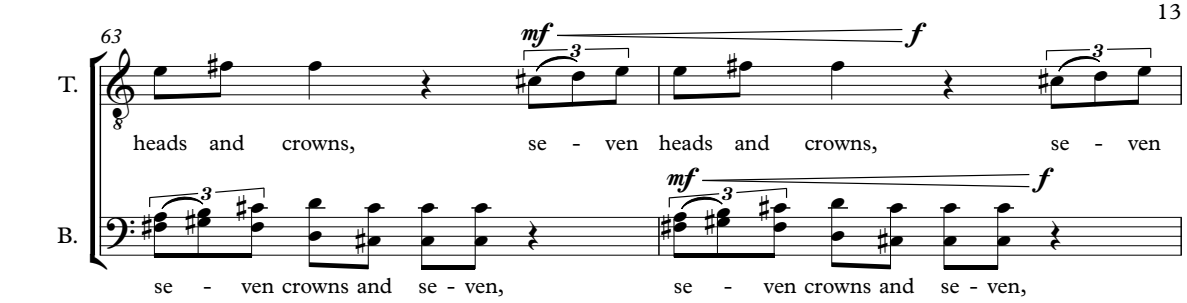


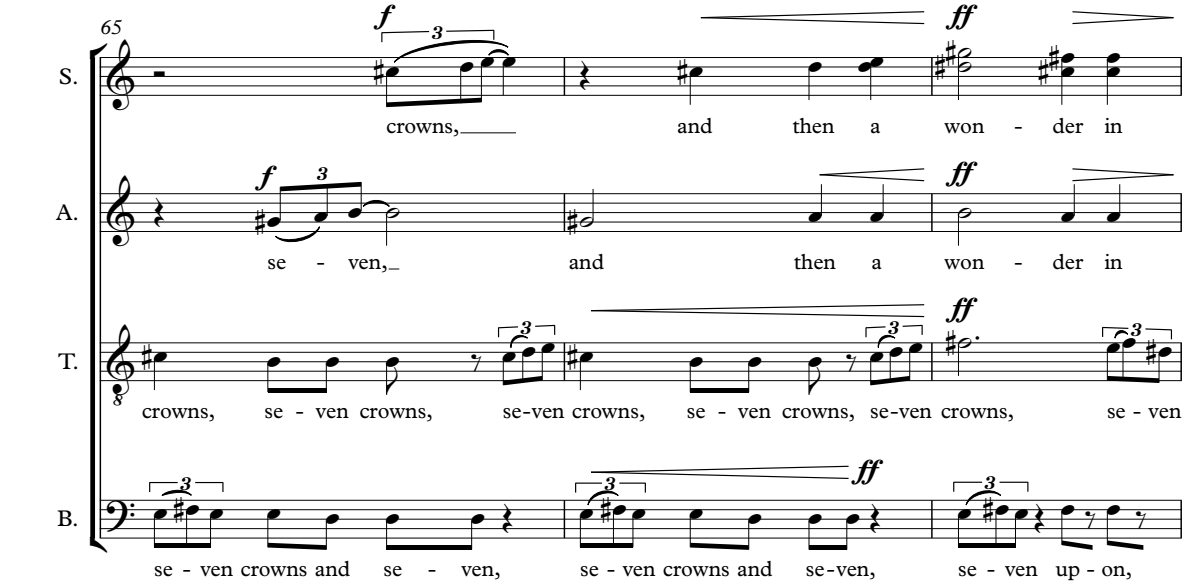

45
S.
stamp
clap
random tongue/
finger clicks
ff
And the dra - gon stood.
stamp
unvoiced
clap
f whispering
random tongue/
finger clicks
rrr
Shah! Shah!
ph!
A.
stamp
p
clap
mp
f
ff
mm
aw
ph!
whispering
And the dra - gon stood, dra-gon
stamp
f whispering
random
tongue/finger clicks
clap
ph!
ph!
T.
p gradually open mouth
stamp
clap
mf
ff
mm
aw
dra-gon, dra-gon, dra-gon
stamp
unvoiced
clap
rrr
ph!
Shah!
hah
ph!
B.
stamp
unvoiced
random
tongue/finger clicks
clap
rrr
p gradually open mouth
clap
mf
ff
stamp
mm
aw
And the dra - gon stood.

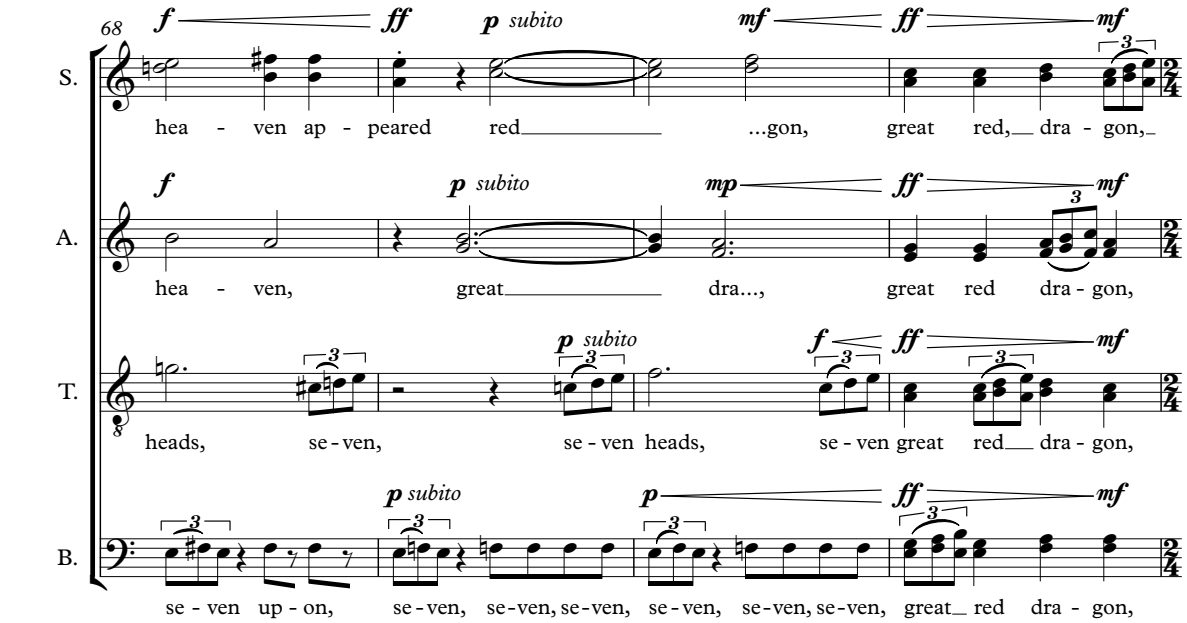

51
f whispering
clap
pp
mf 3
Shah!
stars and crowns and stars and, and the dra-gon
S.
clap
pp
mf 3
Shah!
ph!
stars and crowns and stars and, and the dra-gon,
clap
pp
stood,
stars and crowns and stars and crowns and stars
A.
ff shouting
clap
pp
And the dra-gon stood,
stars and crowns and stars and crowns and stars,
fff
clap
pp
stood.
Shah!
Stars and crowns and stars and crowns and
T.
ff shouting
pp
And the dra-gon stood.
Shah!
Stars and crowns and stars and crowns and,
ff shouting
pp
And the dra-gon stood.
Shah! mm stars and crowns and stars and crowns and
B.
clap
pp
Shah! mm stars and crowns and stars and crowns and

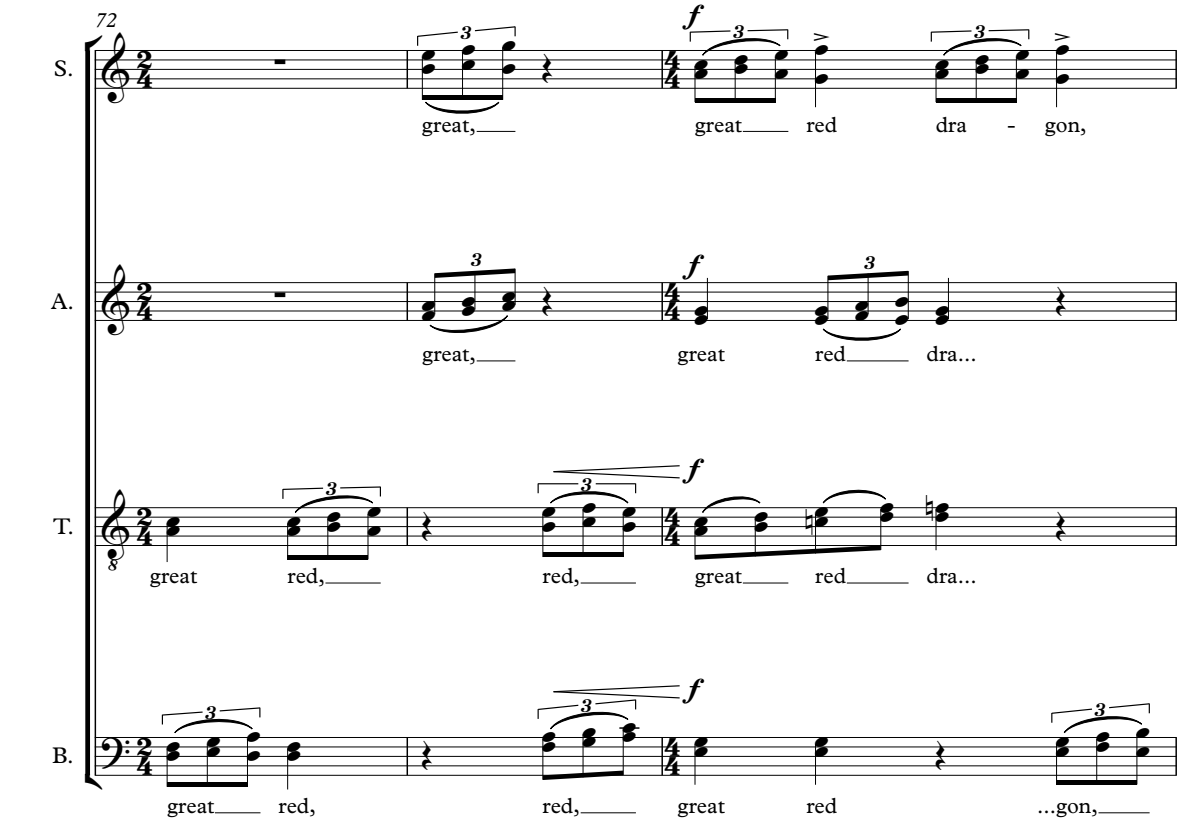

55
S.
A.
T.
B.
mp
f
3
mp
ff
stood.
Which was rea-dy
to,
de-li - vered.
ff
and crowns and stars and crowns and stars and crowns de-li - vered
mf
p
ff
stars, be-fore the wo-man,
be de li - vered.
mf
p
ff
stars be-fore the wo-man,
be de li - vered.
mf
ff
stars and crowns and stars,
to
be de-li - vered.

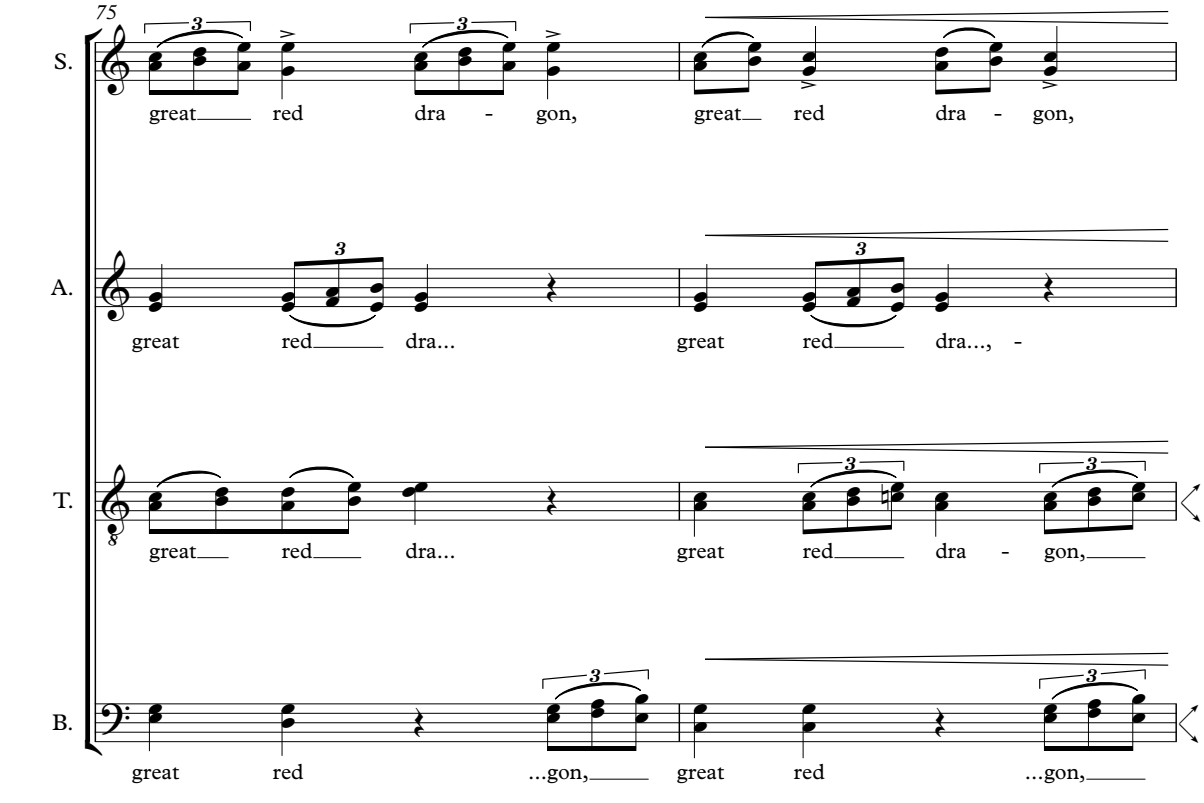

rit.
Allegro
♩ = 115
59
S.
A.
T.
B.
mp dolce
3
pp < f
Up - on his heads,
up - on his heads,
mf rhythmically
Se-ven heads and crowns, se-ven
p dolce
mf
pp < f
And ha-ving ten horns, heads,
se - ven crowns and se-ven,
pp = f

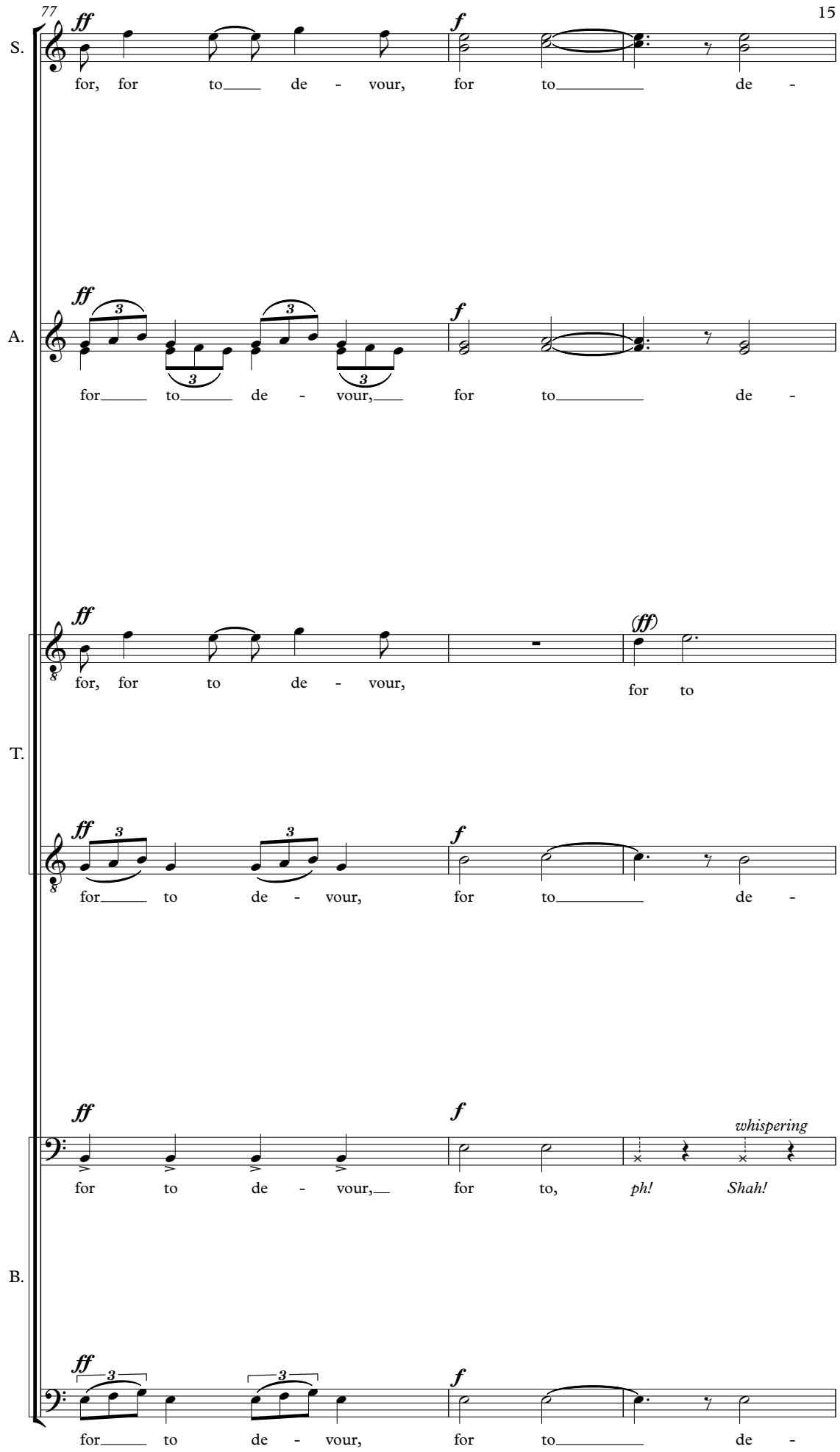

63
T.
B.
mf
f
heads and crowns, se - ven heads and crowns, se - ven
se - ven crowns and se - ven, se - ven crowns and se - ven,

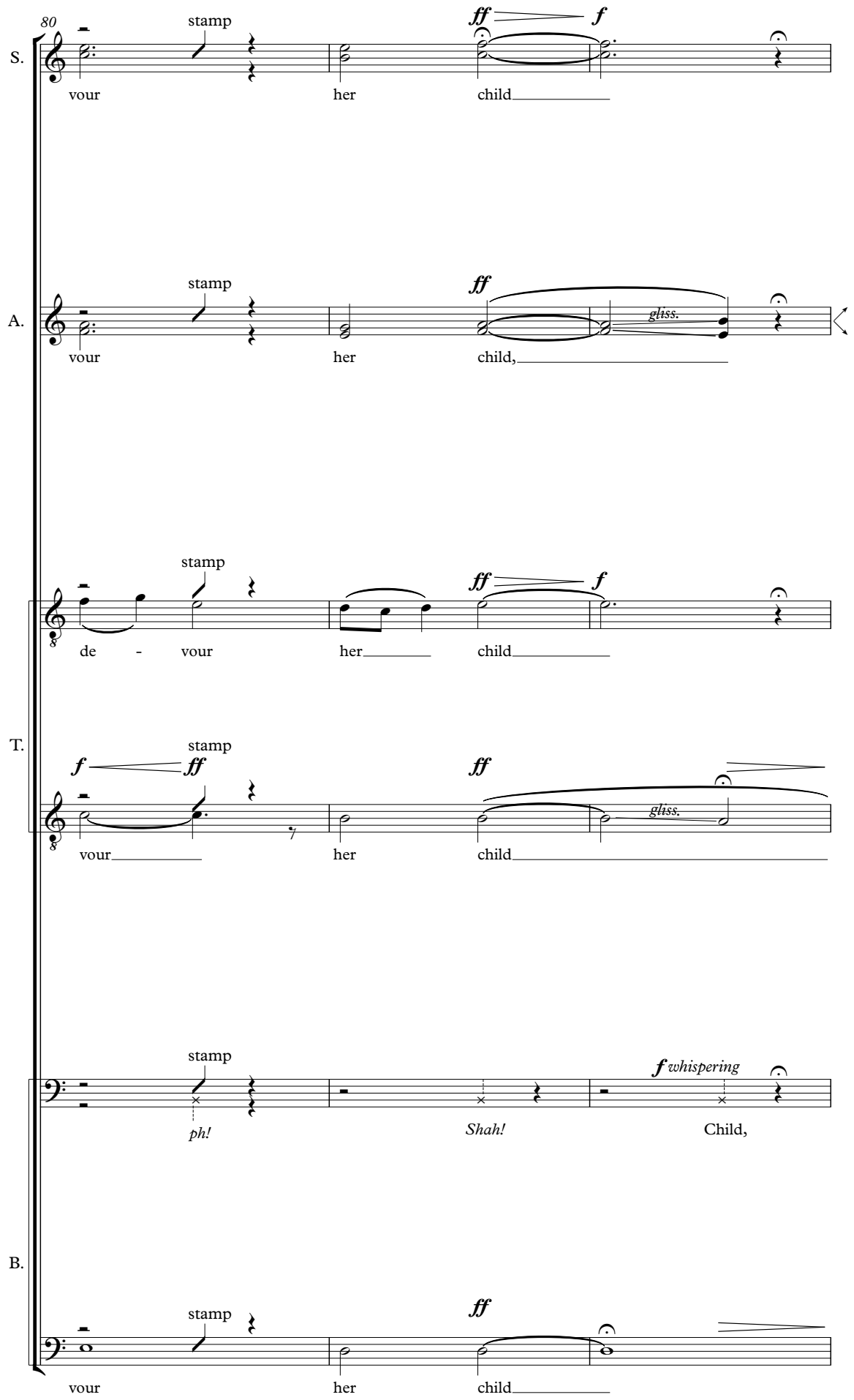

65
S.
A.
T.
B.
f
ff
crowns, and then a won - der in
se - ven, and then a won - der in
crowns, se - ven crowns, se-ven crowns, se - ven crowns, se-ven crowns, se - ven
se - ven crowns and se - ven, se - ven crowns and se-ven, se - ven up - on,

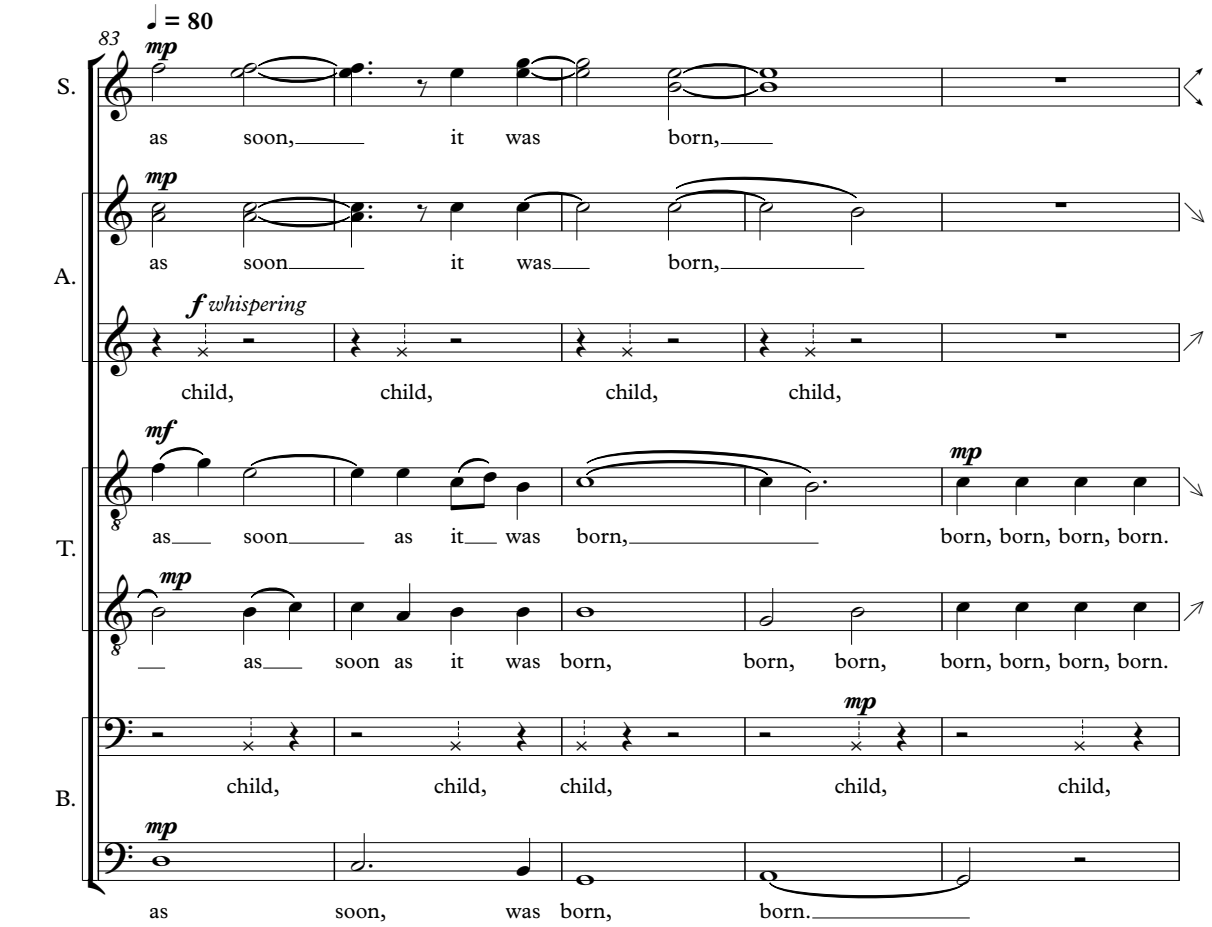

68
S.
A.
T.
B.
f
ff
p subito
mf
mp
hea - ven ap - peared red ...gon, great red, dra - gon,
hea - ven, great dra..., great red dra - gon,
heads, se - ven, se - ven heads, se - ven great red dra - gon,
se - ven up - on, se - ven, se - ven, se - ven, se - ven, se - ven, se - ven, great red dra - gon,

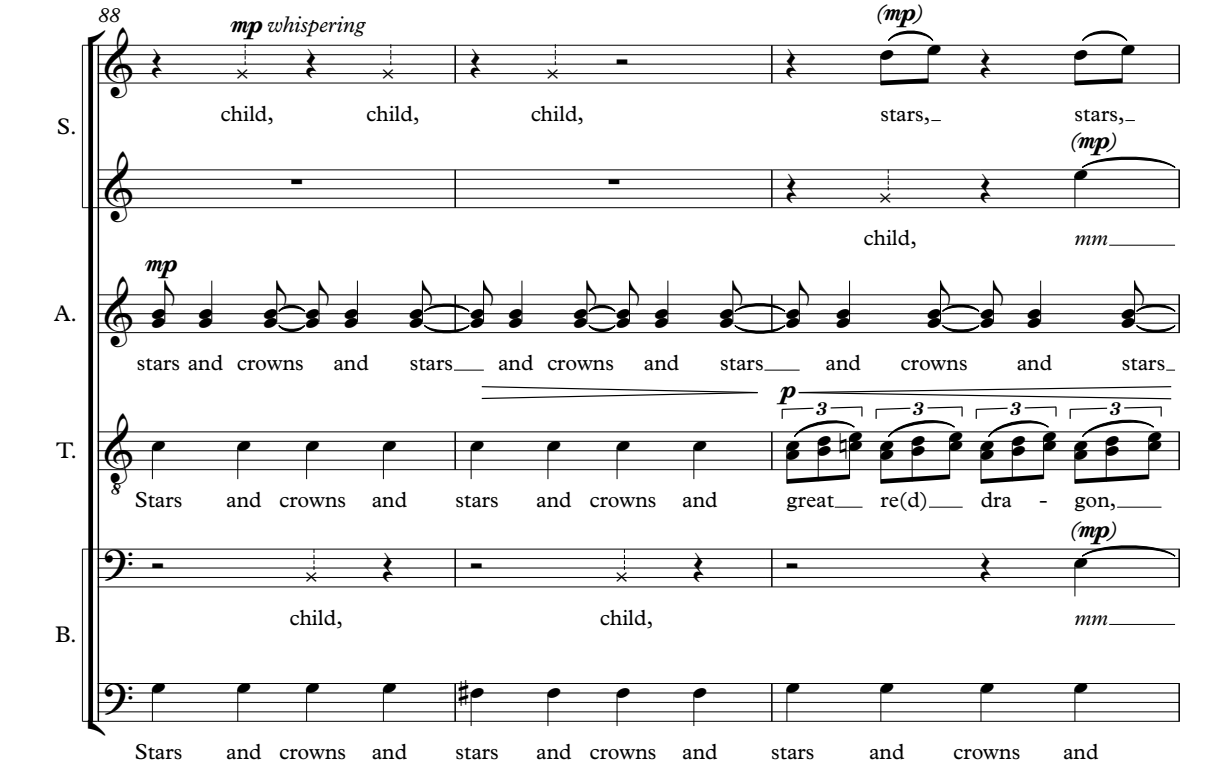

72
S.
great, great red dra - gon,
A.
great, great red dra...
T.
great red, red, great red dra...
B.
great red, red, great red ...gon,


75
S.
great red dra - gon, great red dra - gon,
A.
great red dra... great red dra..., -
T.
great red dra... great red dra - gon,
B.
great red ...gon, great red ...gon,

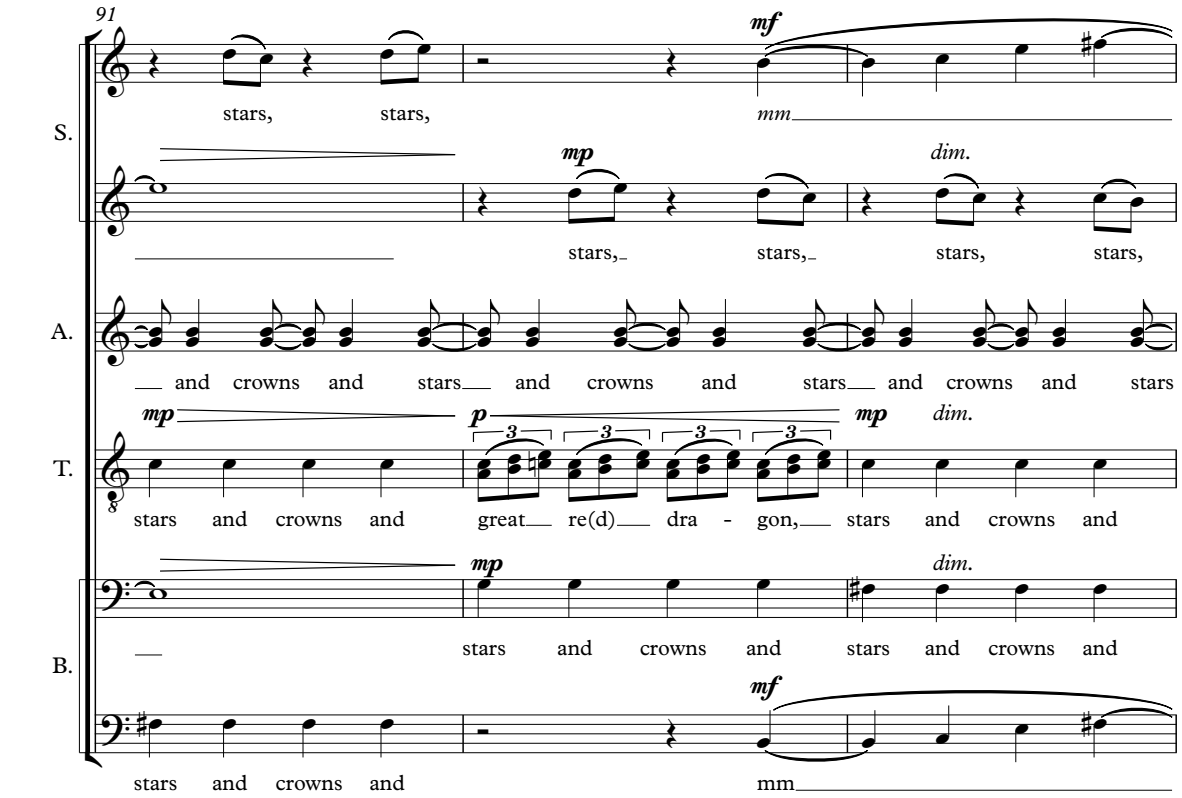

77
S.
ff
for, for to de - vour, for to de -
f
A.
ff
for to de - vour, for to de -
f
T.
ff
for, for to de - vour,
(ff)
for to
ff
for to de - vour, for to de -
f
B.
ff
for to de - vour, for to, ph! Shah!
whispering
f
ff
for to de - vour, for to de -
f

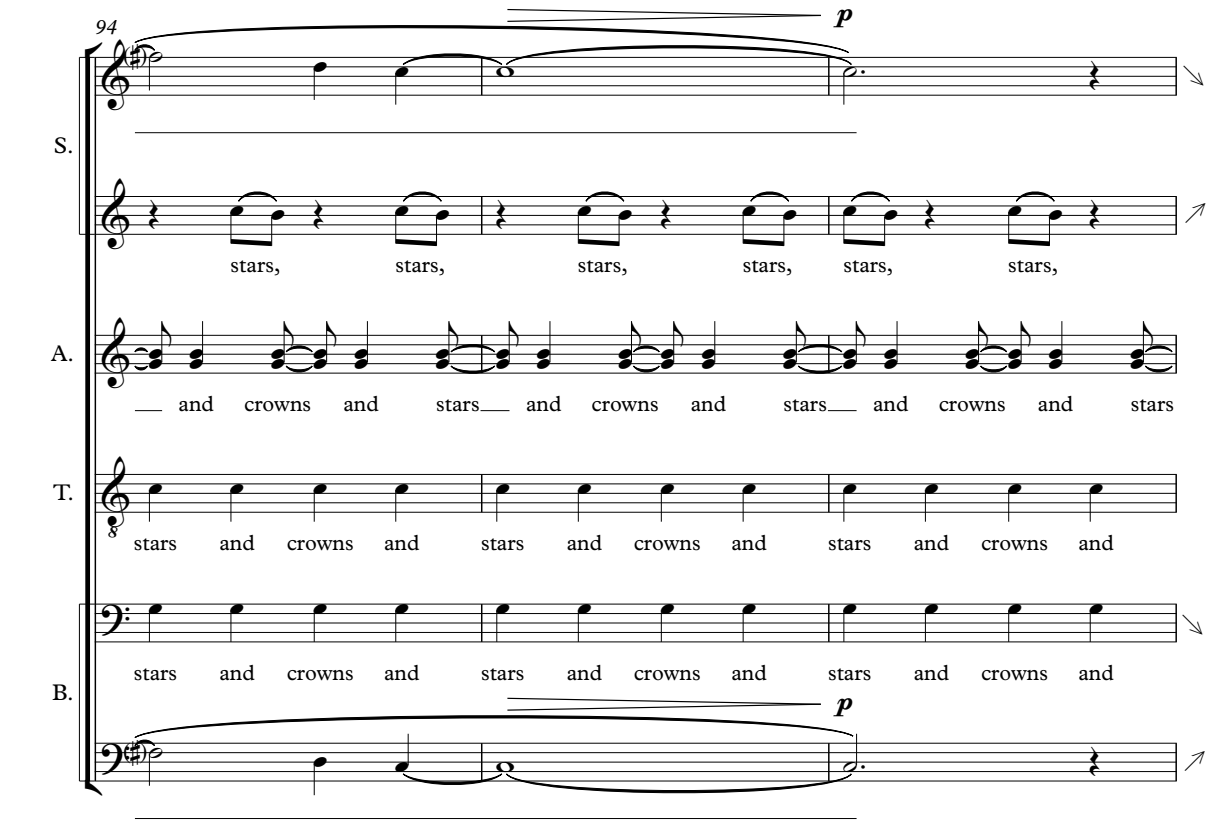

80
S.
stamp
ff
f
vour
her
child
A.
stamp
ff
gliss.
vour
her
child,
T.
stamp
ff
f
de - vour
her
child
stamp
f
ff
ff
gliss.
vour
her
child
B.
stamp
f whispering
ph!
Shah!
Child,
stamp
ff
vour
her
child

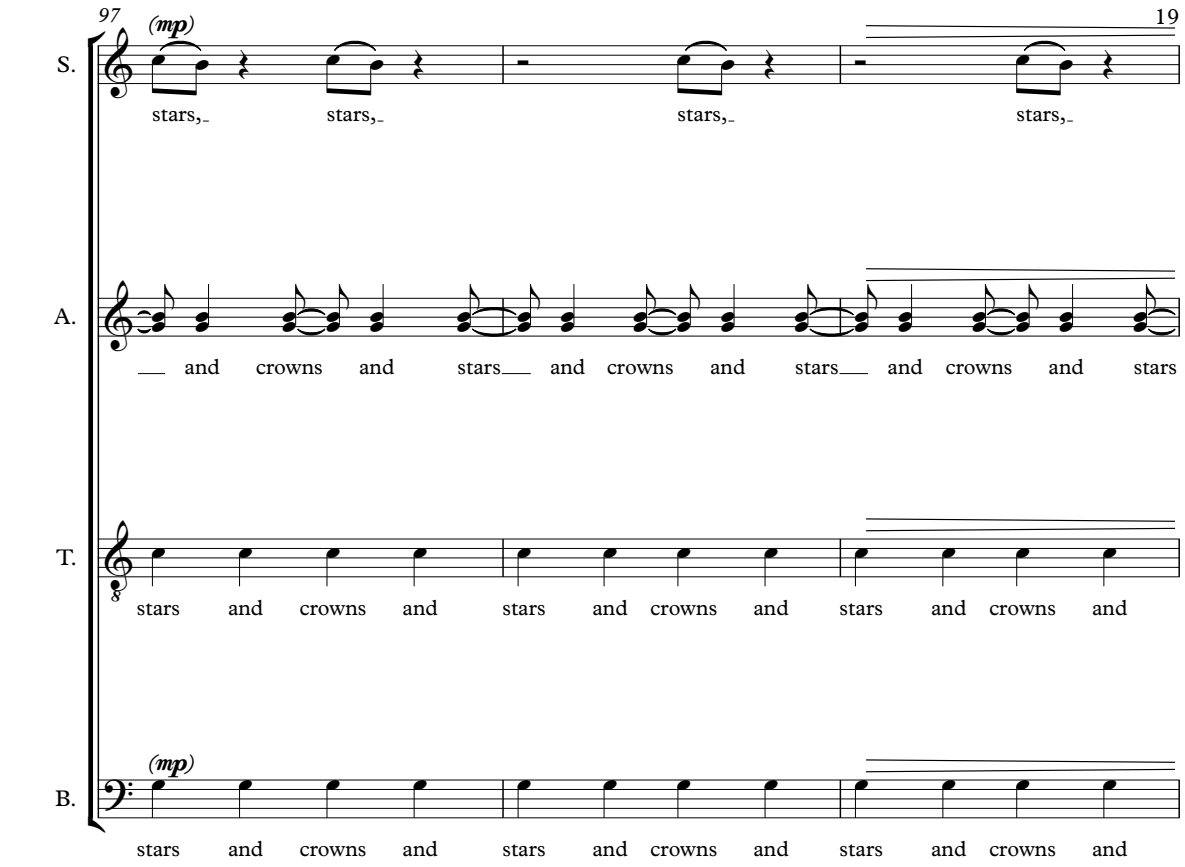

♩ = 80
83
S.
A.
T.
B.
mp
as soon, it was born,
as soon it was born,
f whispering
child, child, child, child,
mf
as soon as it was born,
born, born, born, born.
as soon as it was born, born, born, born, born, born.
child, child, child, child, child,
as soon, was born, born.

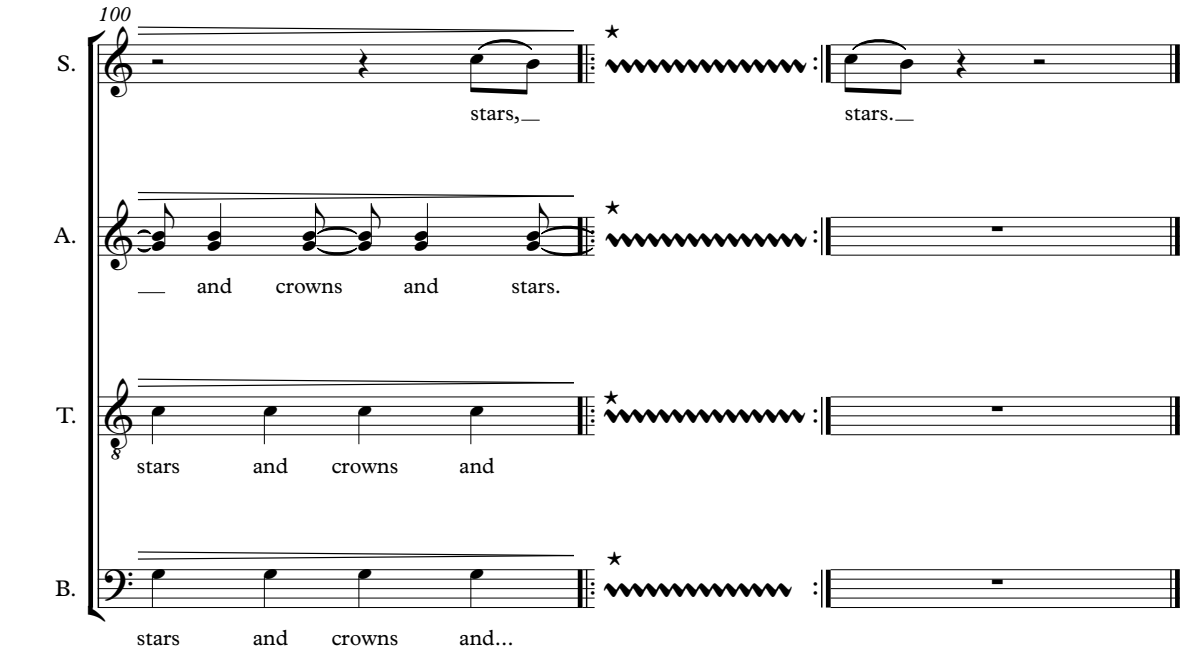

88
mp whispering
child, child, child,
(mp)
stars, stars,
child, mm
stars and crowns and stars and crowns and stars and crowns and stars
p
3
Stars and crowns and stars and crowns and great re(d) dra - gon,
child, child, mm
Stars and crowns and stars and crowns and stars and crowns and

18


91
S.
stars, stars,
mf
mm
mp
dim.
stars, stars, stars, stars,
A.
and crowns and stars and crowns and stars and crowns and stars
mp
p
mp
dim.
T.
stars and crowns and great re(d) dra - gon, stars and crowns and
mp
dim.
B.
stars and crowns and stars and crowns and
mf
stars and crowns and
mm


94
p
S.
stars, stars, stars, stars, stars, stars,
A.
and crowns and stars and crowns and stars and crowns and stars
T.
stars and crowns and stars and crowns and stars and crowns and
B.
stars and crowns and stars and crowns and stars and crowns and
p





⋆ The preceding bar in the ATB voices should be repeated ad lib, undergoing a decrescendo the whole time towards niente. The number of repeats is up to the conductor. The Soprano figure may be omitted or have its position changed within the bar by the conductor on each repeat. Alternatively, individual singers may choose their own preferred beats or off-beats for a clouding effect. Finally, the ATB voices should be brought to a stop, with the Sopranos singing the final bar together.

Adam Cullen

Edi Beo Thu

for violin, violincello, and piano

2017

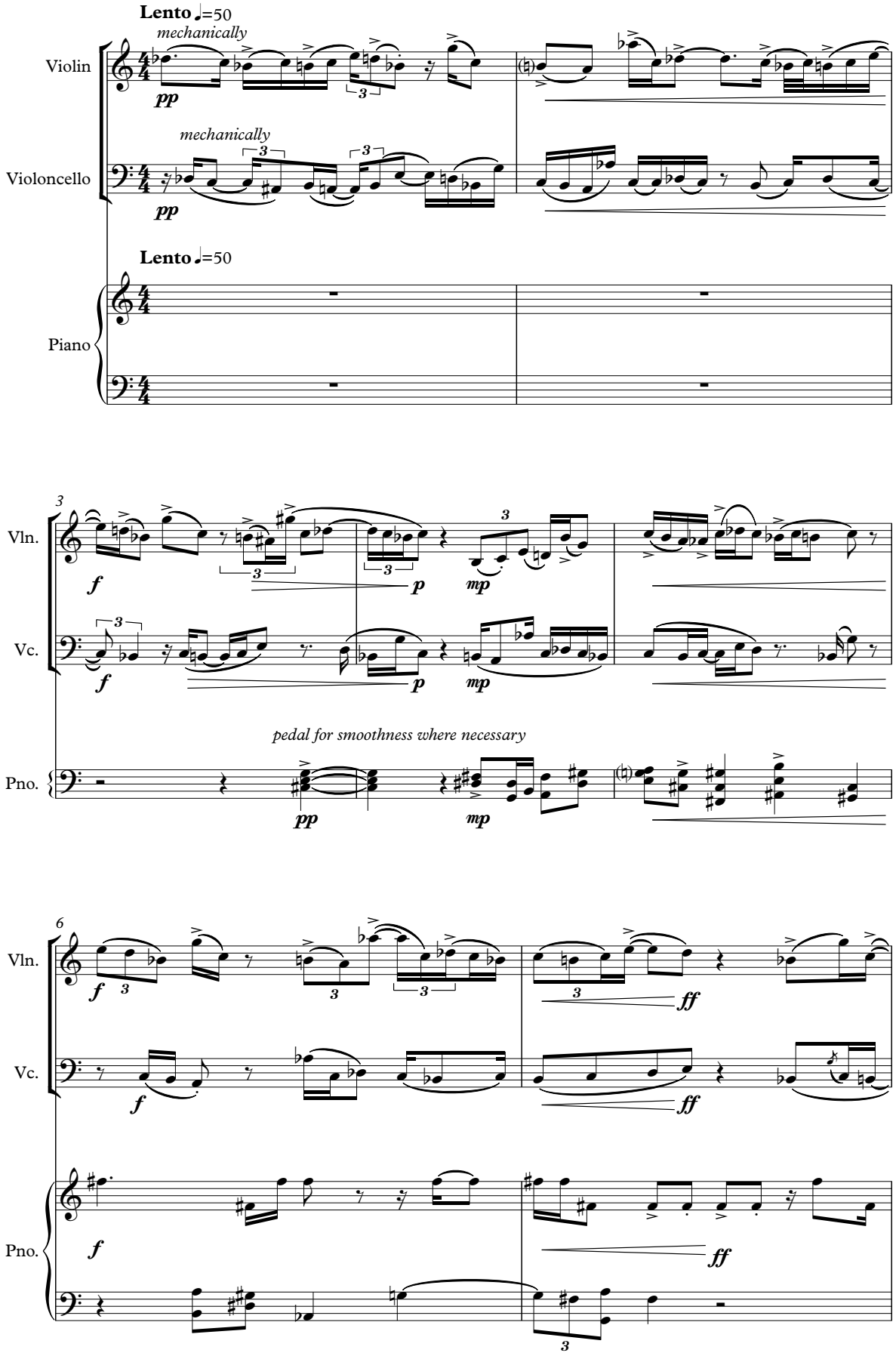
Duration c8:30

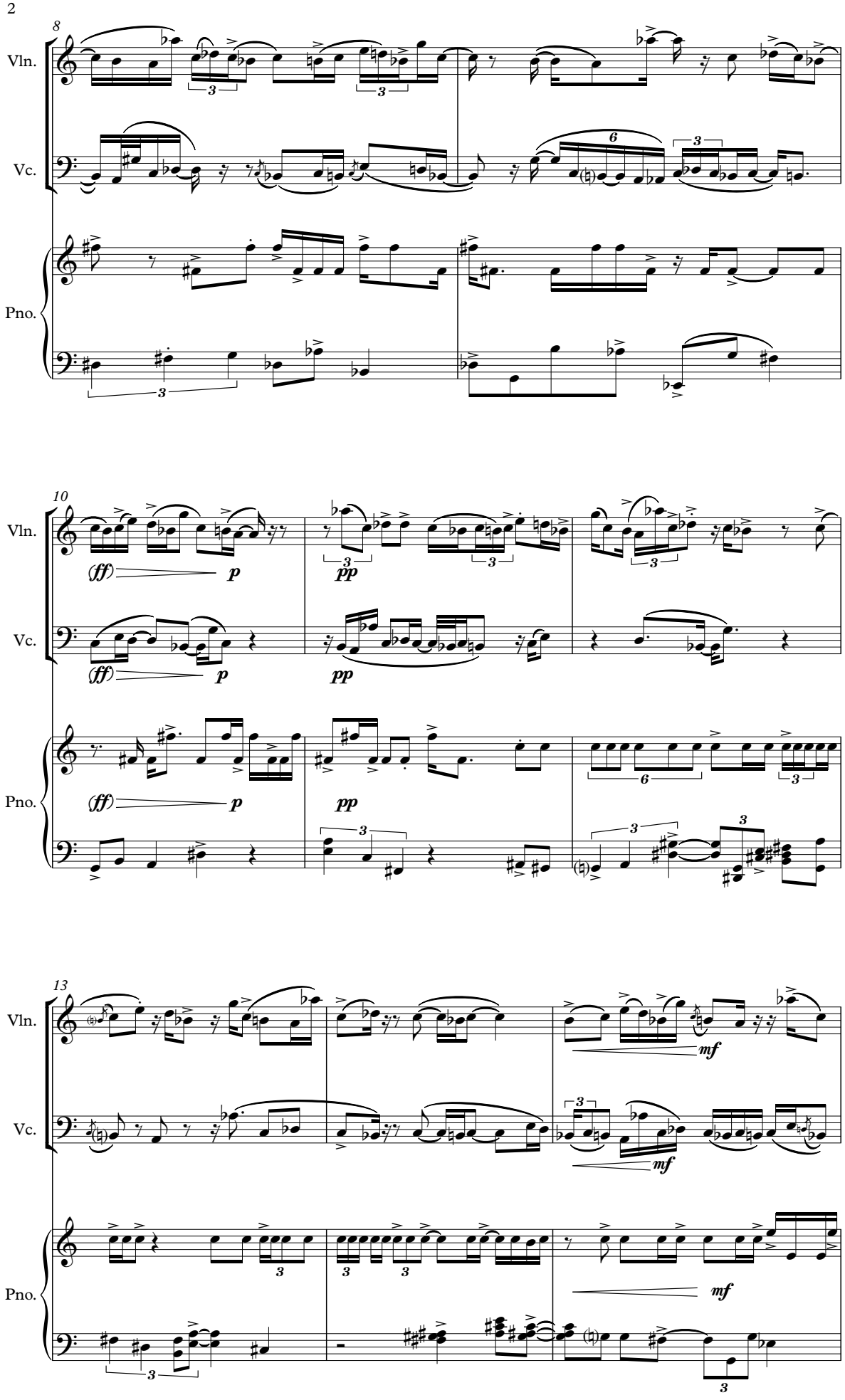
Based on an anonymous 13th century text and an oration performed by Cathal Twomey

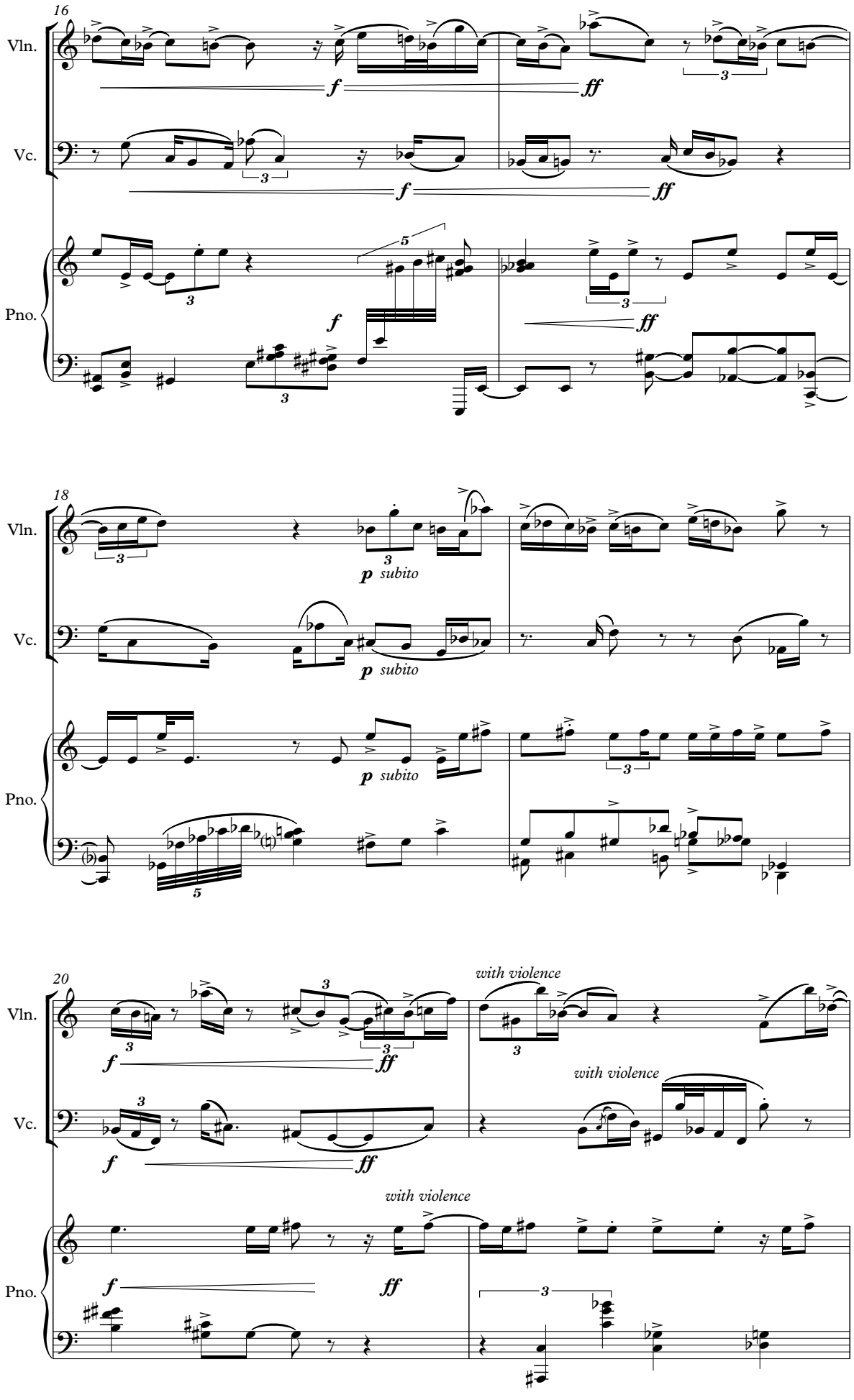
Edi beo thu

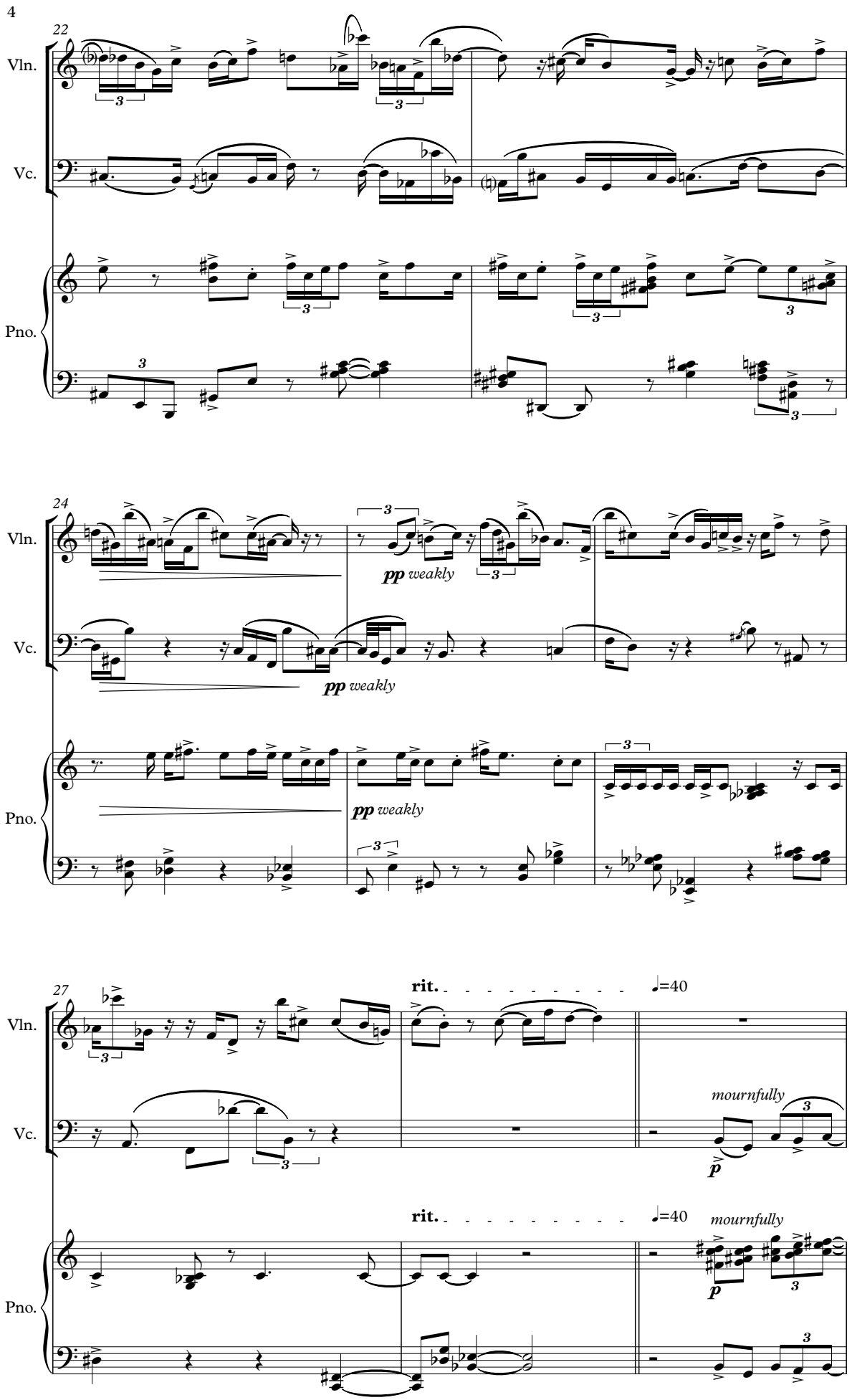
Piano Trio No. 1

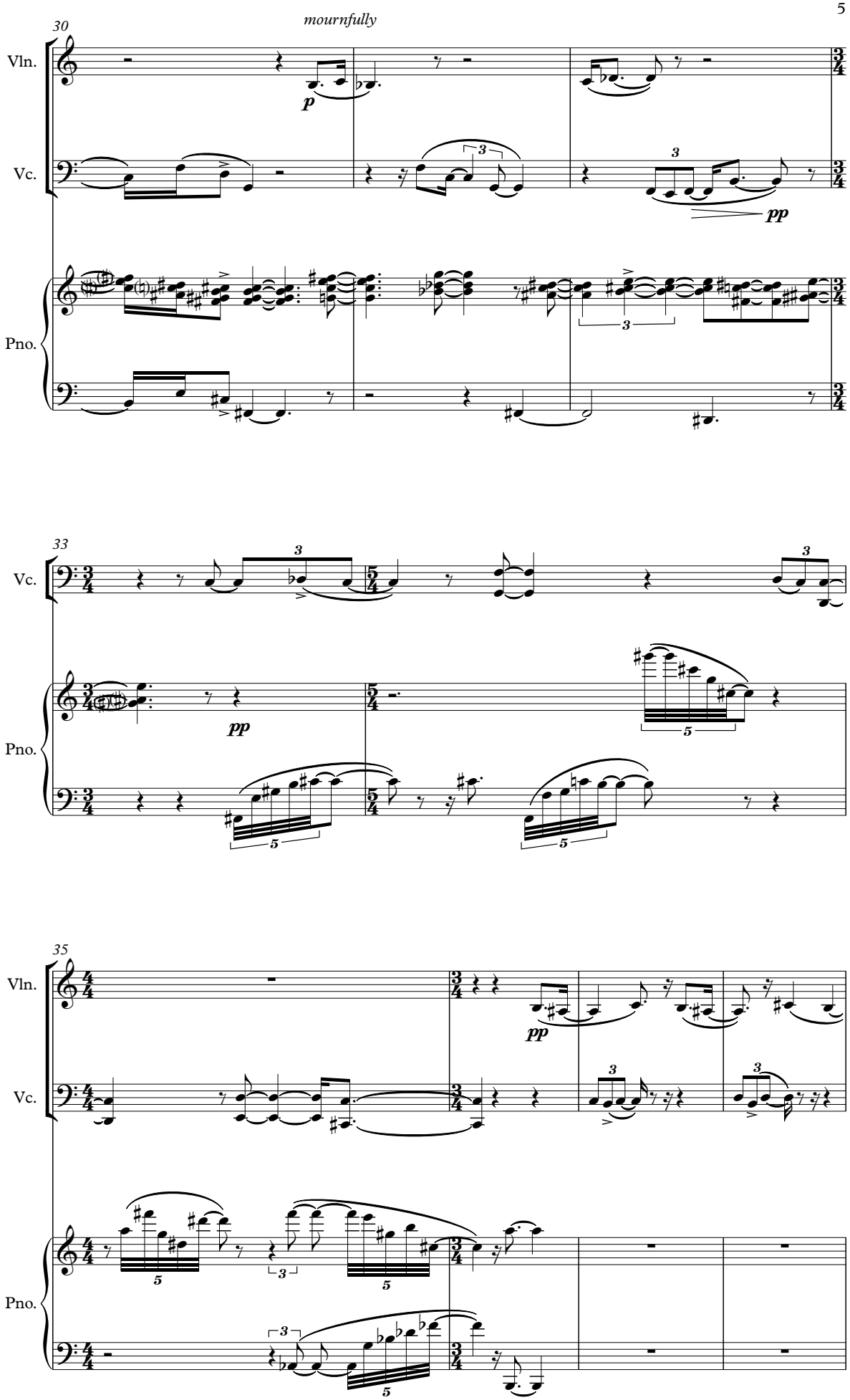
Adam Cullen

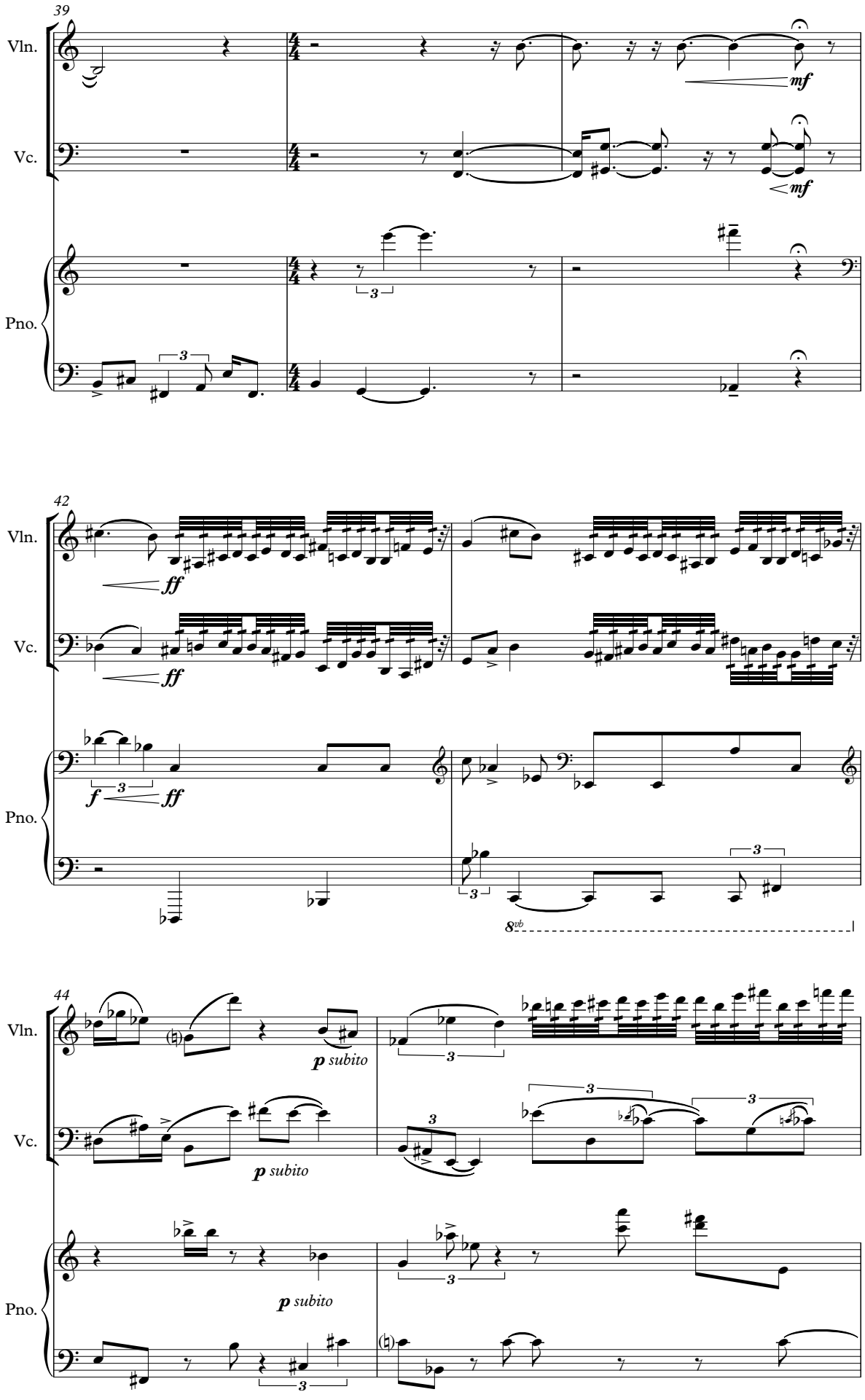


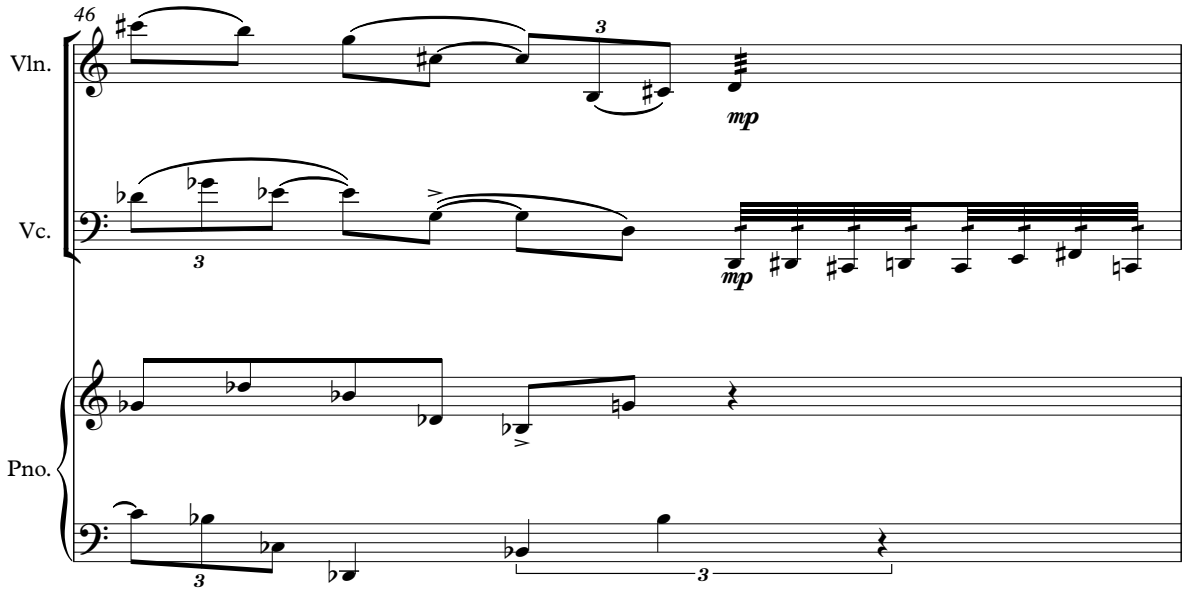

8
Vln.
Vc.
Pno.
10
(ff)
p
pp
13
mf

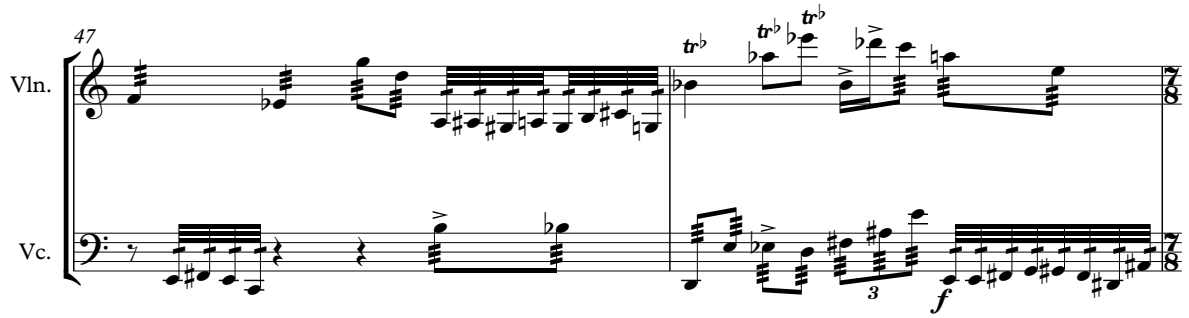

16
Vln.
Vc.
Pno.
f
ff
18
p subito
20
with violence

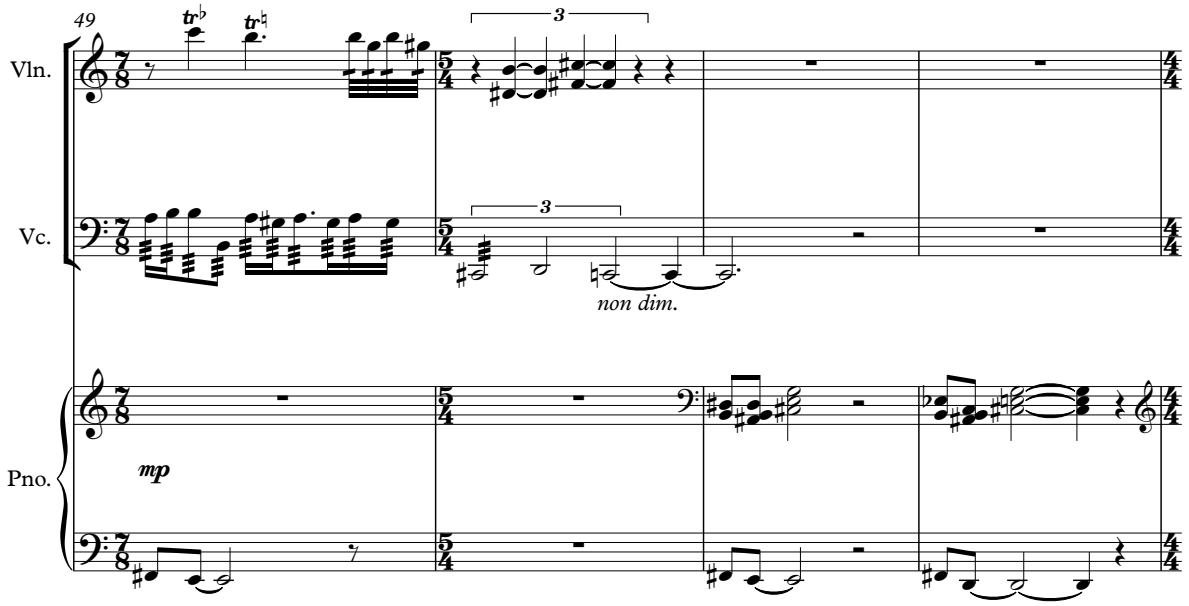

22
Vln.
Vc.
Pno.
24
Vln.
Vc.
Pno.
pp weakly
pp weakly
pp weakly
27
Vln.
Vc.
Pno.
rit.
=40
mournfully
p
rit.
=40
mournfully
p

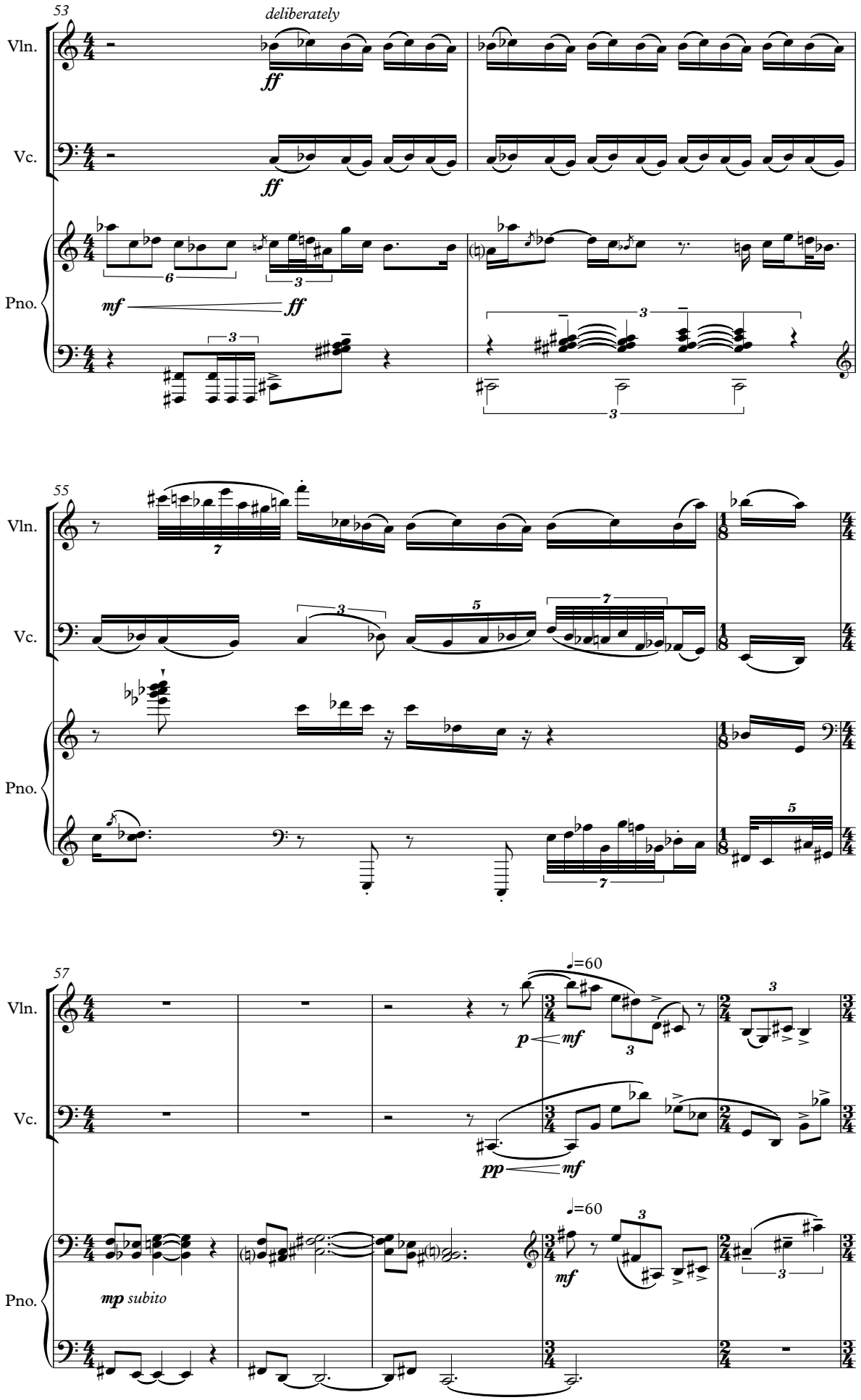

30
mournfully
Vln.
Vc.
Pno.
p
pp
33
Vc.
Pno.
pp
35
Vln.
Vc.
Pno.
pp

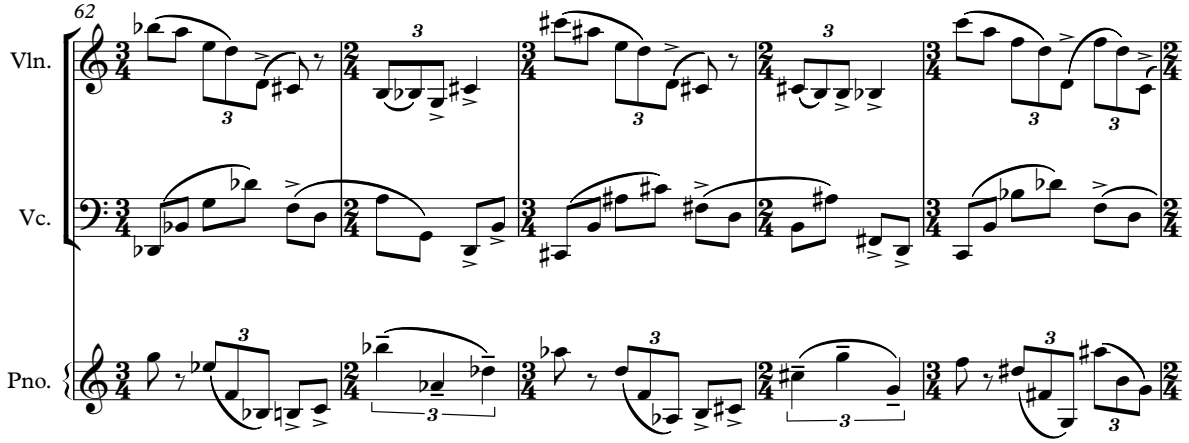

39
Vln.
Vc.
Pno.
mf
mf
42
ff
ff
f
ff
8vb
44
p subito
p subito
p subito

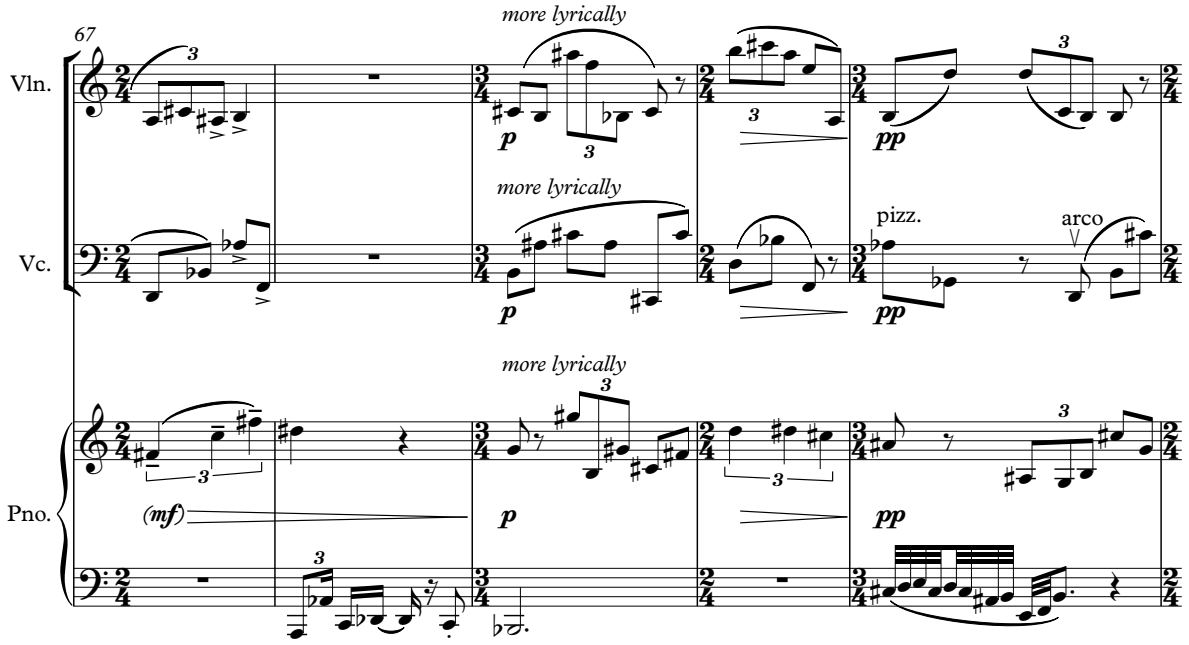

46
Vln.
Vc.
Pno.
mp
mp

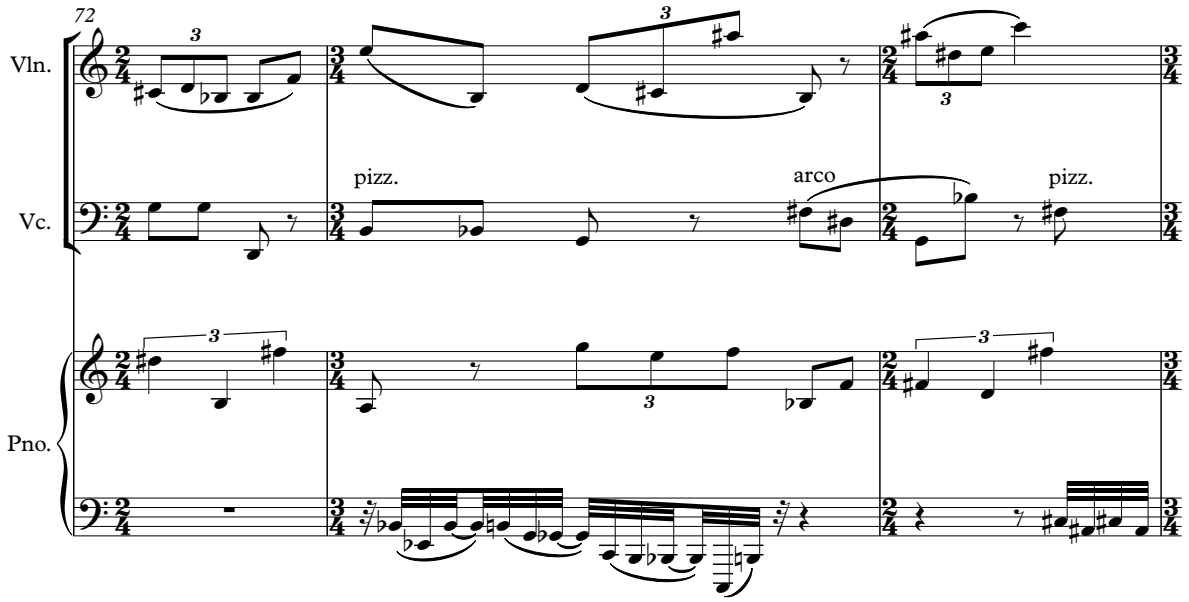

47
Vln.
Vc.
f

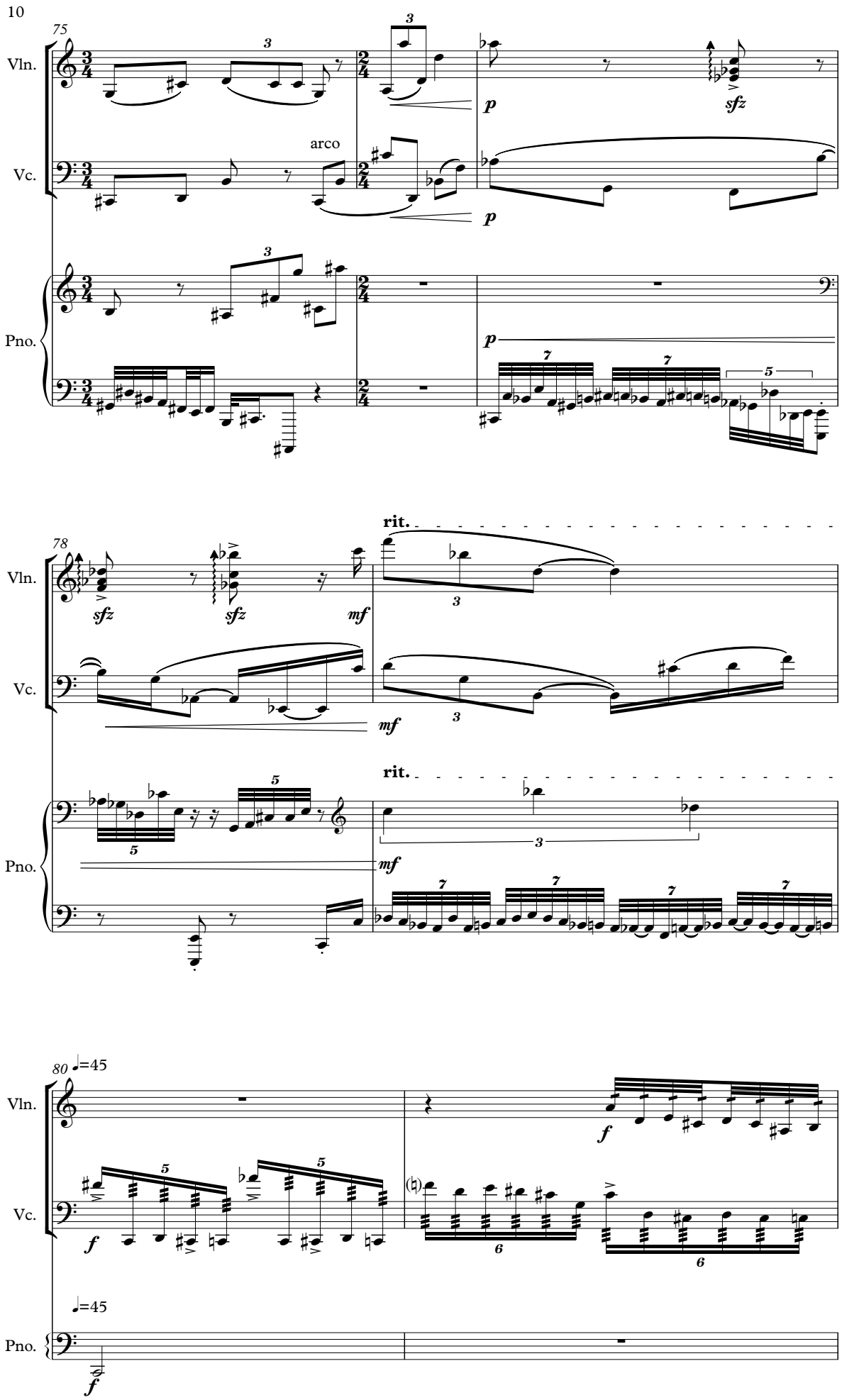

49
Vln.
Vc.
non dim.
Pno.
mp

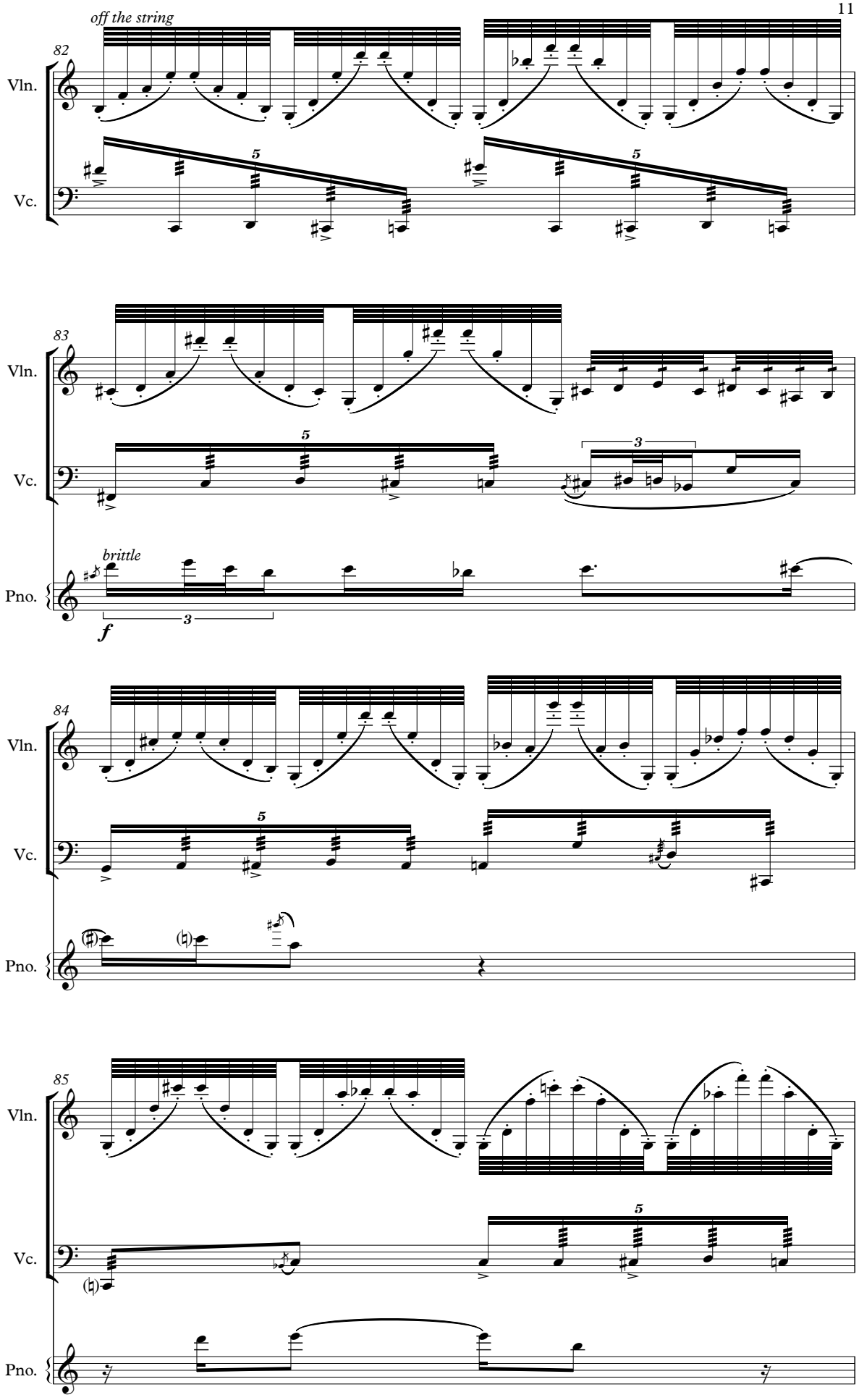

53
deliberately
Vln.
Vc.
Pno.
ff
mf
55
57
♩=60
p
pp
mp subito

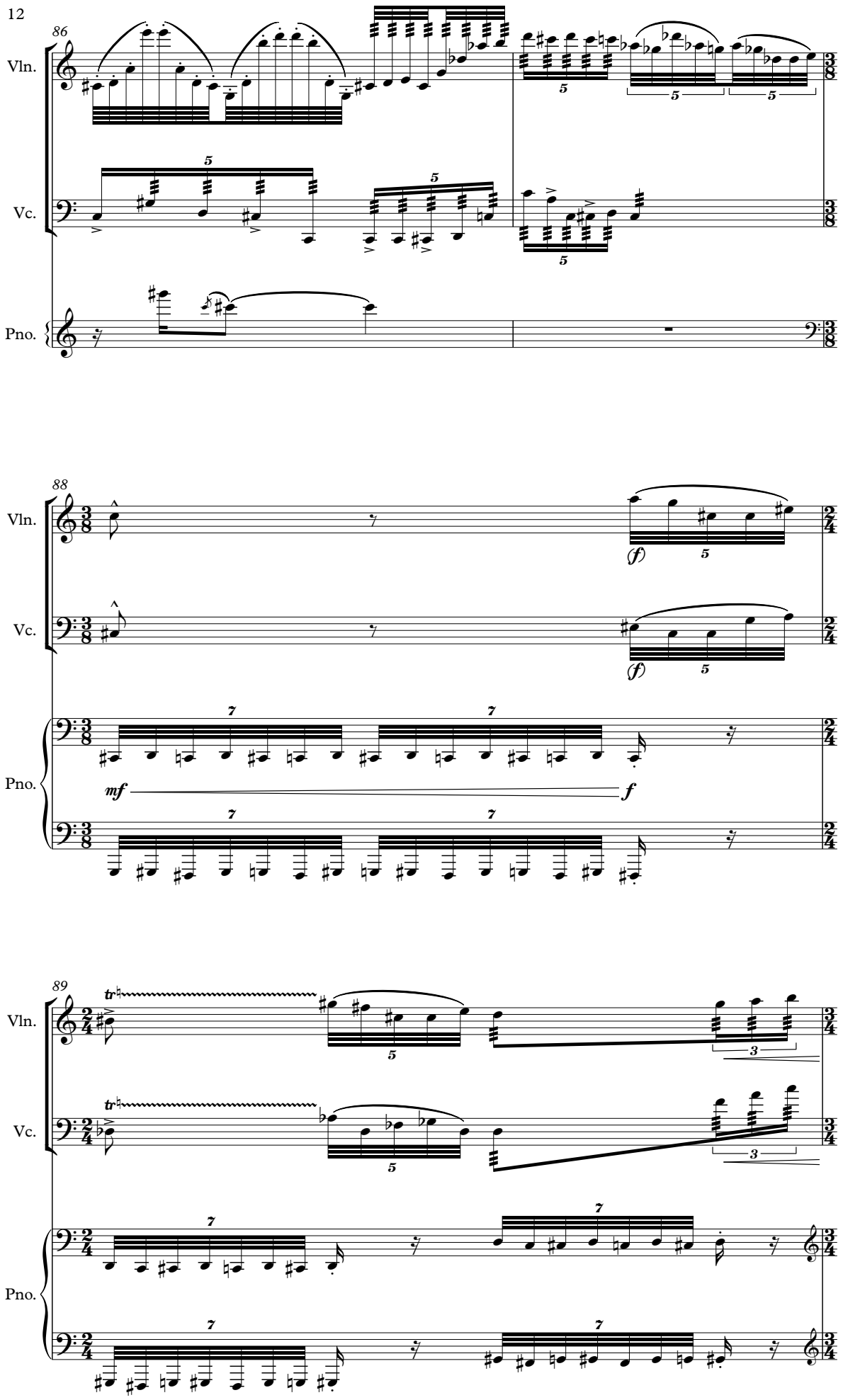

62
Vln.
Vc.
Pno.

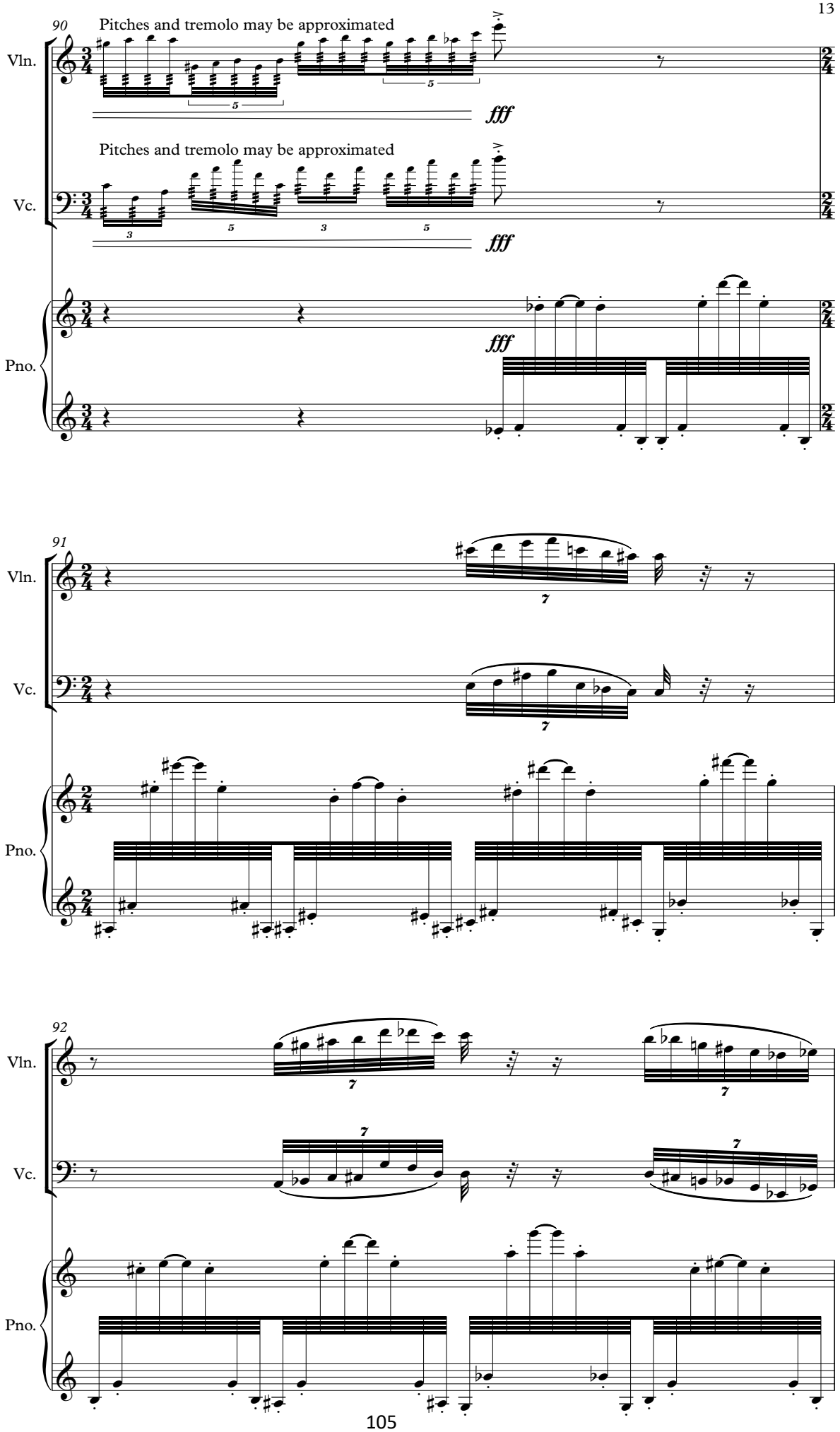

67
Vln.
Vc.
Pno.
more lyrically
more lyrically
more lyrically
p
pp
pizz.
arco
(mf)

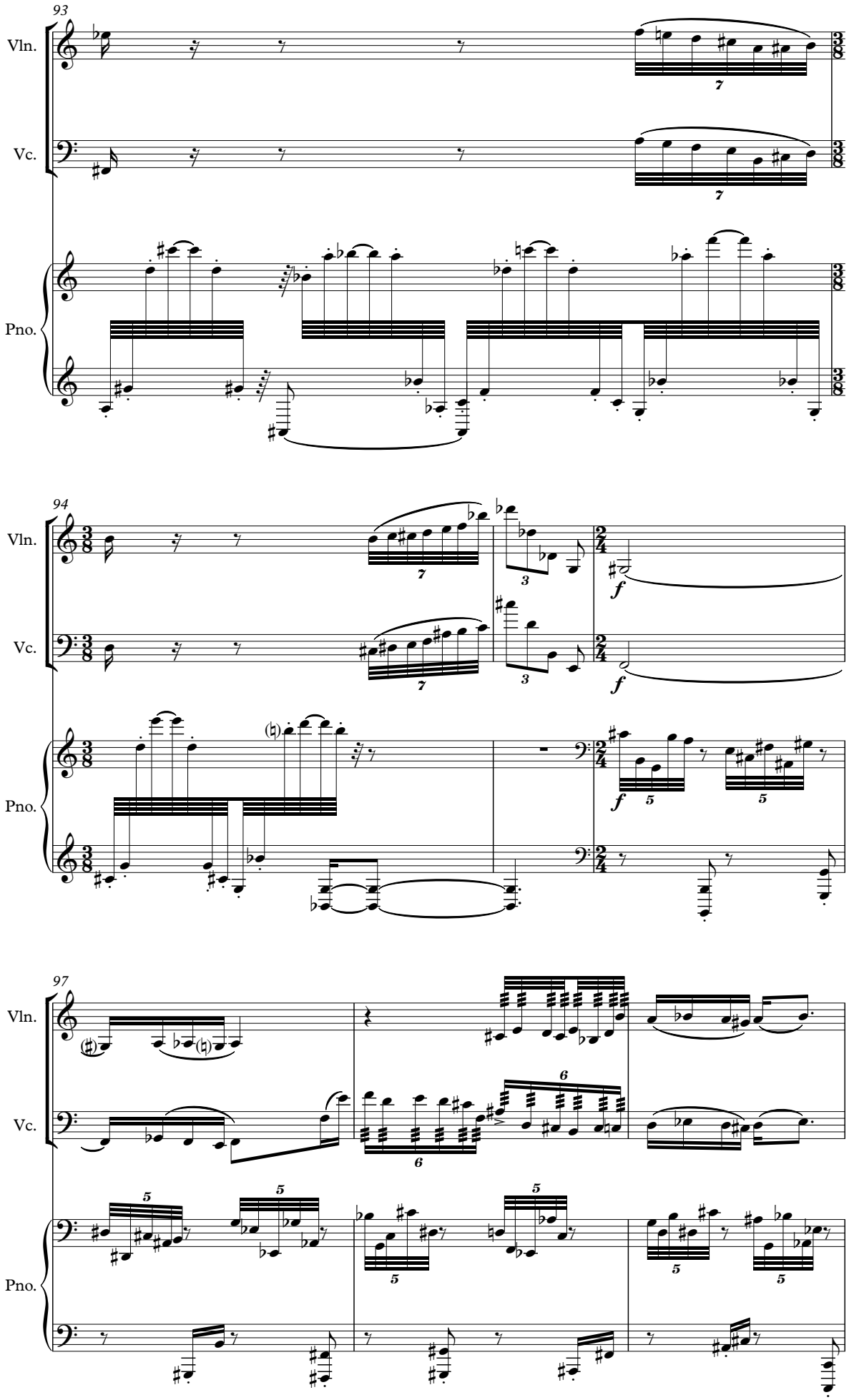

72
Vln.
Vc.
Pno.
pizz.
arco
pizz.

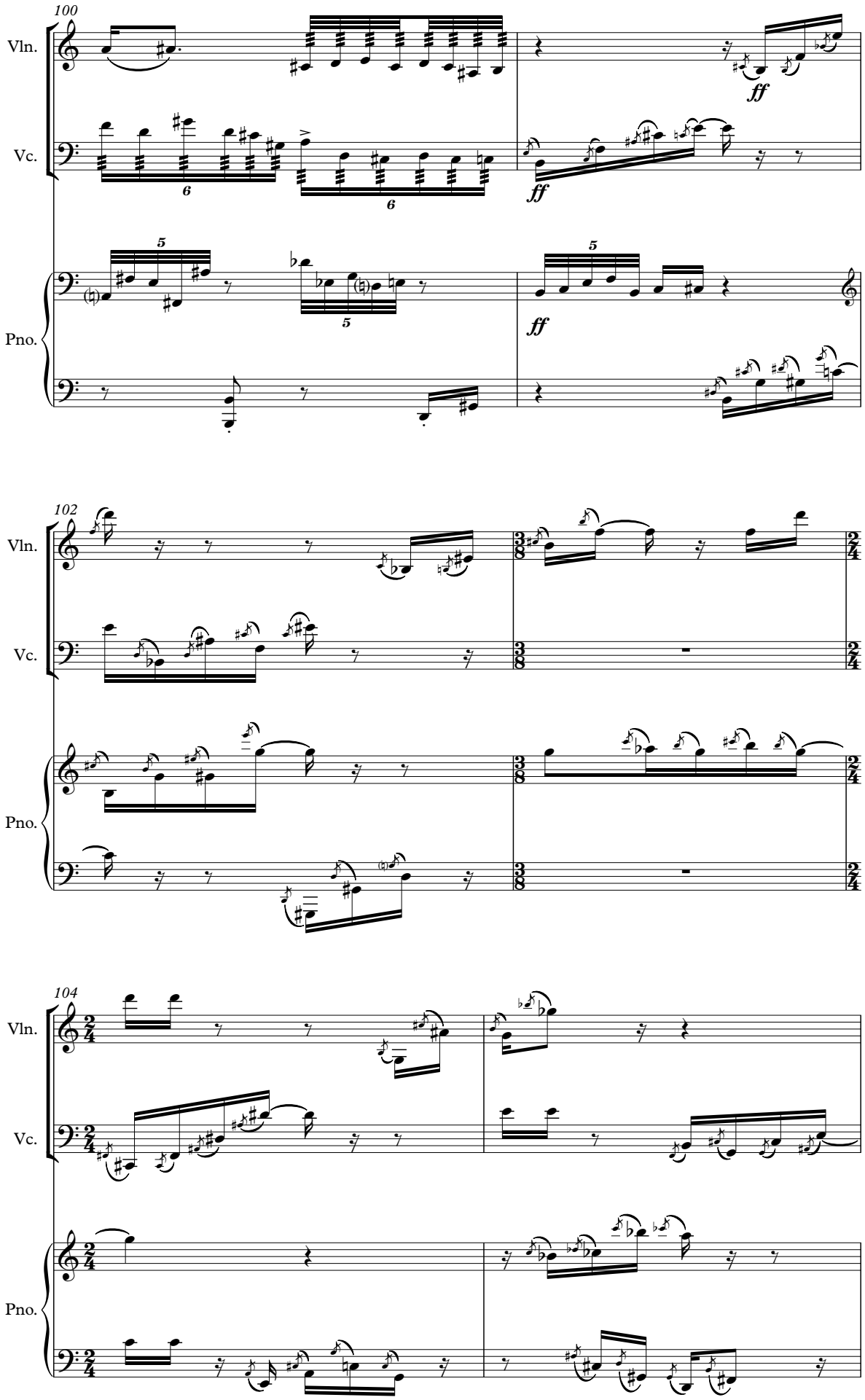

10
75
Vln.
Vc.
Pno.
arco
p
sfz
78
rit.
mf
80
=45
f

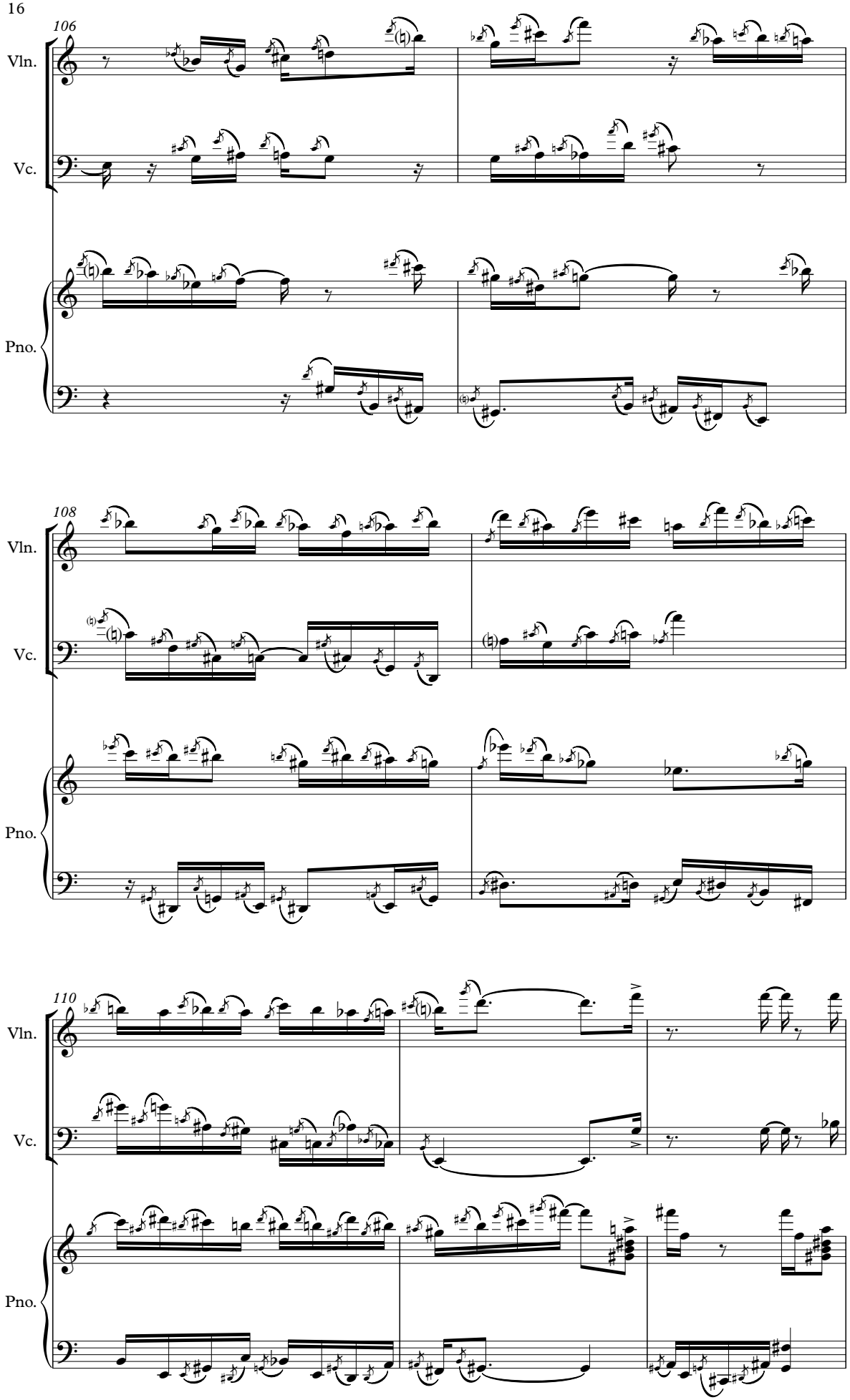

off the string
82
Vln.
Vc.
83
Vln.
Vc.
brittle
Pno.
f
84
Vln.
Vc.
Pno.
85
Vln.
Vc.
Pno.

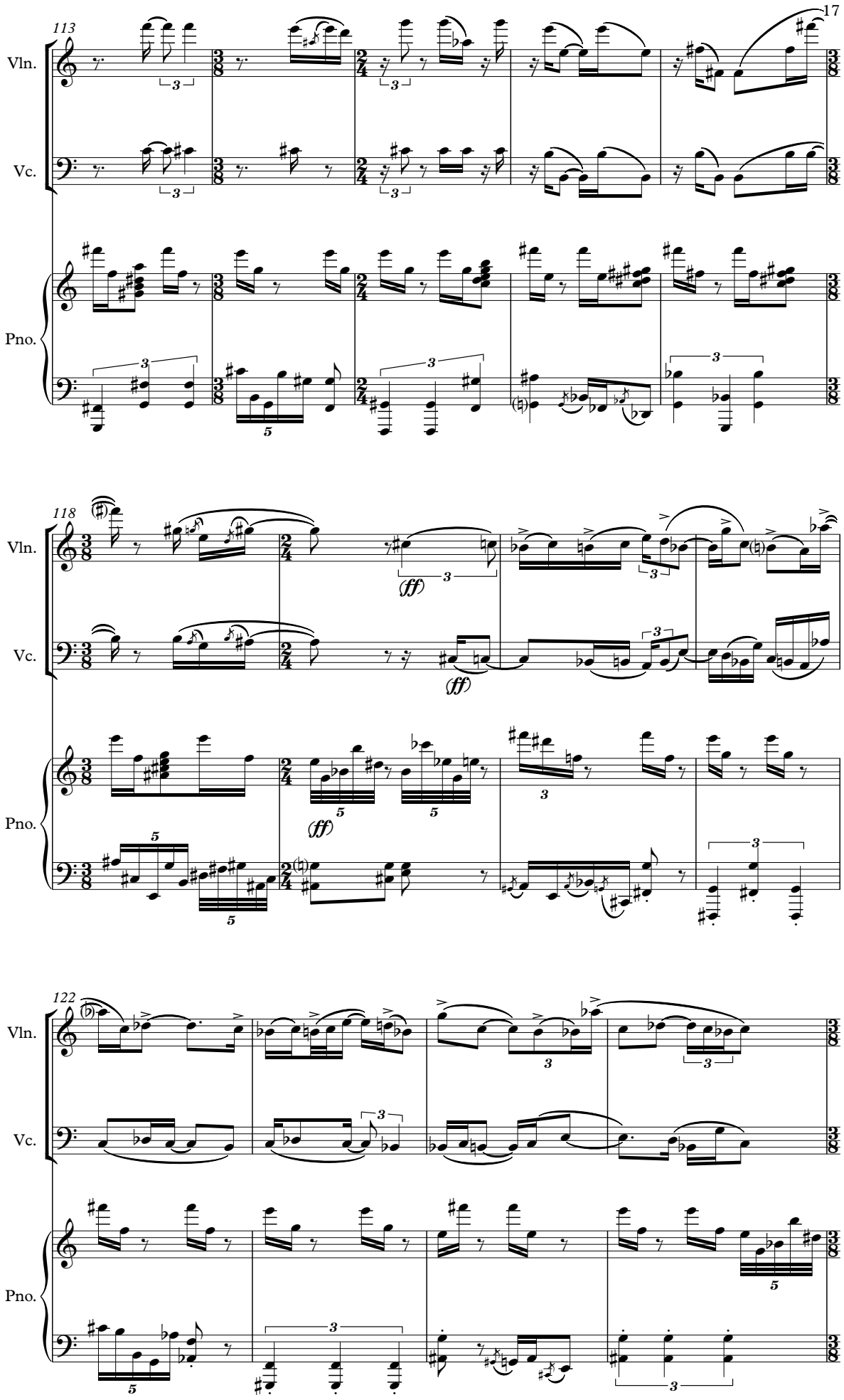

86
Vln.
Vc.
Pno.
88
Vln.
Vc.
Pno.
(f)
(f)
mf
f
89
Vln.
Vc.
Pno.
tr
tr

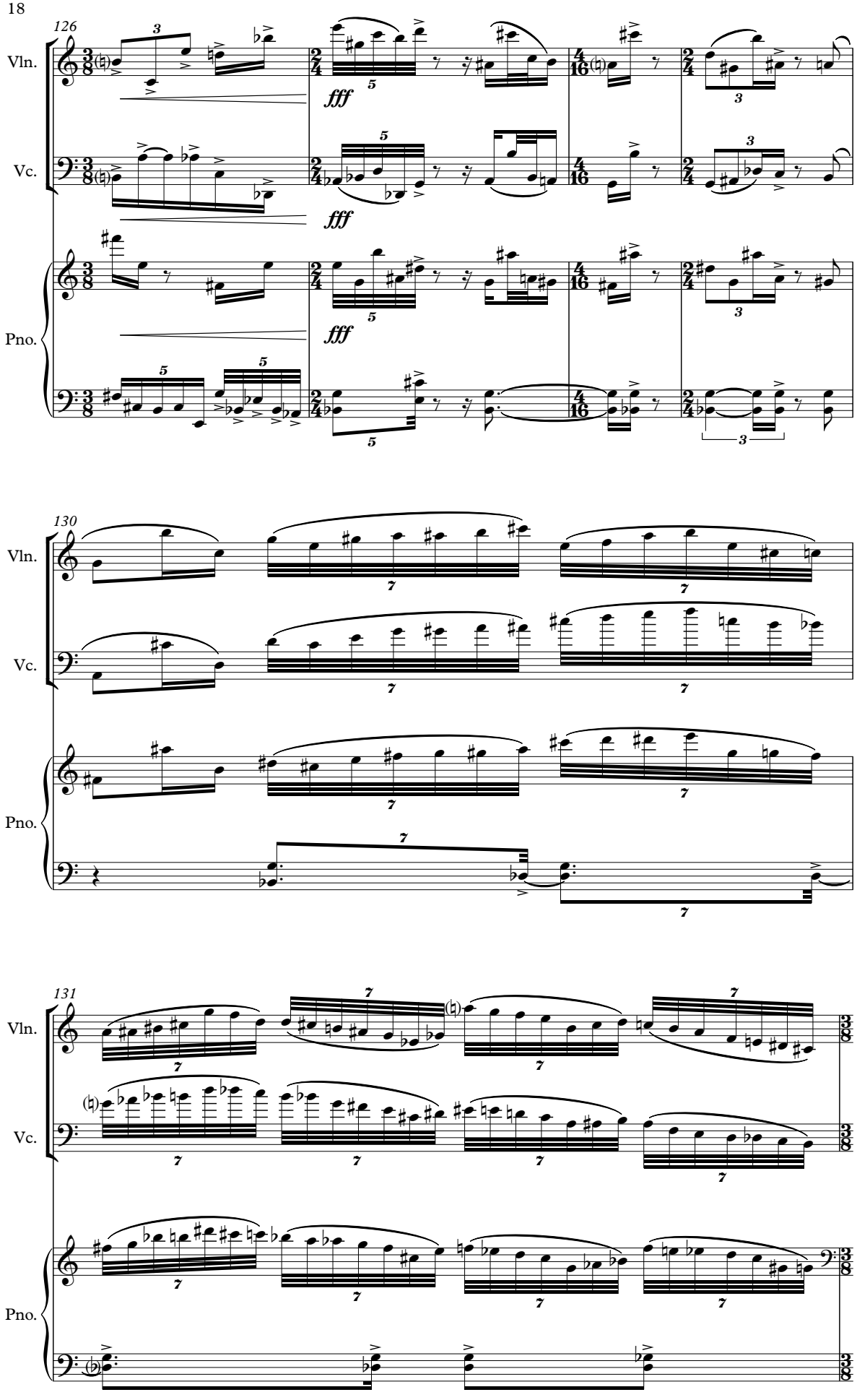

90
Pitches and tremolo may be approximated
Vln.
fff
Pitches and tremolo may be approximated
Vc.
fff
Pno.
fff
91
Vln.
Vc.
Pno.
92
Vln.
Vc.
Pno.

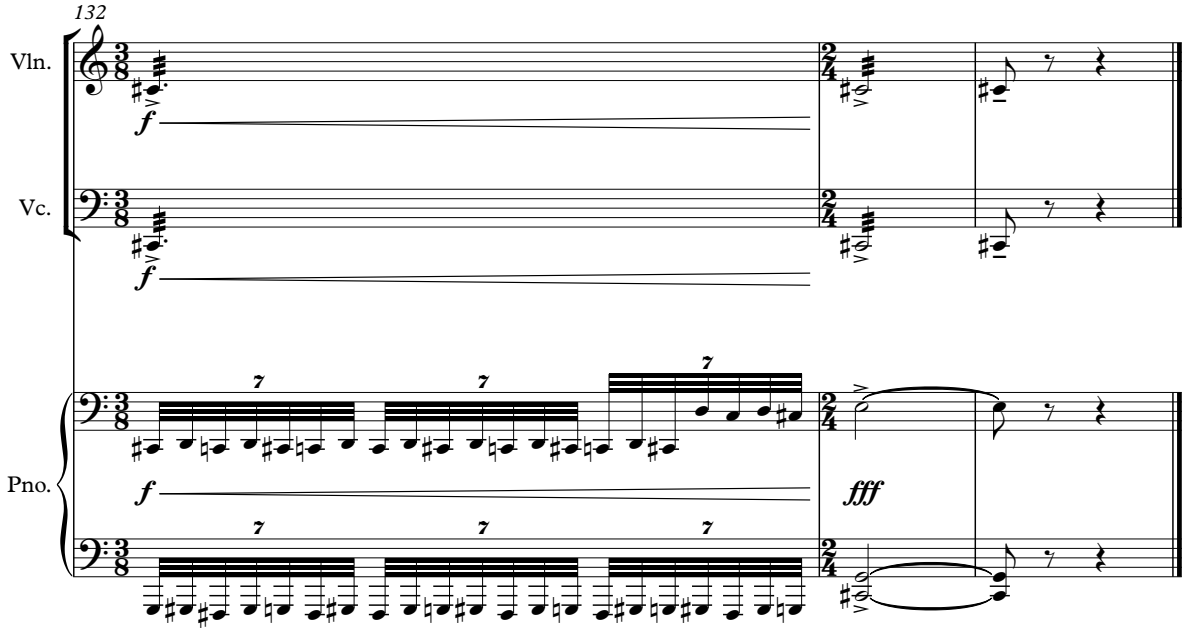

93
Vln.
Vc.
Pno.
94
Vln.
Vc.
Pno.
97
Vln.
Vc.
Pno.


100
Vln.
Vc.
Pno.
ff
ff
ff
102
Vln.
Vc.
Pno.
104
Vln.
Vc.
Pno.


106
Vln.
Vc.
Pno.
108
Vln.
Vc.
Pno.
110
Vln.
Vc.
Pno.


113
17
Vln.
Vc.
Pno.
118
(ff)
(ff)
122


126
Vln.
Vc.
Pno.
fff
130
131


132
Vln.
Vc.
Pno.
f
f
f
fff

Adam Cullen

Charge of the Light Brigade

for Choir (SSAATTBB)

2016

Duration c3:40

Text by Lord Alfred Tennyson

Charge of the Light Brigade by Lord Alfred Tennyson

I
Half a league, half a league,
Half a league onward,
All in the valley of Death
  Rode the six hundred.
'Forward, the Light Brigade!
Charge for the guns!' he said.
Into the valley of Death
  Rode the six hundred.

II
'Forward, the Light Brigade!'
Was there a man dismayed?
Not though the soldier knew
  Someone had blundered.
  Theirs not to make reply,
  Theirs not to reason why,
  Theirs but to do and die.
  Into the valley of Death
  Rode the six hundred.

III
Cannon to right of them,
Cannon to left of them,
Cannon in front of them
  Volleyed and thundered;
Stormed at with shot and shell,
Boldly they rode and well,
Into the jaws of Death,
Into the mouth of hell
  Rode the six hundred.

IV
Flashed all their sabres bare,
Flashed as they turned in air
Sabring the gunners there,
Charging an army, while
  All the world wondered.
Plunged in the battery-smoke
Right through the line they broke;
Cossack and Russian
Reeled from the sabre stroke
  Shattered and sundered.
Then they rode back, but not
  Not the six hundred.

V
Cannon to right of them,
Cannon to left of them,
Cannon behind them
  Volleyed and thundered;
Stormed at with shot and shell,
While horse and hero fell.
They that had fought so well
Came through the jaws of Death,
Back from the mouth of hell,
All that was left of them,
  Left of six hundred.

VI
When can their glory fade?
O the wild charge they made!
  All the world wondered.
Honour the charge they made!
Honour the Light Brigade,
  Noble six hundred!

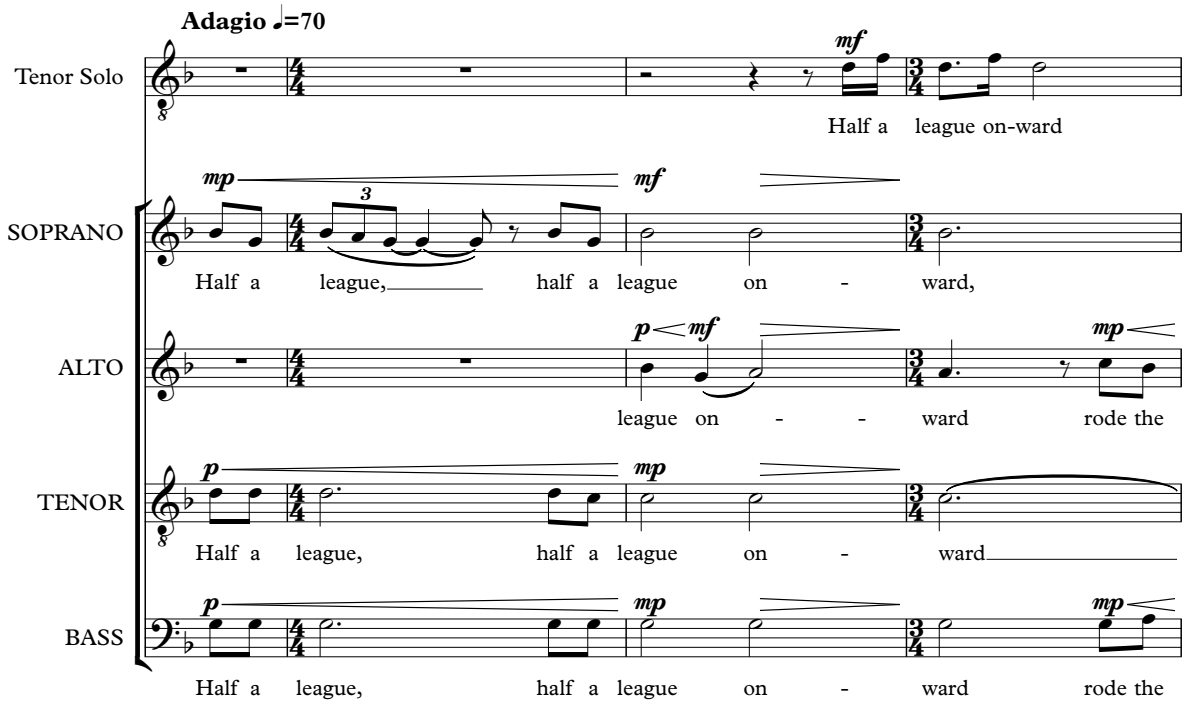
Programme Note:

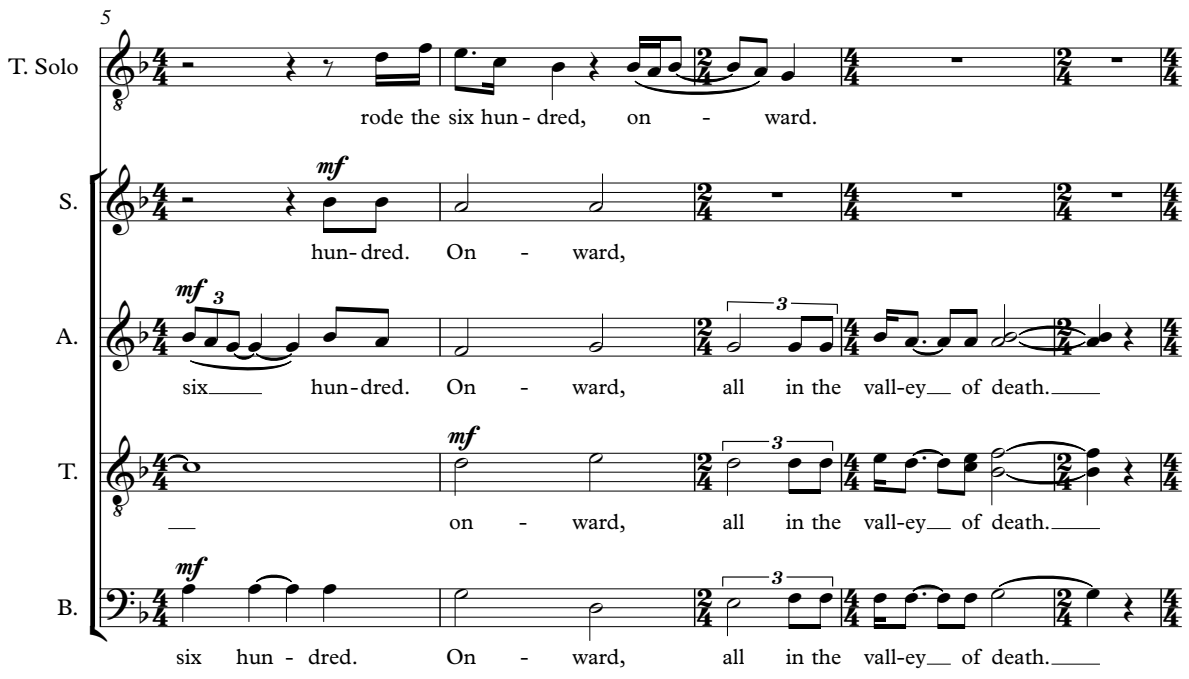
The text is presented in a fragmented state in the score (see above for the original). The meaning of certain lines are altered by this treatment and the overall impression of these changes should be to create a version of the poem which is less sabre-rattling and more filled with lamentation.

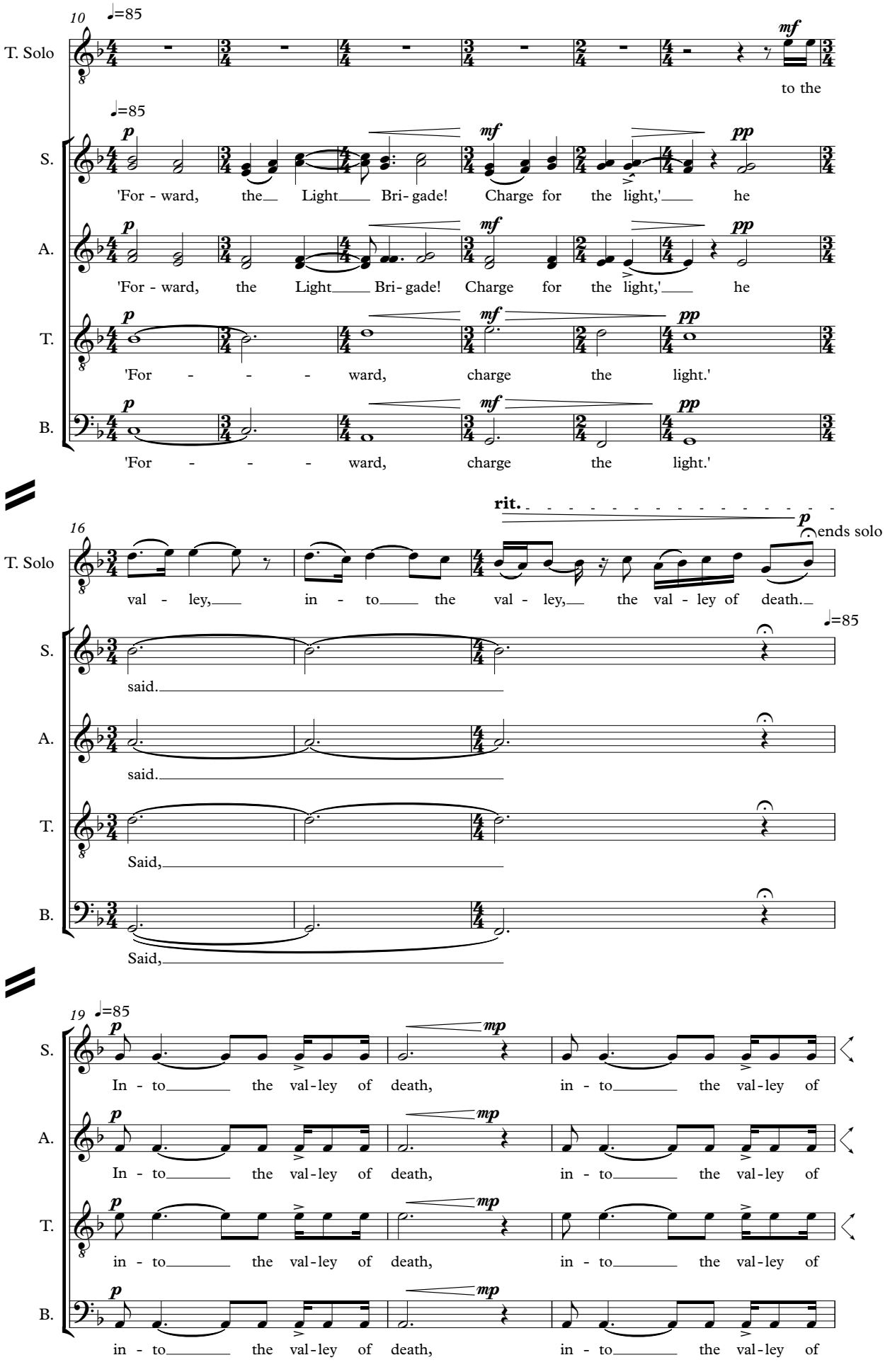
Charge of the Light Brigade

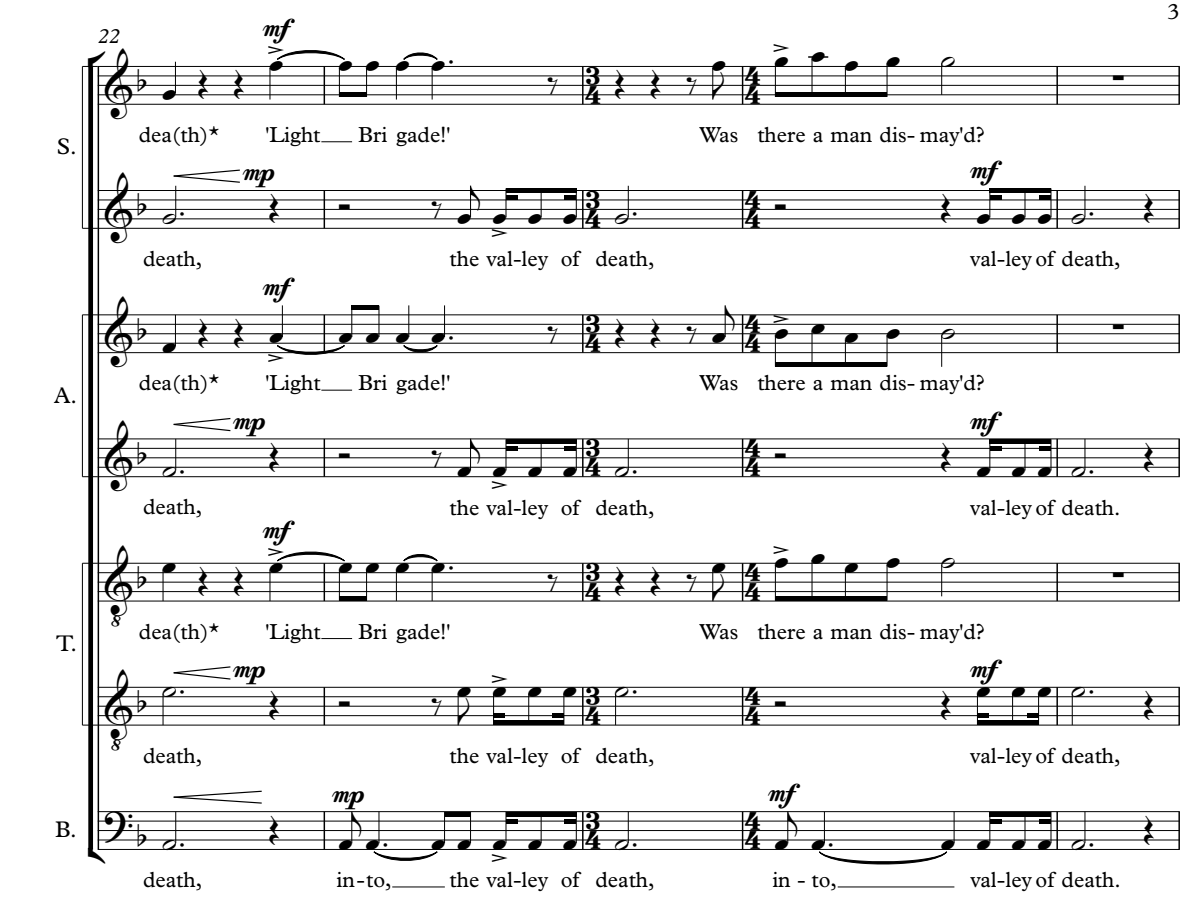
Lord Alfred Tennyson

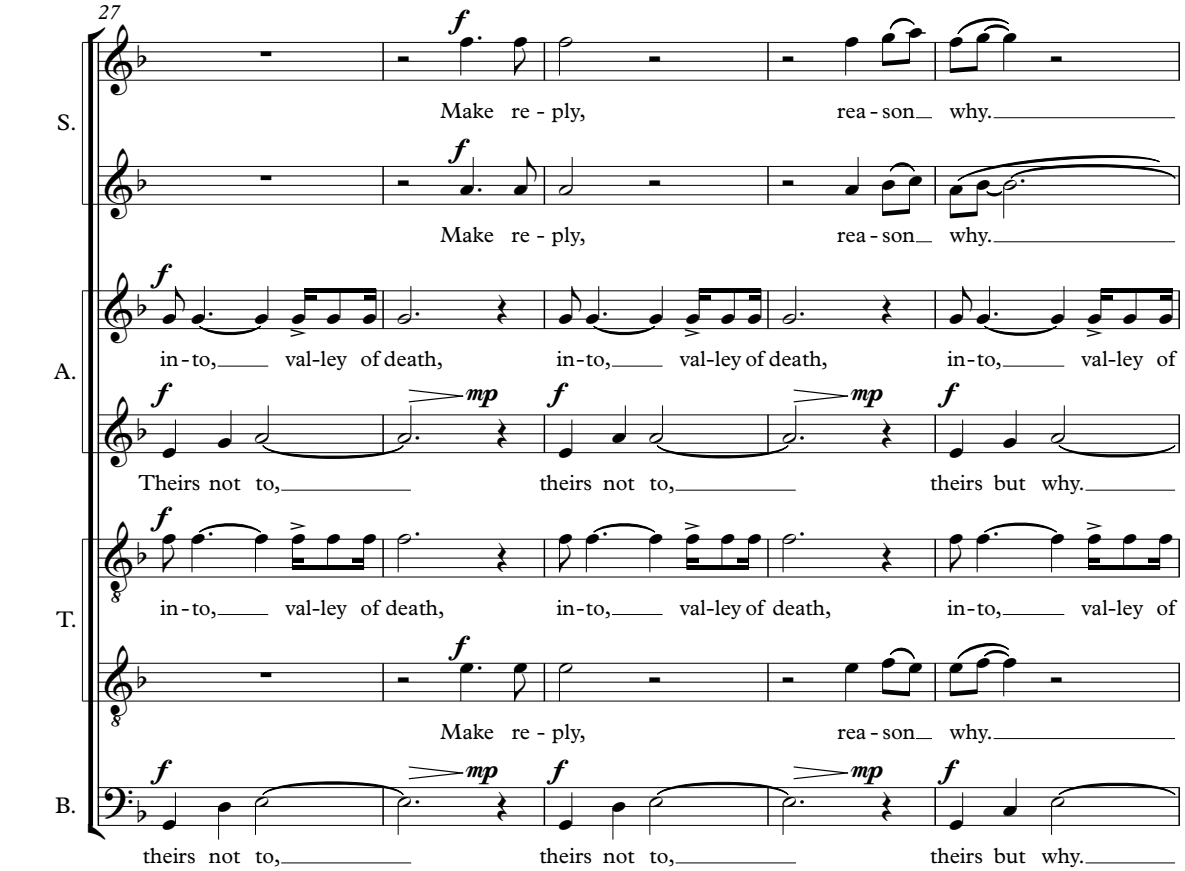
Adam Cullen



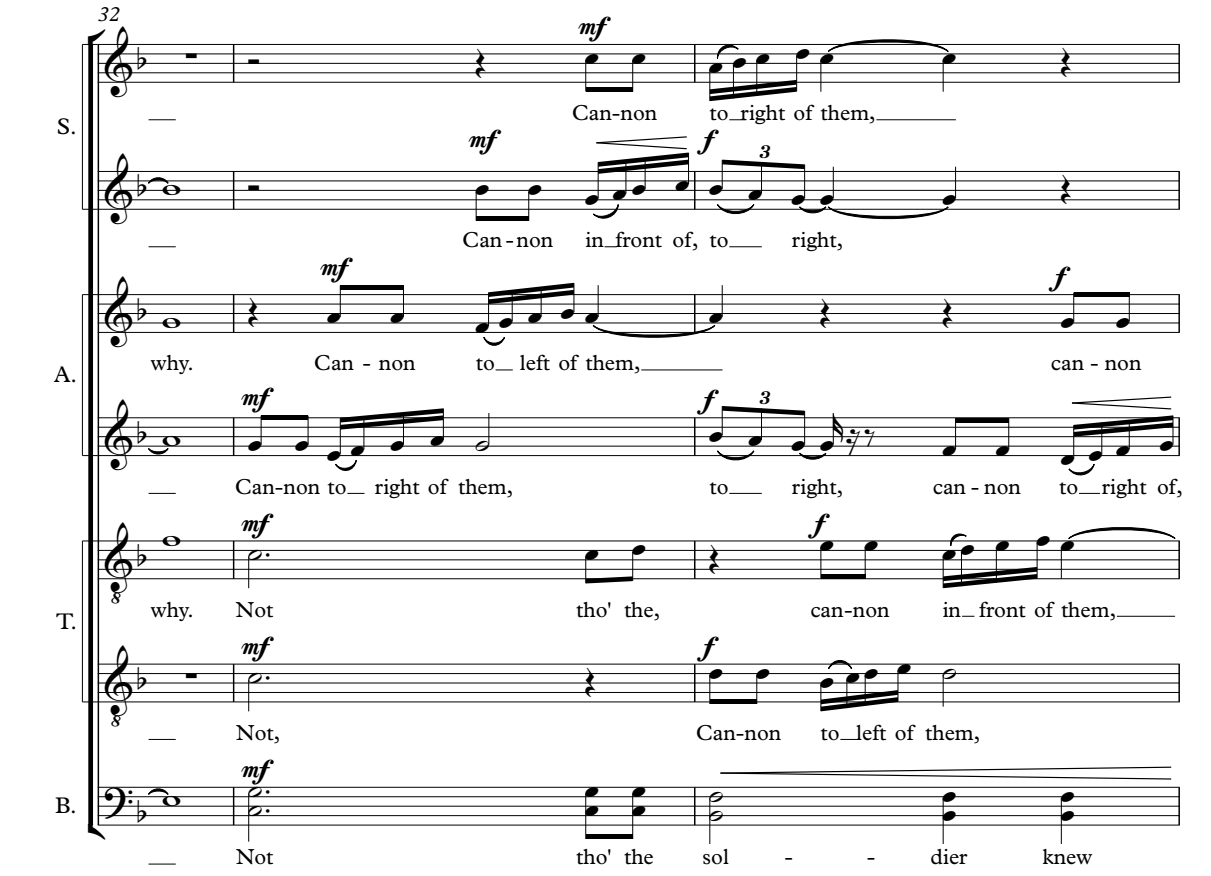


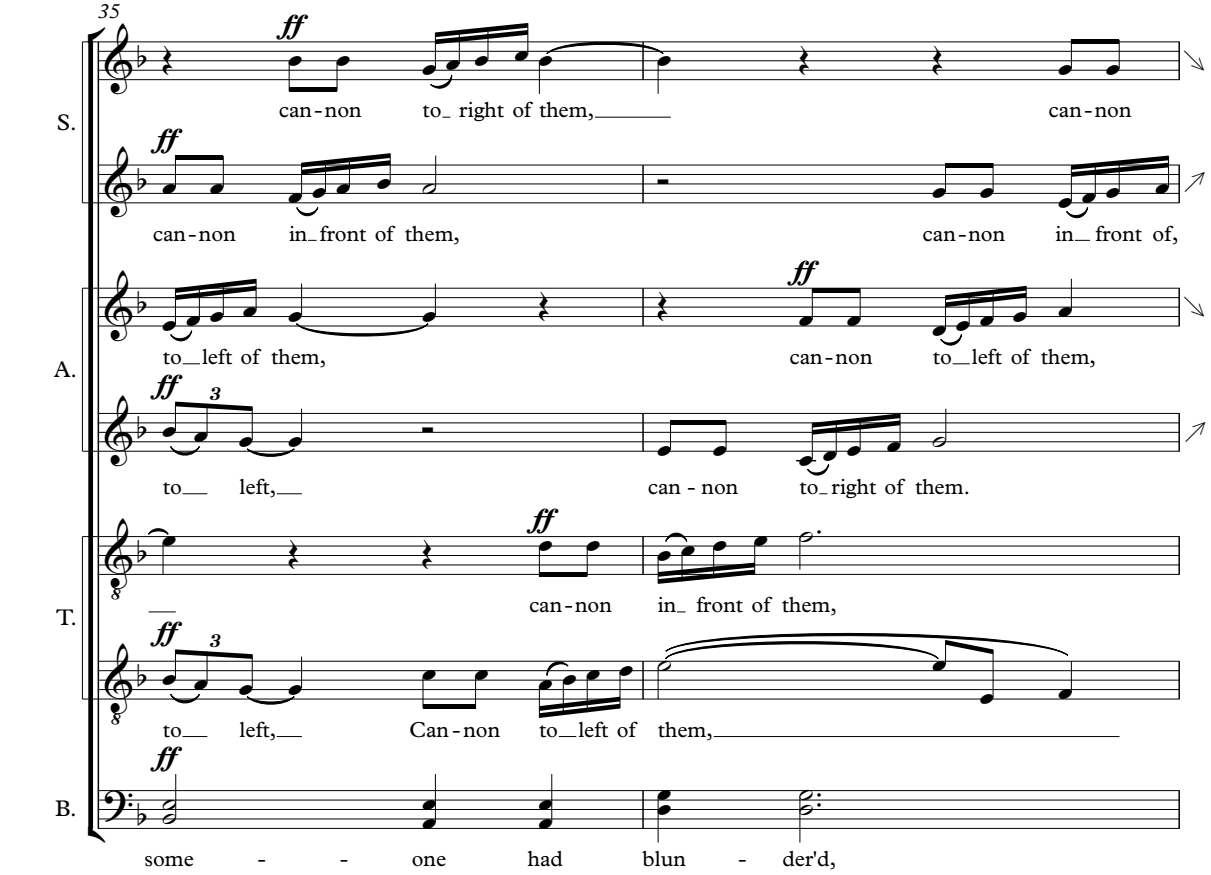

10
♩=85
T. Solo
mf
to the
S.
A.
T.
B.
p
mf
pp
'For - ward, the Light Bri- gade! Charge for the light,' he
'For - ward, the Light Bri- gade! Charge for the light,' he
'For - - - ward, charge the light.'
'For - - - ward, charge the light.'
16
rit.
p
ends solo
T. Solo
val - ley, in - to the val - ley, the val - ley of death.
♩=85
said.
said.
Said,
Said,
19
♩=85
mp
In - to the val-ley of death, in - to the val-ley of
in - to the val-ley of death, in - to the val-ley of

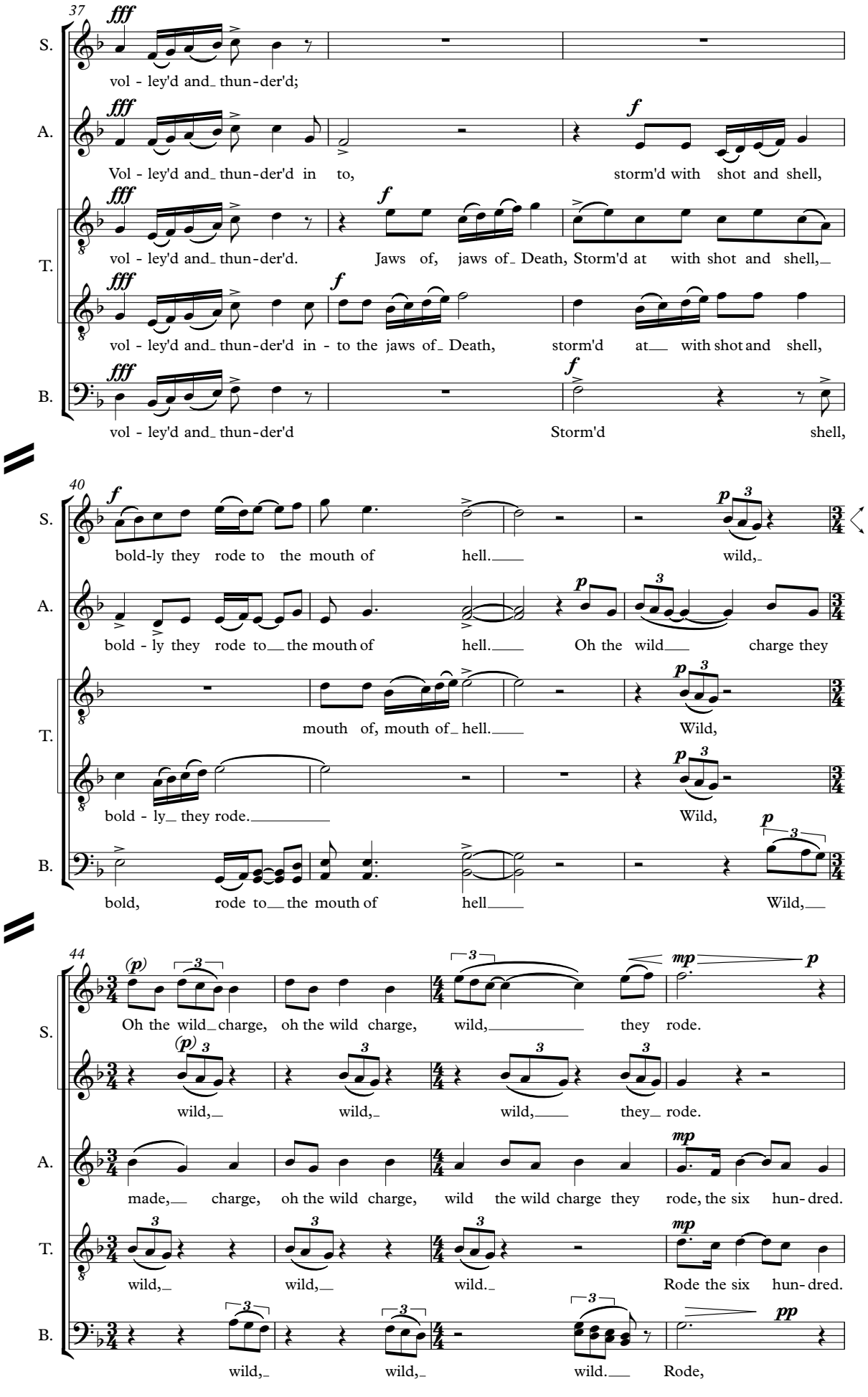


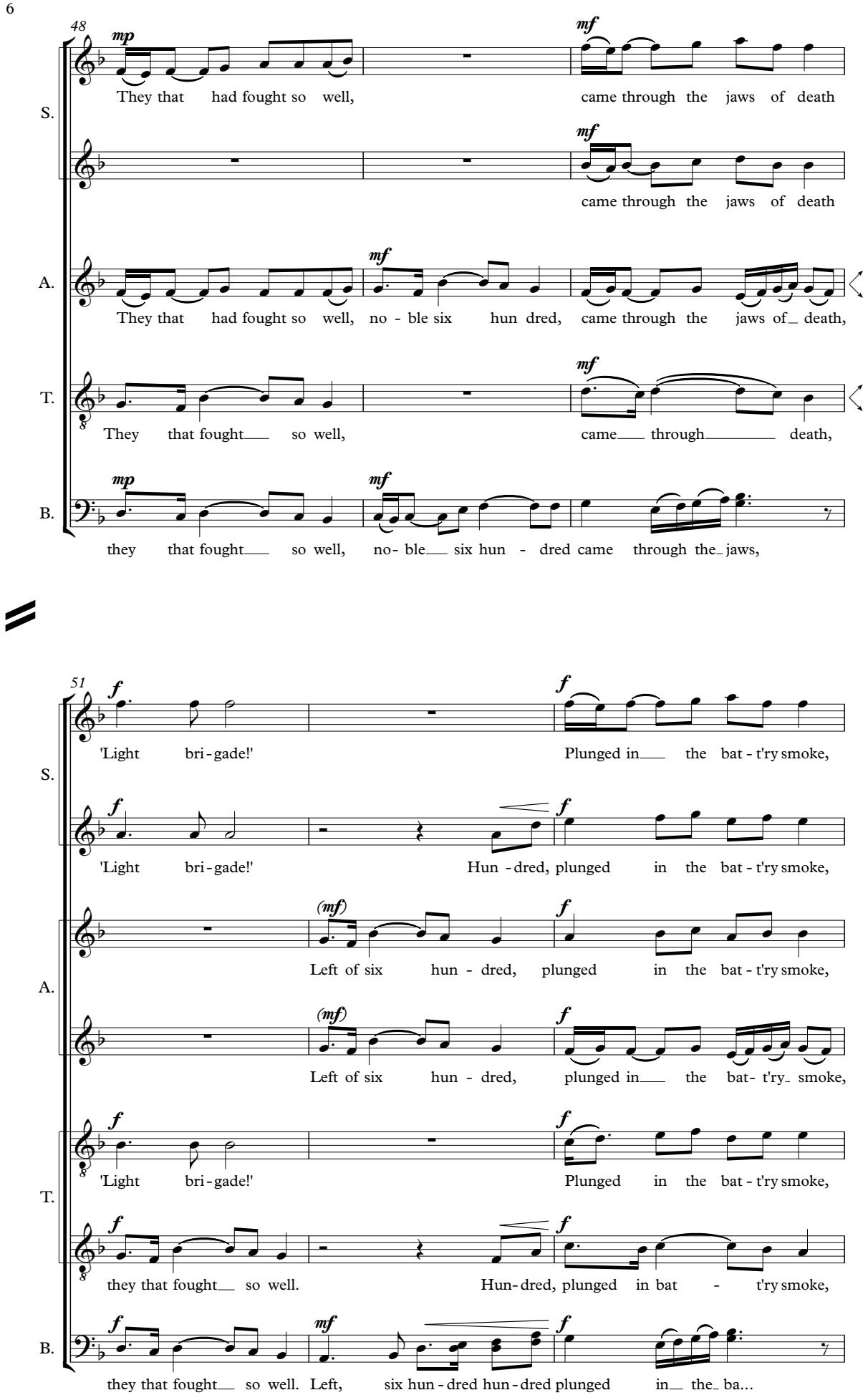


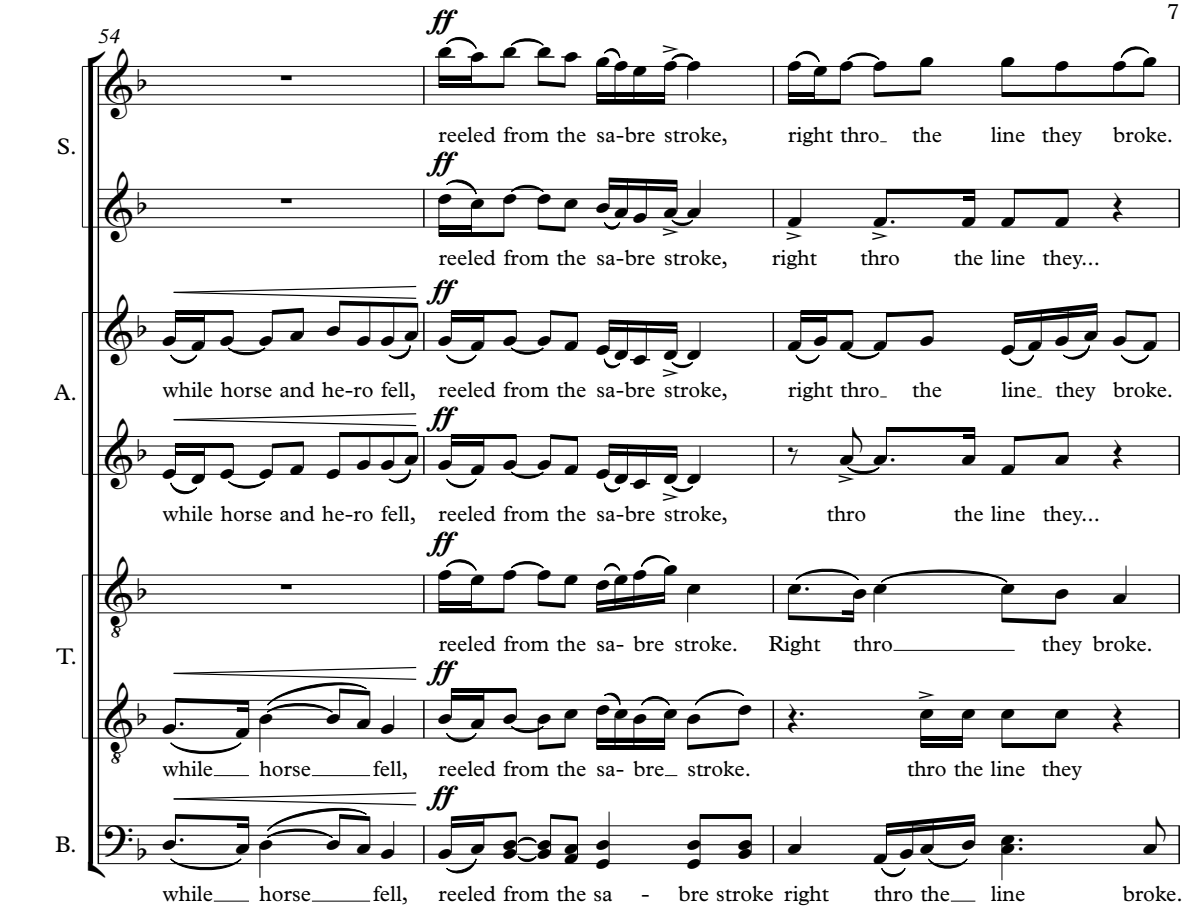
*The letters in brackets are omitted.

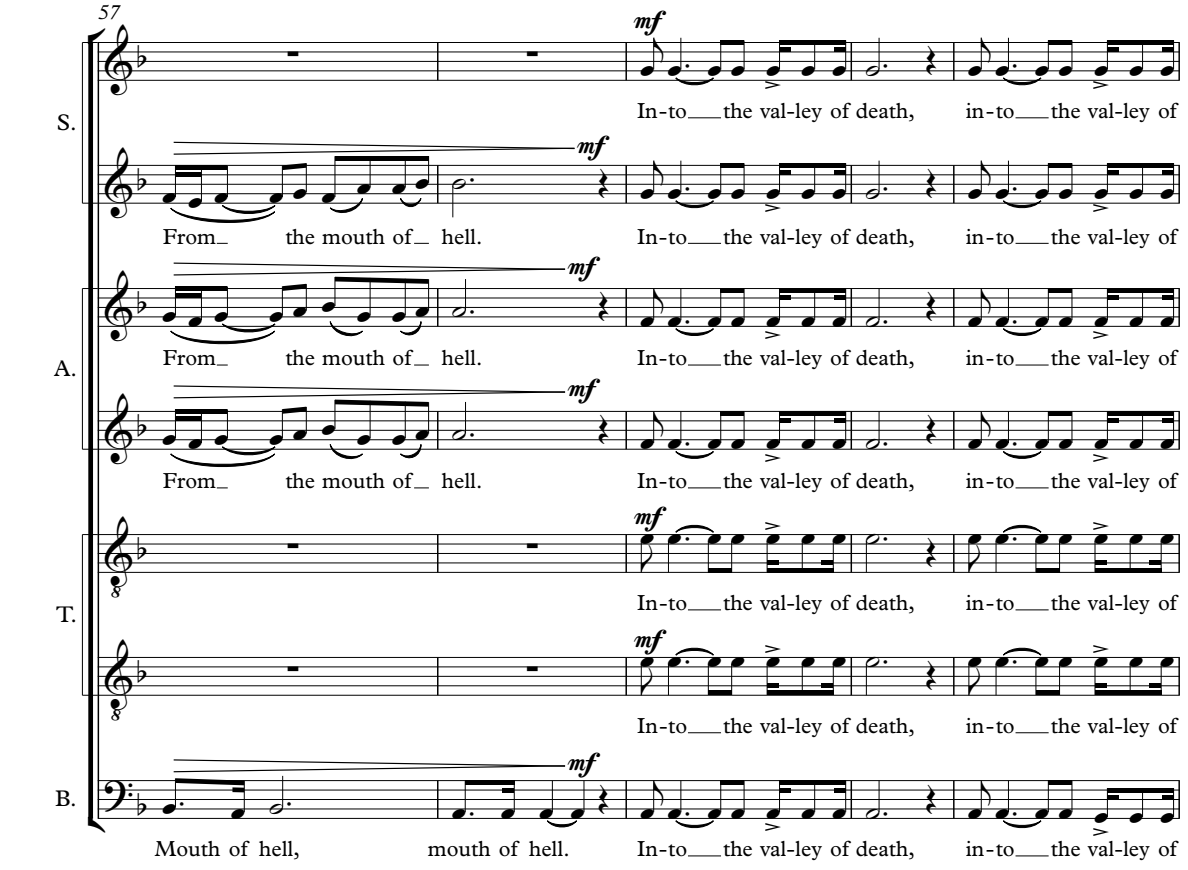

32
S.
A.
T.
B.
mf
f
Can-non to_right of them,
Can-non in_front of, to___ right,
why. Can - non to_ left of them,
can - non
Can-non to_ right of them,
to___ right, can - non to_right of,
why. Not tho' the, can-non in_ front of them,
Not, Can-non to_left of them,
Not tho' the sol - - dier knew


35
S.
A.
T.
B.
ff
3
can-non to_ right of them,
can-non
can-non in_front of them,
can-non in_ front of,
to_left of them,
can-non to_left of them,
to___ left,___
can - non to_right of them.
can-non in_ front of them,
to___ left,___ Can-non to_left of them,
some - - one had blun - der'd,

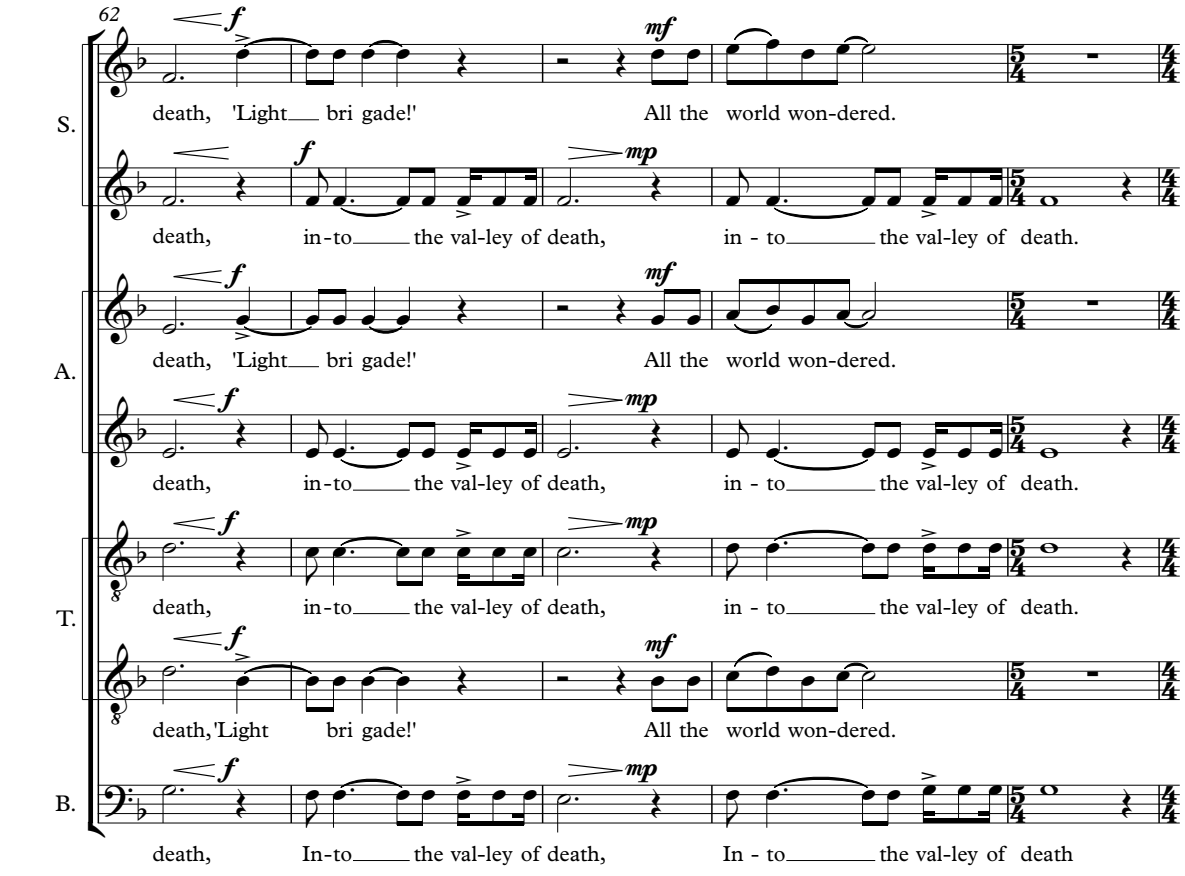

37
S.
A.
T.
B.
vol - ley'd and_ thun-der'd;
Vol - ley'd and_ thun-der'd in to, storm'd with shot and shell,
vol - ley'd and_ thun-der'd. Jaws of, jaws of_ Death, Storm'd at with shot and shell,_
vol - ley'd and_ thun-der'd in - to the jaws of_ Death, storm'd at__ with shot and shell,
vol - ley'd and_ thun-der'd Storm'd shell,
40
bold-ly they rode to the mouth of hell.___ wild,_
bold - ly they rode to__ the mouth of hell.___ Oh the wild___ charge they
mouth of, mouth of_ hell.___ Wild,
bold - ly_ they rode.___ Wild,
bold, rode to__ the mouth of hell___ Wild,___
44
Oh the wild_charge, oh the wild charge, wild,_____ they rode.
wild,_ wild,_ wild,___ they_ rode.
made,__ charge, oh the wild charge, wild the wild charge they rode, the six hun-dred.
wild,_ wild,__ wild._ Rode the six hun-dred.
wild,_ wild,_ wild.___ Rode,

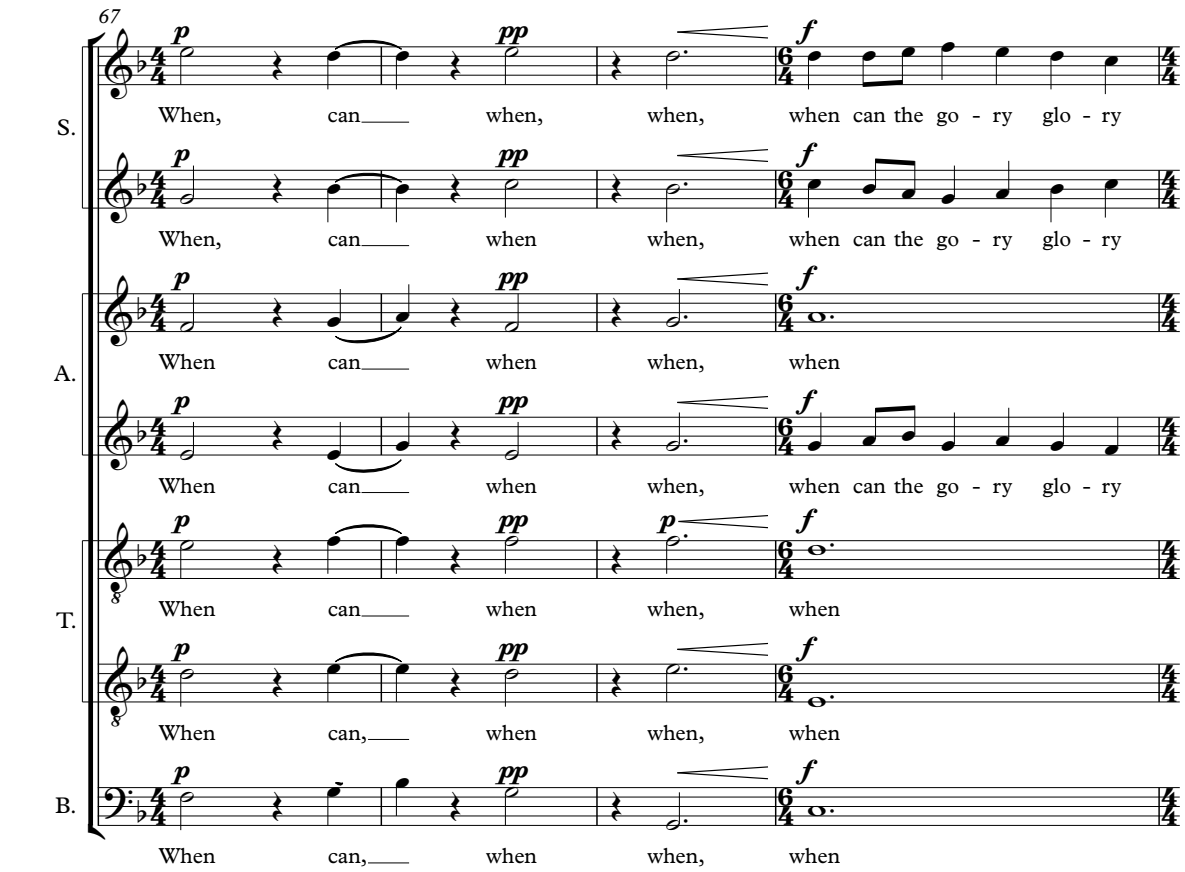

48
mp
mf
They that had fought so well, came through the jaws of death
S.
mf
came through the jaws of death
A.
mf
They that had fought so well, no - ble six hun dred, came through the jaws of_ death,
T.
mf
They that fought so well, came through death,
B.
mp
mf
they that fought so well, no- ble six hun - dred came through the_ jaws,
51
f
'Light bri - gade!' Plunged in the bat - t'ry smoke,
S.
f
'Light bri - gade!' Hun - dred, plunged in the bat - t'ry smoke,
A.
(mf)
f
Left of six hun - dred, plunged in the bat - t'ry smoke,
(mf)
f
Left of six hun - dred, plunged in the bat- t'ry_ smoke,
T.
f
'Light bri - gade!' Plunged in the bat - t'ry smoke,
f
they that fought so well. Hun - dred, plunged in bat - t'ry smoke,
B.
f
mf
f
they that fought so well. Left, six hun - dred hun - dred plunged in the_ ba...

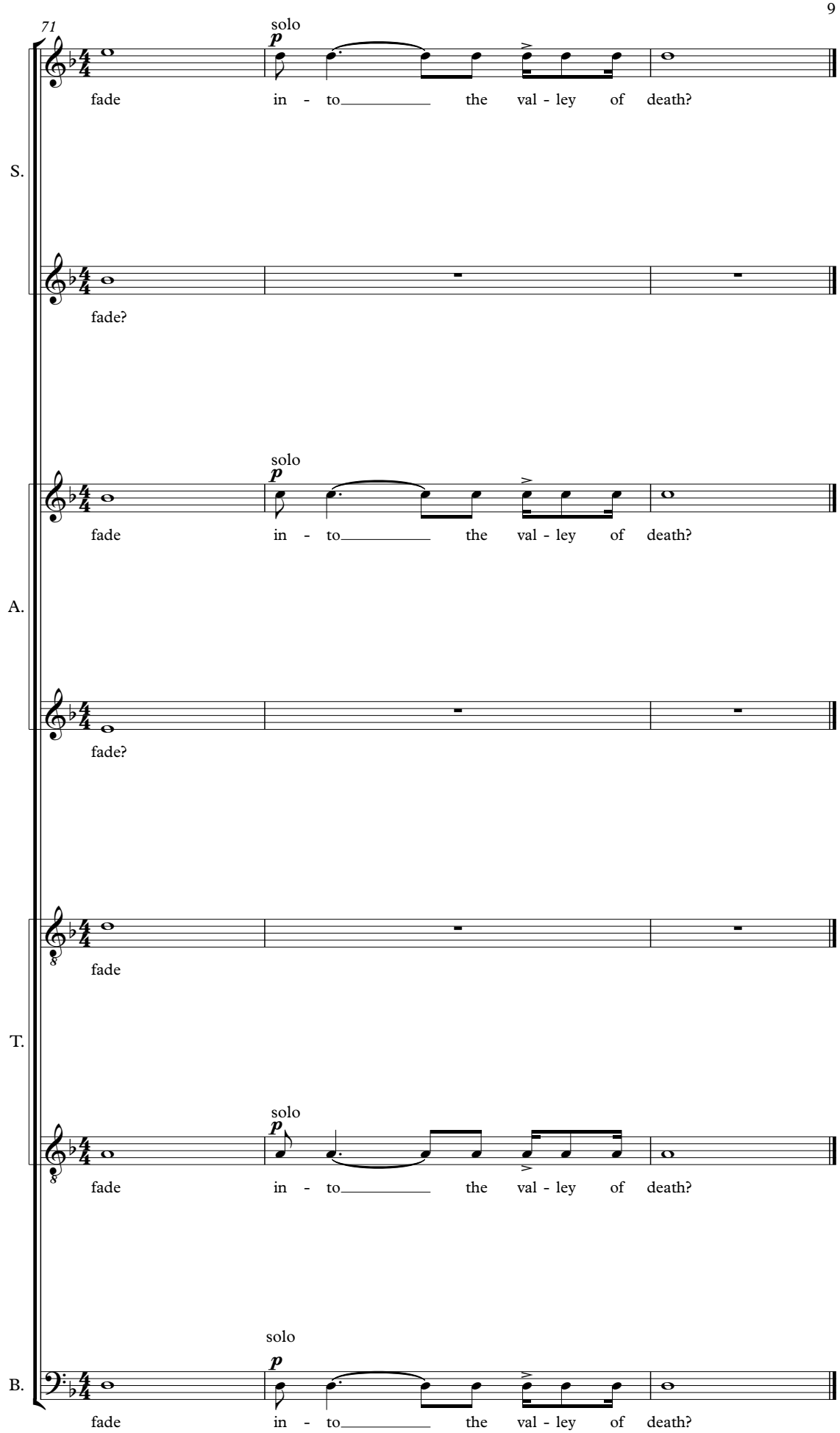

54
S.
A.
T.
B.
ff
reeled from the sa-bre stroke, right thro_ the line they broke.
reeled from the sa-bre stroke, right thro the line they...
while horse and he-ro fell, reeled from the sa-bre stroke, right thro_ the line_ they broke.
while horse and he-ro fell, reeled from the sa-bre stroke, thro the line they...
reeled from the sa- bre stroke. Right thro_____ they broke.
while___ horse___ fell, reeled from the sa- bre_ stroke. thro the line they
while___ horse___ fell, reeled from the sa - bre stroke right thro the__ line broke.


57
S.
A.
T.
B.
mf
In-to___the val-ley of death, in-to___the val-ley of
From_ the mouth of_ hell. In-to___the val-ley of death, in-to___the val-ley of
From_ the mouth of_ hell. In-to___the val-ley of death, in-to___the val-ley of
From_ the mouth of_ hell. In-to___the val-ley of death, in-to___the val-ley of
In-to___the val-ley of death, in-to___the val-ley of
In-to___the val-ley of death, in-to___the val-ley of
Mouth of hell, mouth of hell. In-to___the val-ley of death, in-to___the val-ley of

8


62
S.
death, 'Light bri gade!' All the world won-dered.
death, in-to the val-ley of death, in - to the val-ley of death.
A.
death, 'Light bri gade!' All the world won-dered.
death, in-to the val-ley of death, in - to the val-ley of death.
T.
death, in-to the val-ley of death, in - to the val-ley of death.
death,'Light bri gade!' All the world won-dered.
B.
death, In-to the val-ley of death, In - to the val-ley of death


67
S.
When, can when, when, when can the go - ry glo - ry
When, can when when, when can the go - ry glo - ry
A.
When can when when, when
When can when when, when can the go - ry glo - ry
T.
When can when when, when
When can, when when, when
B.
When can, when when, when


71
S.
solo
p
fade in - to the val - ley of death?
fade?
A.
solo
p
fade in - to the val - ley of death?
fade?
T.
fade
solo
p
fade in - to the val - ley of death?
B.
solo
p
fade in - to the val - ley of death?

Adam Cullen

The Cyborg Resurrection

for solo guitar

2016/2017

Duration c7:00

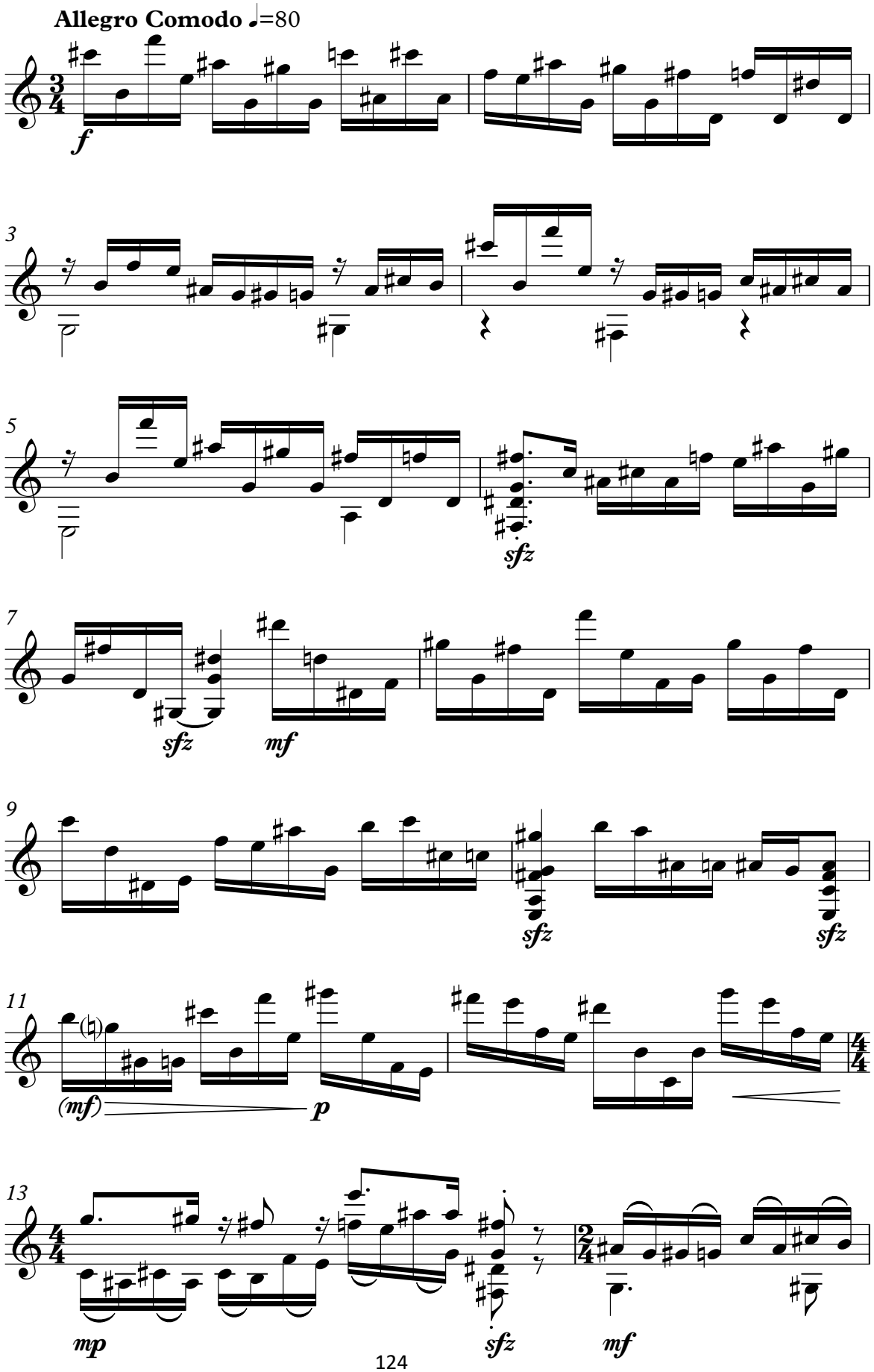
First performance by Darren Loughran at the Dublin Guitar Symposium 22-02-2019

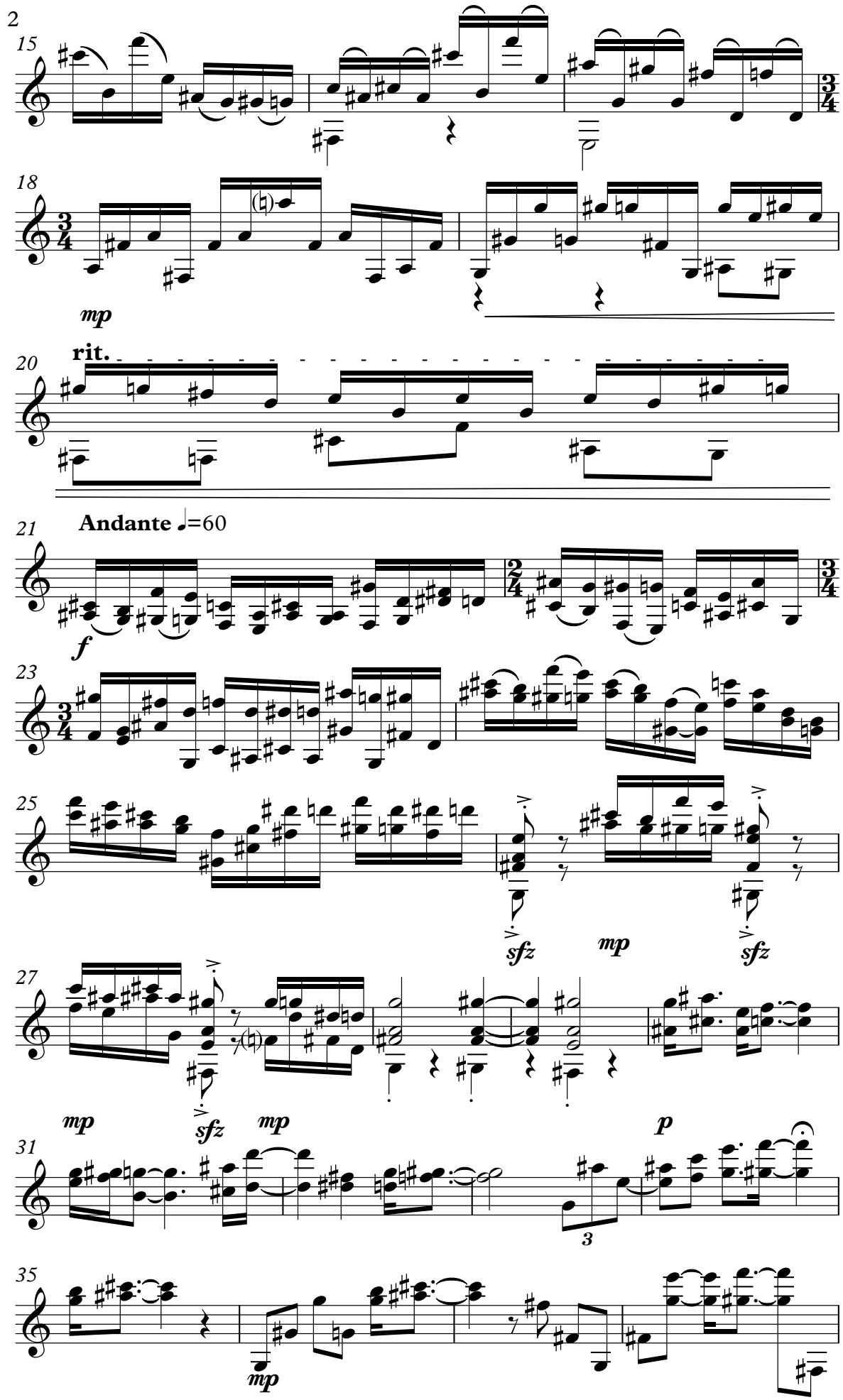
To my guitar teacher, Alan Grundy

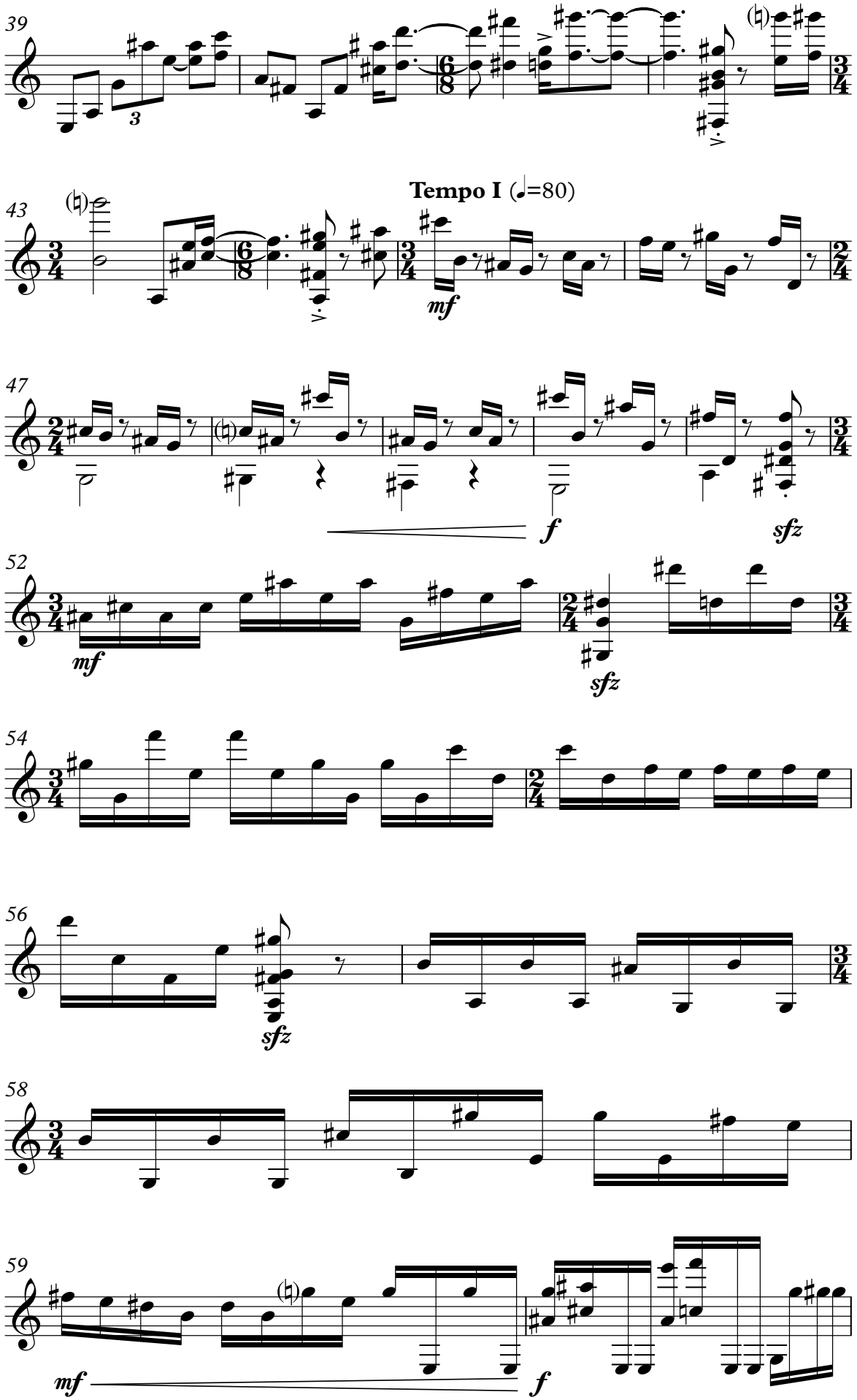
The Cyborg Resurrection

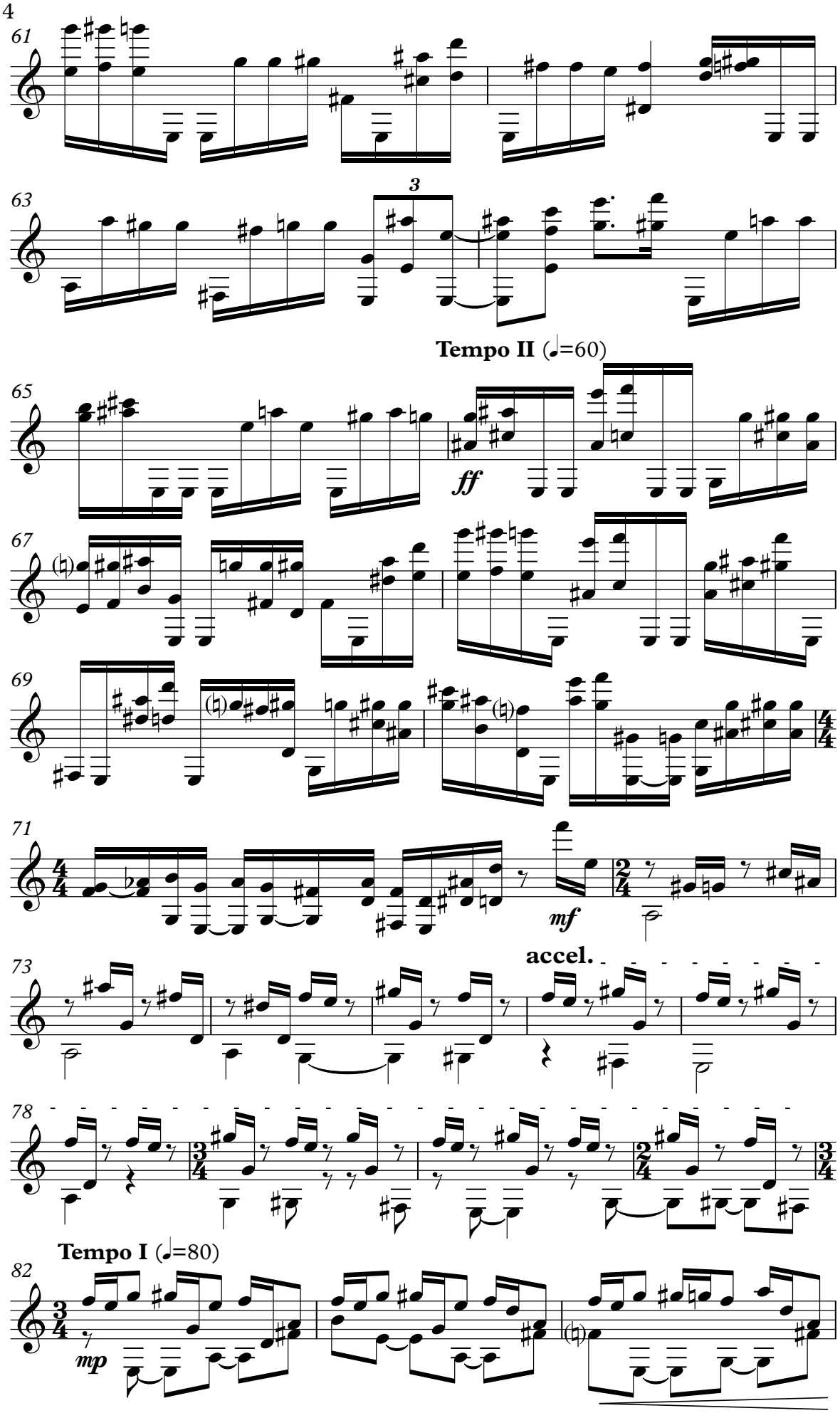
Movement I

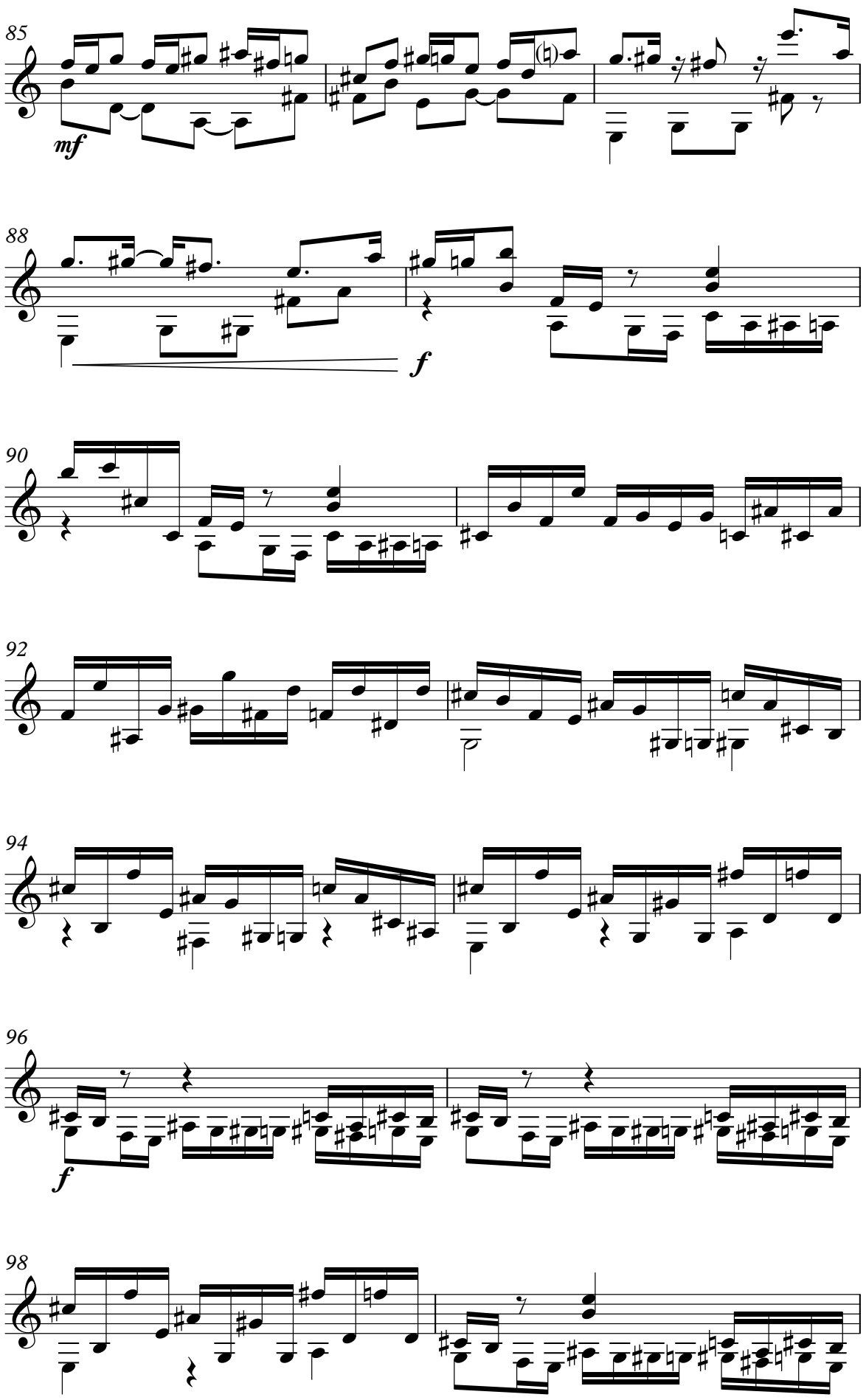
Adam Cullen

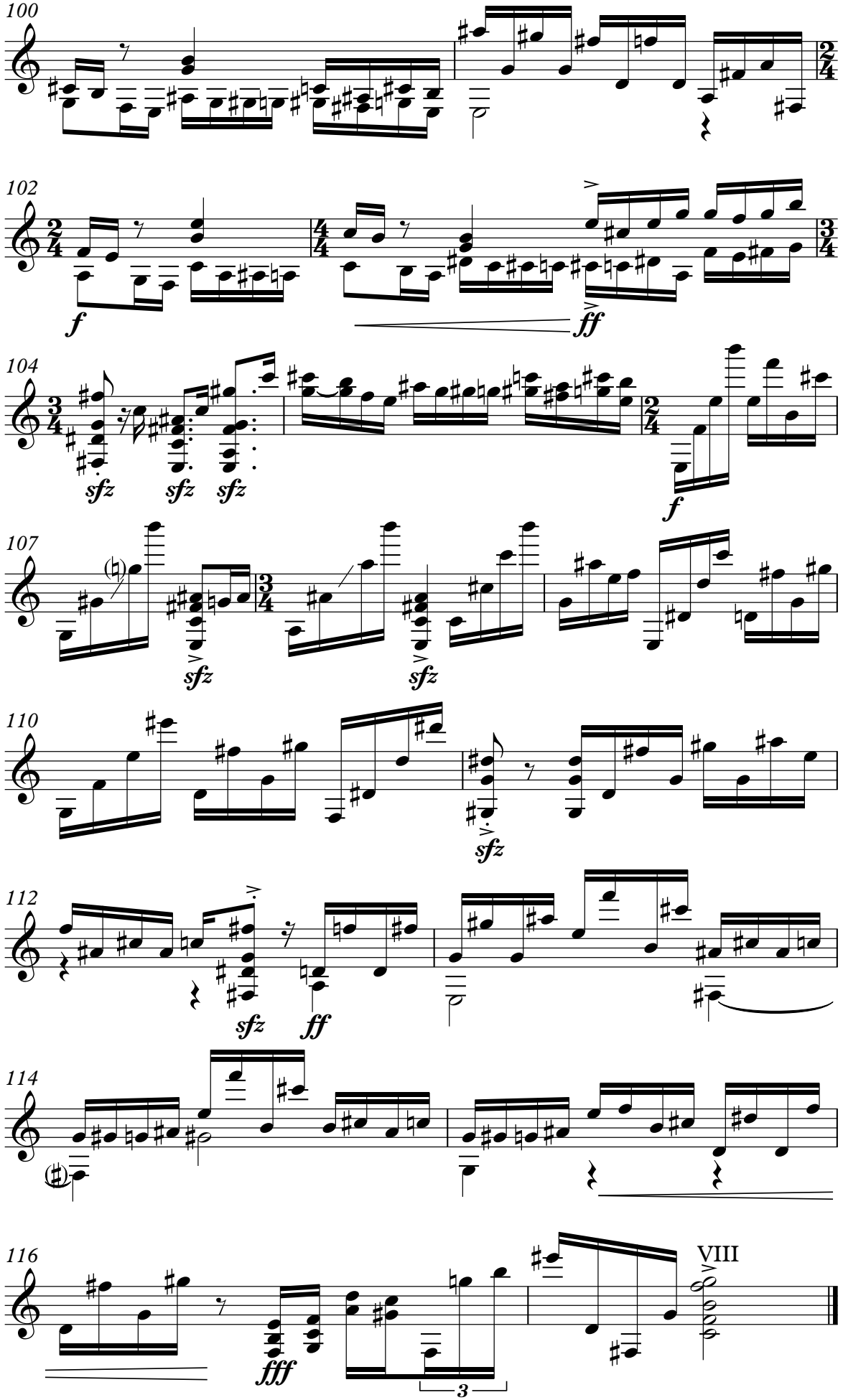



2
15
18
mp
rit.
20
Andante ♩=60
21
f
23
25
sfz
mp
sfz
27
mp
sfz
mp
31
p
3
35
mp


39
43
Tempo I (♩=80)
47
52
54
56
58
59
mf
f
sfz


61
63
3
Tempo II (♩=60)
65
ff
67
69
71
mf
accel.
73
78
Tempo I (♩=80)
82
mp


85
mf
88
f
90
92
94
96
f
98


100
102
f
ff
104
sfz
sfz
sfz
f
107
sfz
sfz
110
sfz
112
sfz
ff
114
116
fff
3
VIII

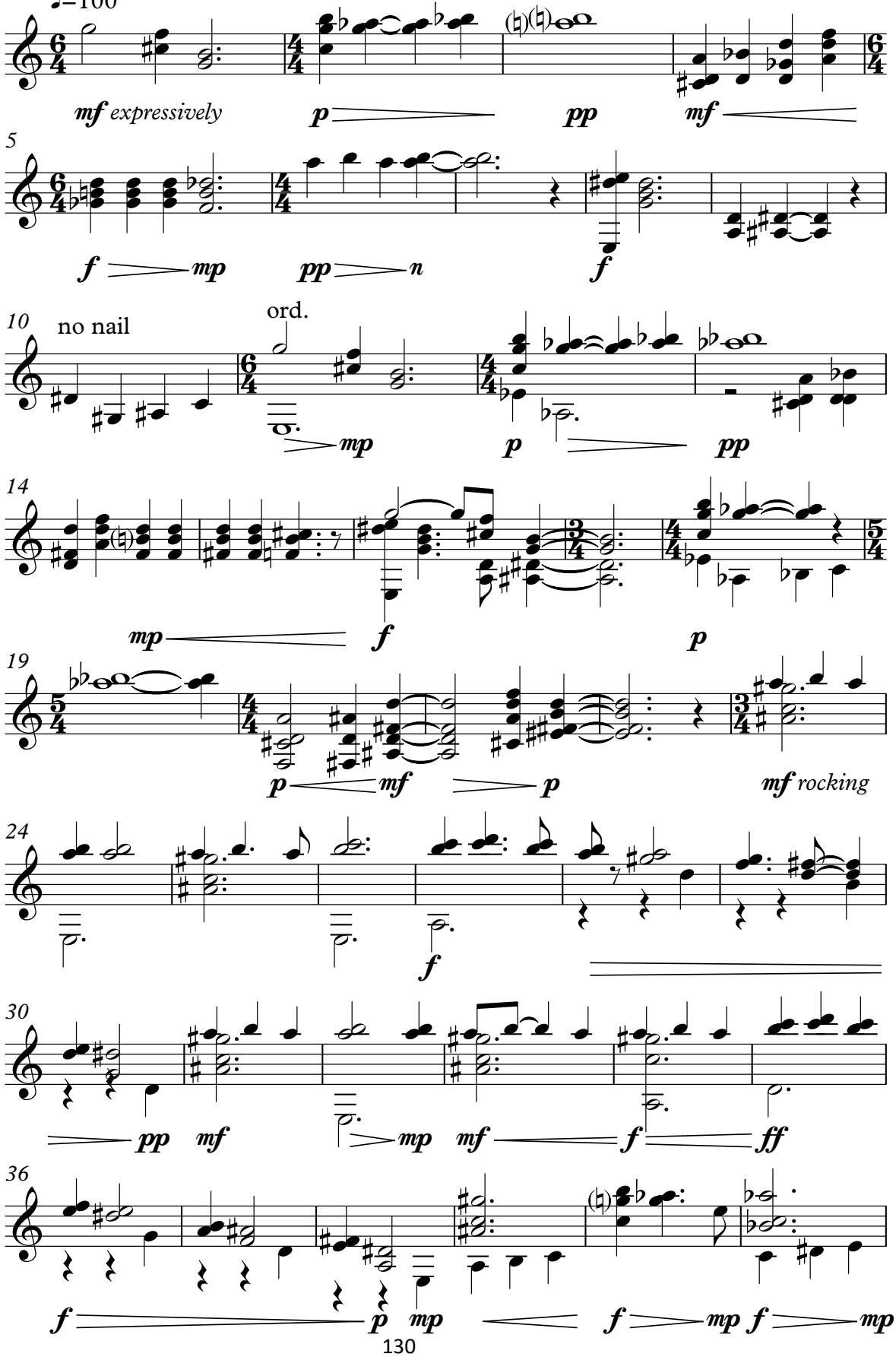
The Cyborg Resurrection

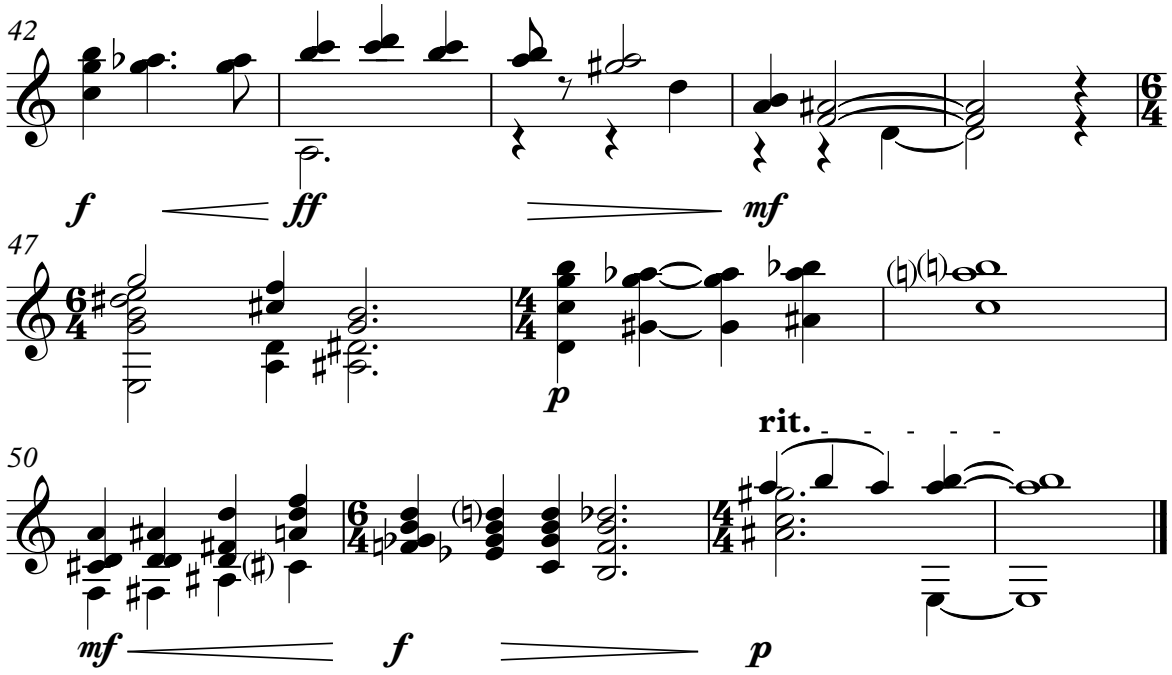
Movement II

Adam Cullen

Andante

♩=100



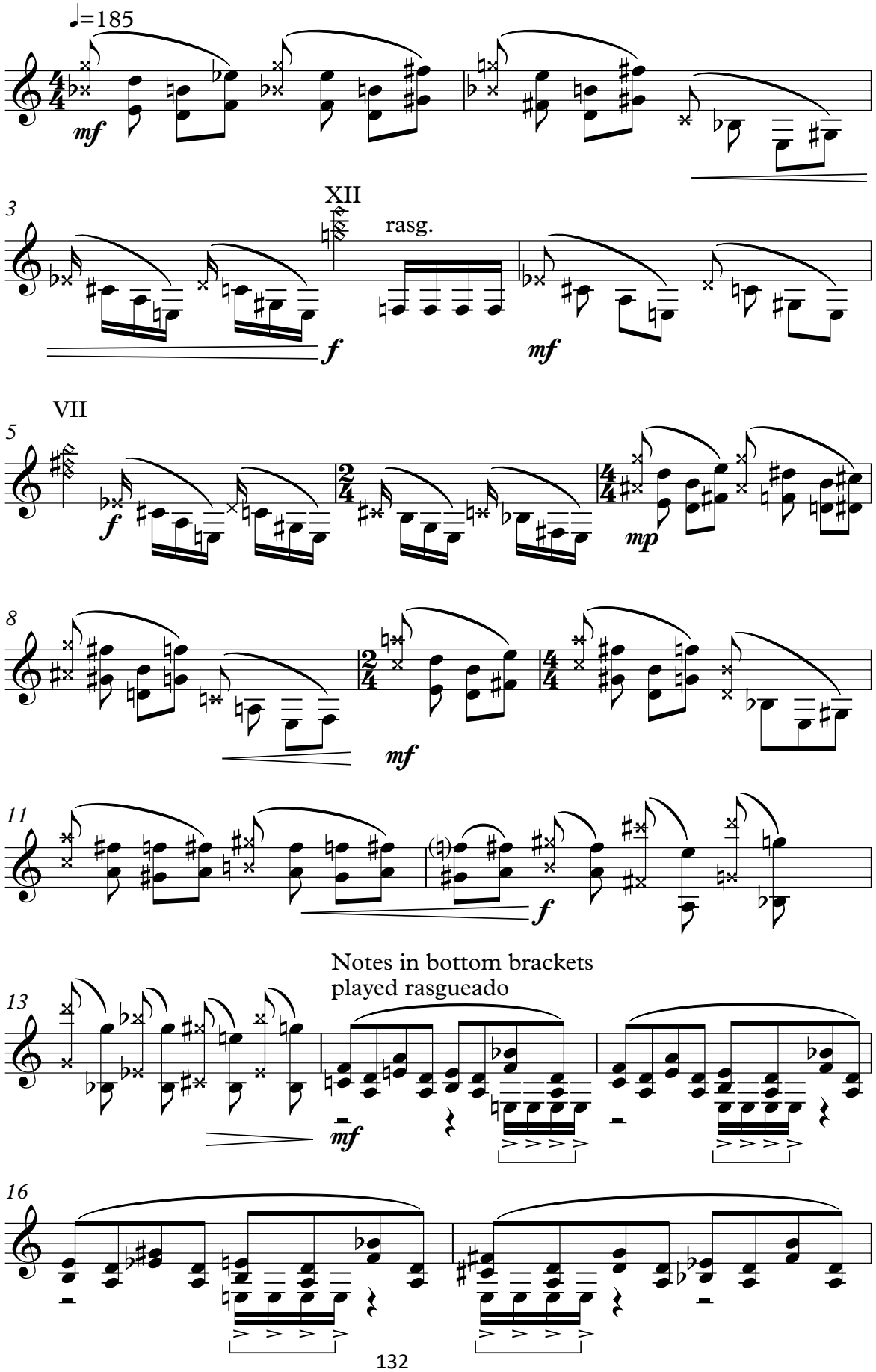

42
f
ff
mf
47
p
50
rit.
mf
f
p

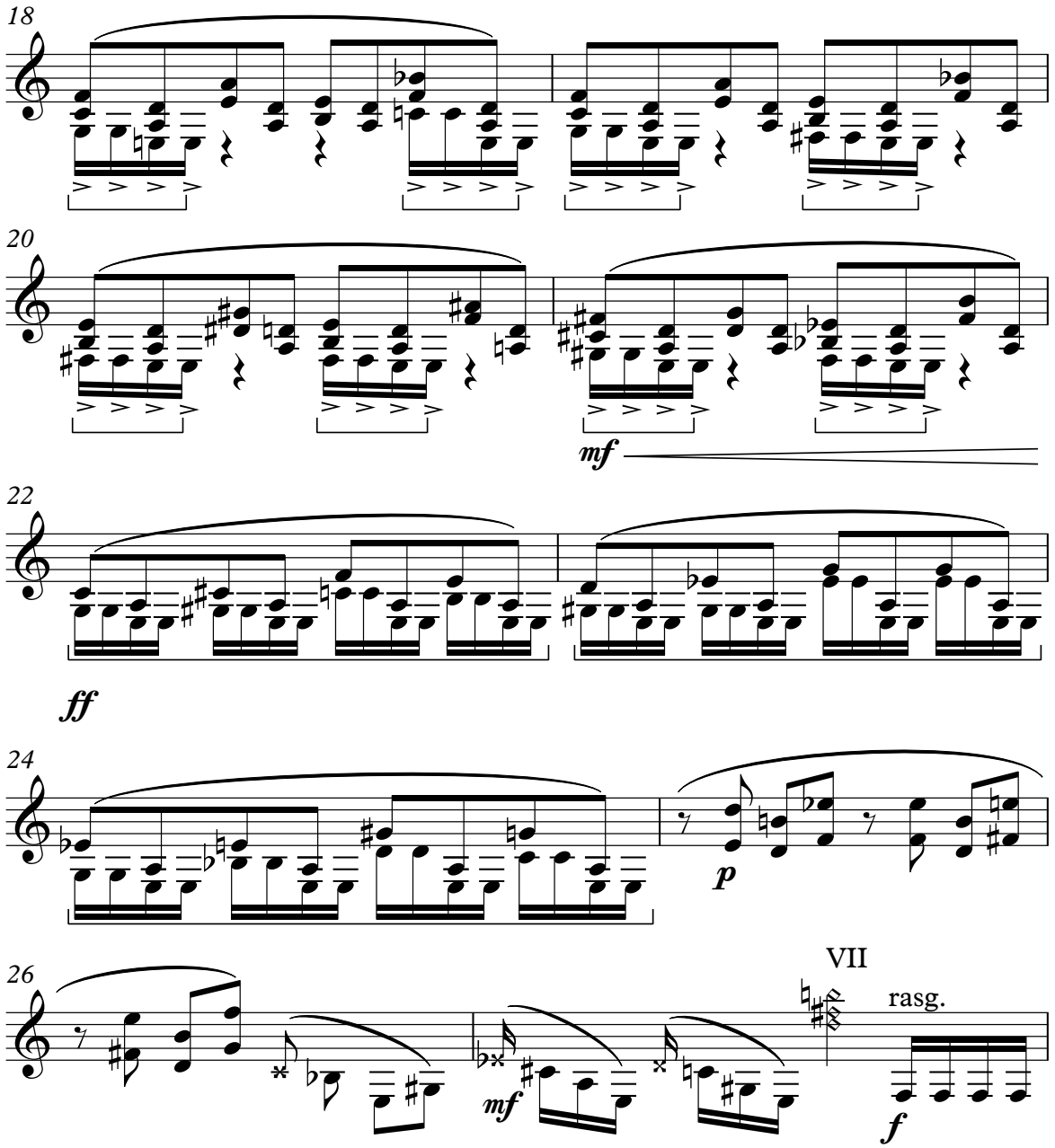
The Cyborg Resurrection

Movement III

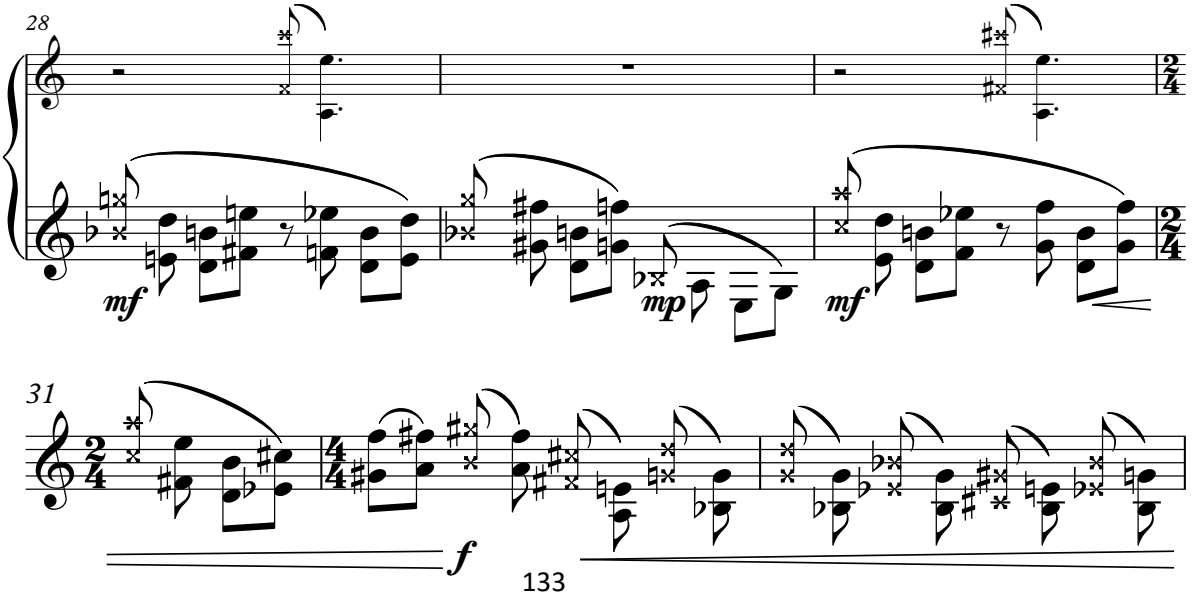
Crossed noteheads are tapped with the right hand

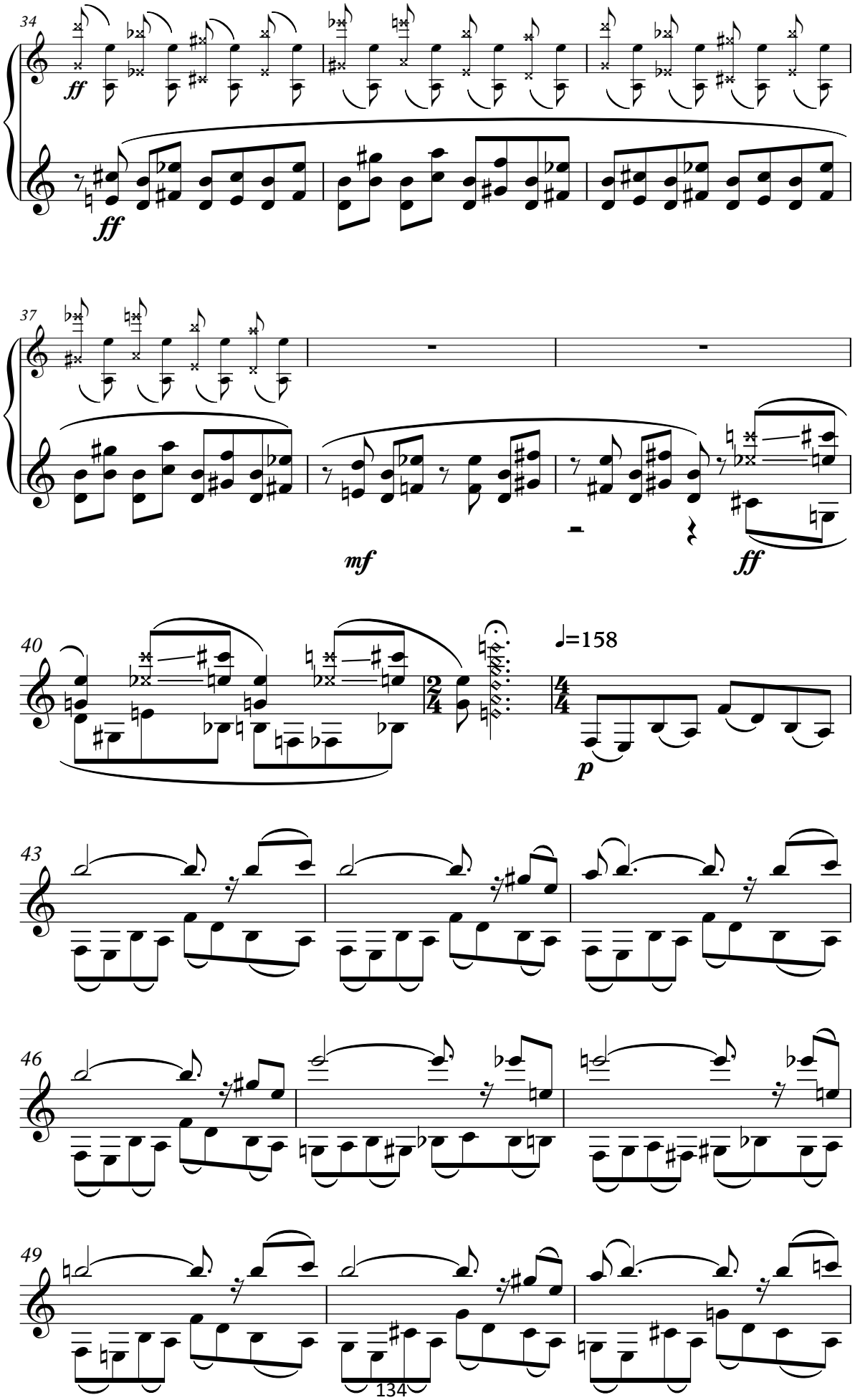
Adam Cullen

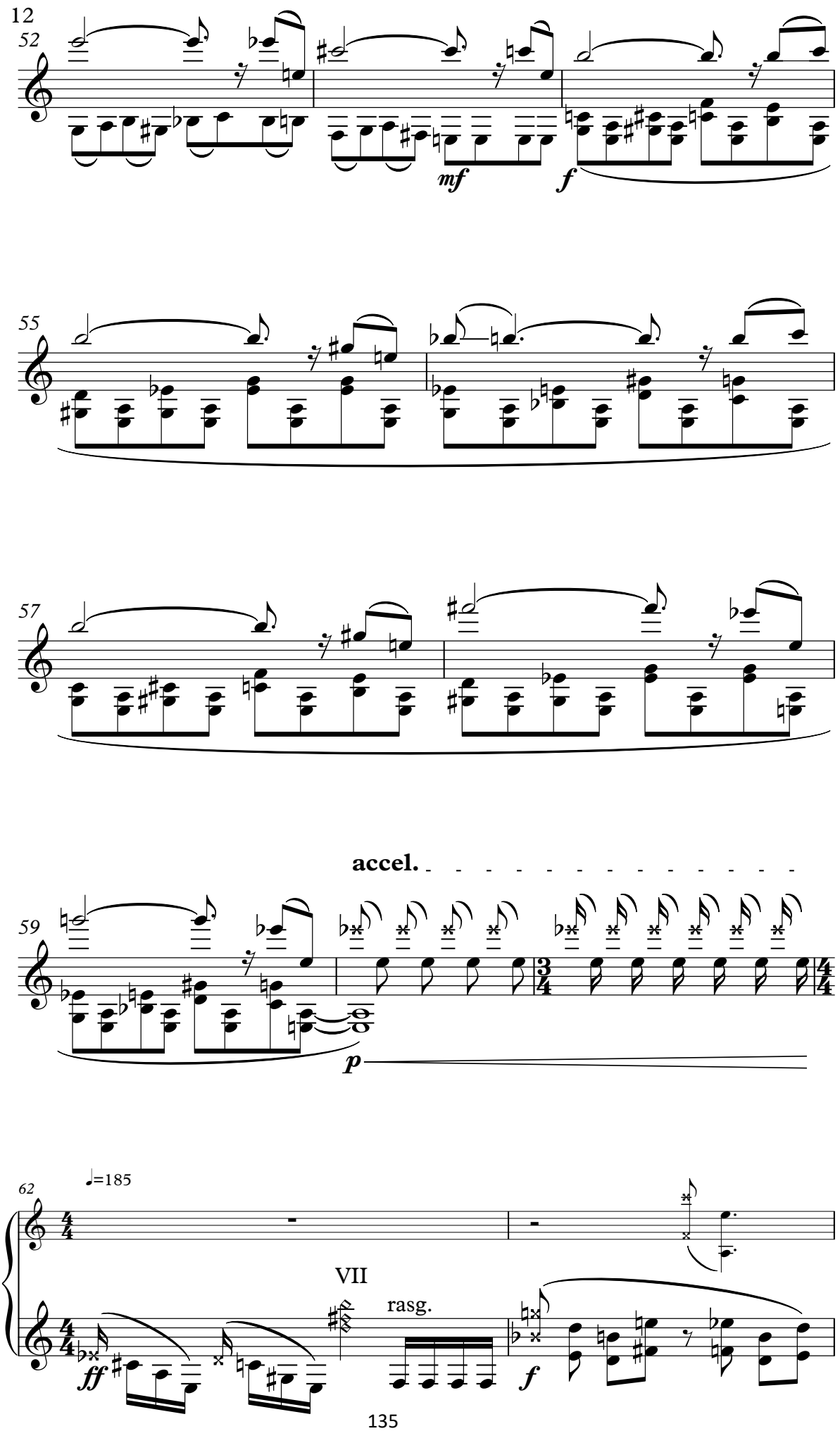


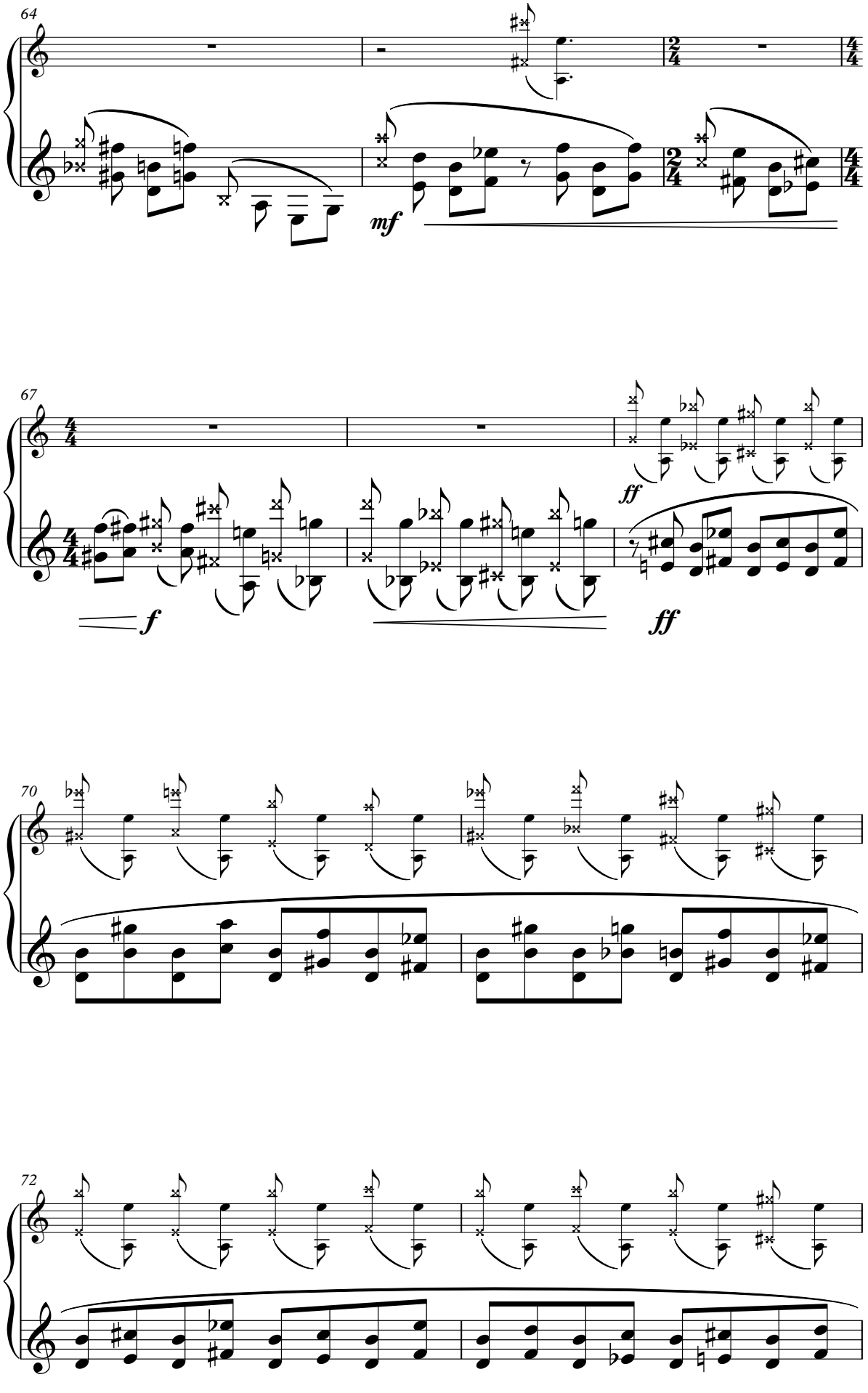


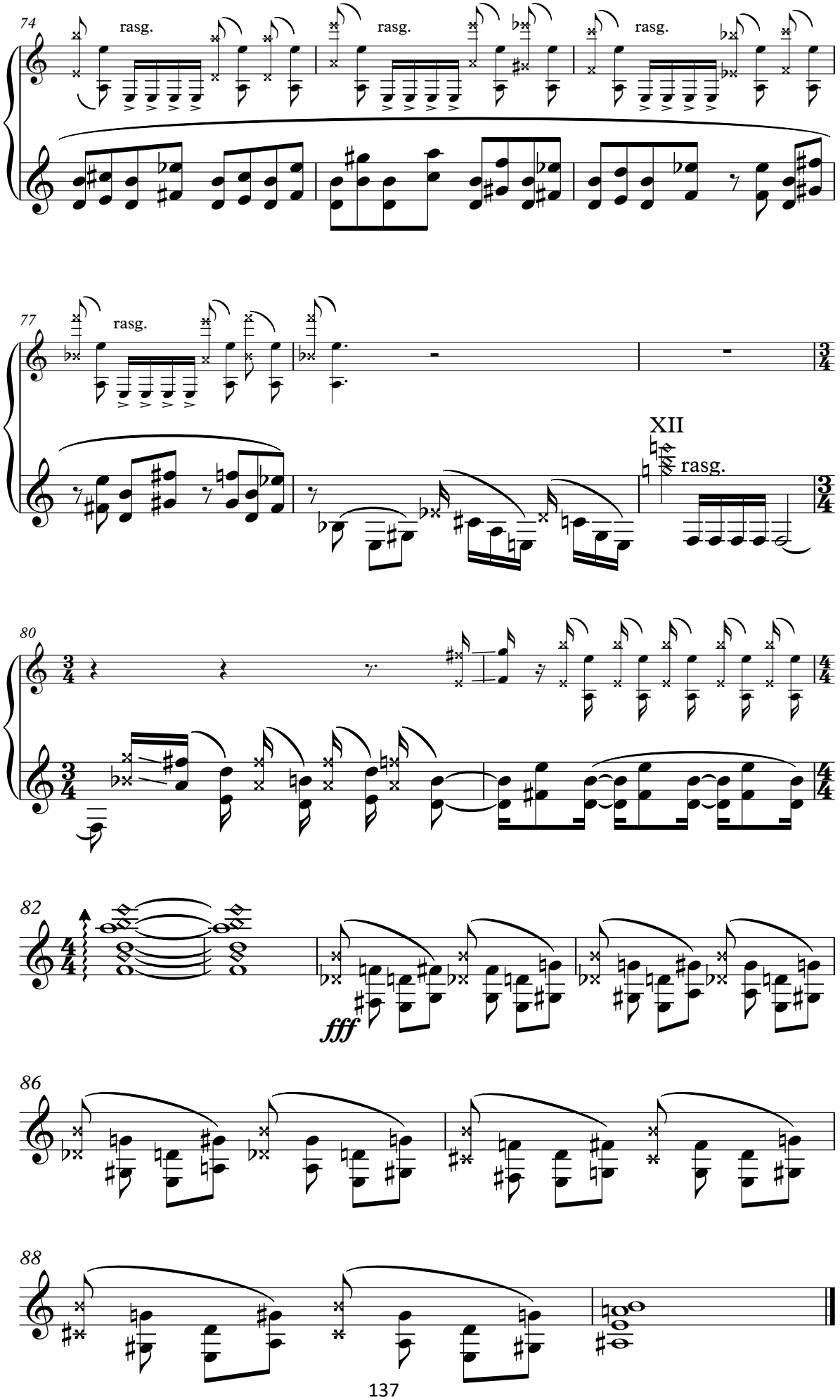
Any slur that starts from or includes a rest indicates that the notes are to be sounded with hammer ons and pull-offs only.




34
ff
ff
37
mf
ff
40
♩=158
p
43
46
49


12
52
mf
f
55
57
accel.
59
p
62
♩=185
VII
rasg.
ff
f

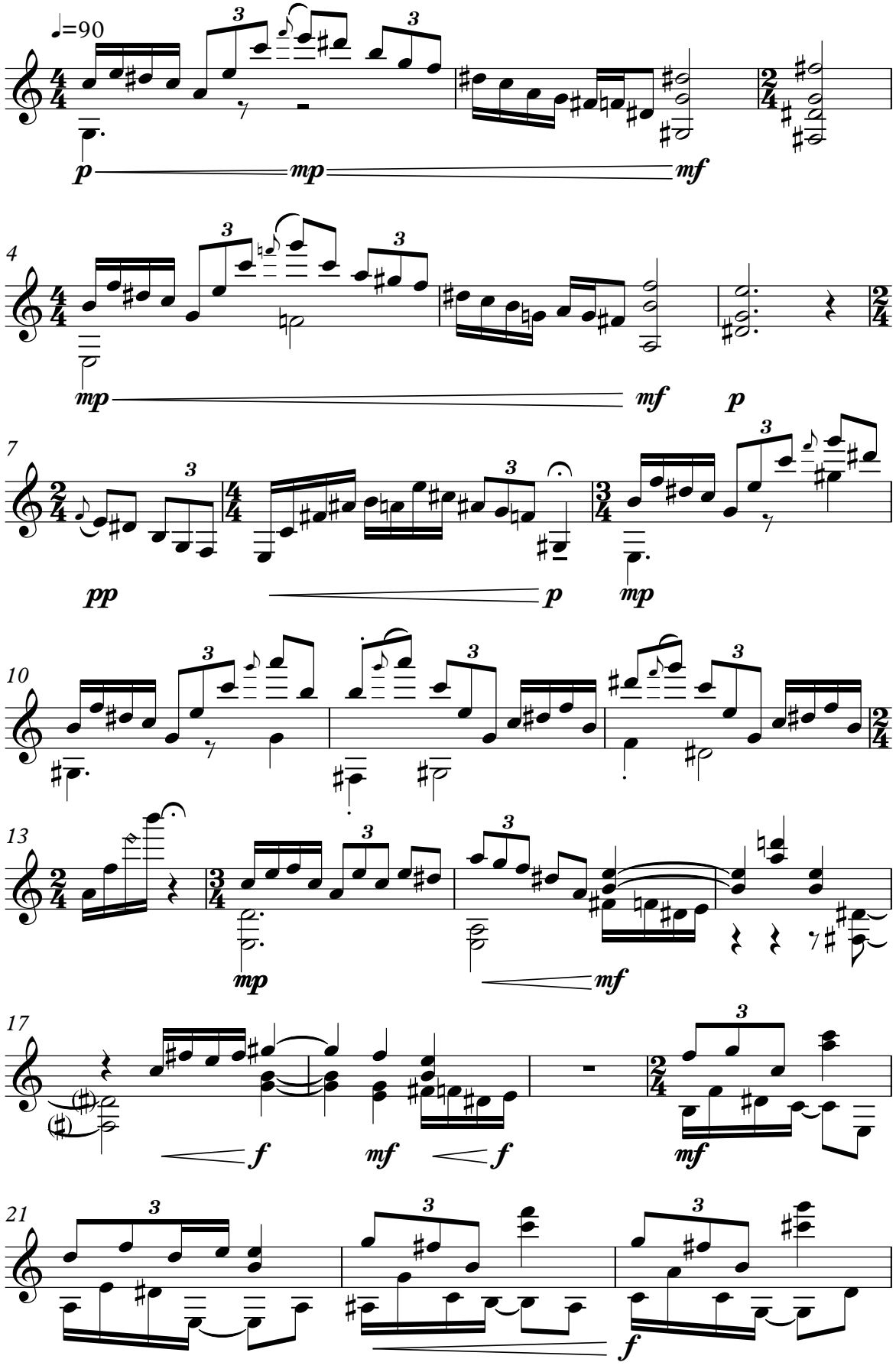

64
mf
67
f
ff
ff
70
72

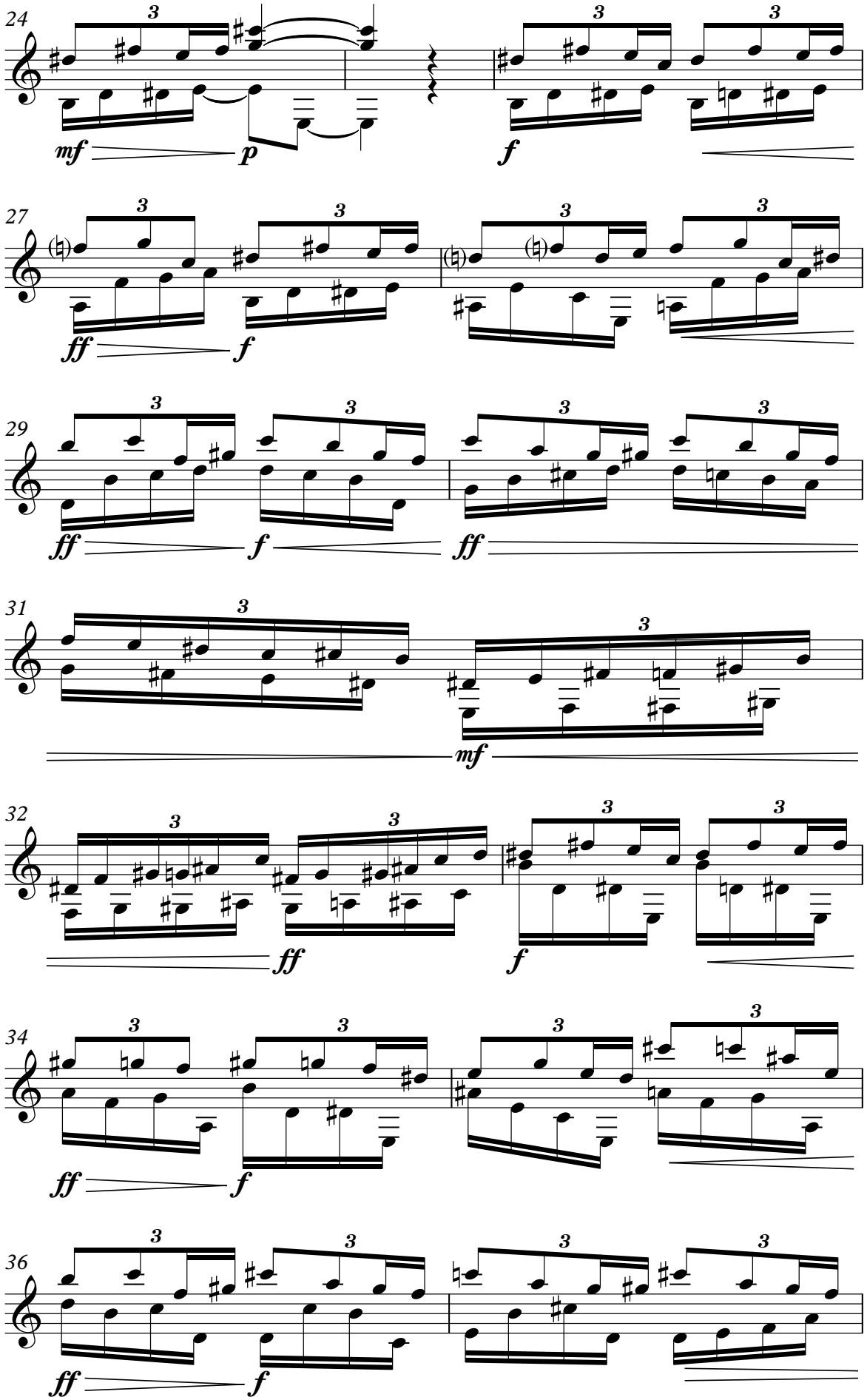

74
rasg.
rasg.
rasg.
77
rasg.
XII
rasg.
80
82
fff
86
88

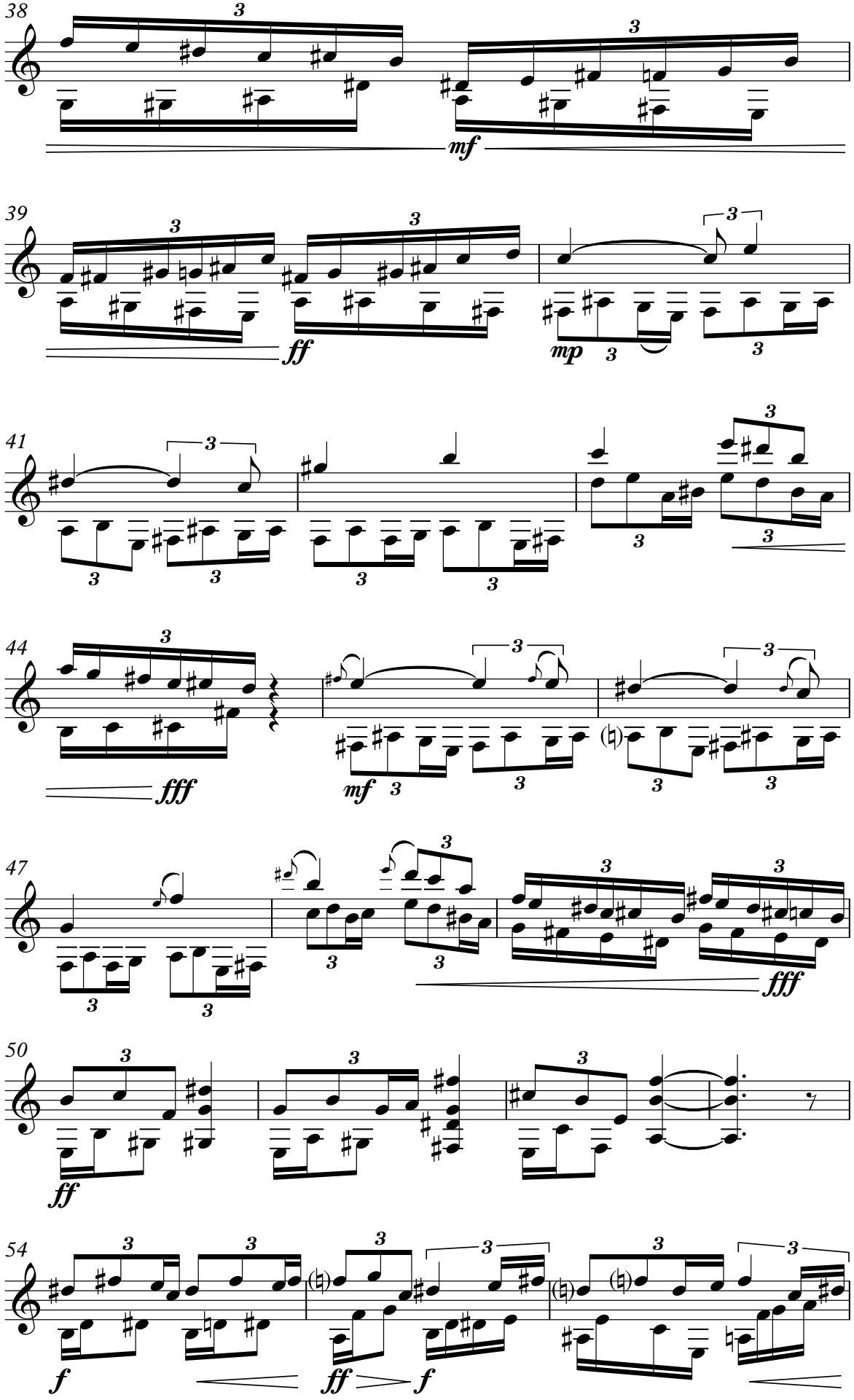
The Cyborg Resurrection

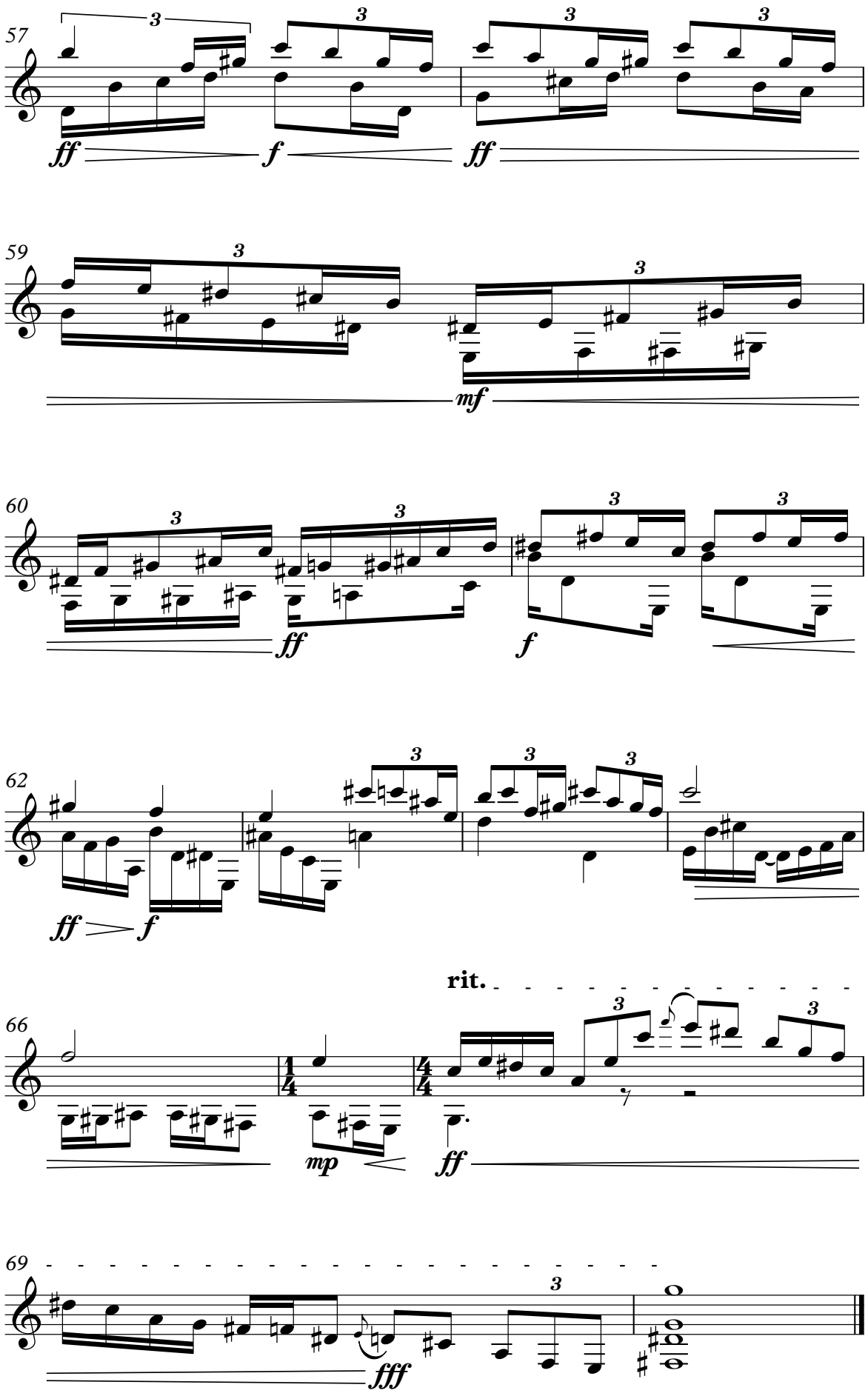
Movement IV

Adam Cullen




24
mf
p
f
27
ff
f
29
ff
f
ff
31
mf
32
ff
f
34
ff
f
36
ff
f


38
mf
39
ff
mp
41
44
fff
mf
47
fff
50
ff
54
f
ff
f


57
ff
f
ff
59
mf
60
ff
f
62
ff
f
rit.
66
mp
ff
69
fff

Adam Cullen

The Tenacious Alarm

(and the man who went deaf in his sleep)

for Wind Quintet

2018

Duration c6:00

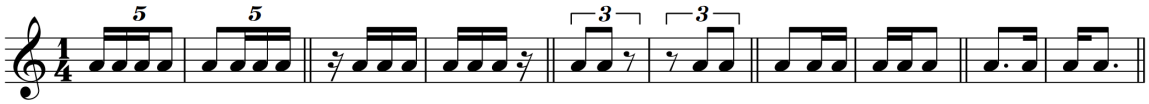
Forces:
Flute, Oboe, Bb Clarinet, Horn in F, Bassoon

Transposed Score

Accidentals:
Accidentals hold throughout the bar and apply only to the octave in which they are presented.

Articulation:
A slur from a regular note to a staccato note, such as at Rehearsal Letter 'O' (bar 152), merely indicates that the note should be played legato into the staccato note.

Rhythms:
The piece is characterised by rhythmic subdivisions of the beat and their retrogrades. It may be helpful to consider/practice these subdivisions in isolation as it will make the score much easier.



Narrative:
The title of the piece suggests a caroonish scenario where an anthropomorphised alarm clock tries in vain to rouse a sleeper who has gone deaf in the night. If it is helpful to the performer, I propose the following imagery for the first part of the work. Thereafter, the performer is certainly free to imagine their own details and conclusion.

Bar 1: The 'strident' gesture. This is the alarm going off. A single bar that usually suffices to rouse the sleeper. But the silent bar (and a half) which follow prove the usual effort has been unsuccessful.

Bars 2-9: Tentatively leaning forward, getting closer to the sleeper to see what's wrong, the clock gets a little braver, almost nudging the sleeper on the shoulder at the 'forte' marking, but backing off respectively.

Bars 10-12: Falling back to the old trick, the regular alarm. But less confident and with a hint of worry.

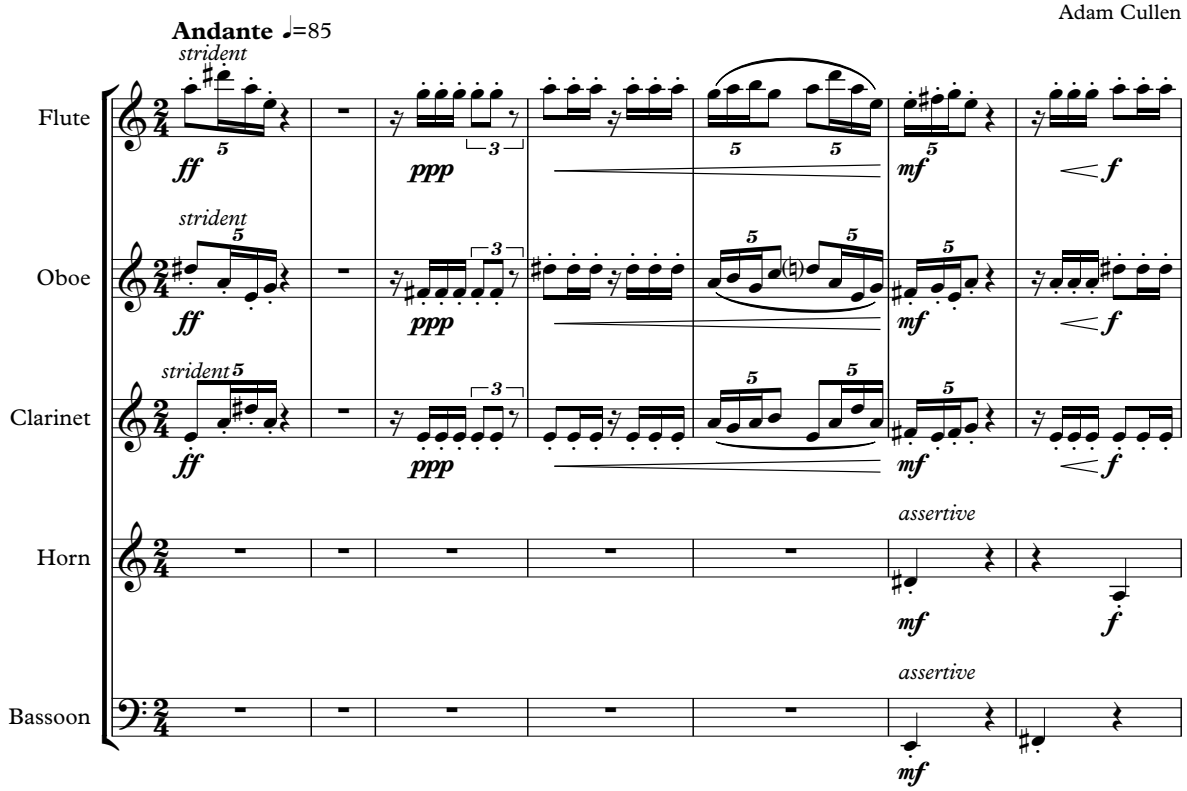
Bar 14, Section'A': A new pitch collection. The clock is seeing things in a new light, it deliberates.

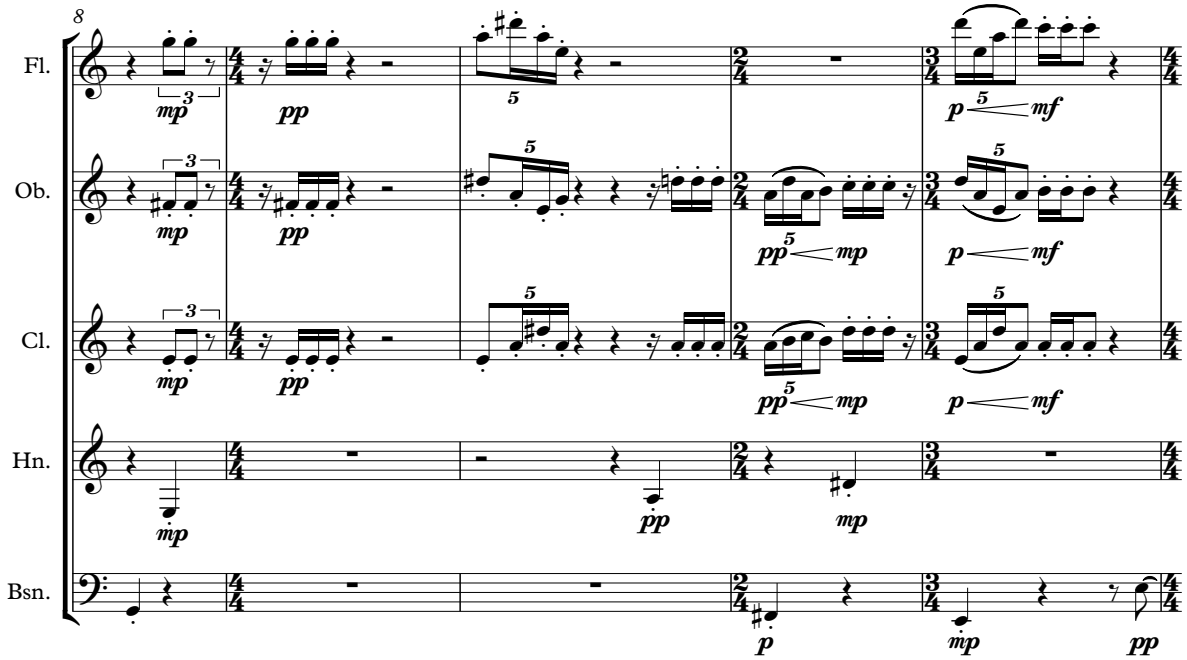
I could continue like this for some time, but perhaps the above will suffice to guide the attitude and tone appropriate for this work's best expression.

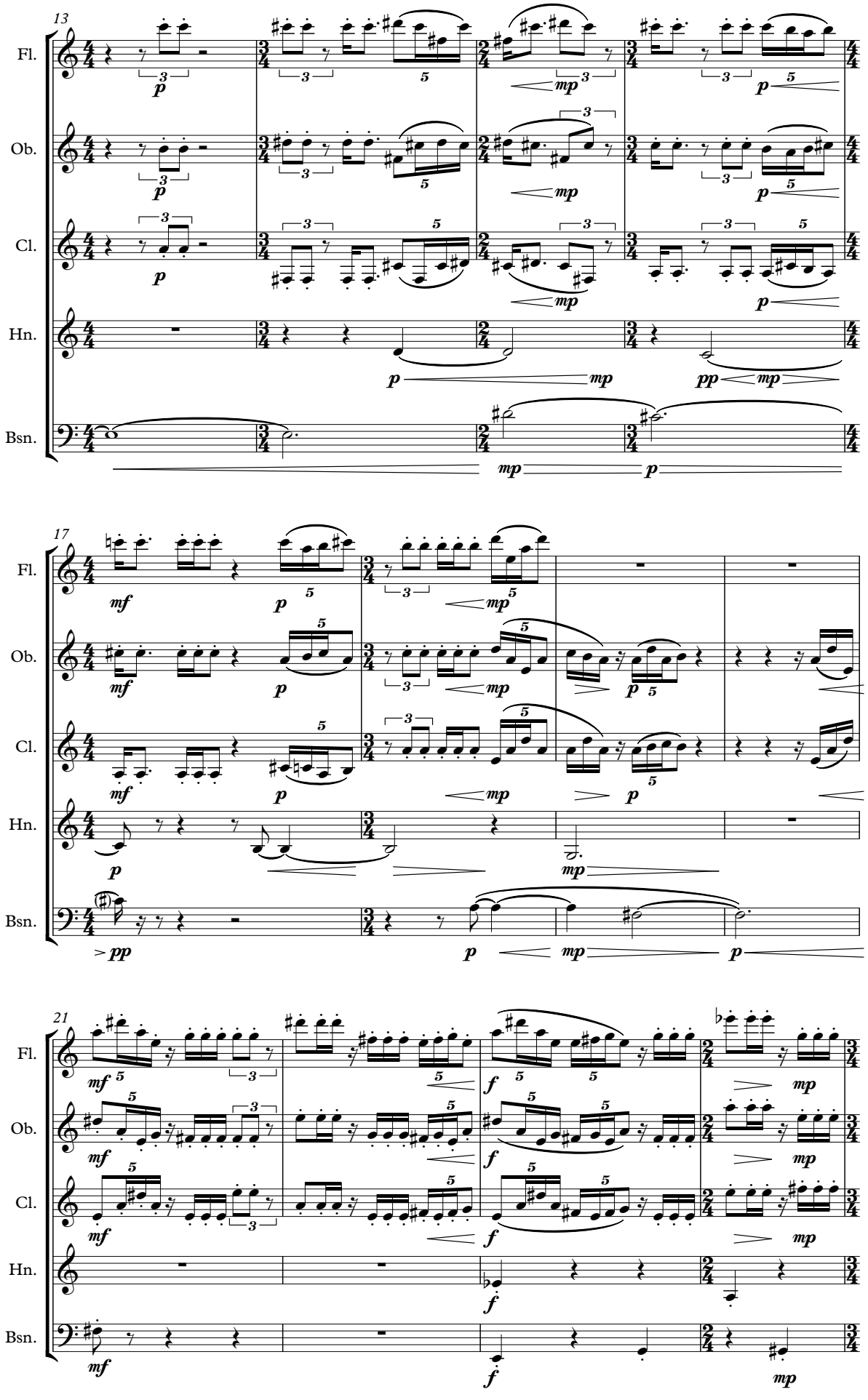
The Tenacious Alarm

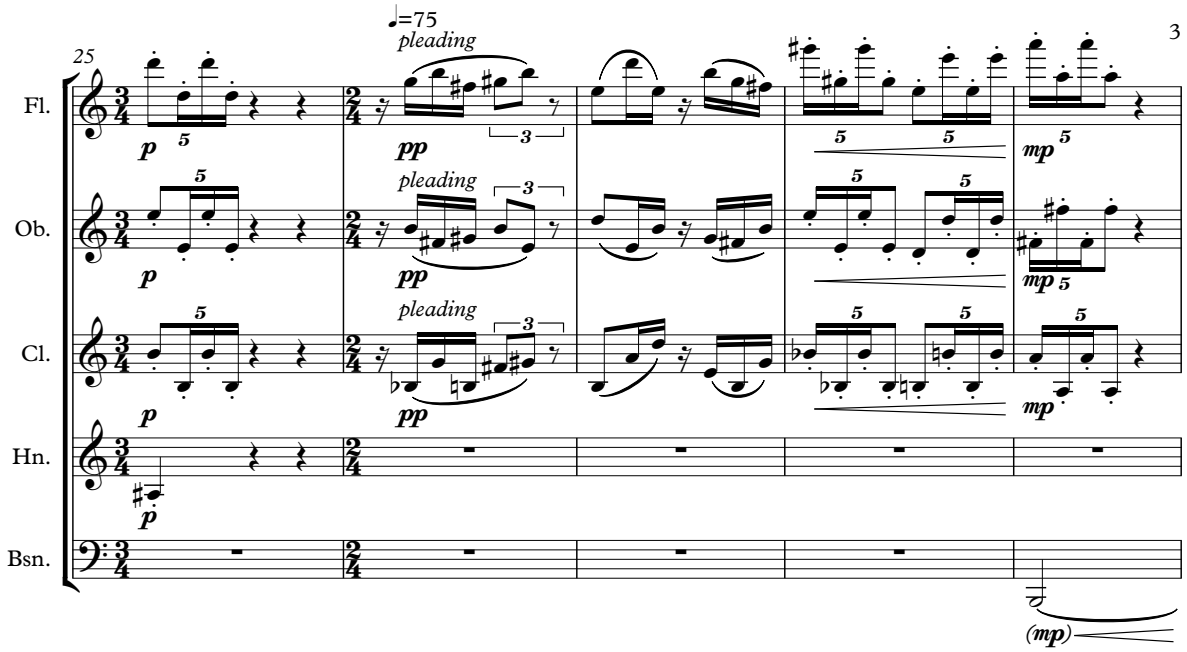
(and the man who went deaf in his sleep)

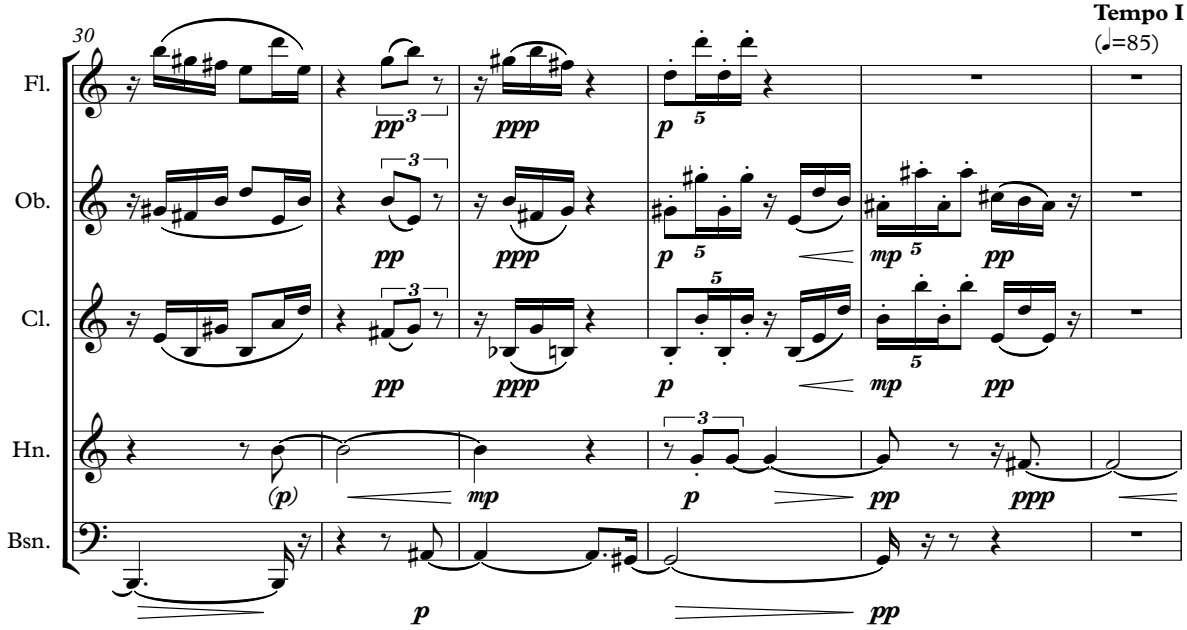
Adam Cullen

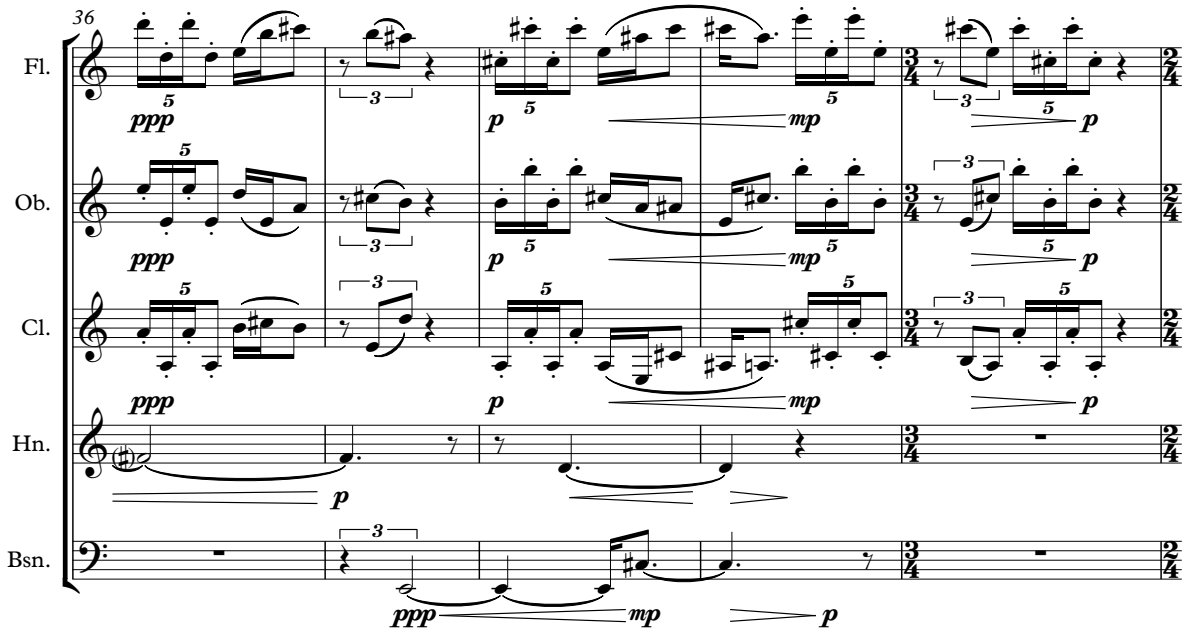


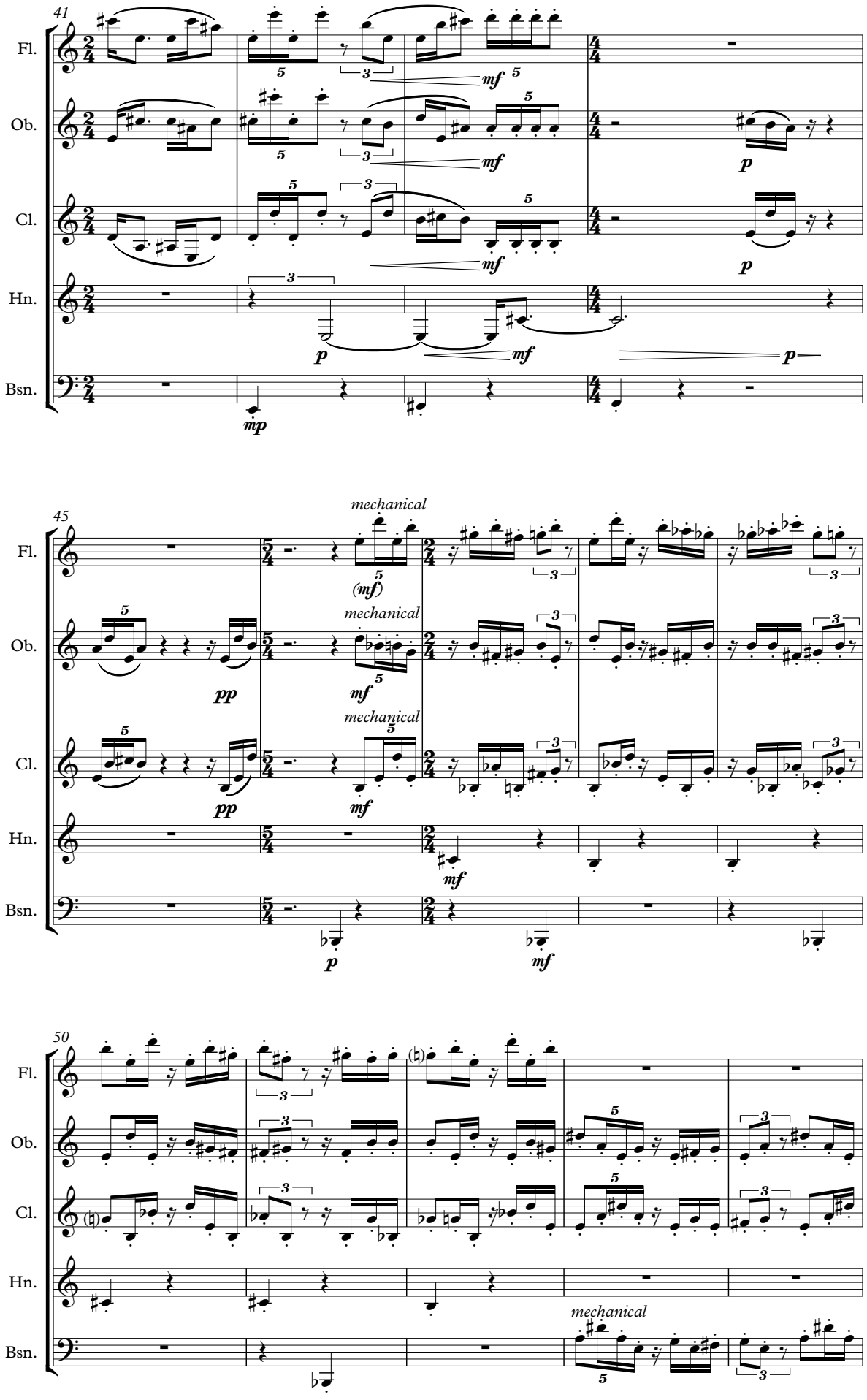


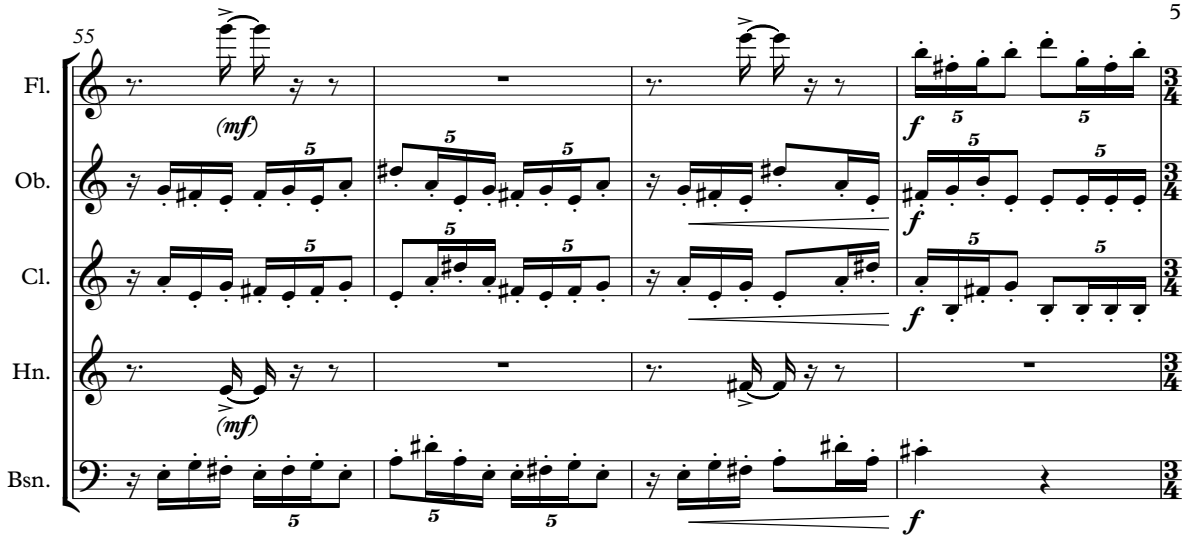

13
Fl.
Ob.
Cl.
Hn.
Bsn.
17
21

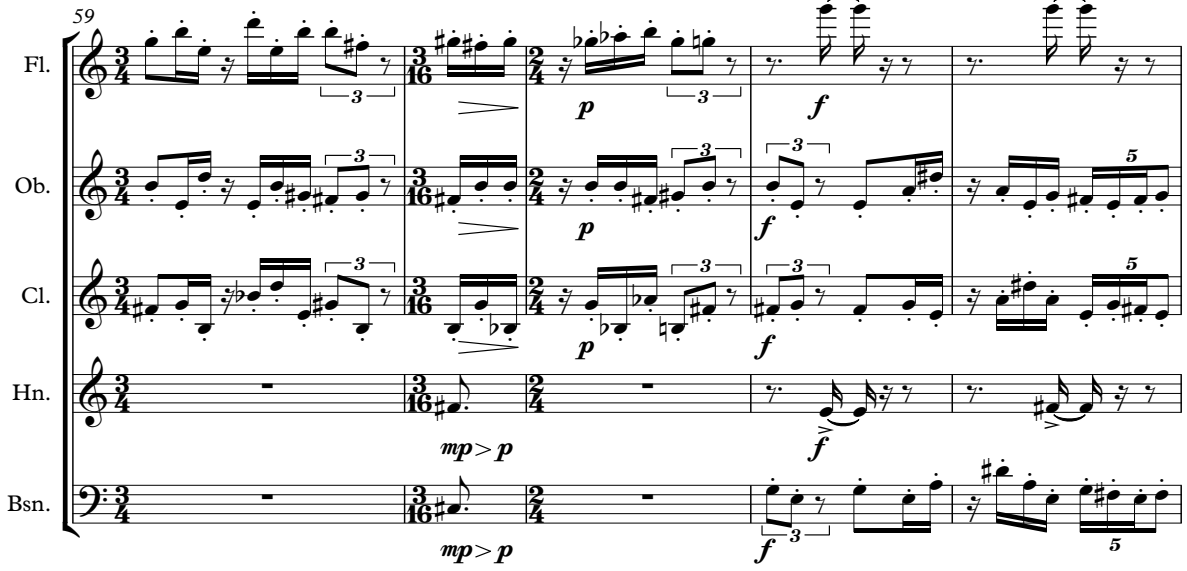

♩=75
pleading
25
Fl.
Ob.
Cl.
Hn.
Bsn.

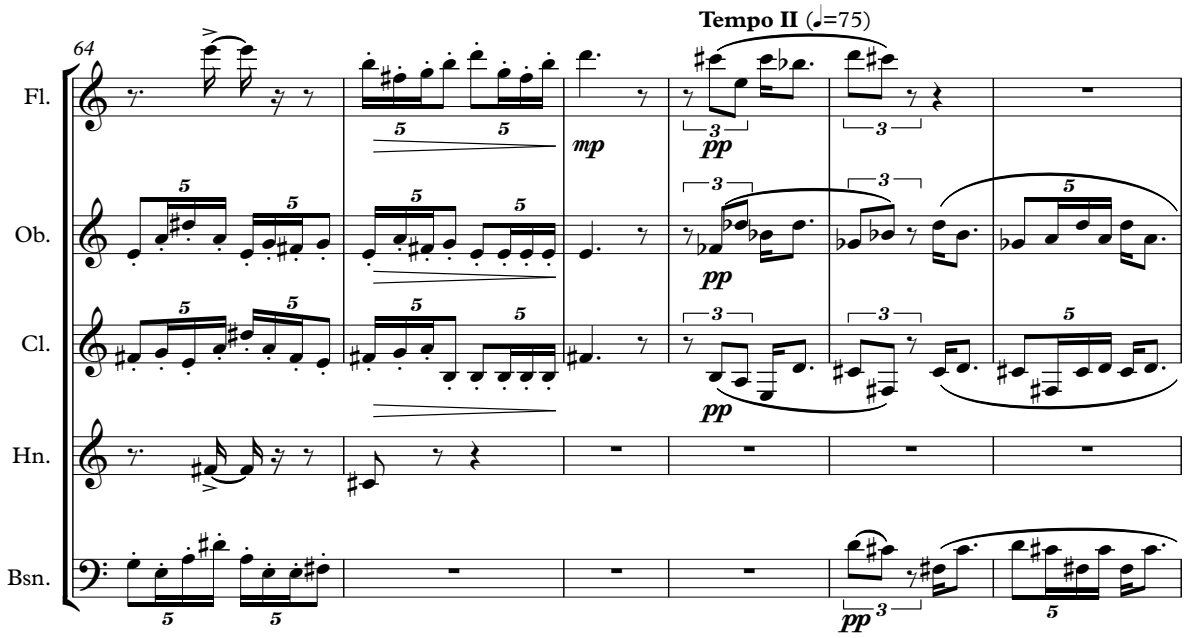

Tempo I
(♩=85)
30
Fl.
Ob.
Cl.
Hn.
Bsn.

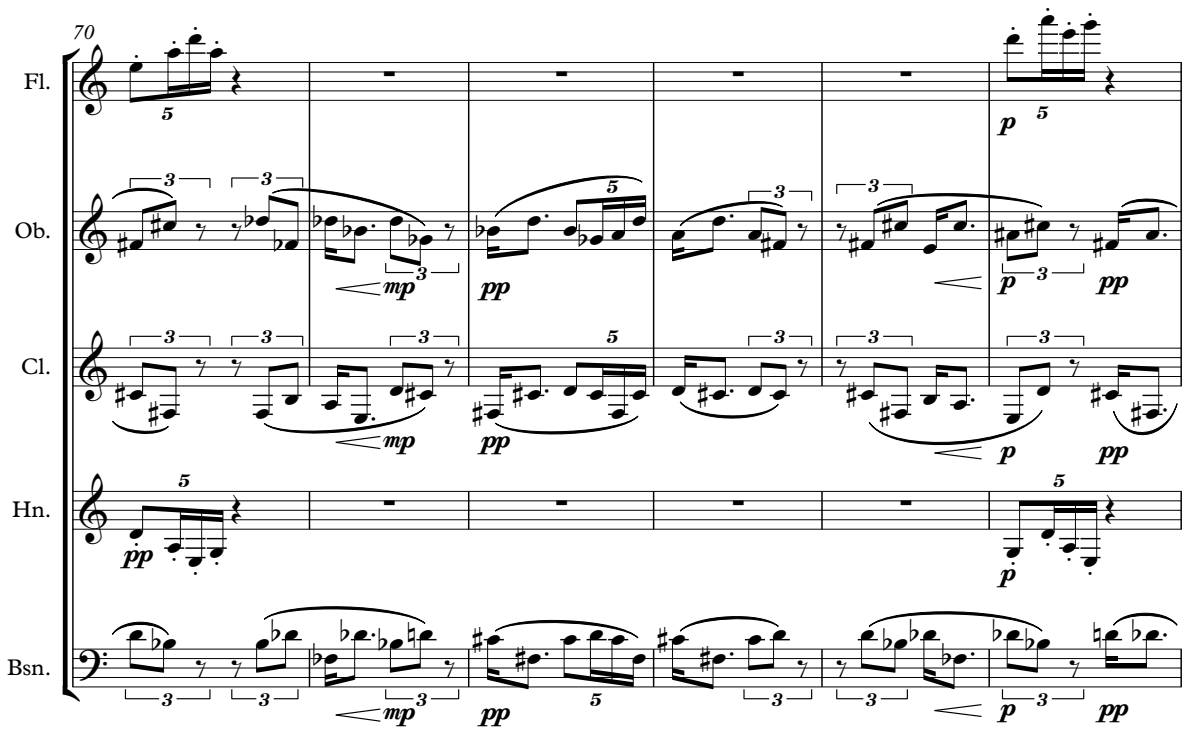

36
Fl.
Ob.
Cl.
Hn.
Bsn.

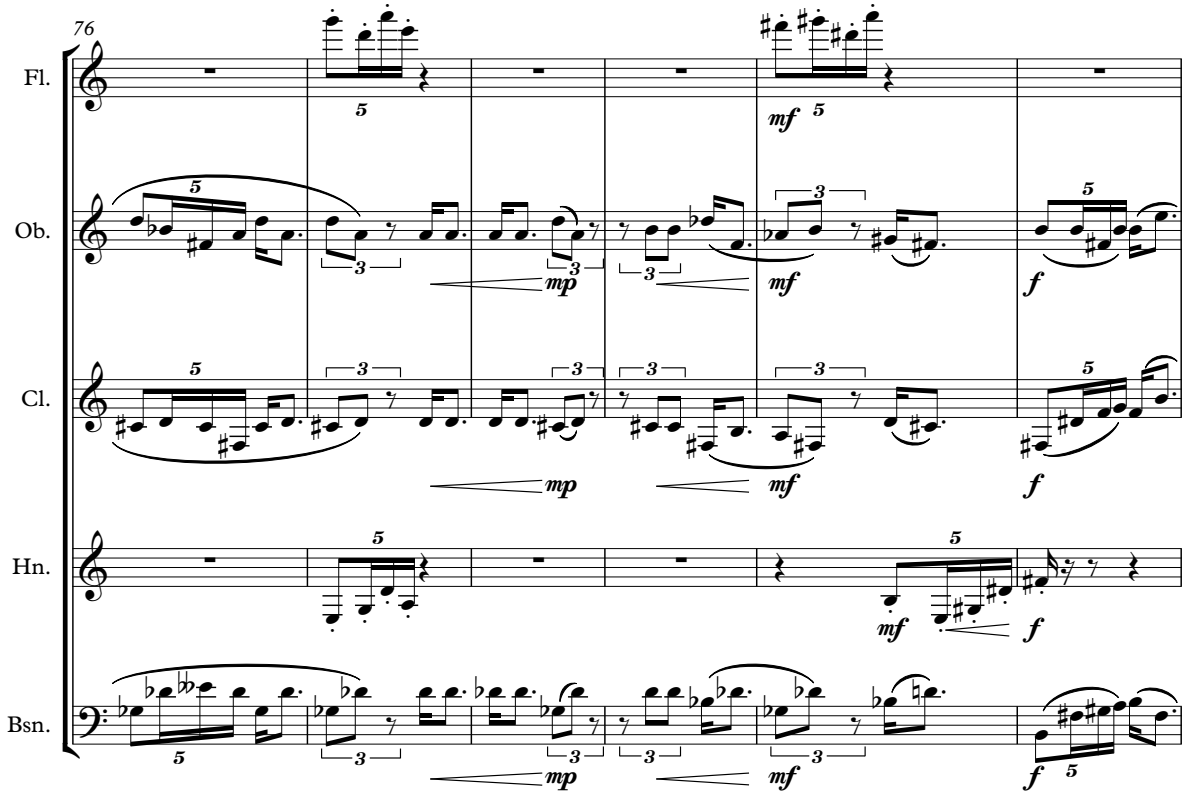

41
Fl.
Ob.
Cl.
Hn.
Bsn.
45
mechanical
50

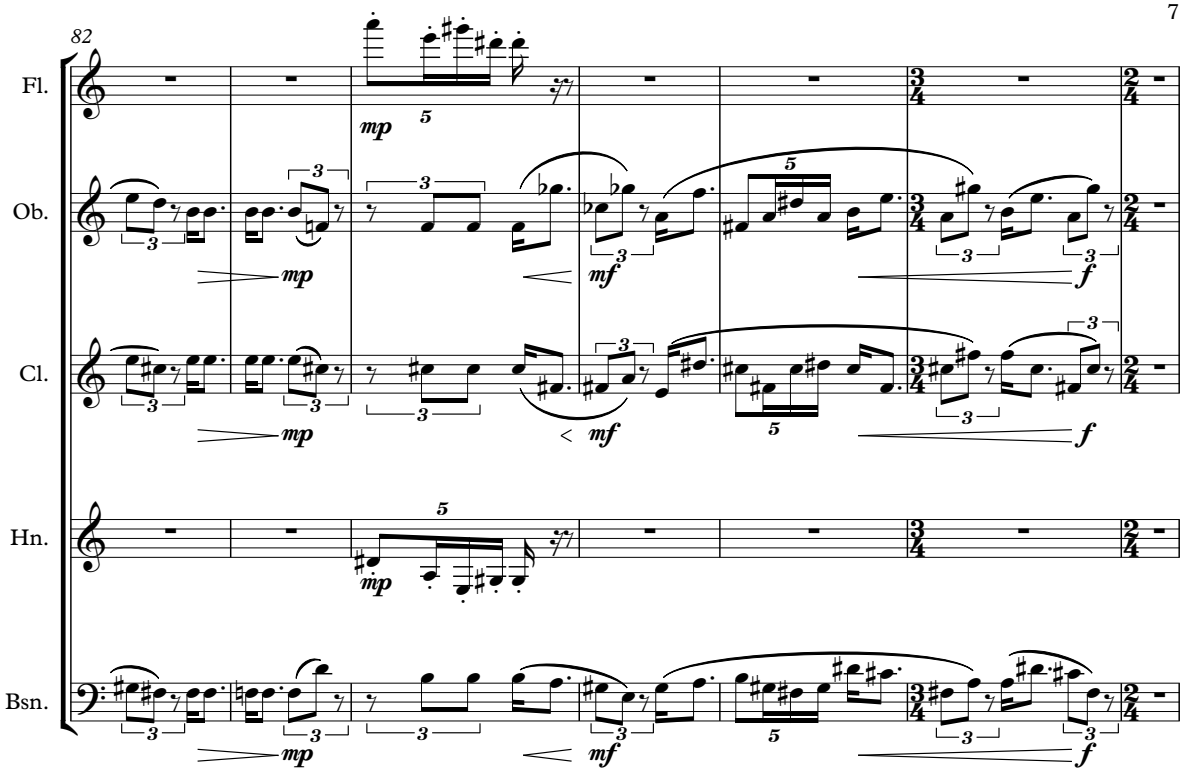

55
Fl.
Ob.
Cl.
Hn.
Bsn.
(mf)
(mf)
f
f
f
f

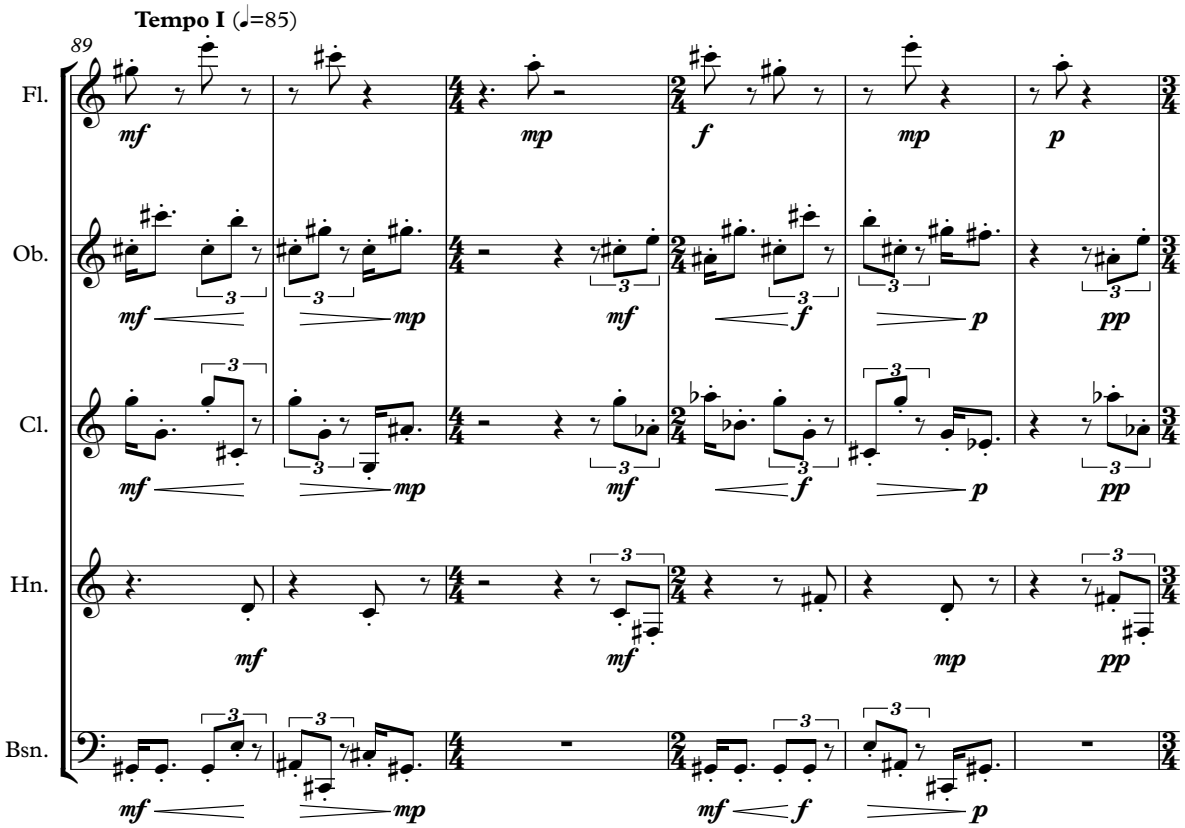

59
Fl.
Ob.
Cl.
Hn.
Bsn.
p
p
p
f
f
f
mp > p
mp > p

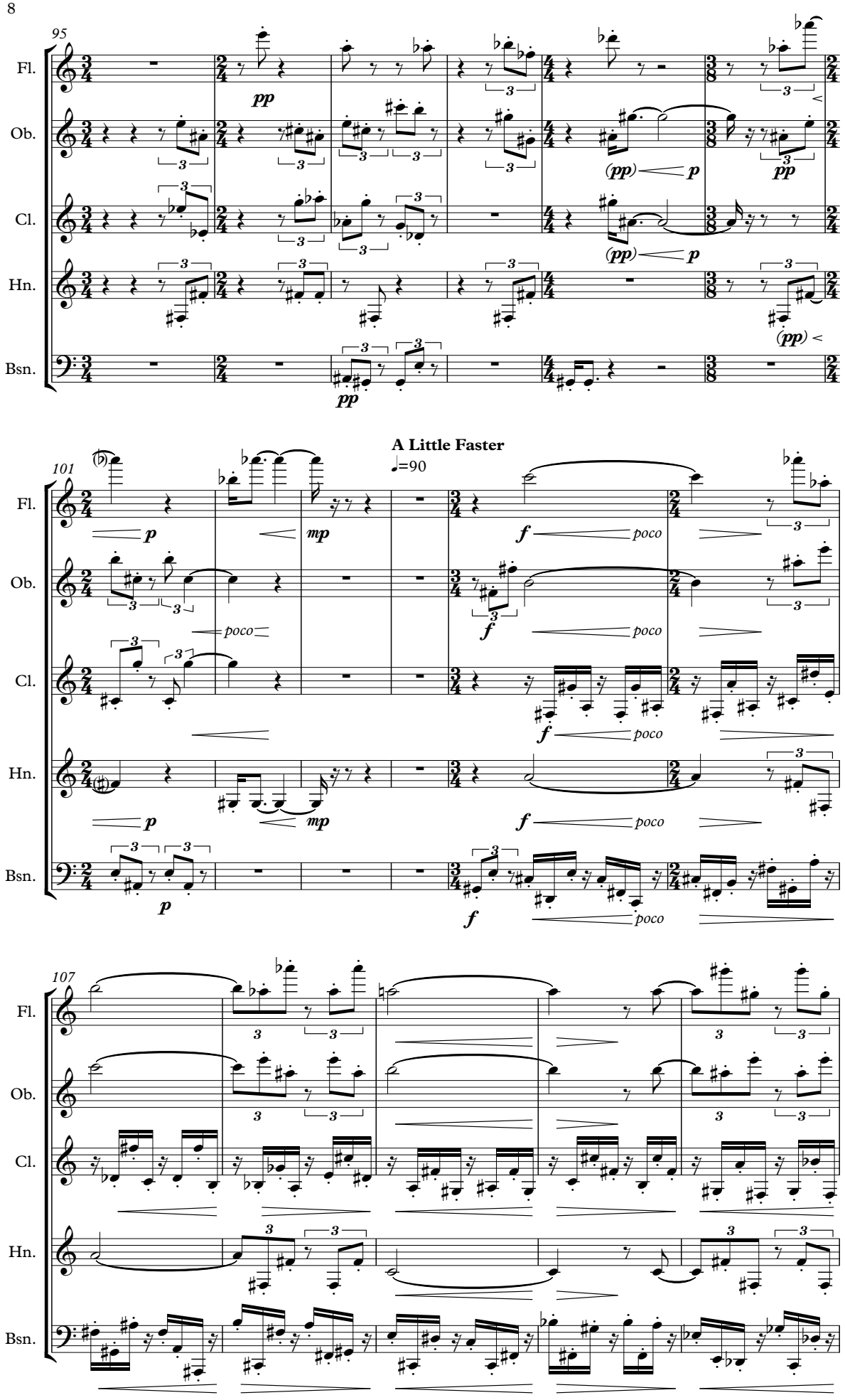

64
Tempo II (♩=75)
Fl.
Ob.
Cl.
Hn.
Bsn.
mp
pp
pp
pp
pp

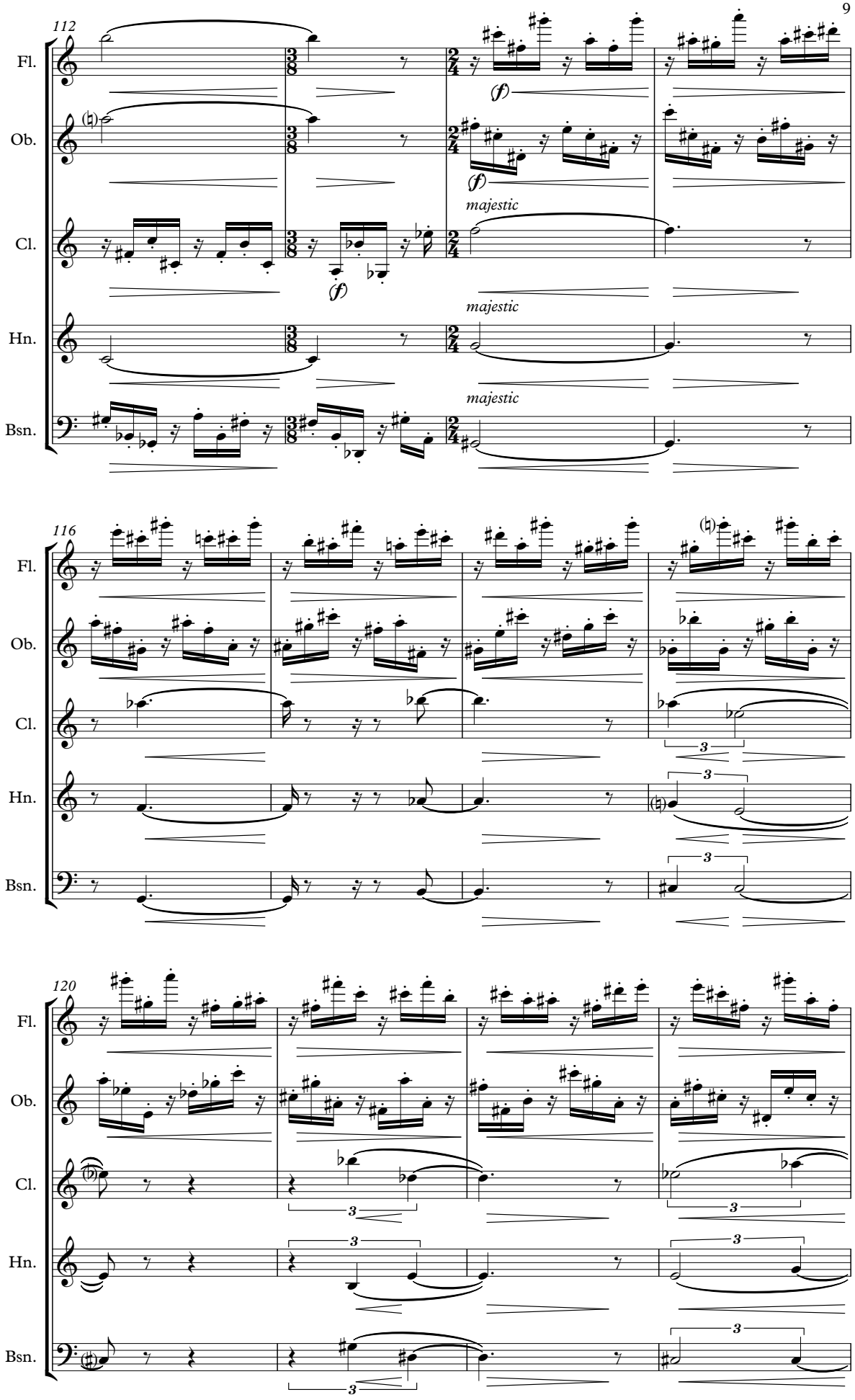

70
Fl.
Ob.
Cl.
Hn.
Bsn.

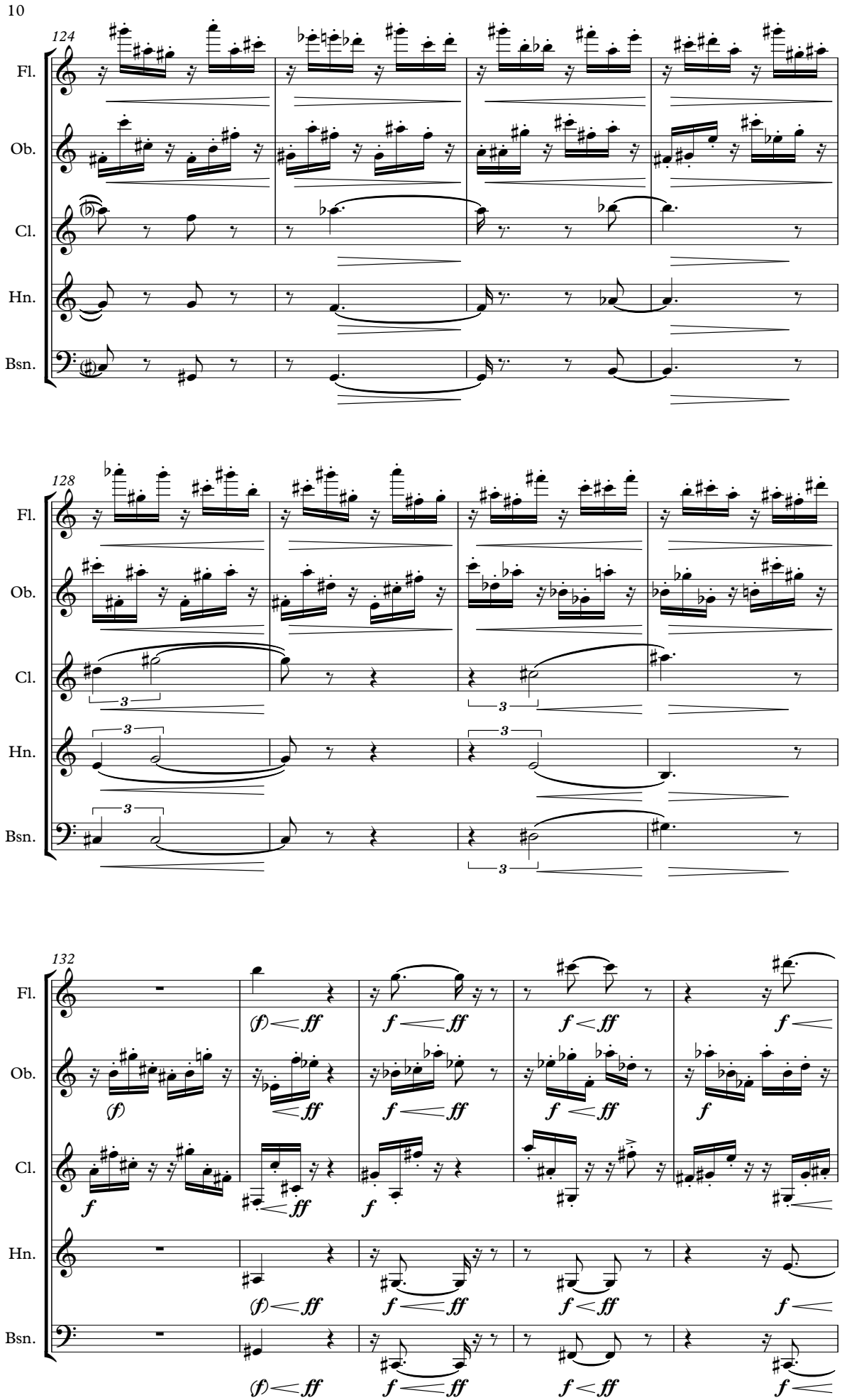

76
Fl.
Ob.
Cl.
Hn.
Bsn.

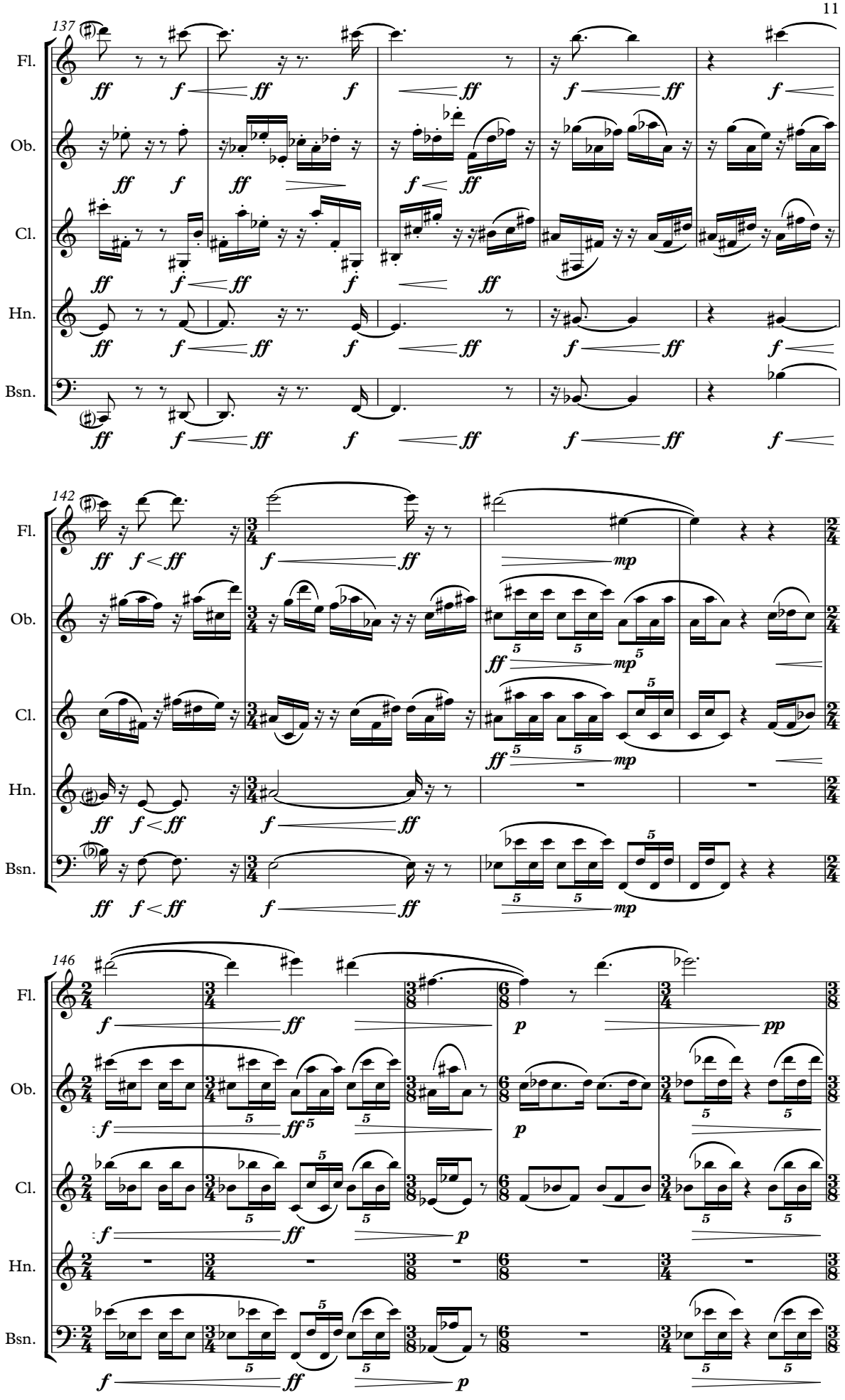

82
Fl.
Ob.
Cl.
Hn.
Bsn.
mp
mf
f

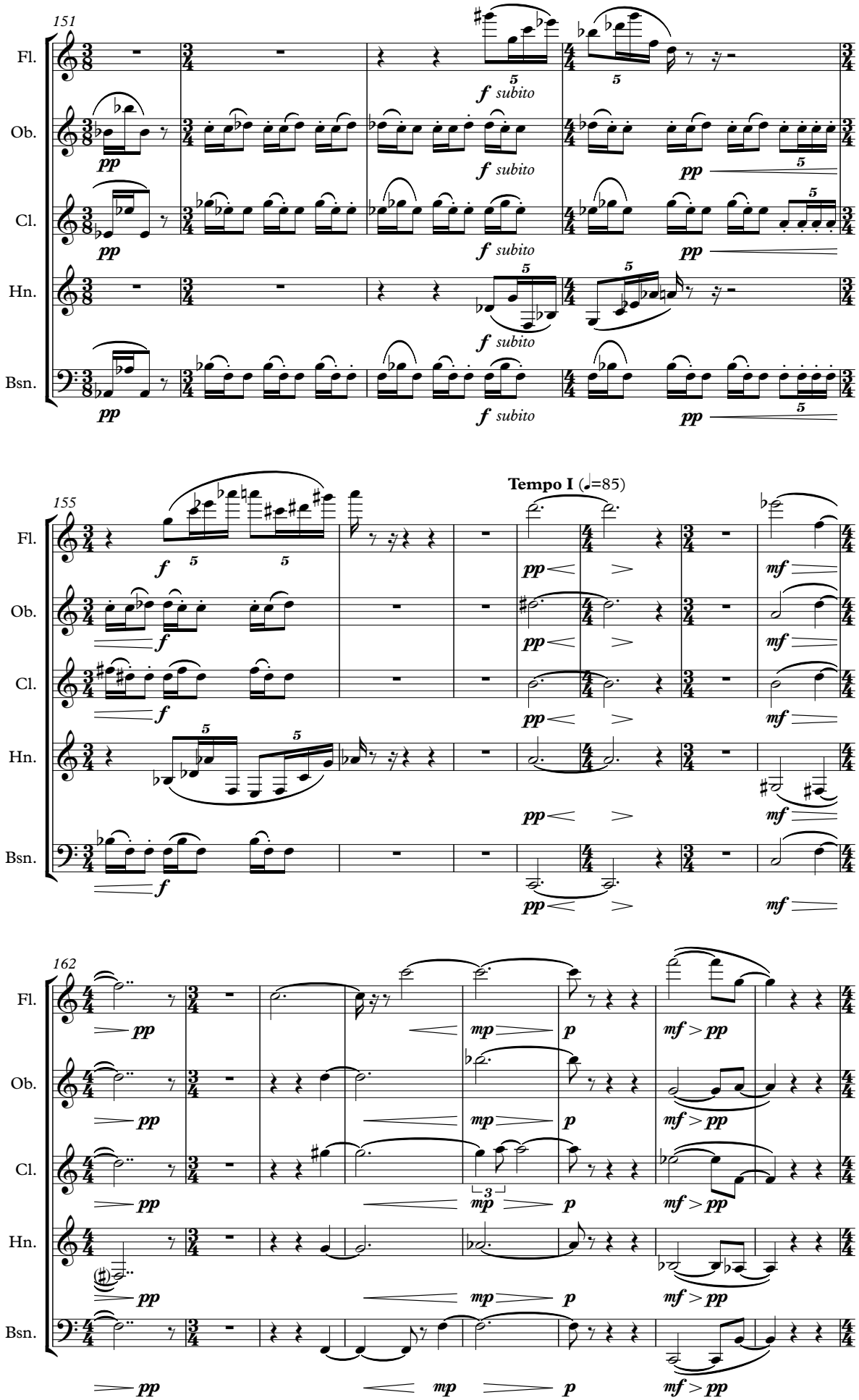

Tempo I (♩=85)
89
Fl.
Ob.
Cl.
Hn.
Bsn.
mf
mp
f
p
pp

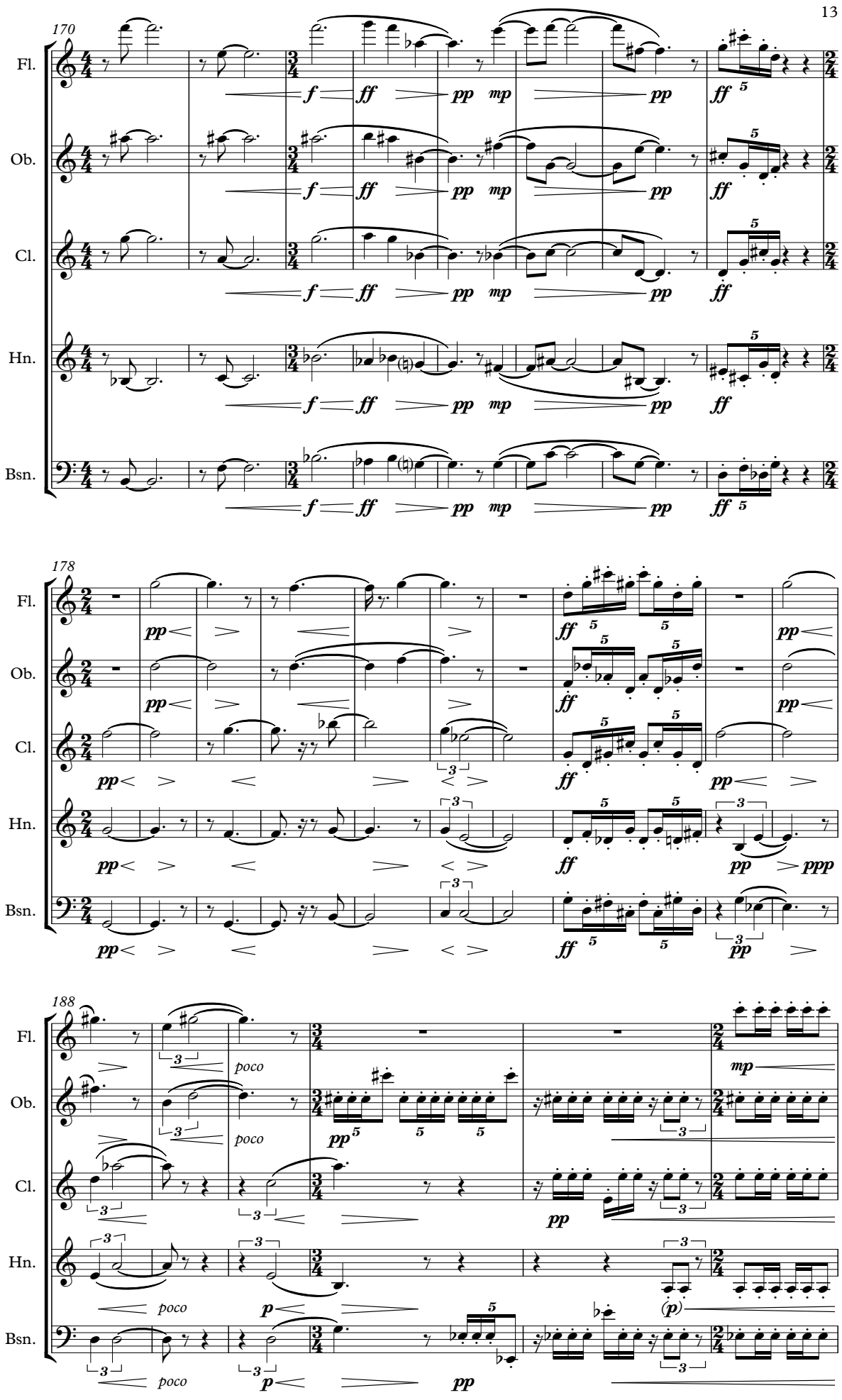

95
Fl.
Ob.
Cl.
Hn.
Bsn.
pp
(pp)
p
A Little Faster
♩=90
101
mp
f
poco
107

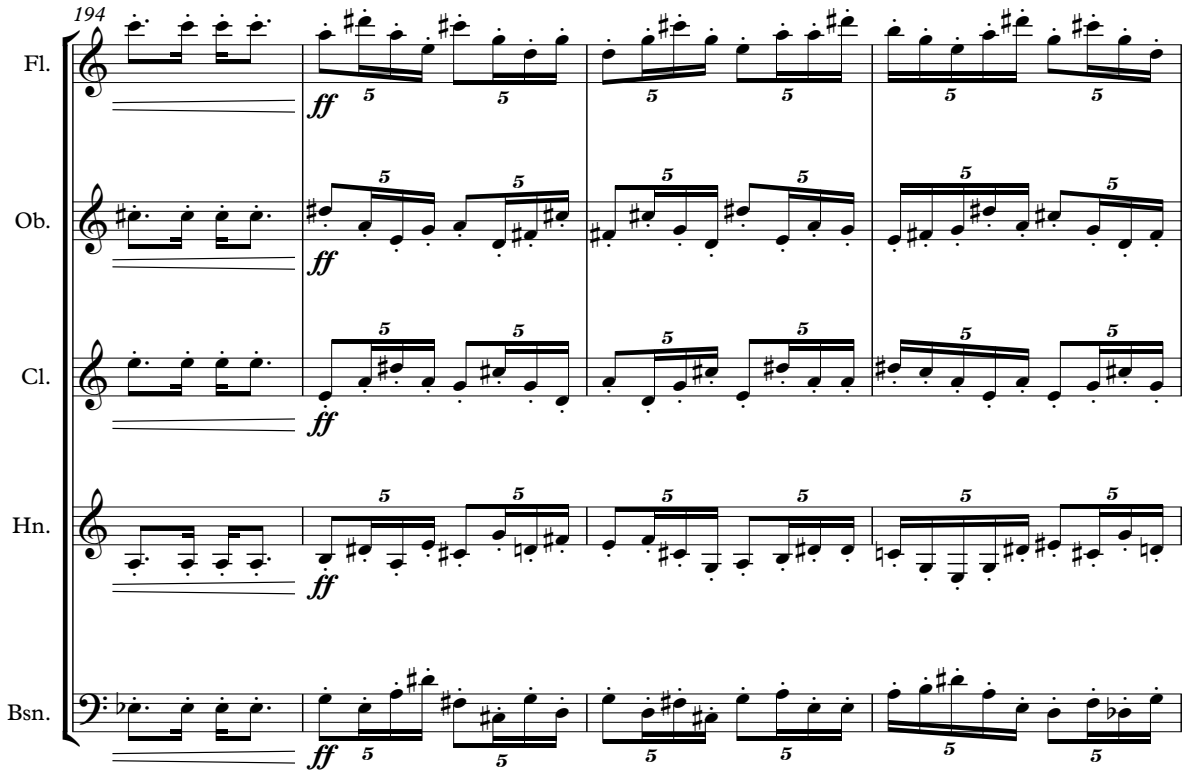

112
Fl.
Ob.
Cl.
Hn.
Bsn.
majestic
majestic
majestic
116
120

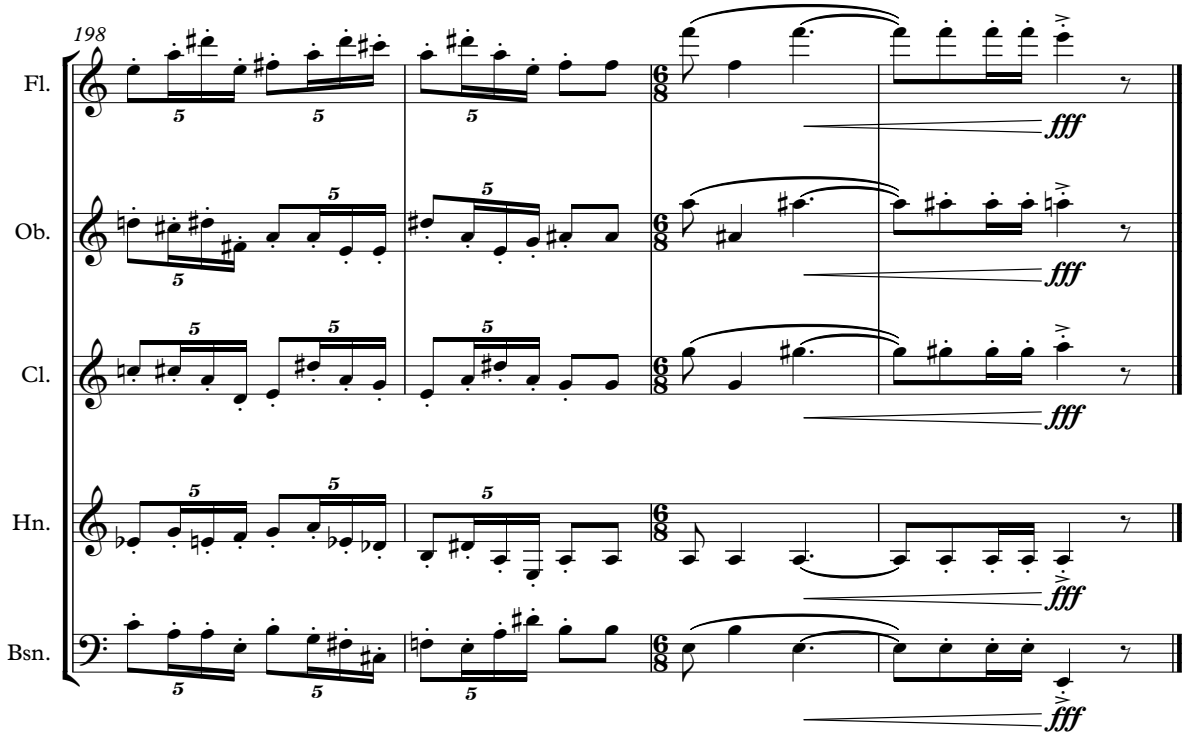

124
Fl.
Ob.
Cl.
Hn.
Bsn.
128
Fl.
Ob.
Cl.
Hn.
Bsn.
132
Fl.
Ob.
Cl.
Hn.
Bsn.


137
Fl.
Ob.
Cl.
Hn.
Bsn.
142
146


151
Fl.
Ob.
Cl.
Hn.
Bsn.
pp
f subito
pp
155
Tempo I (♩=85)
f
pp
mf
162
mp
p
mf > pp


170
Fl.
Ob.
Cl.
Hn.
Bsn.
178
188
poco
156


194
Fl.
Ob.
Cl.
Hn.
Bsn.
ff


198
Fl.
Ob.
Cl.
Hn.
Bsn.
fff

Adam Cullen

Tachyon : Observer

for full orchestra

2017 rev. 2019

Duration c11:00

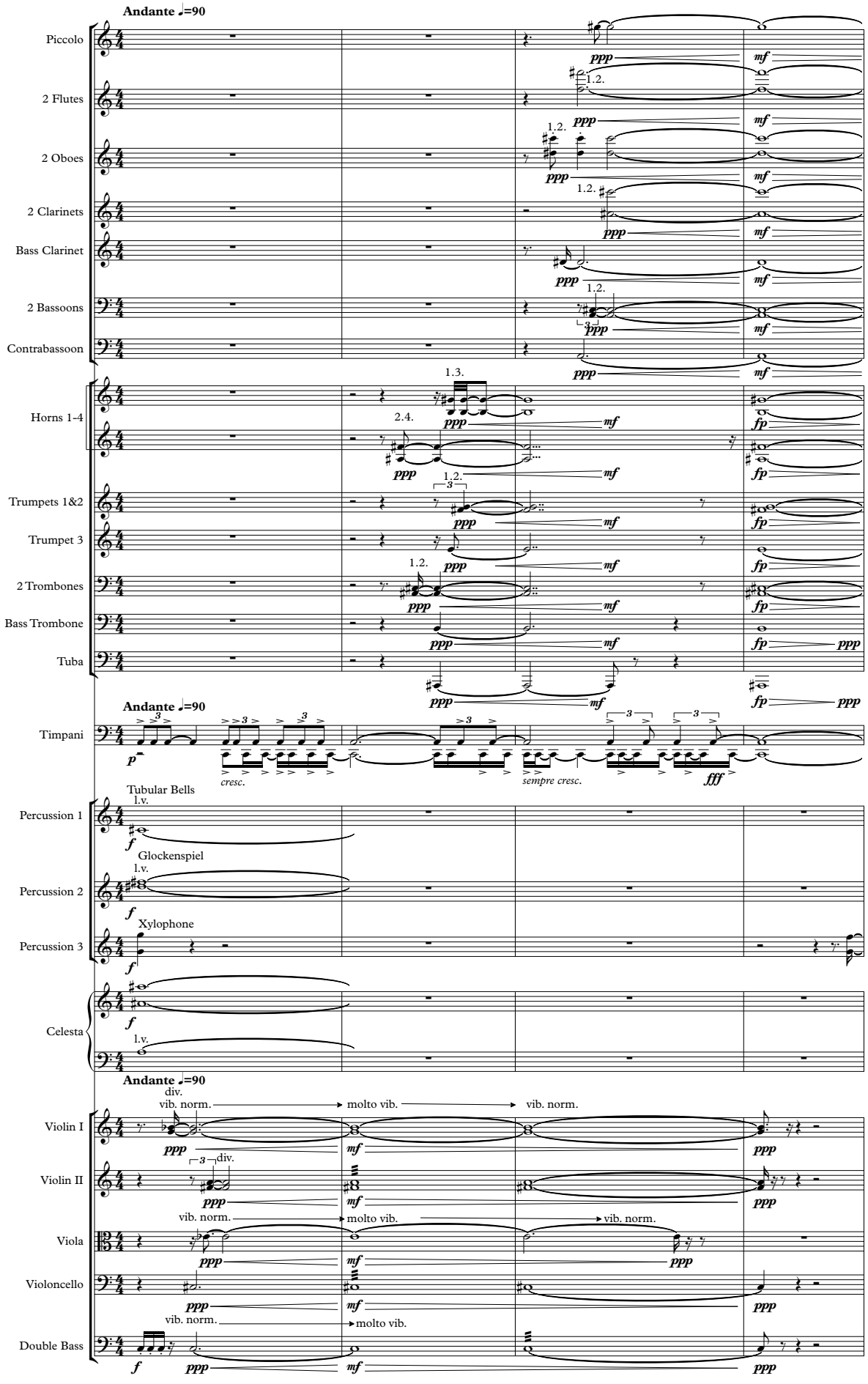
Instruments in score:

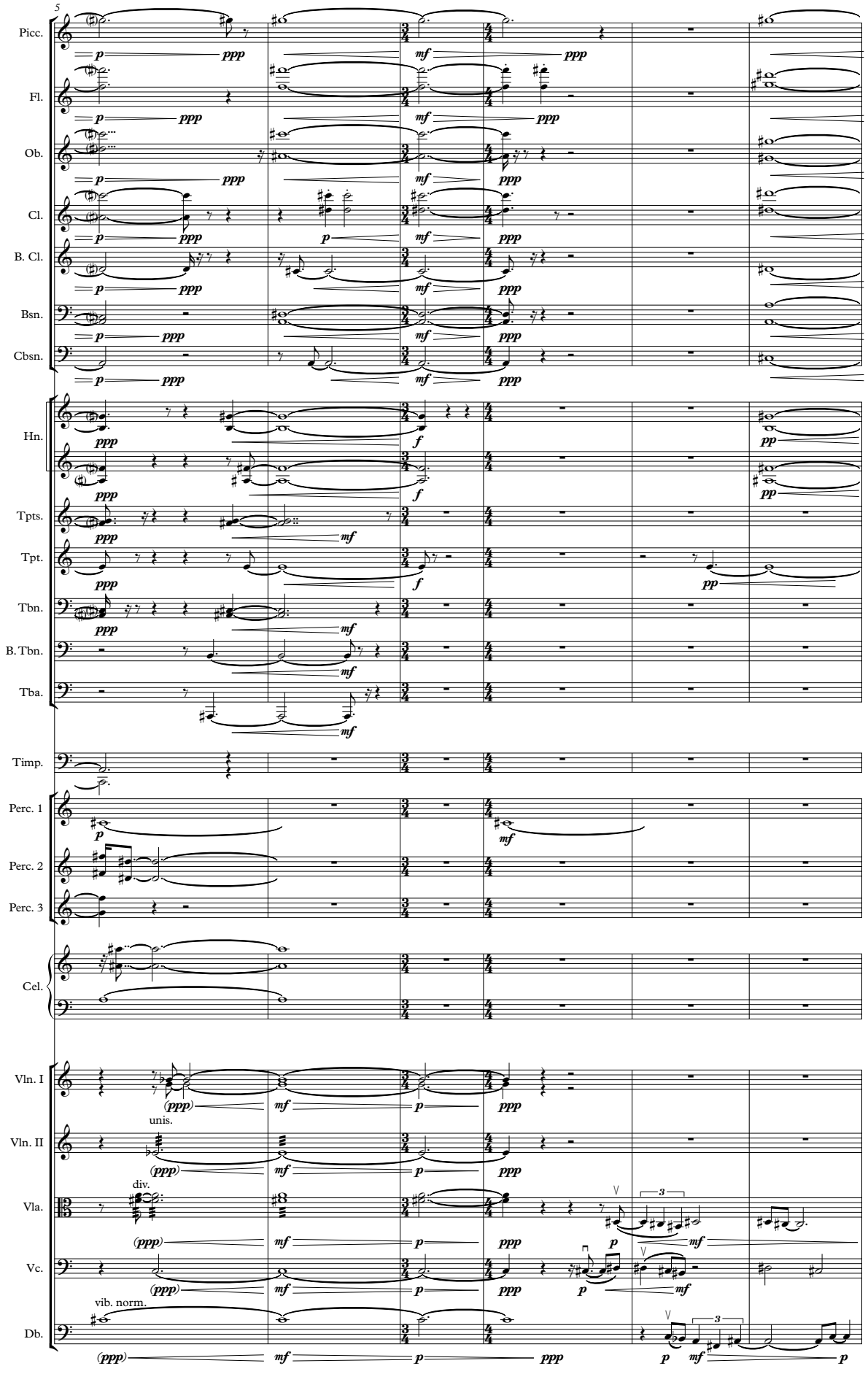
Piccolo
2 Flutes
2 Oboes
2 Clarinets
Bass Clarinet
2 Bassoons
Contrabassoon
4 Horns
3 Trumpets
2 Trombones
Bass Trombone
Tuba
Timpani
Percussion 1 (Tubular Bells Range: C4-Eb5)
Percussion 2 (Glockenspiel)
Percussion 3 (Xylophone sounding one octave above written)
Celesta
Violin I
Violin II
Viola
Violoncello
Double Bass

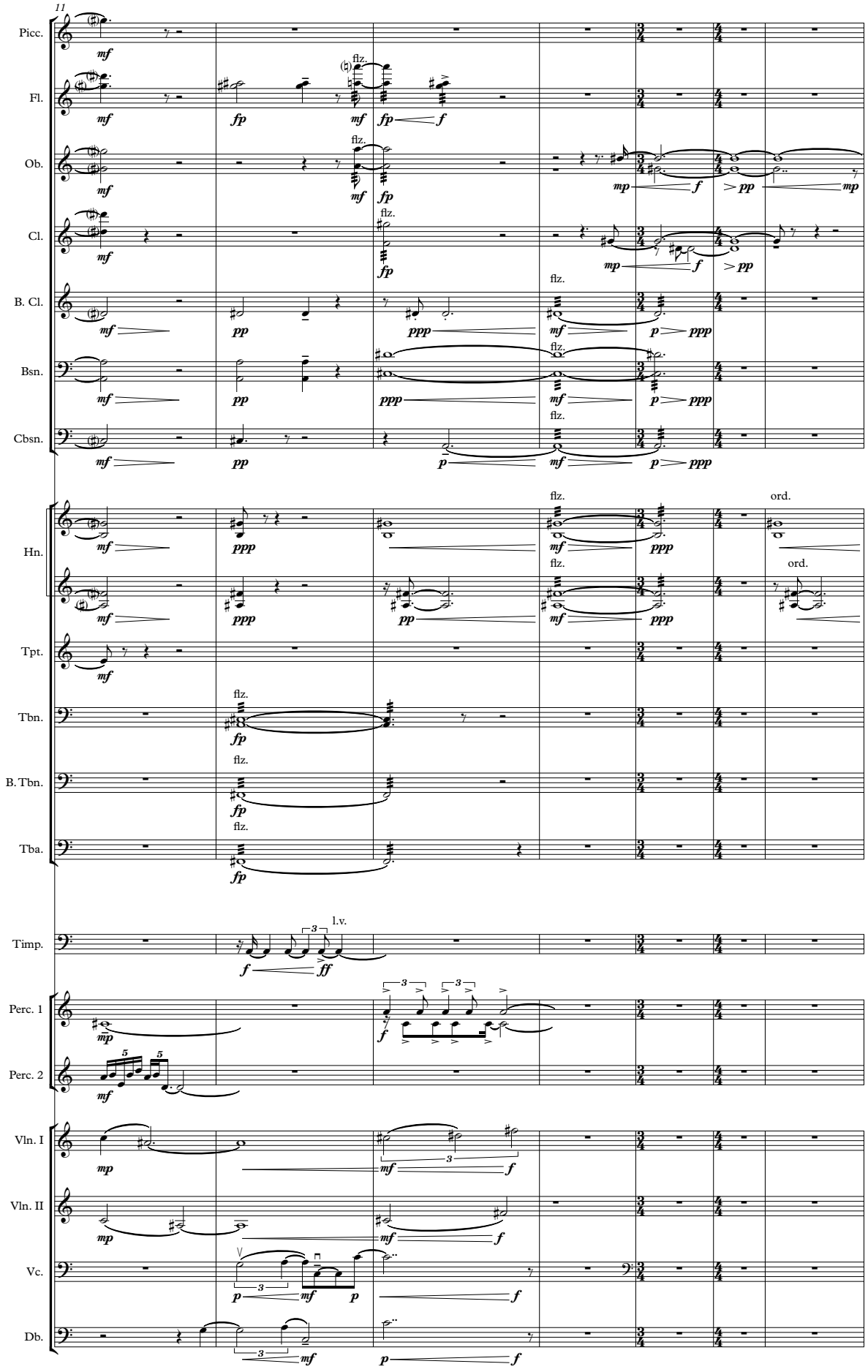
Tachyon : Observer

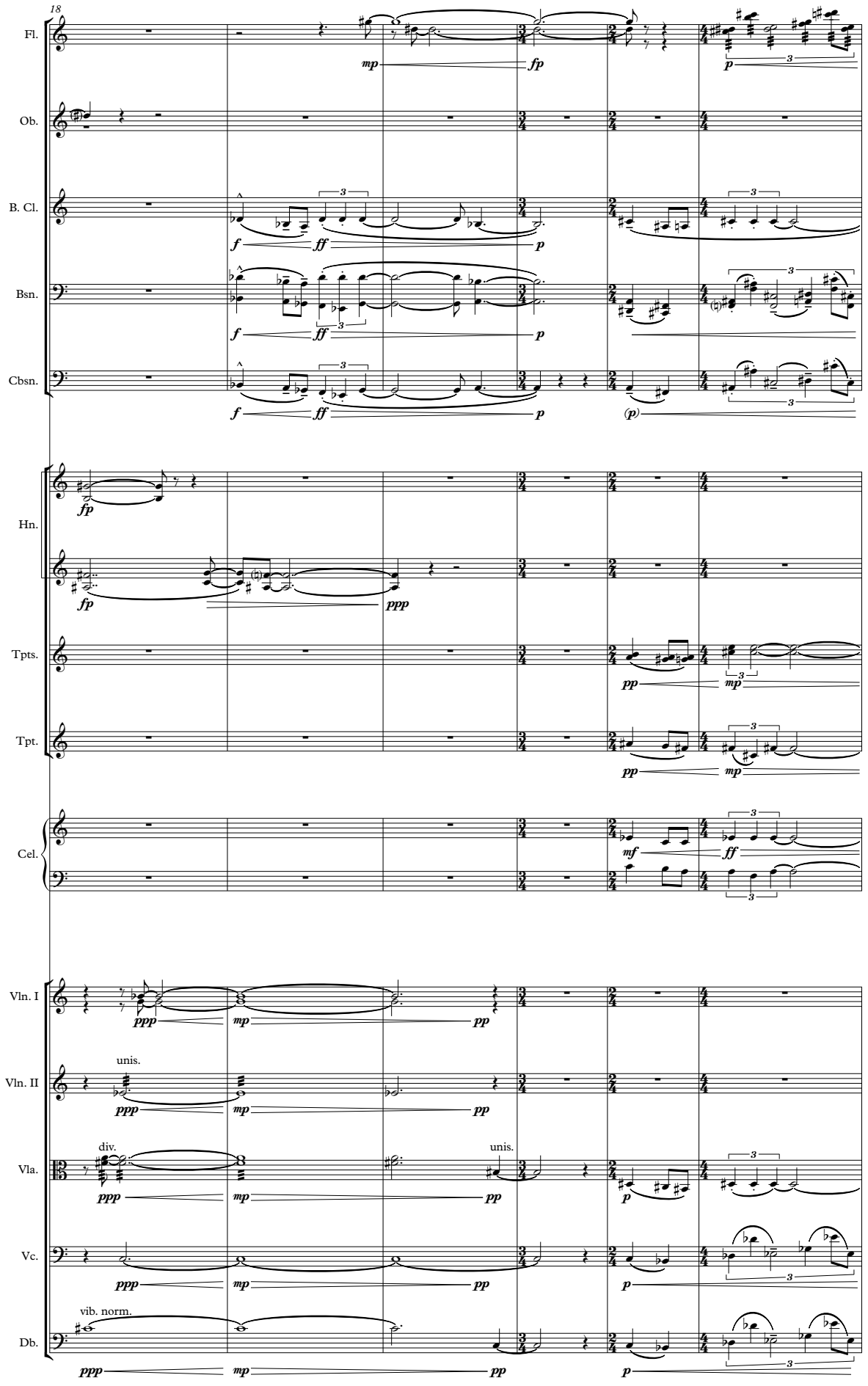
Score in C

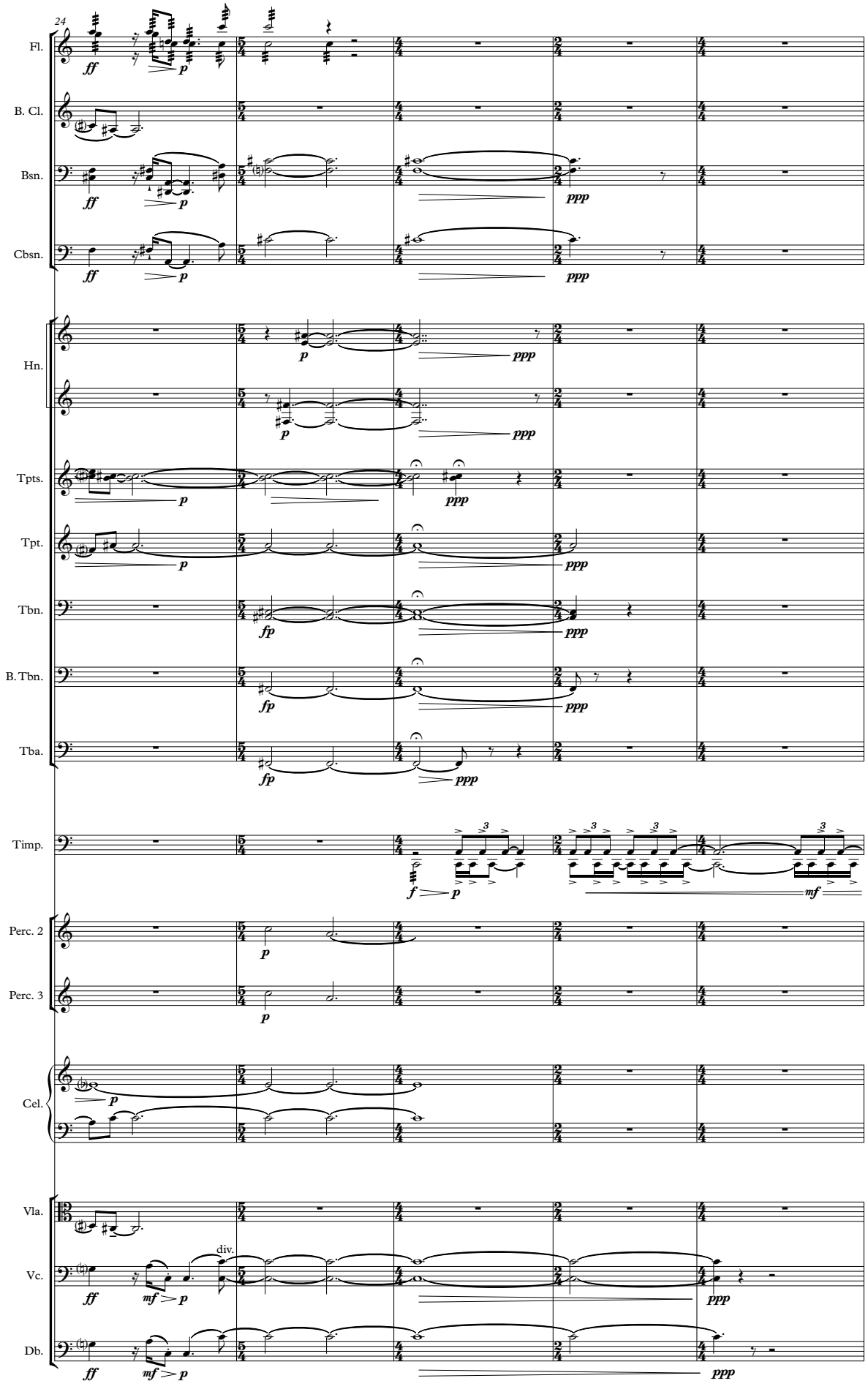
Adam Cullen

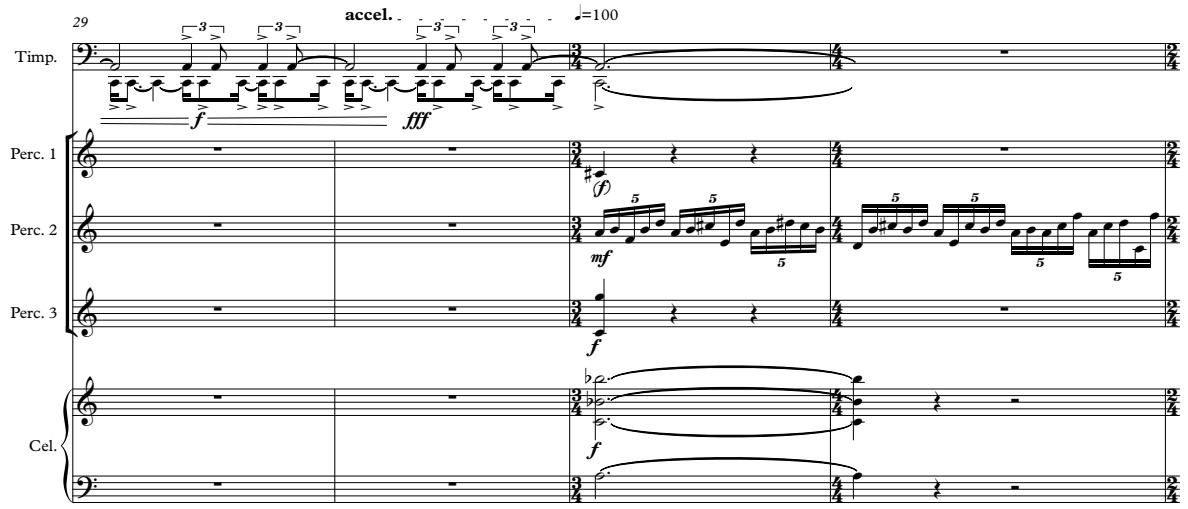


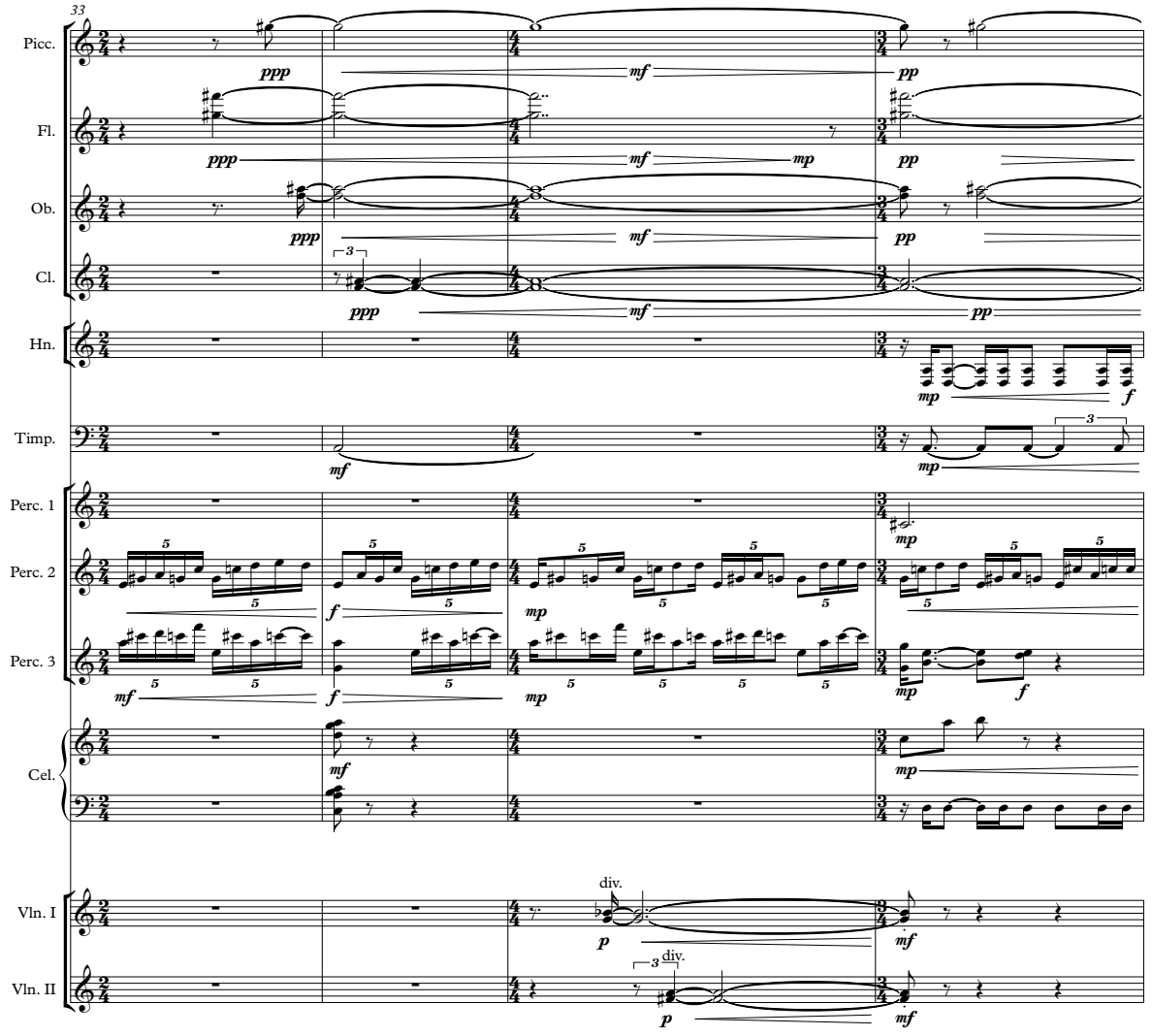

5
Picc.
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpts.
Tpt.
Tbn.
B. Tbn.
Tba.
Timp.
Perc. 1
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
unis.
div.
vib. norm.

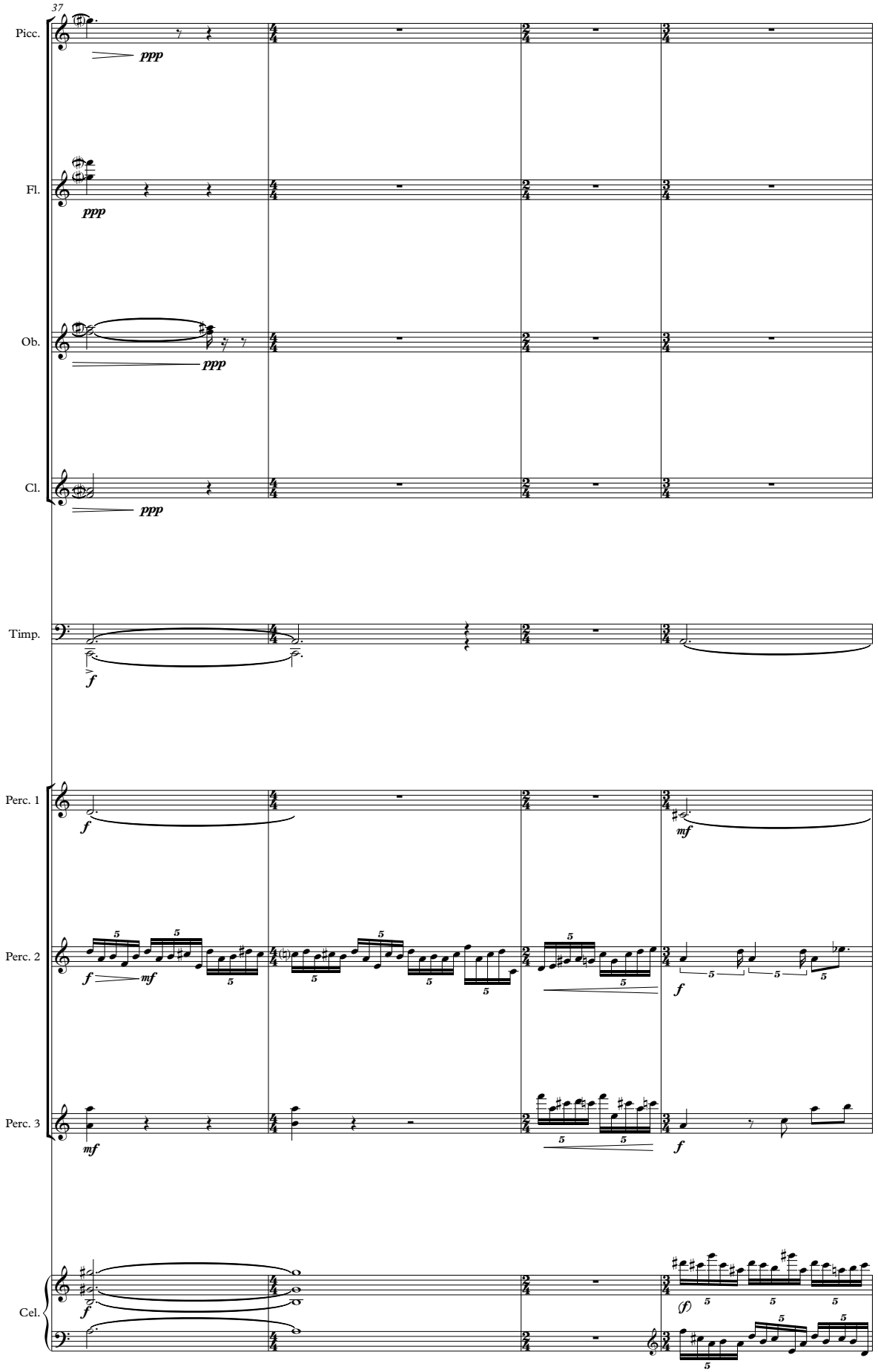

11
Picc.
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpt.
Tbn.
B. Tbn.
Tba.
Timp.
Perc. 1
Perc. 2
Vln. I
Vln. II
Vc.
Db.
flz.
ord.
l.v.

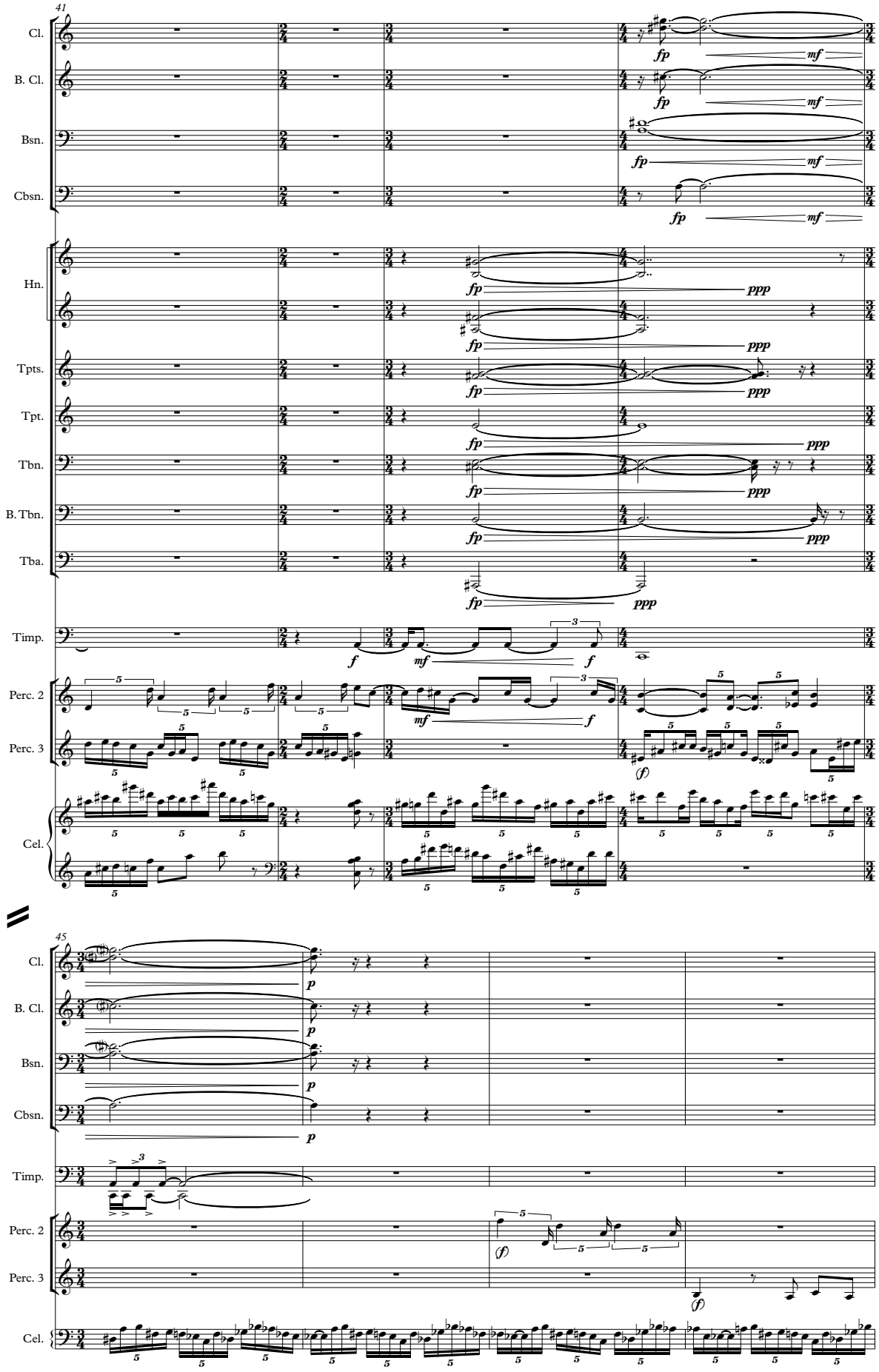

18
Fl.
Ob.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpts.
Tpt.
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
unis.
div.
unis.
vib. norm.

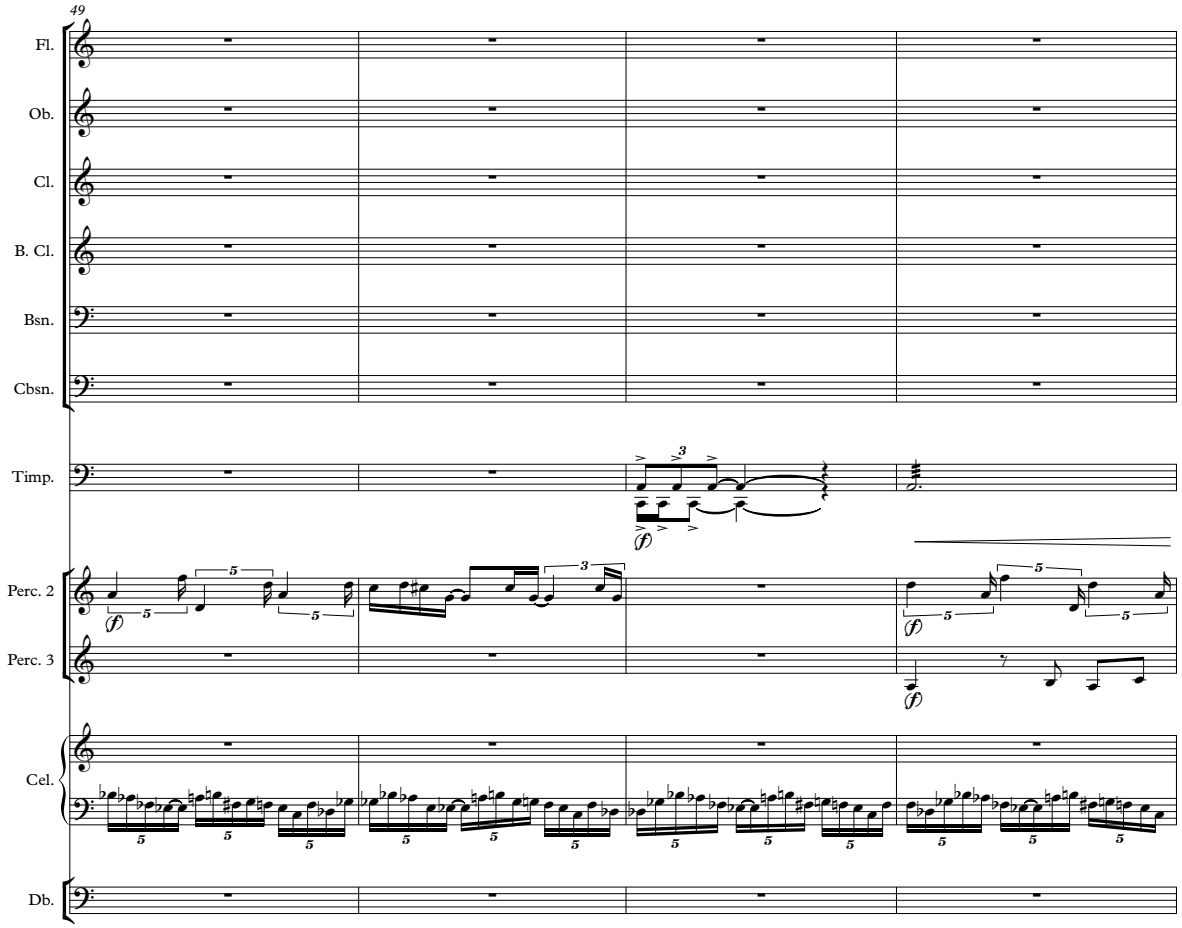

24
Fl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpts.
Tpt.
Tbn.
B. Tbn.
Tba.
Timp.
Perc. 2
Perc. 3
Cel.
Vla.
Vc.
Db.
div.

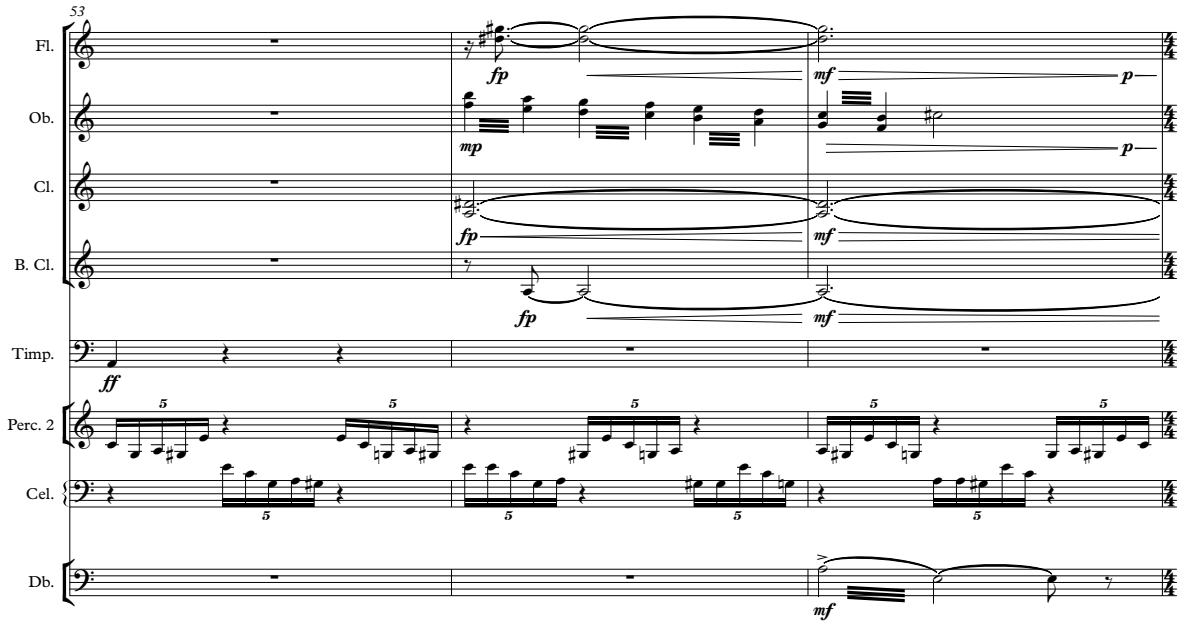

29
accel.
♩=100
Timp.
Perc. 1
Perc. 2
Perc. 3
Cel.

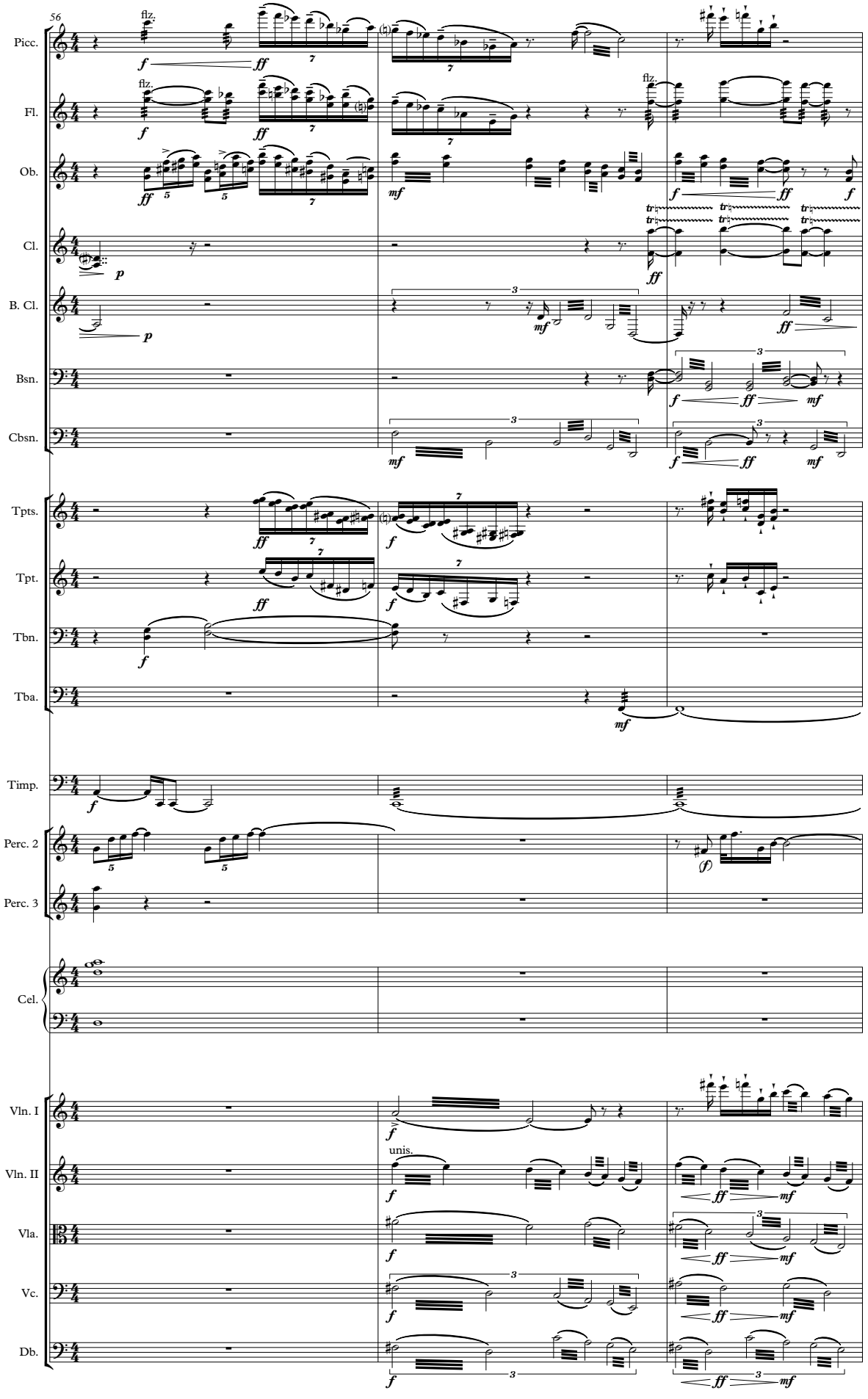

33
Picc.
Fl.
Ob.
Cl.
Hn.
Timp.
Perc. 1
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
div.
div.

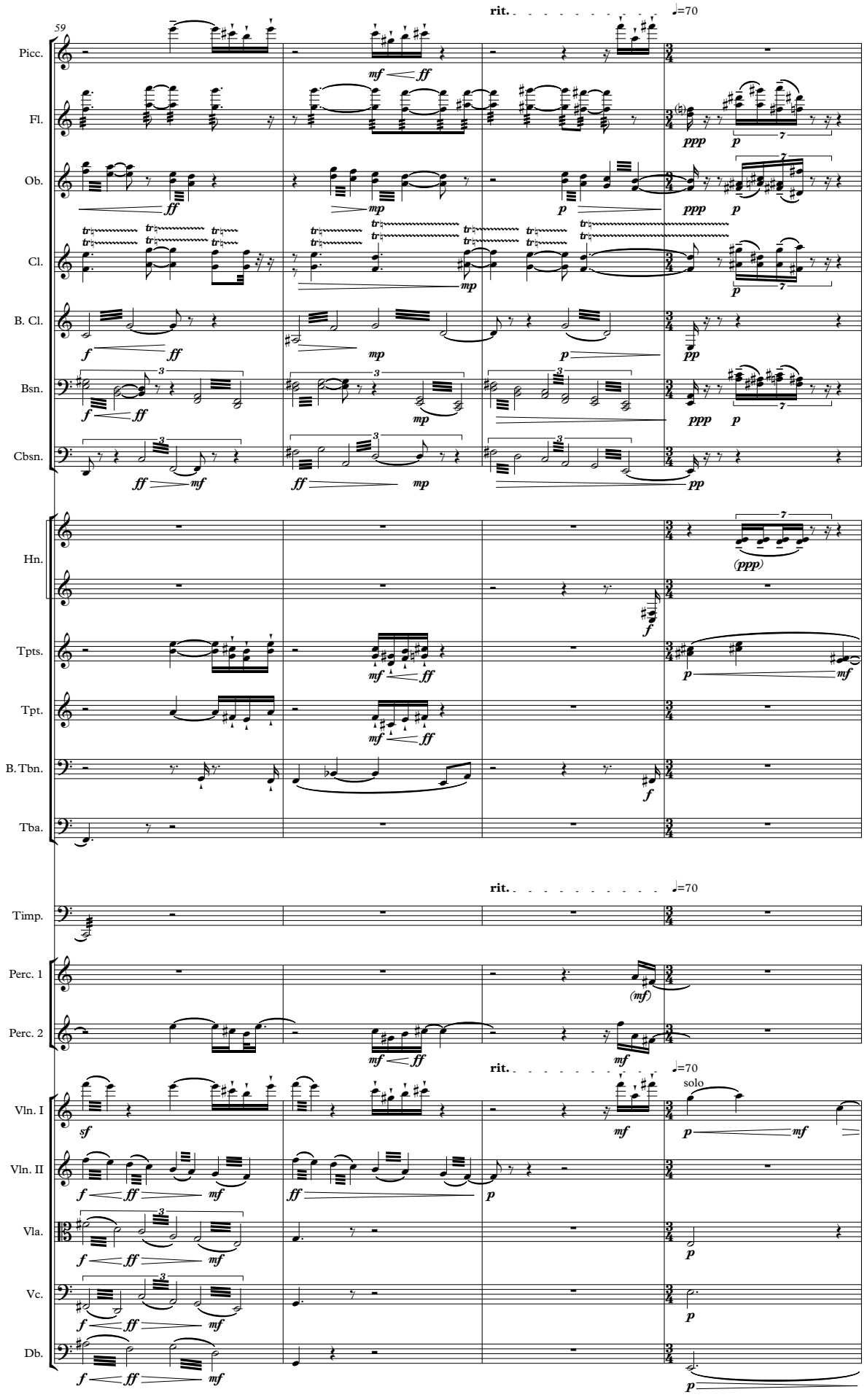

37
Picc.
ppp
Fl.
ppp
Ob.
ppp
Cl.
ppp
Timp.
f
Perc. 1
f
mf
Perc. 2
f
mf
f
Perc. 3
mf
f
Cel.
f
(f)

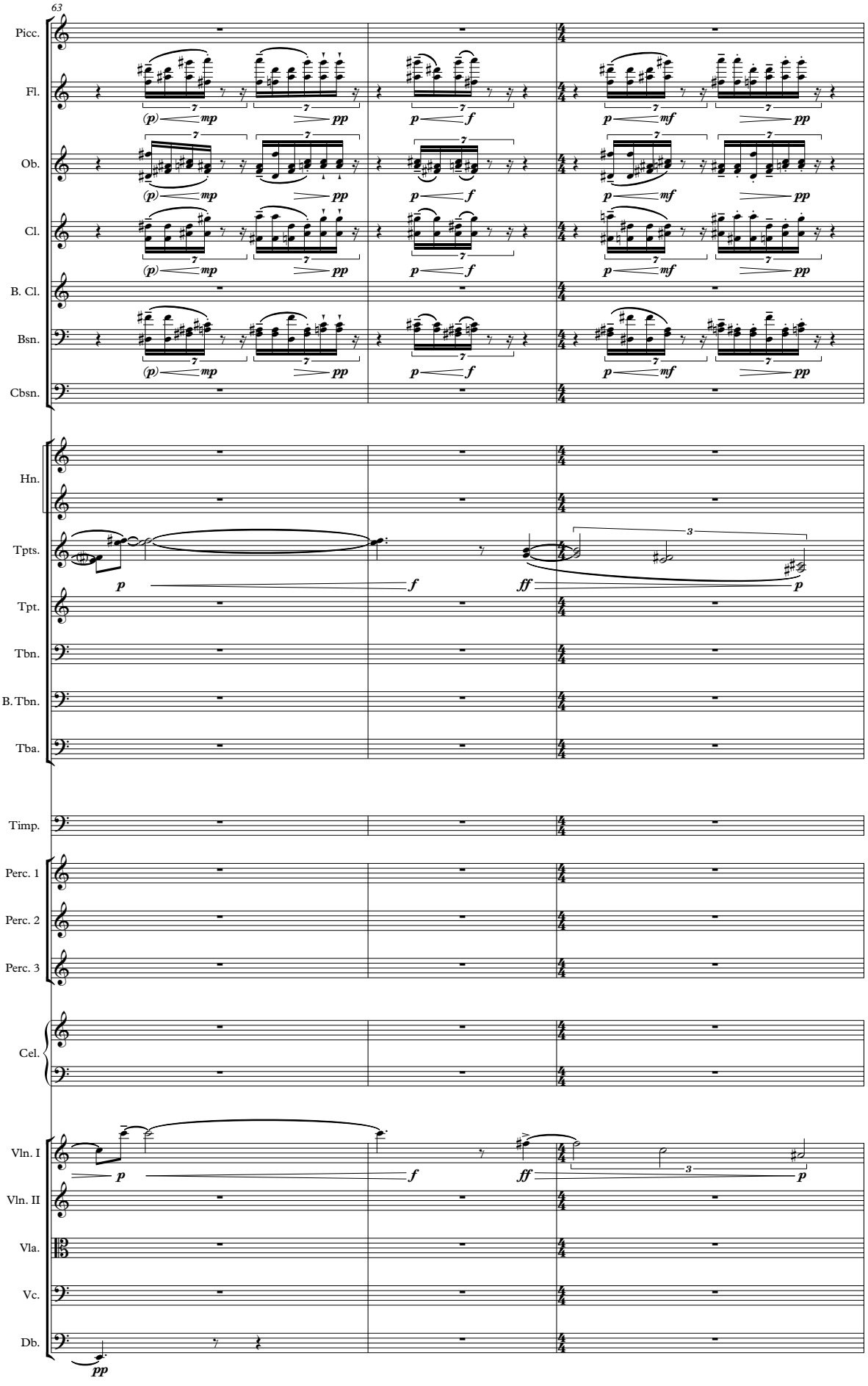

41
Cl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpts.
Tpt.
Tbn.
B. Tbn.
Tba.
Timp.
Perc. 2
Perc. 3
Cel.
45
fp
mf
ppp
f
mf
(f)
p

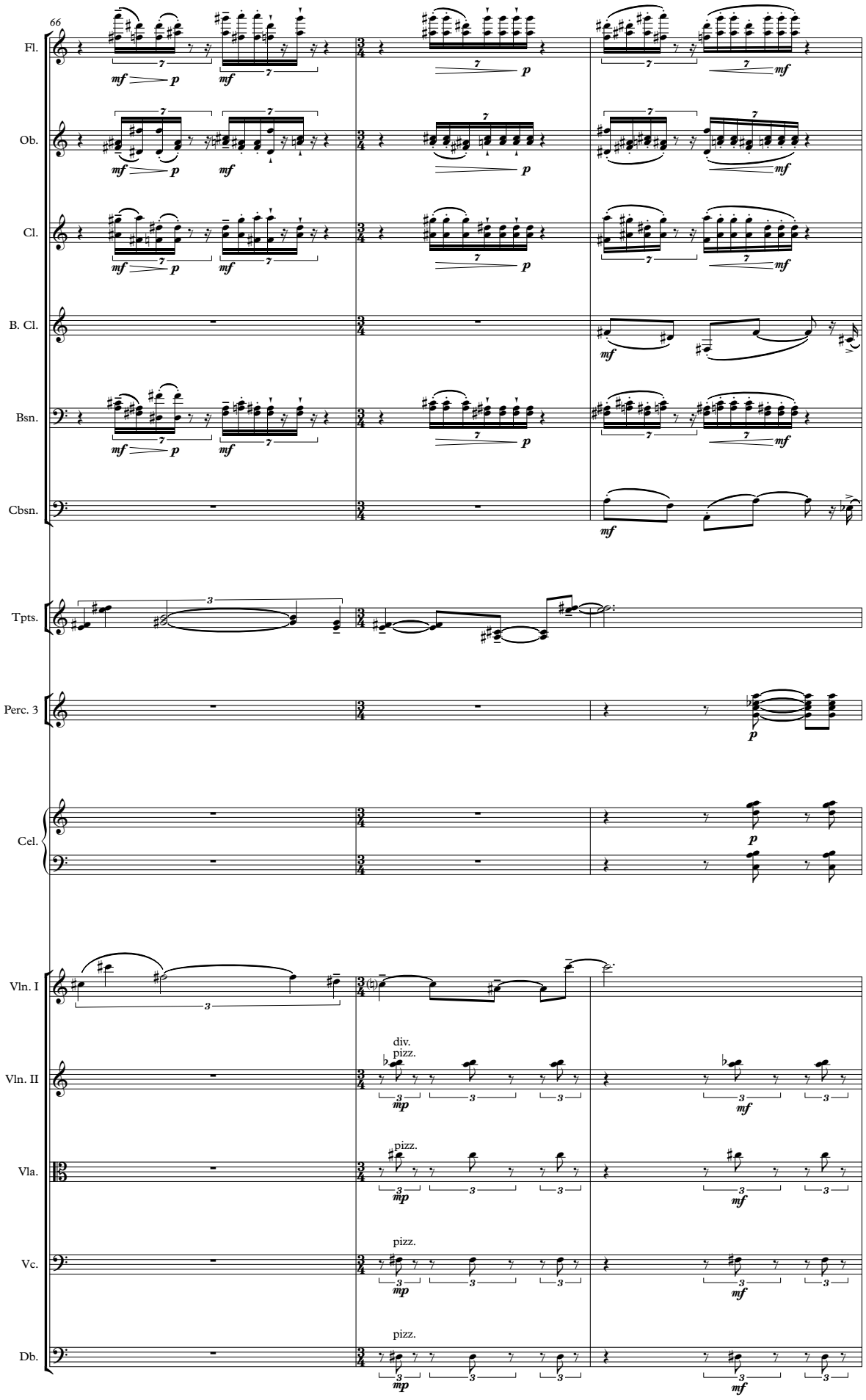

49
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Timp.
Perc. 2
Perc. 3
Cel.
Db.

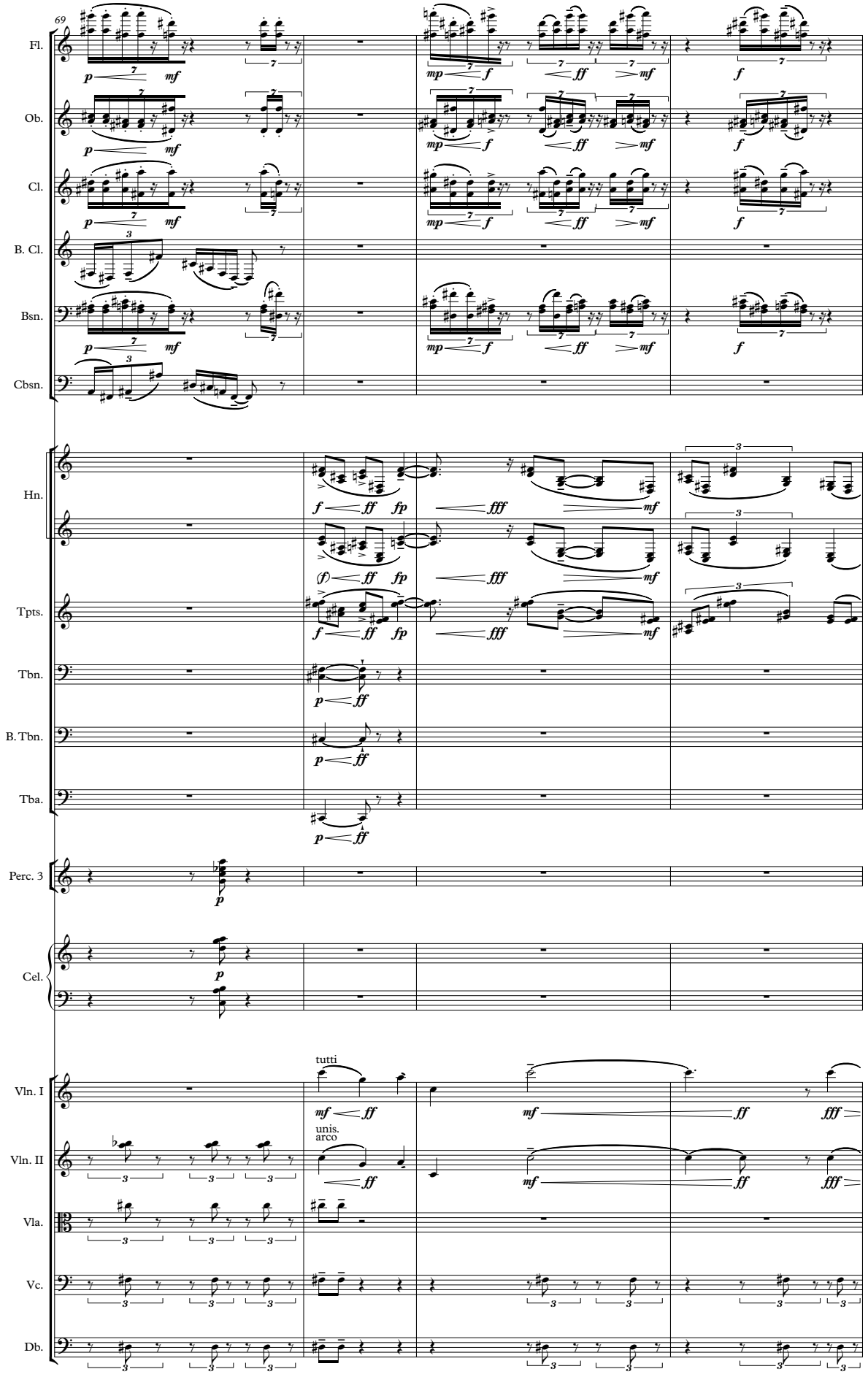

53
Fl.
Ob.
Cl.
B. Cl.
Timp.
Perc. 2
Cel.
Db.

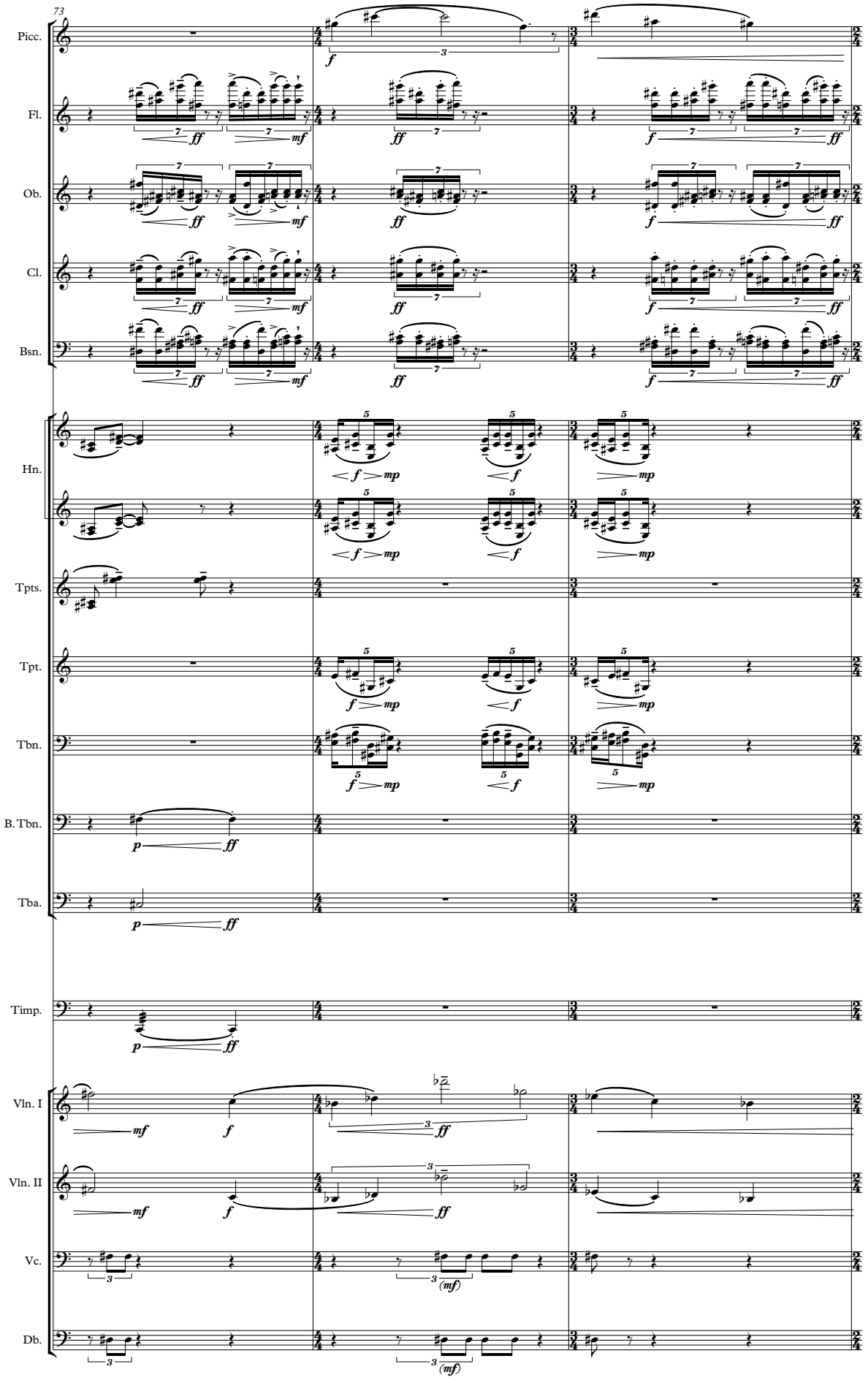

56
Picc.
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Tpts.
Tpt.
Tbn.
Tba.
Timp.
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
flz.
unis.

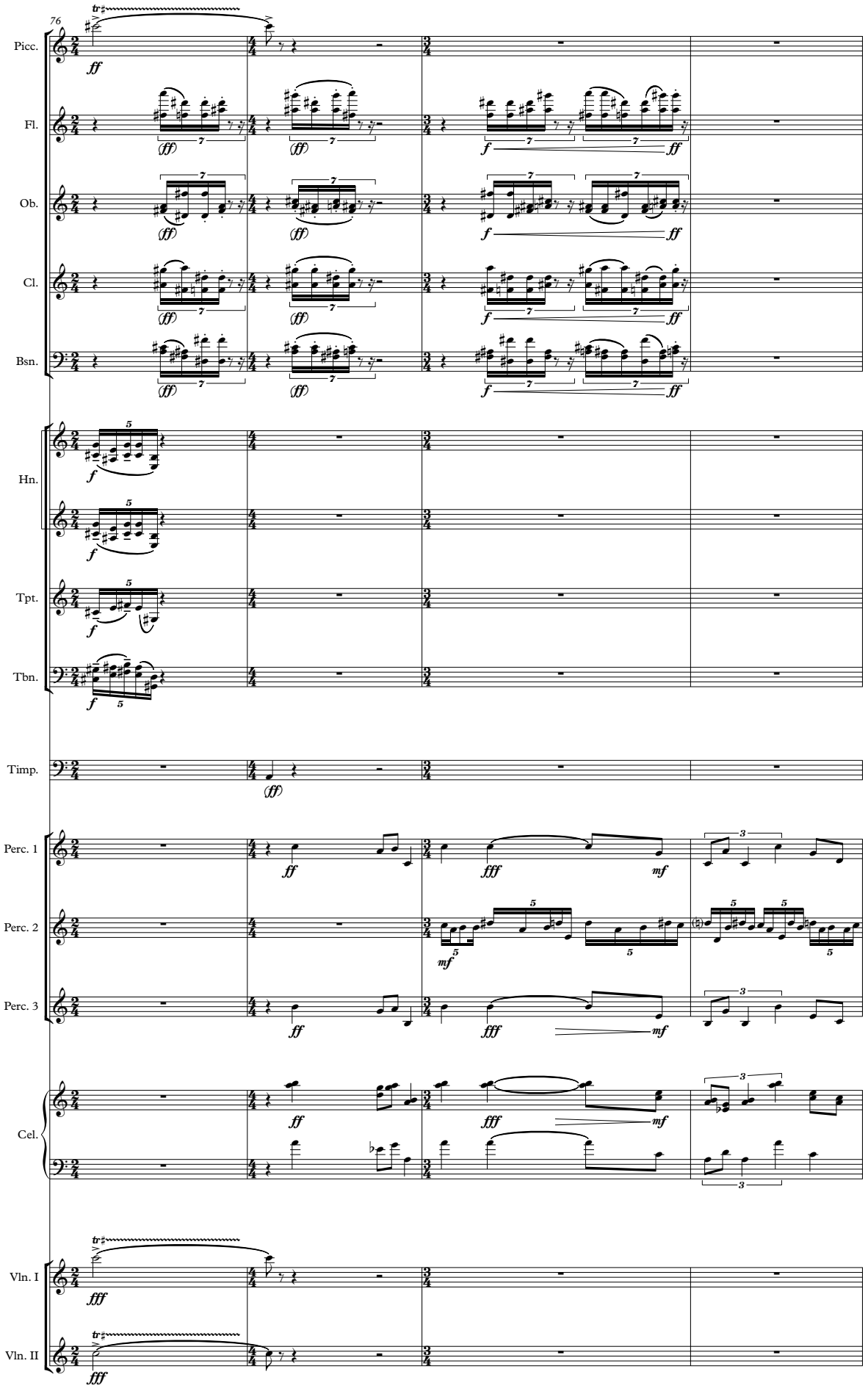

59
rit.
♩=70
Picc.
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpts.
Tpt.
B. Tbn.
Tba.
Timp.
Perc. 1
Perc. 2
Vln. I
Vln. II
Vla.
Vc.
Db.
solo

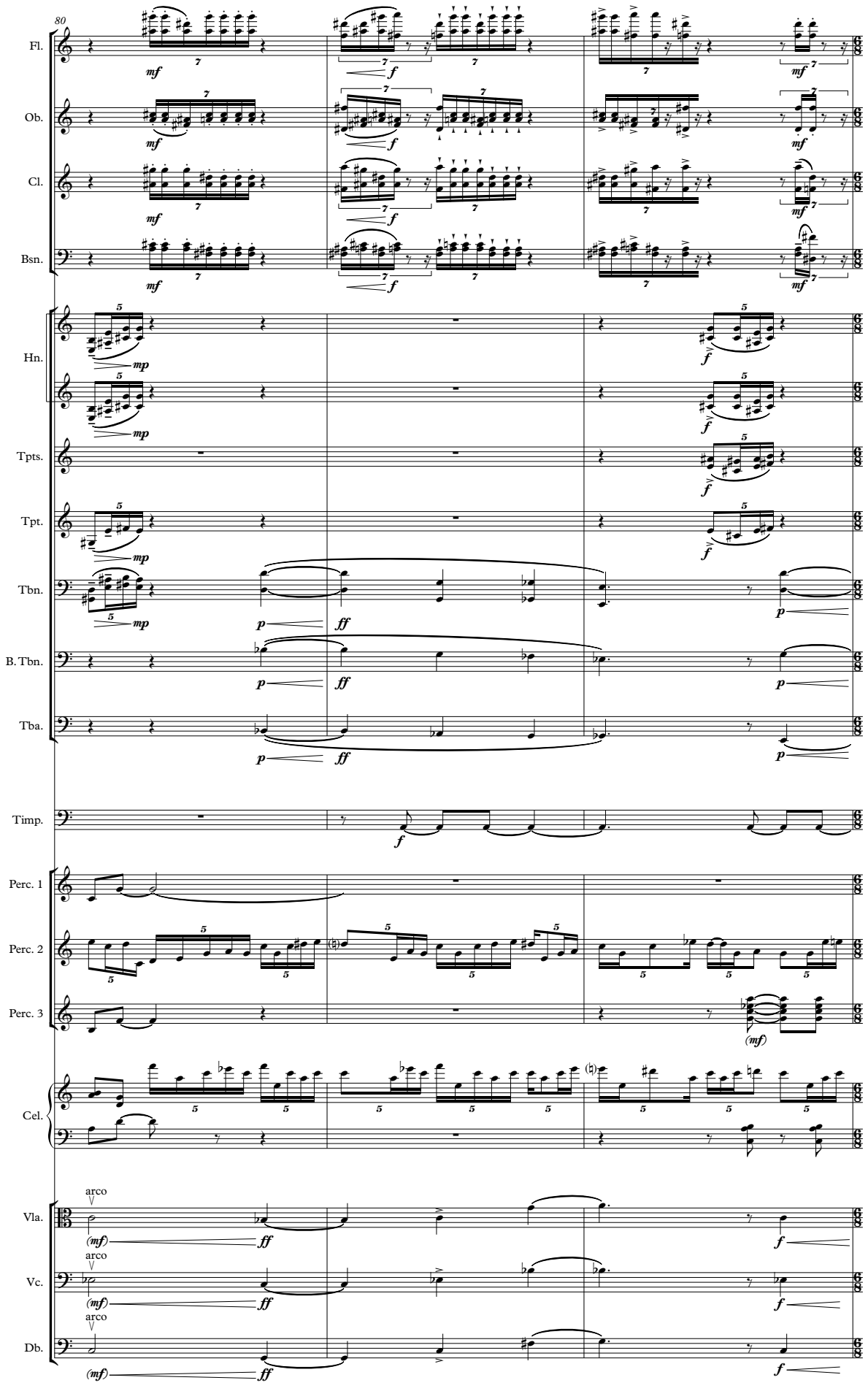

63
Picc.
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpts.
Tpt.
Tbn.
B. Tbn.
Tba.
Timp.
Perc. 1
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.

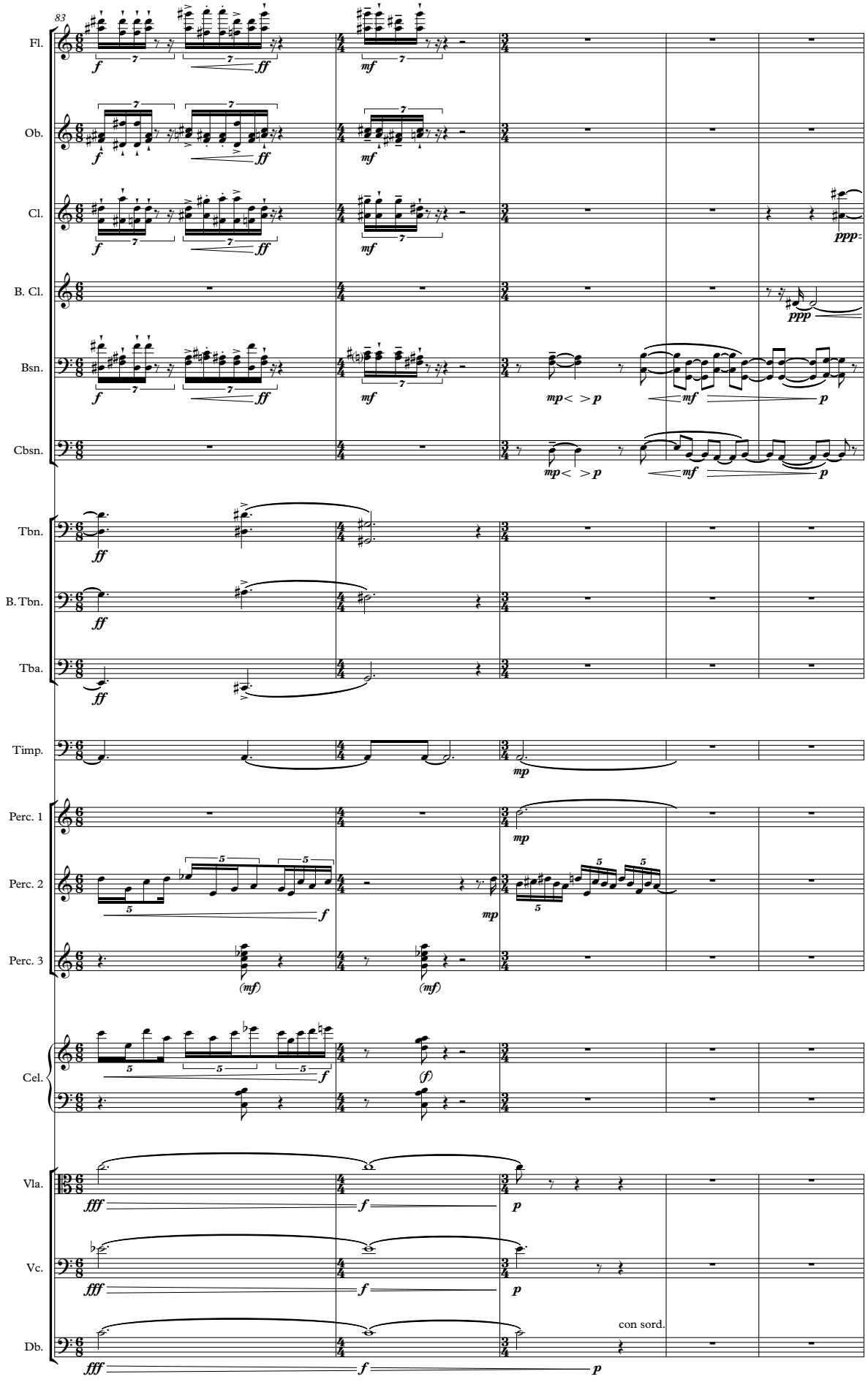

66
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Tpts.
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
div.
pizz.
pizz.
pizz.
pizz.

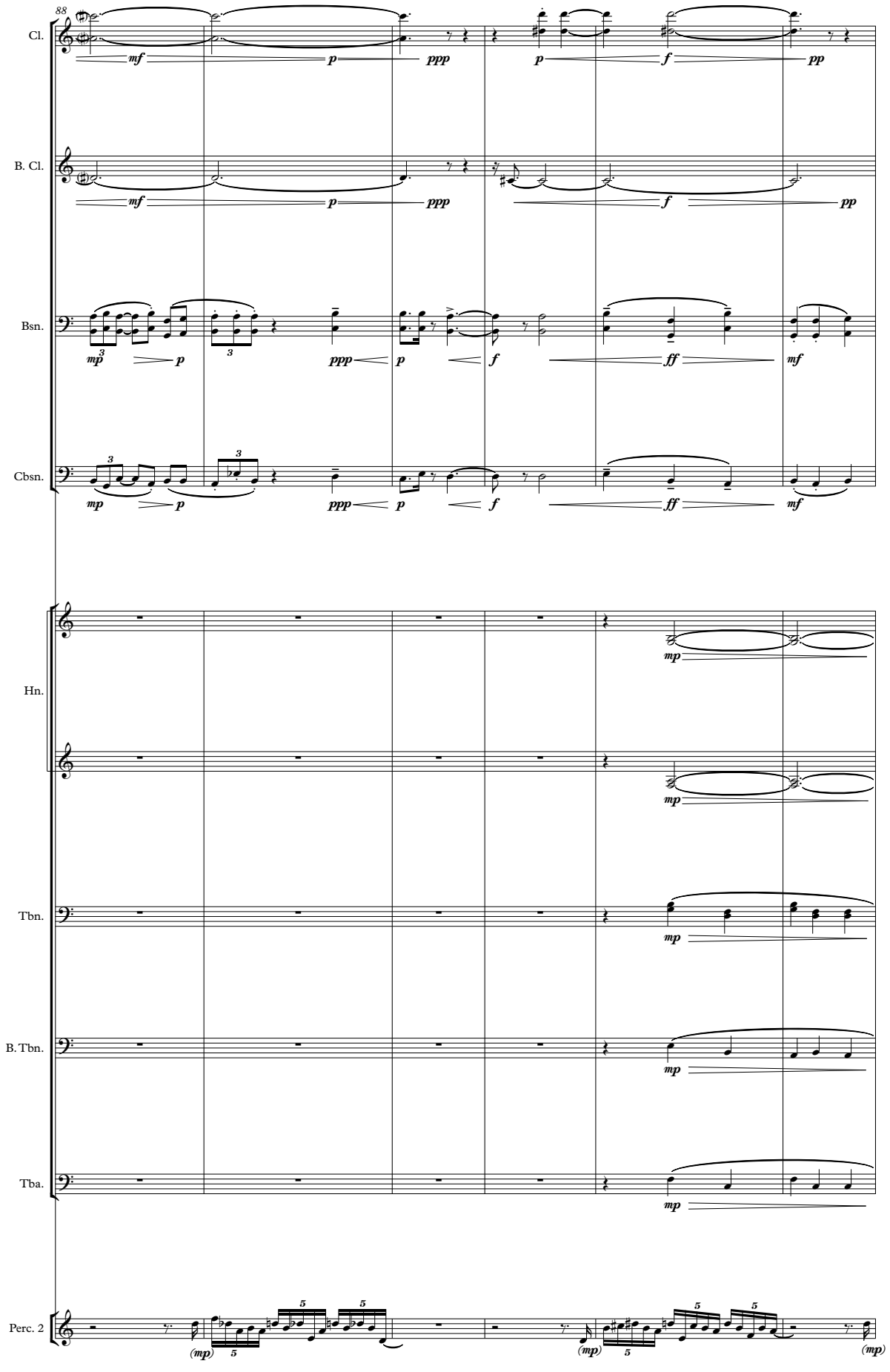

69
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tpts.
Tbn.
B. Tbn.
Tba.
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
tutti
unis.
arco

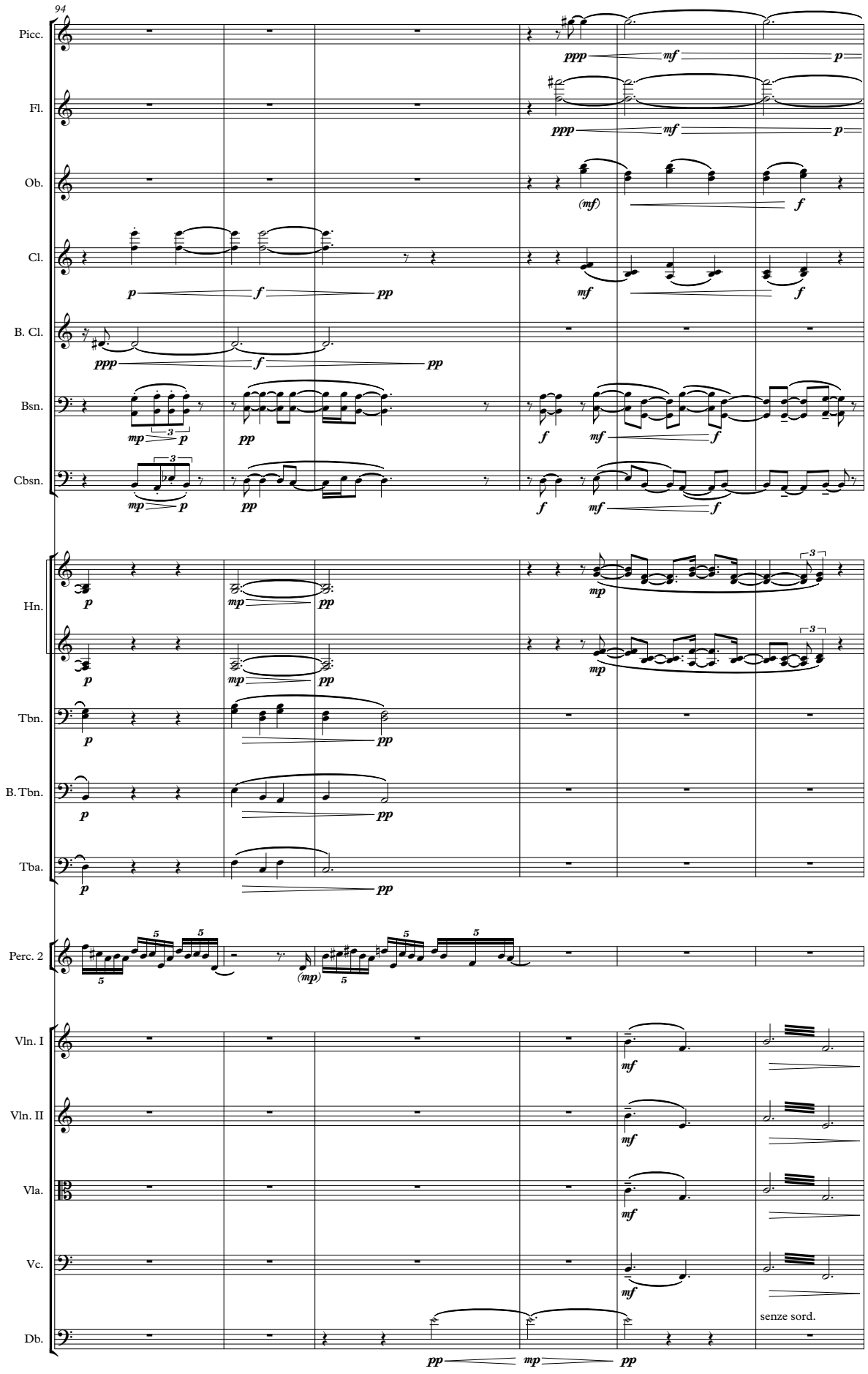

73
Picc.
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpts.
Tpt.
Tbn.
B. Tbn.
Tba.
Timp.
Vln. I
Vln. II
Vc.
Db.


76
Picc.
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpt.
Tbn.
Timp.
Perc. 1
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II


80
Fl.
Ob.
Cl.
Bsn.
Hn.
Tpts.
Tpt.
Tbn.
B. Tbn.
Tba.
Timp.
Perc. 1
Perc. 2
Perc. 3
Cel.
Vla.
Vc.
Db.
arco
arco
arco


83
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
Tbn.
B. Tbn.
Tba.
Timp.
Perc. 1
Perc. 2
Perc. 3
Cel.
Vla.
Vc.
Db.
con sord.


88
Cl.
B. Cl.
Bsn.
Cbsn.
Hn.
Tbn.
B. Tbn.
Tba.
Perc. 2
mf
p
ppp
f
pp
mp
ff
mf
(mp)


94
Picc.
Fl.
Ob.
Cl.
B. Cl.
Bsn.
Cbsn.
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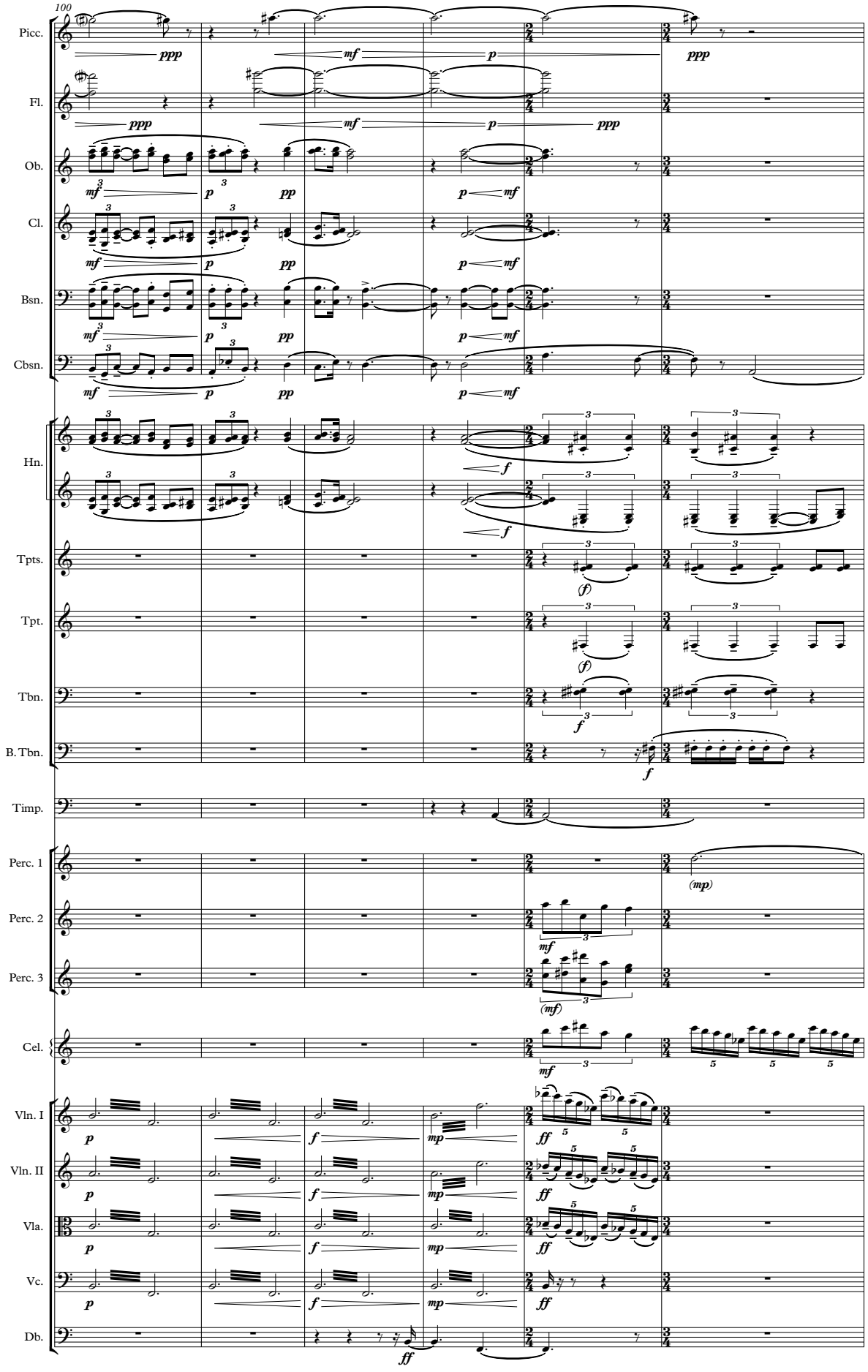
Tba.
Perc. 2
Vln. I
Vln. II
Vla.
Vc.
Db.
senze sord.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Tbn.
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Perc. 2
Perc. 3
Cel.
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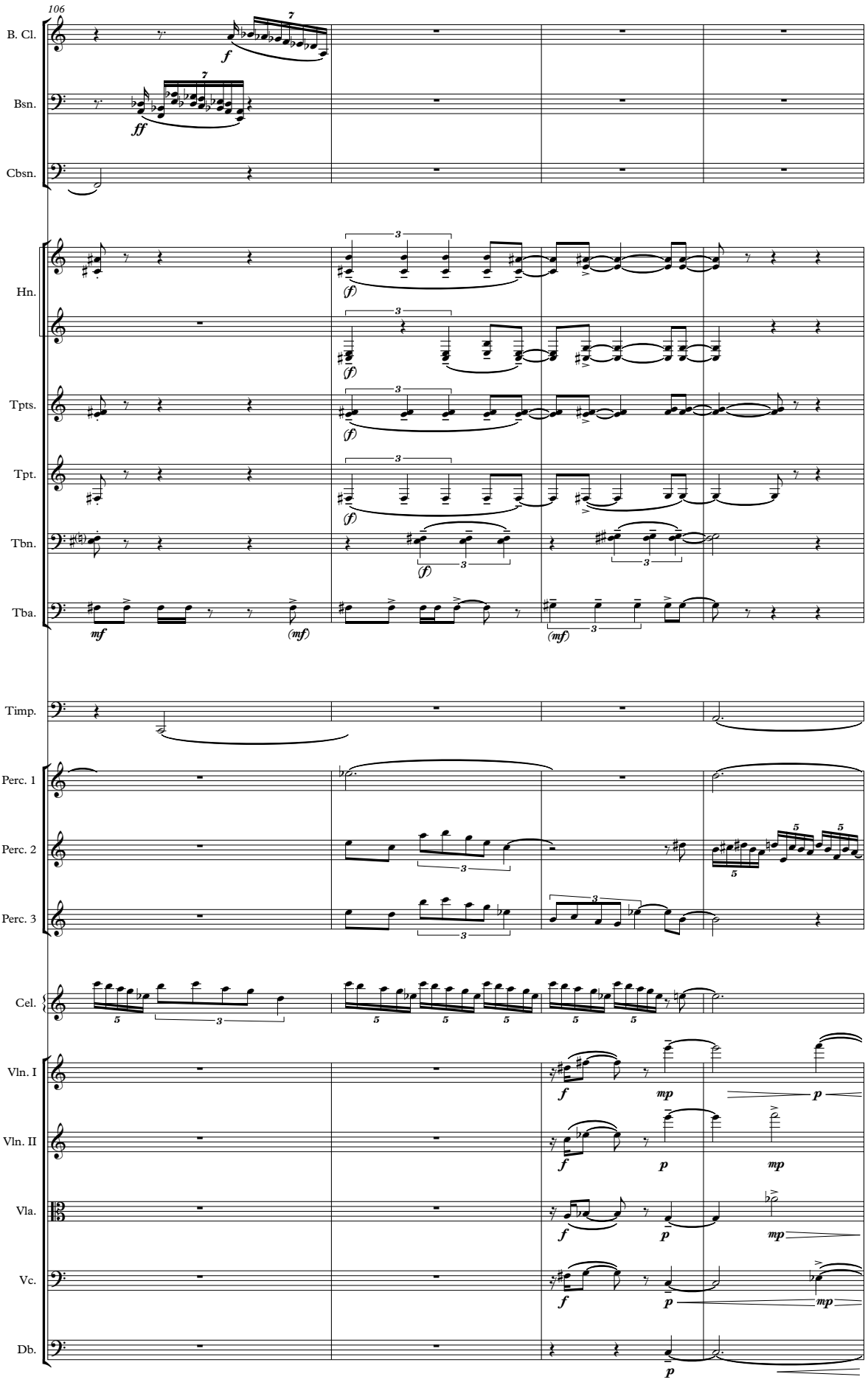
Vln. II
Vla.
Vc.
Db.


106
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Tbn.
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Perc. 3
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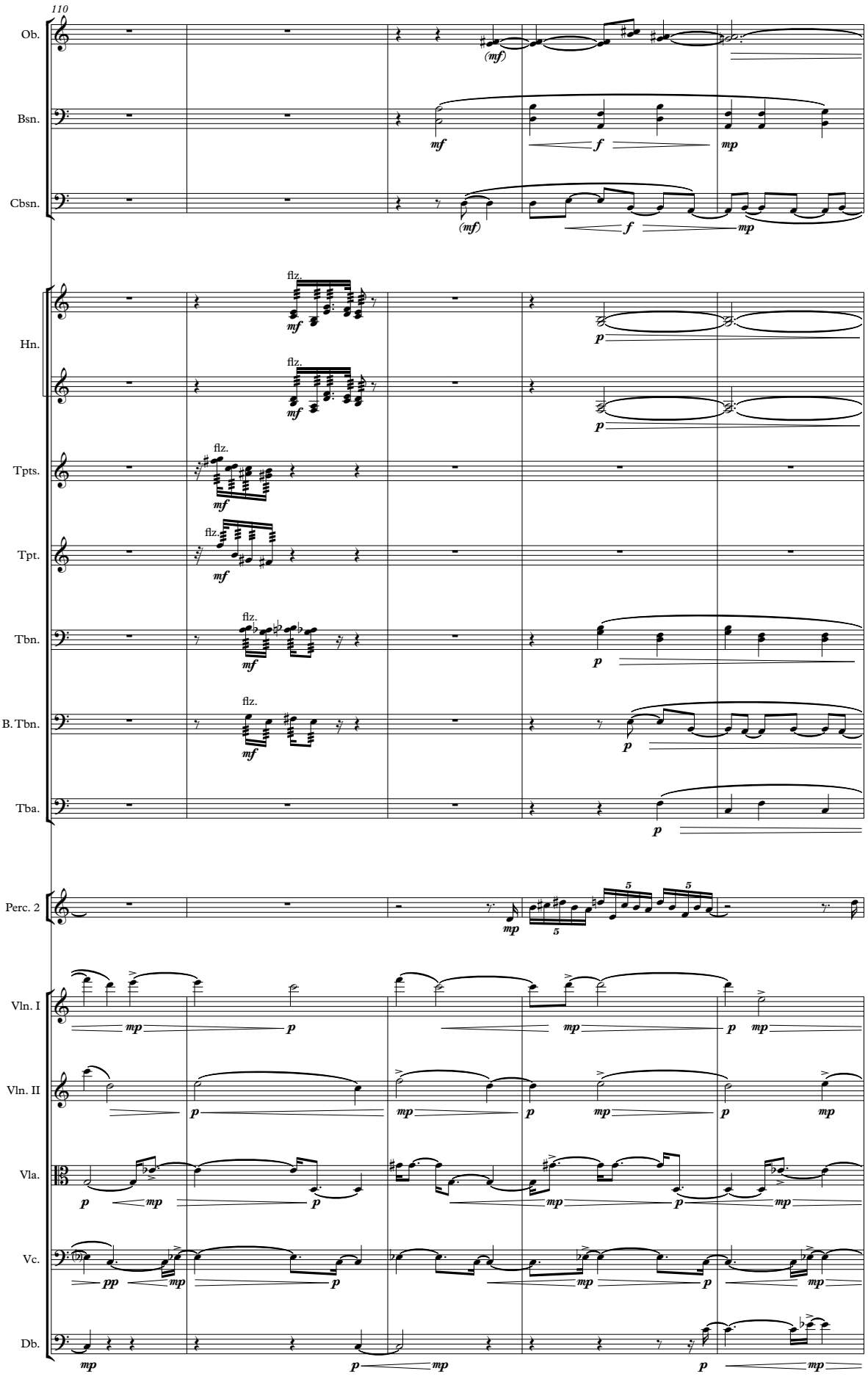
Vln. I
Vln. II
Vla.
Vc.
Db.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Tpt.
Tbn.
B. Tbn.
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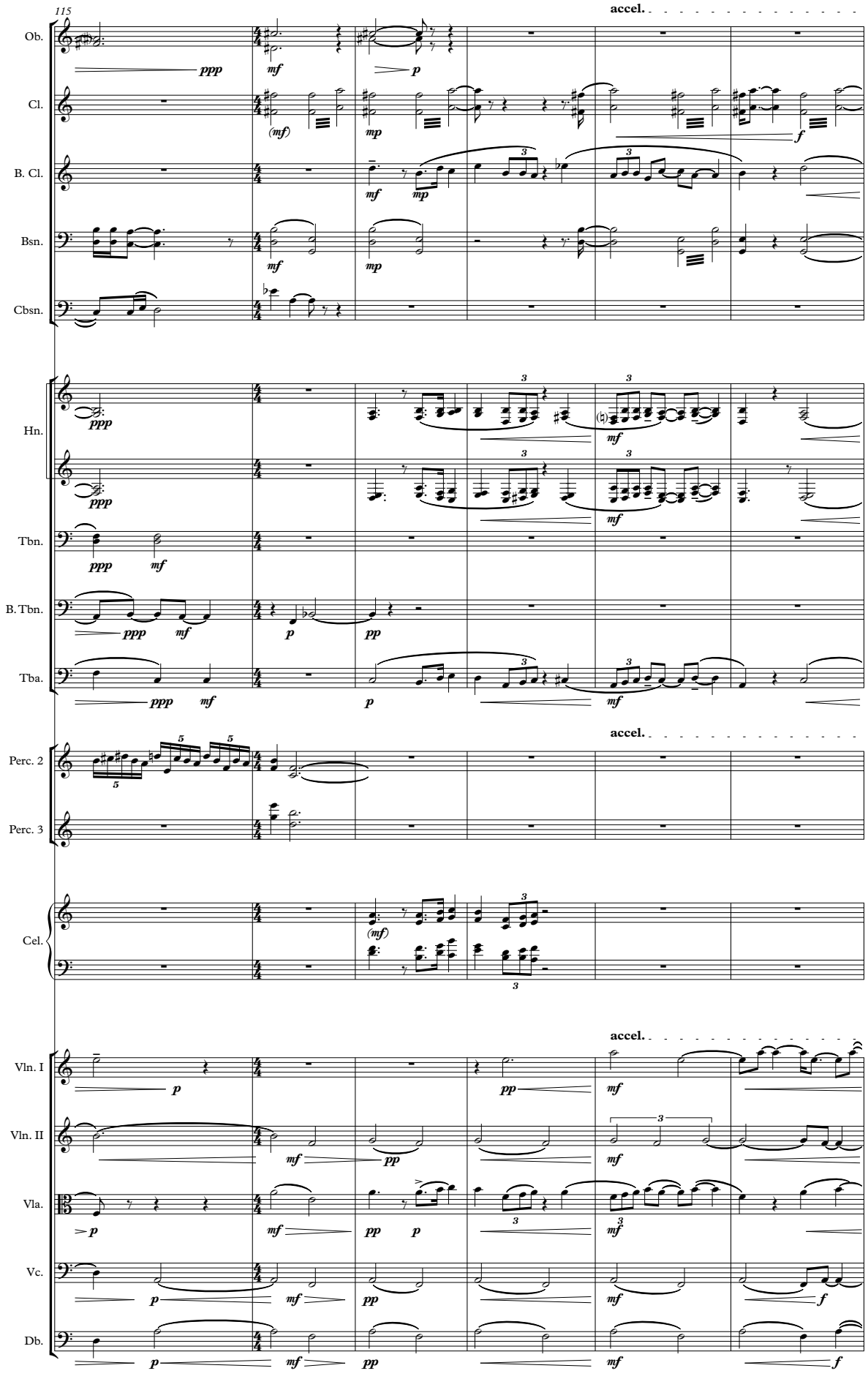
Vln. II
Vla.
Vc.
Db.
flz.
(mf)
mf
f
mp
p
pp


115
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Hn.
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Perc. 3
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Vln. II
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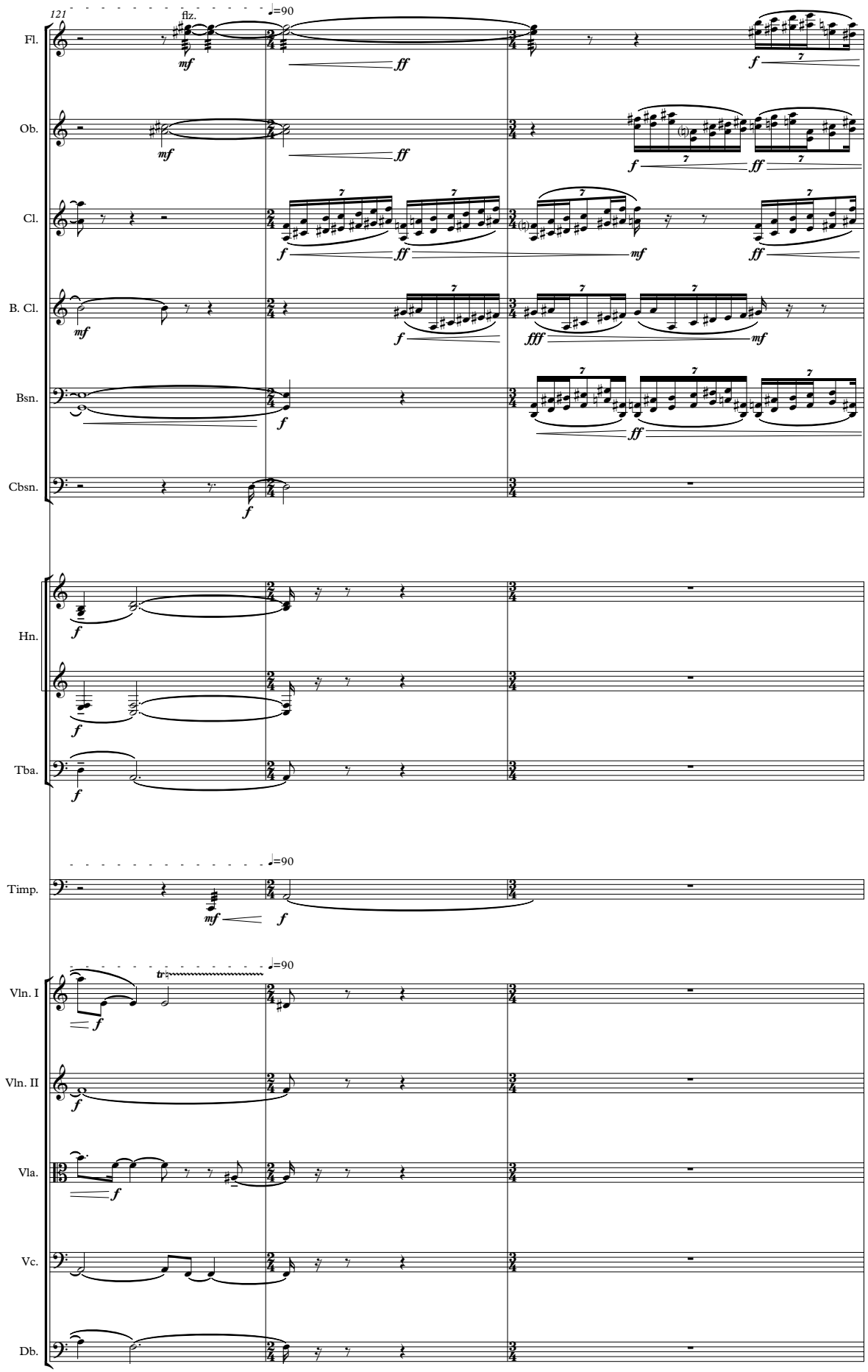
Vc.
Db.


121
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Ob.
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Cbsn.
Hn.
Tba.
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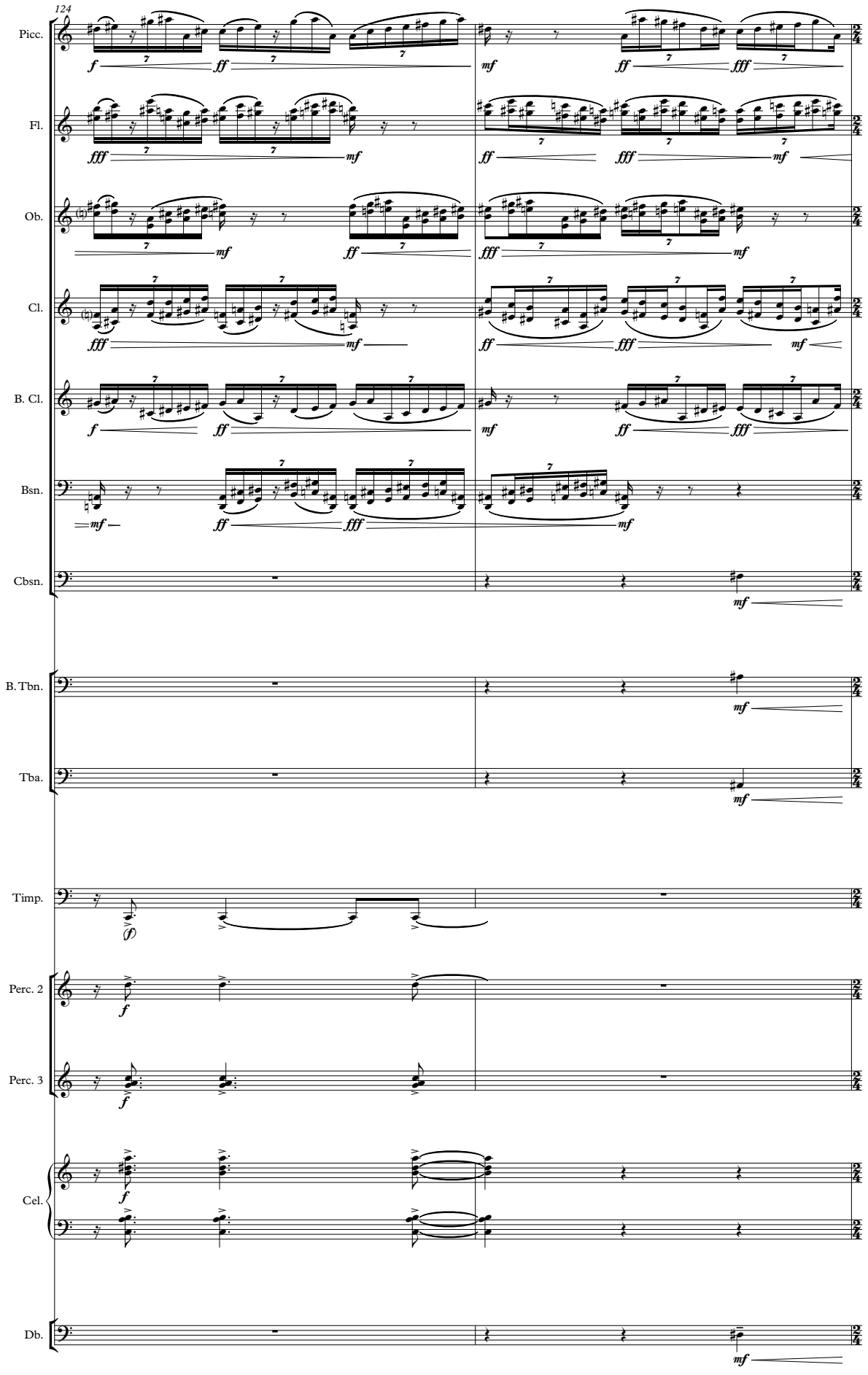
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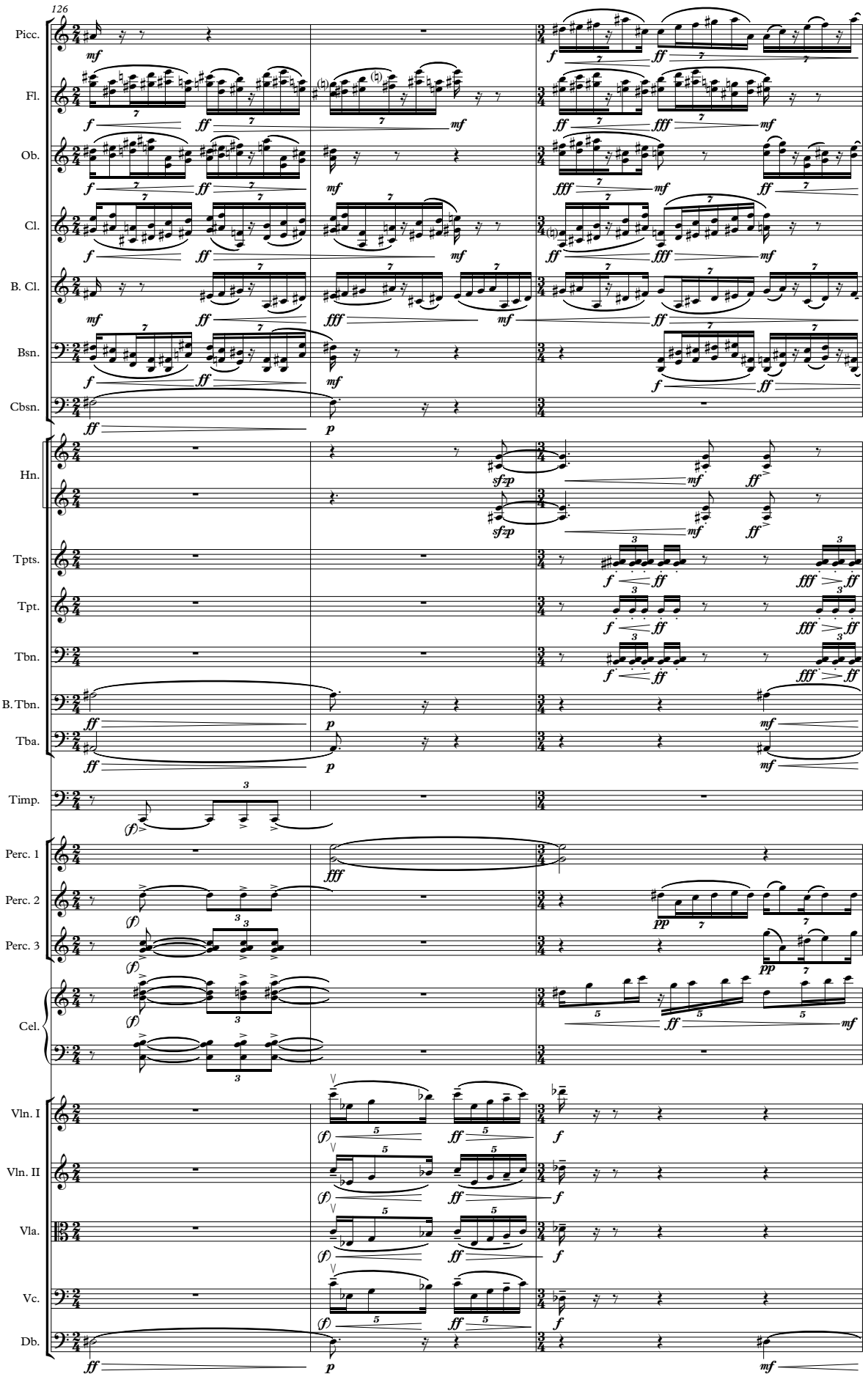
Timp.
Perc. 2
Perc. 3
Cel.
Db.


126
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Hn.
Tpts.
Tpt.
Tbn.
B. Tbn.
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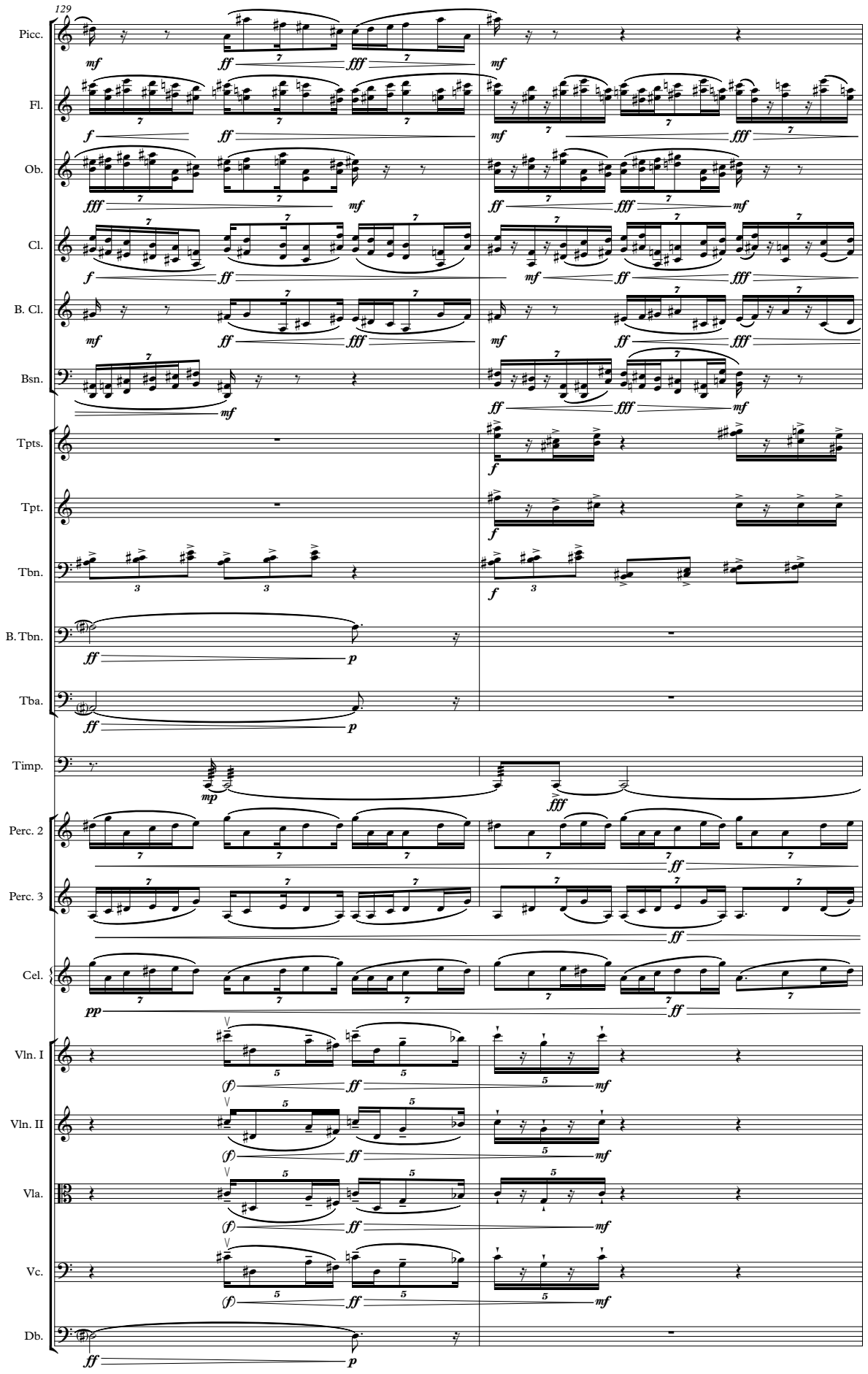
Perc. 1
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.


129
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Perc. 3
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Vln. II
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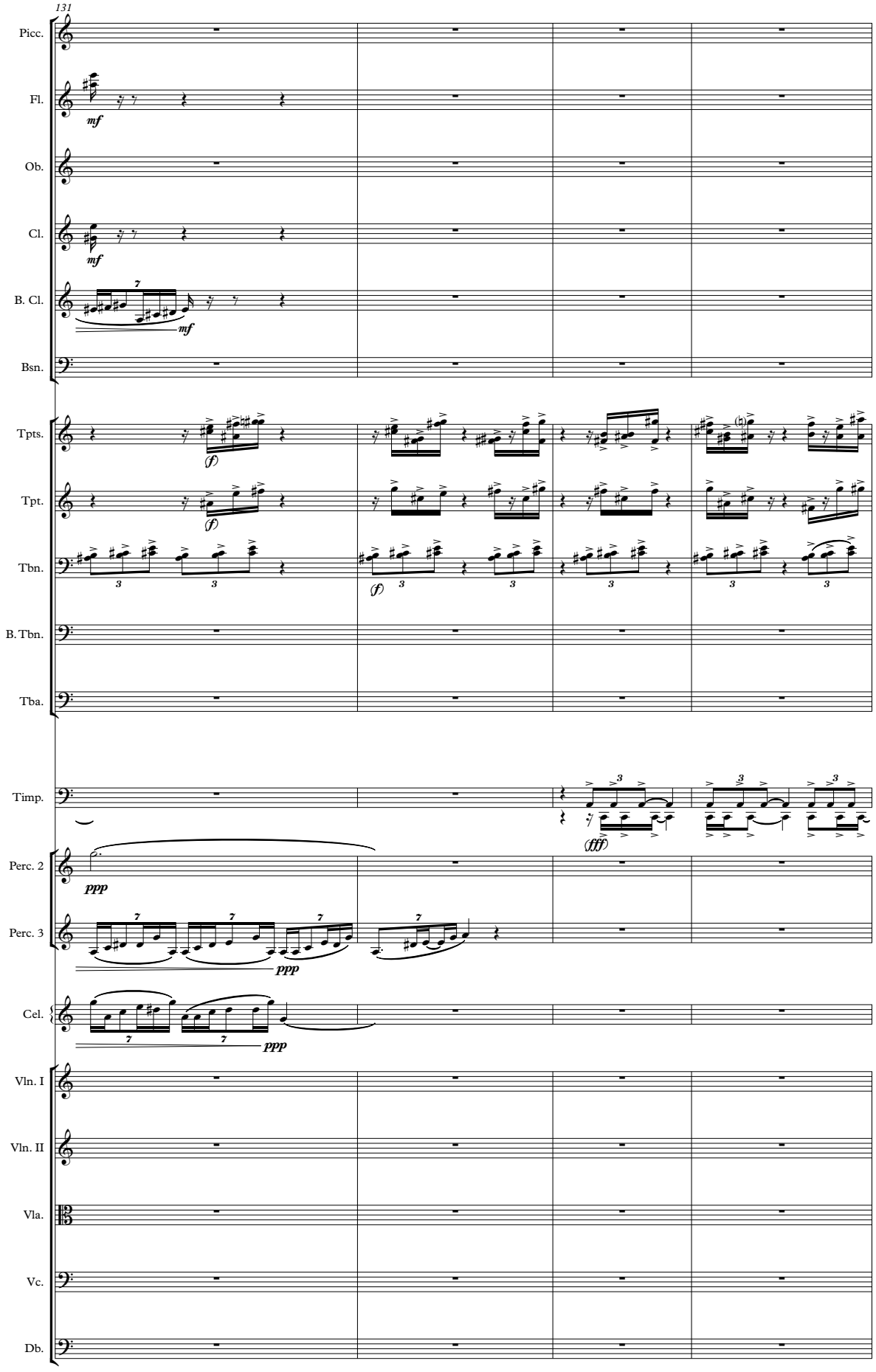
131
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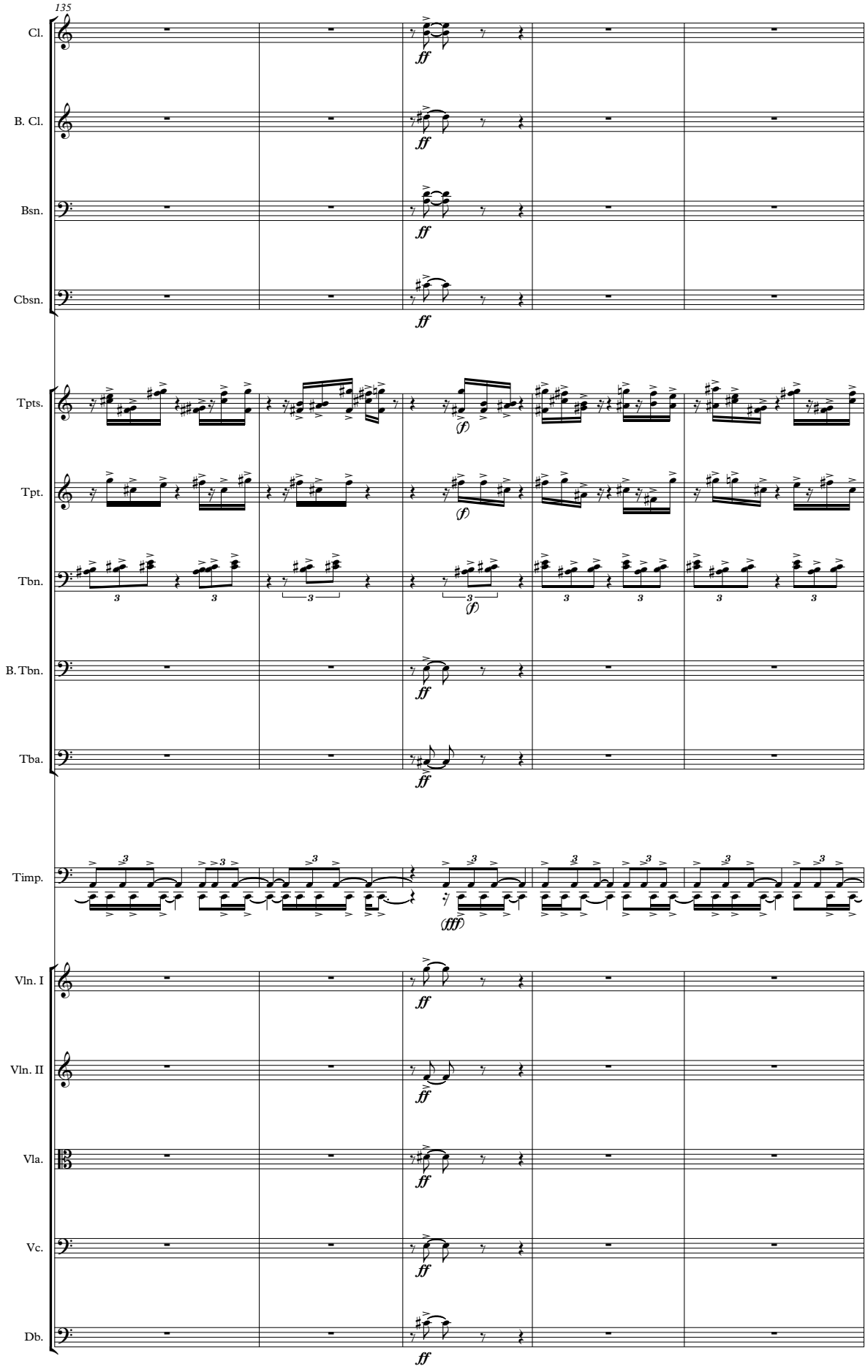
Tba.
Timp.
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
mf
(f)
(fff)
ppp


135
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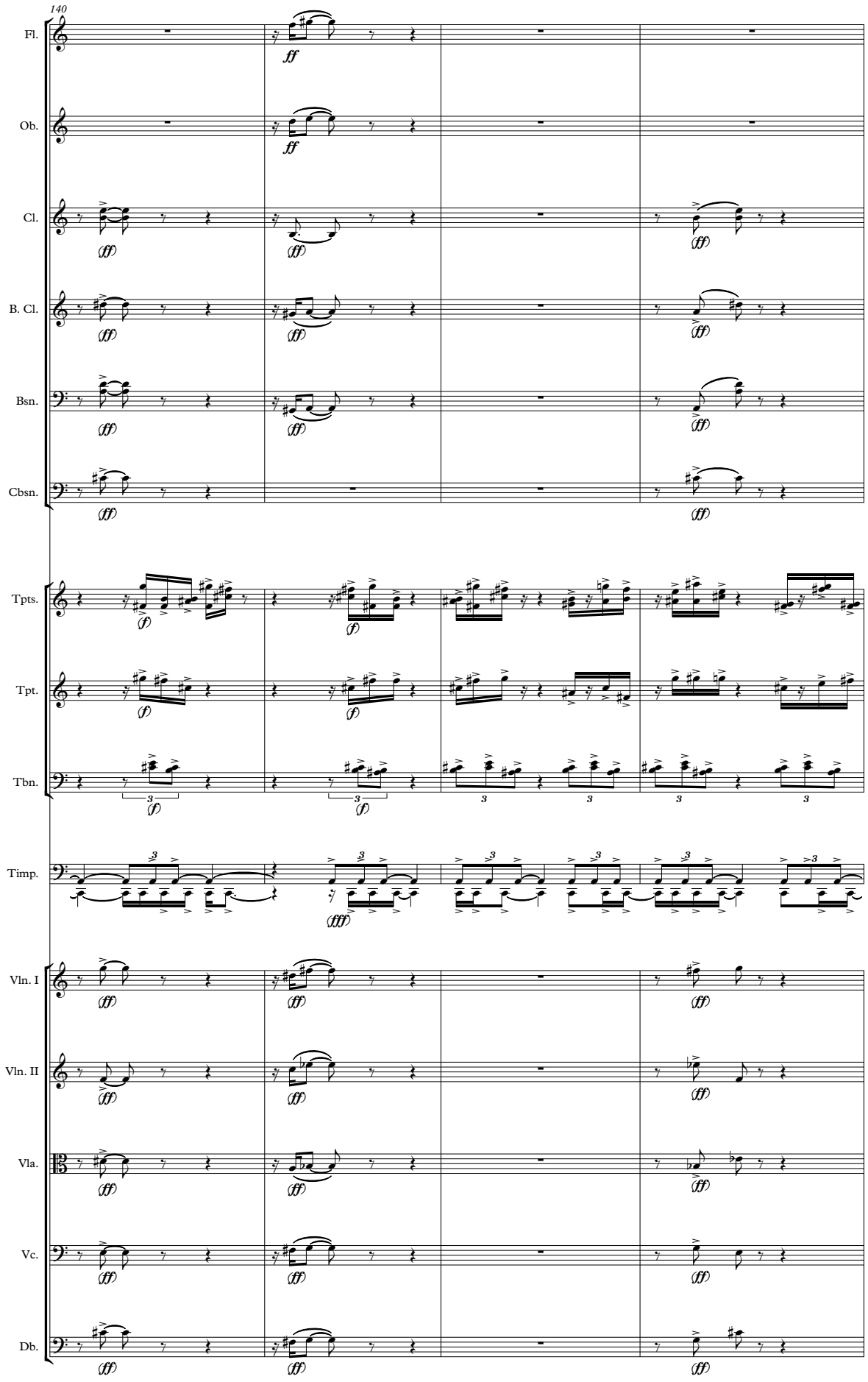
Vla.
Vc.
Db.
ff
(f)
(fff)


140
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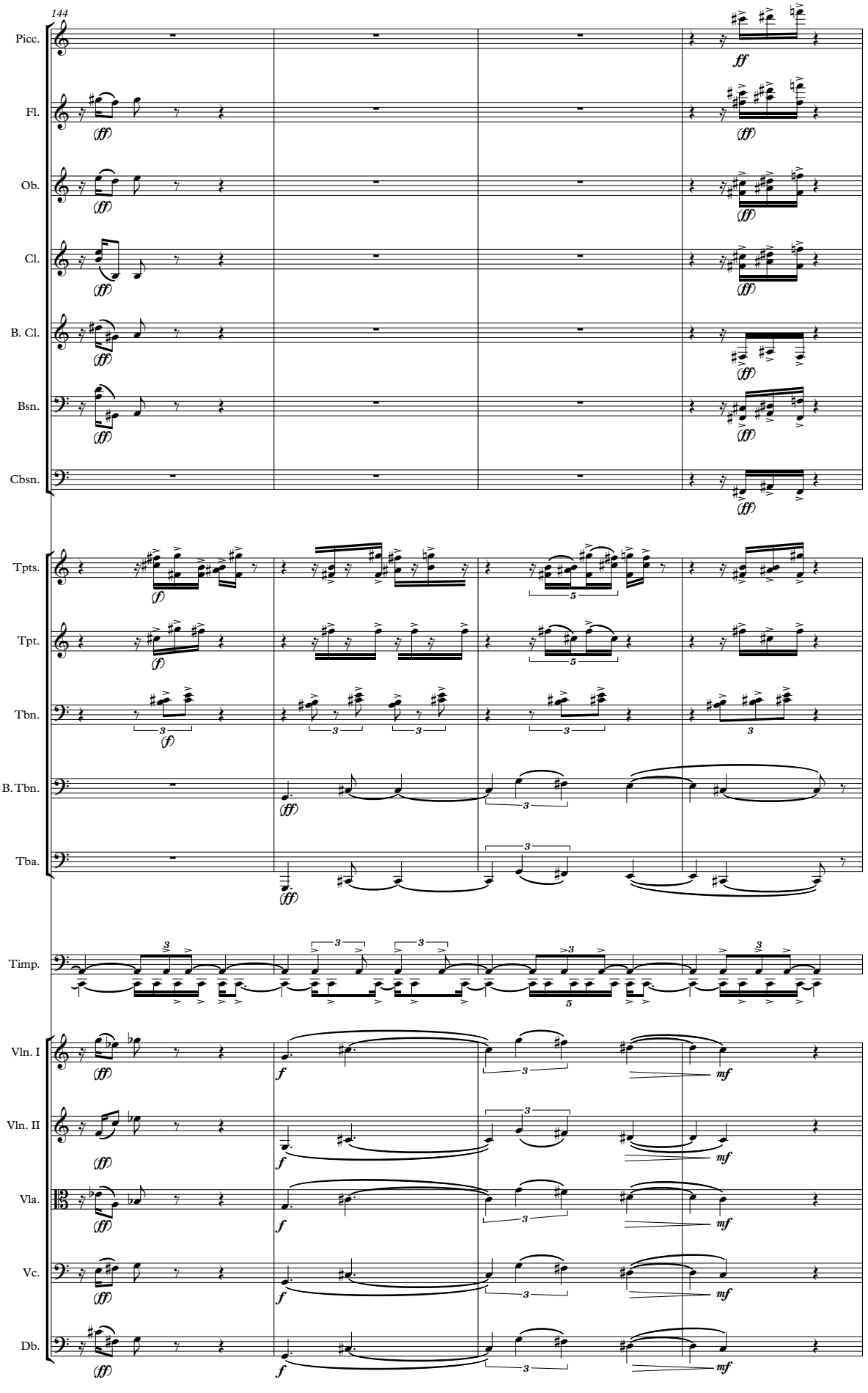
144
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Vln. II
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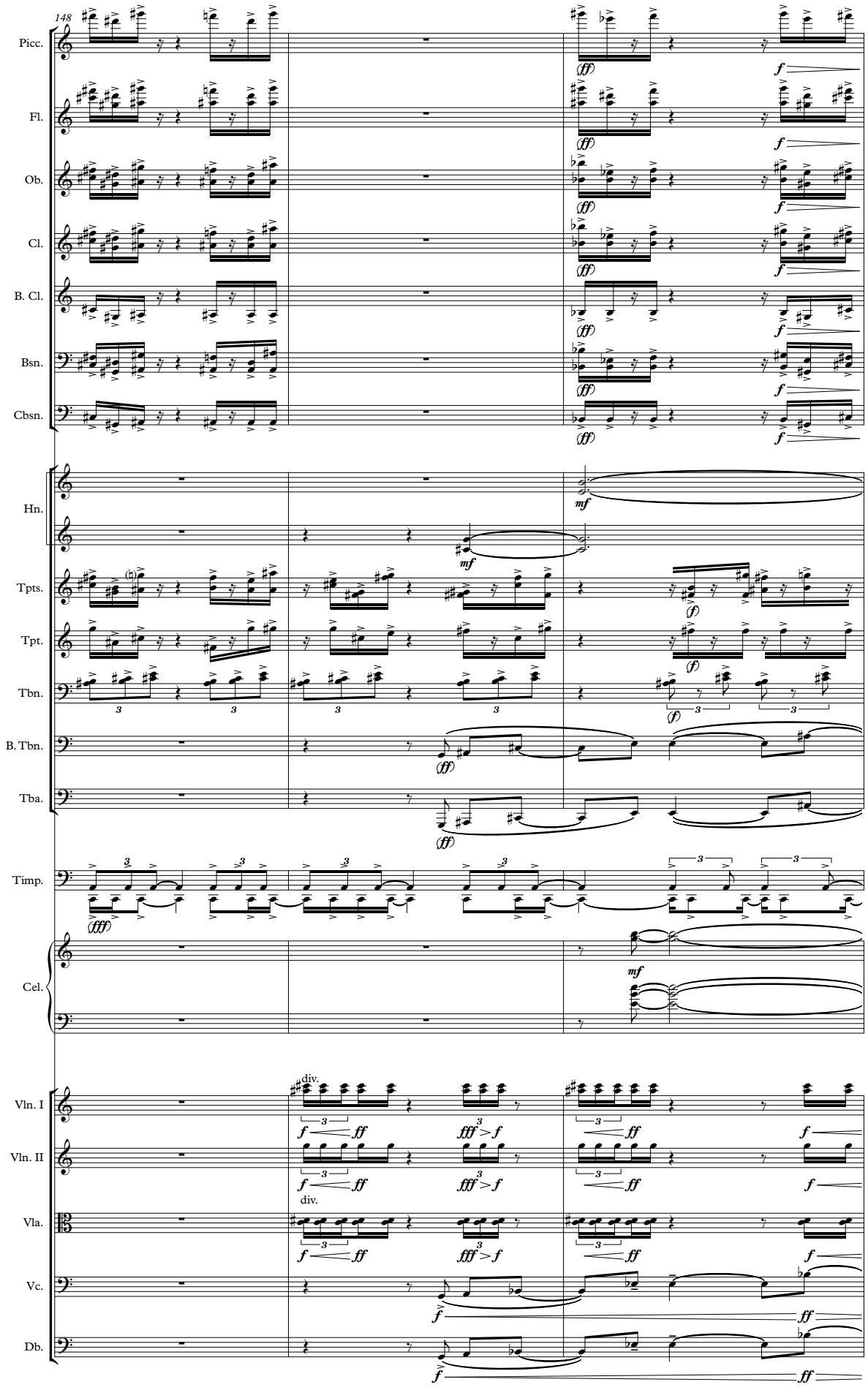
Vc.
Db.


148
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Hn.
Tpts.
Tpt.
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Timp.
Cel.
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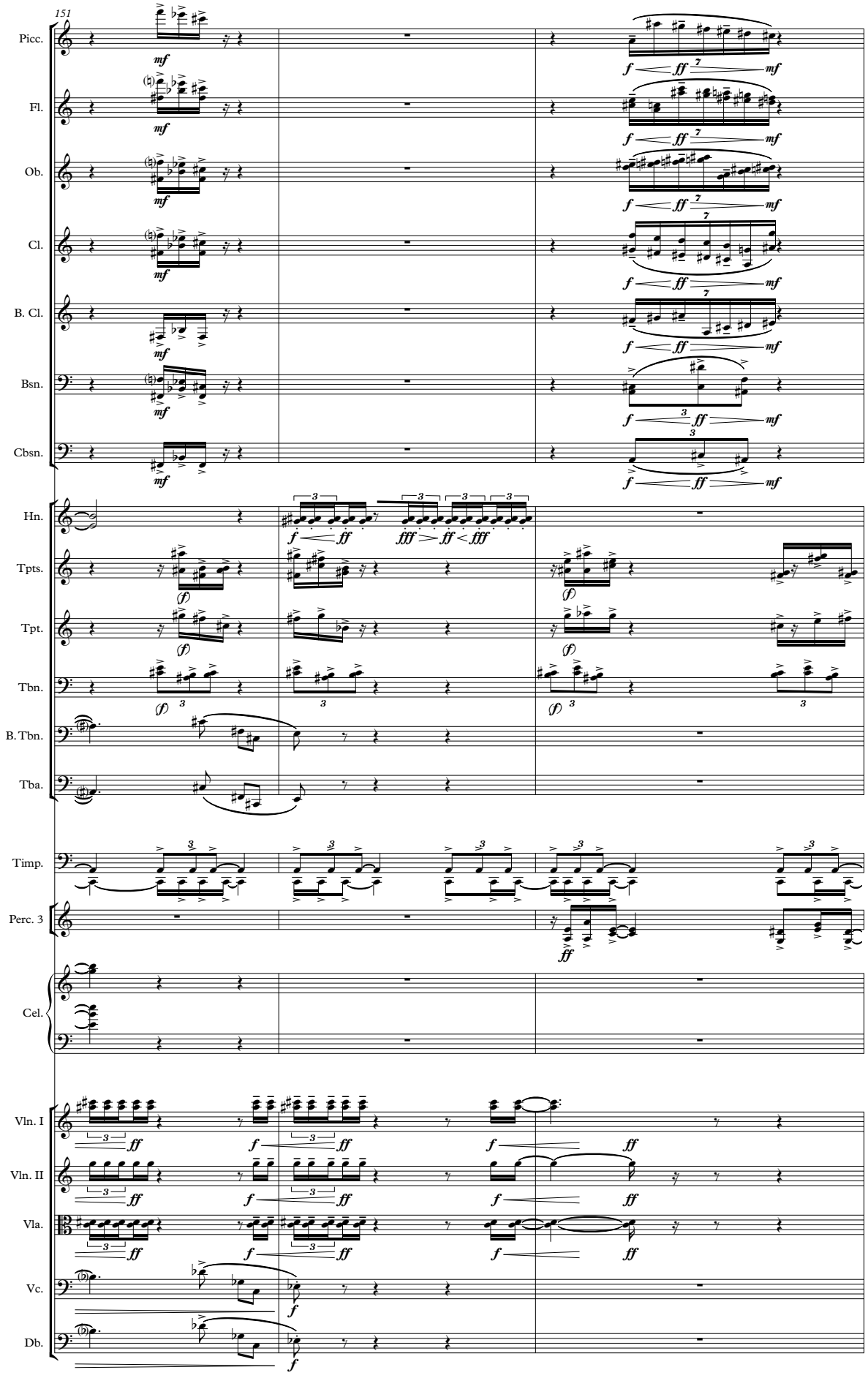
Vln. II
Vla.
Vc.
Db.
div.
div.


151
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Hn.
Tpts.
Tpt.
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Cel.
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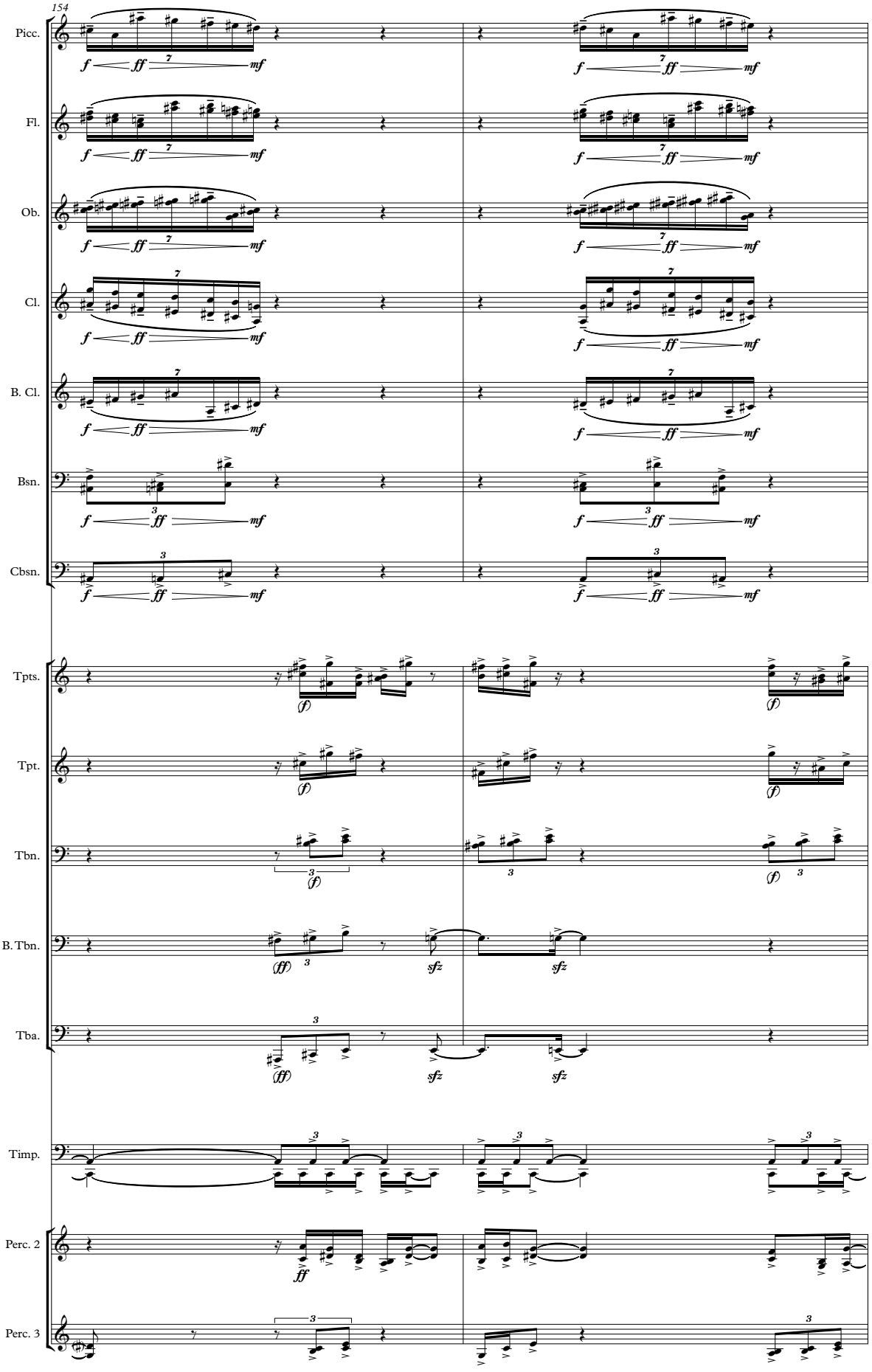
Vln. II
Vla.
Vc.
Db.


154
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Ob.
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Tbn.
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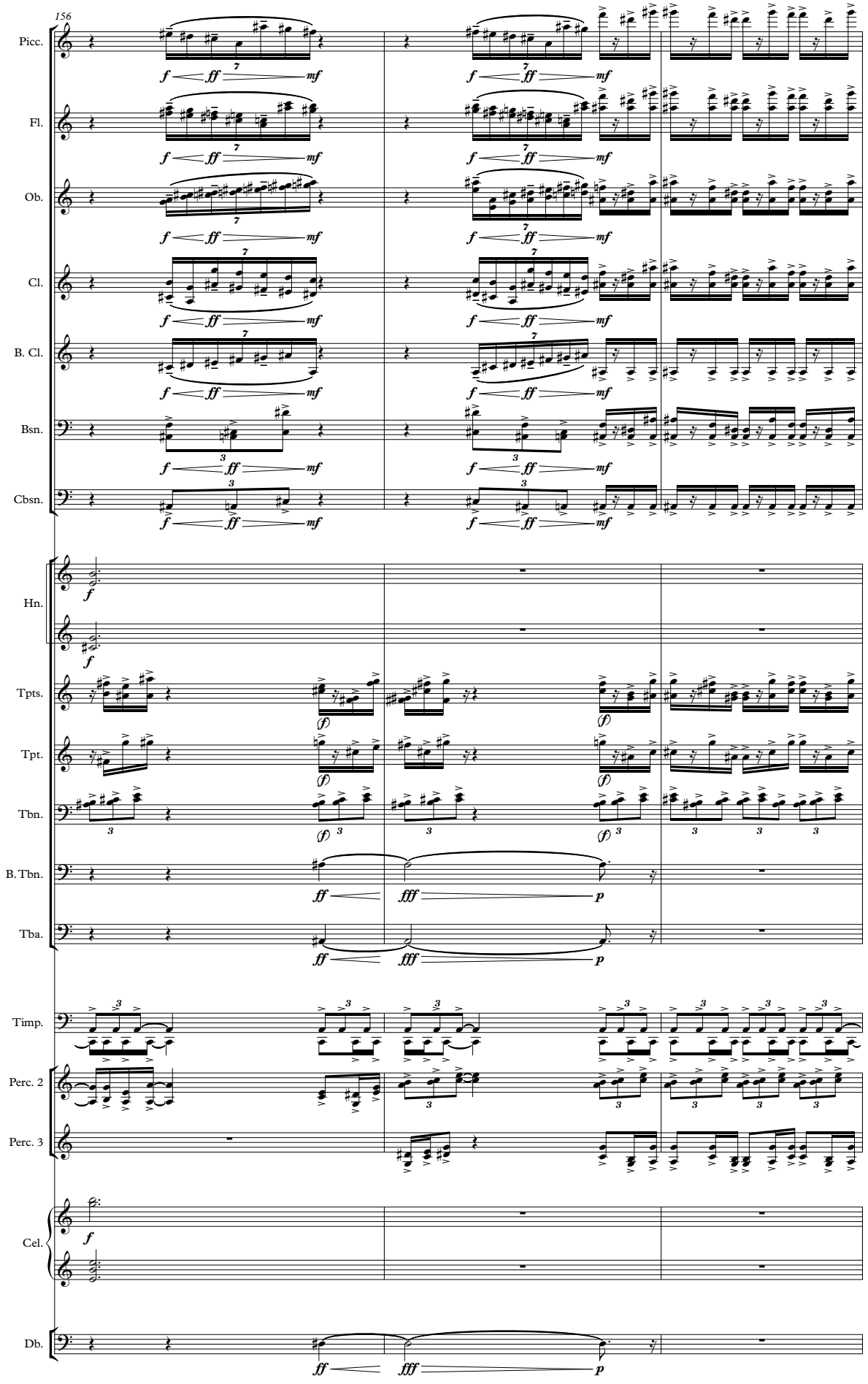
Tba.
Timp.
Perc. 2
Perc. 3


156
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Perc. 3
Cel.
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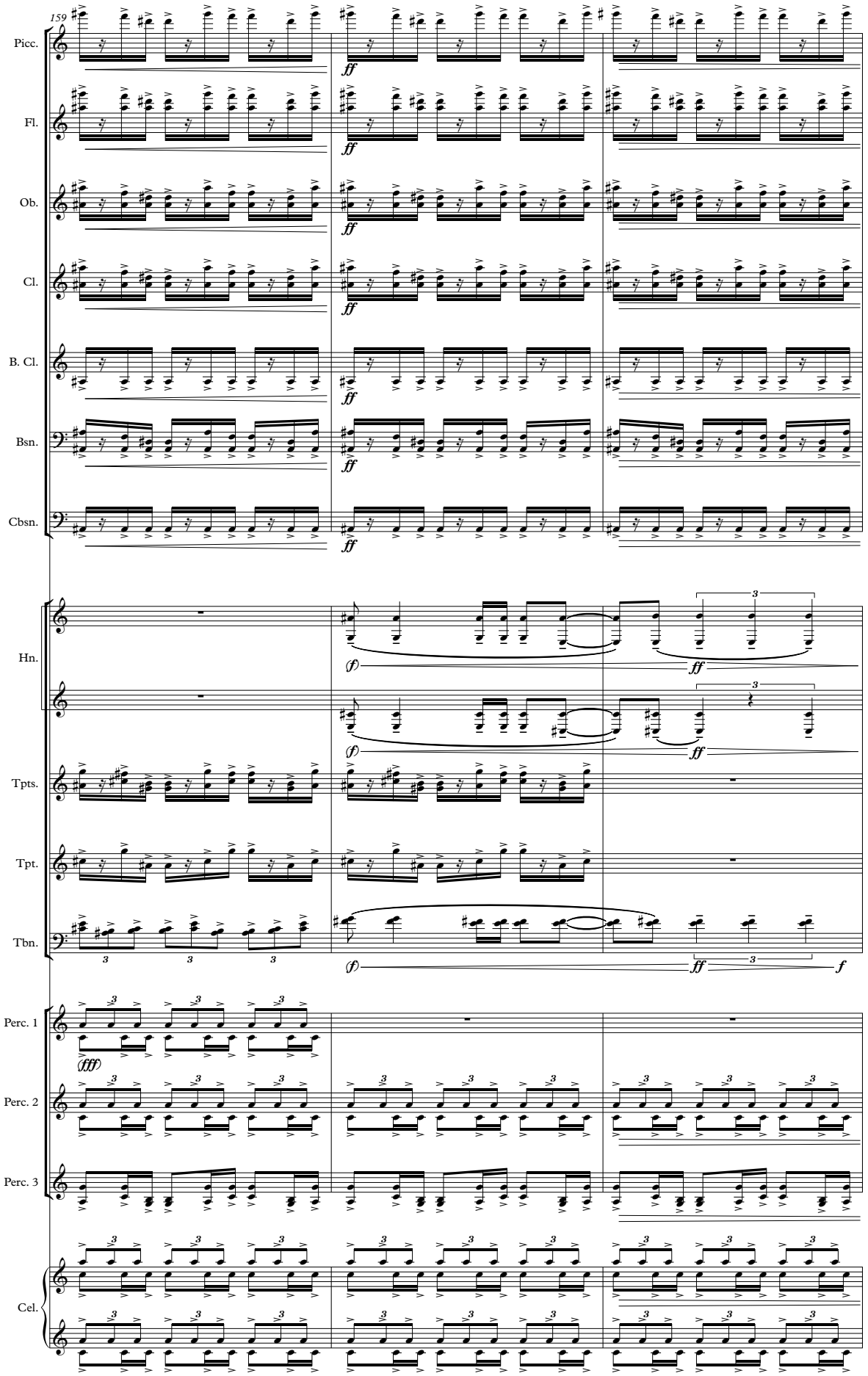
159
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Cbsn.
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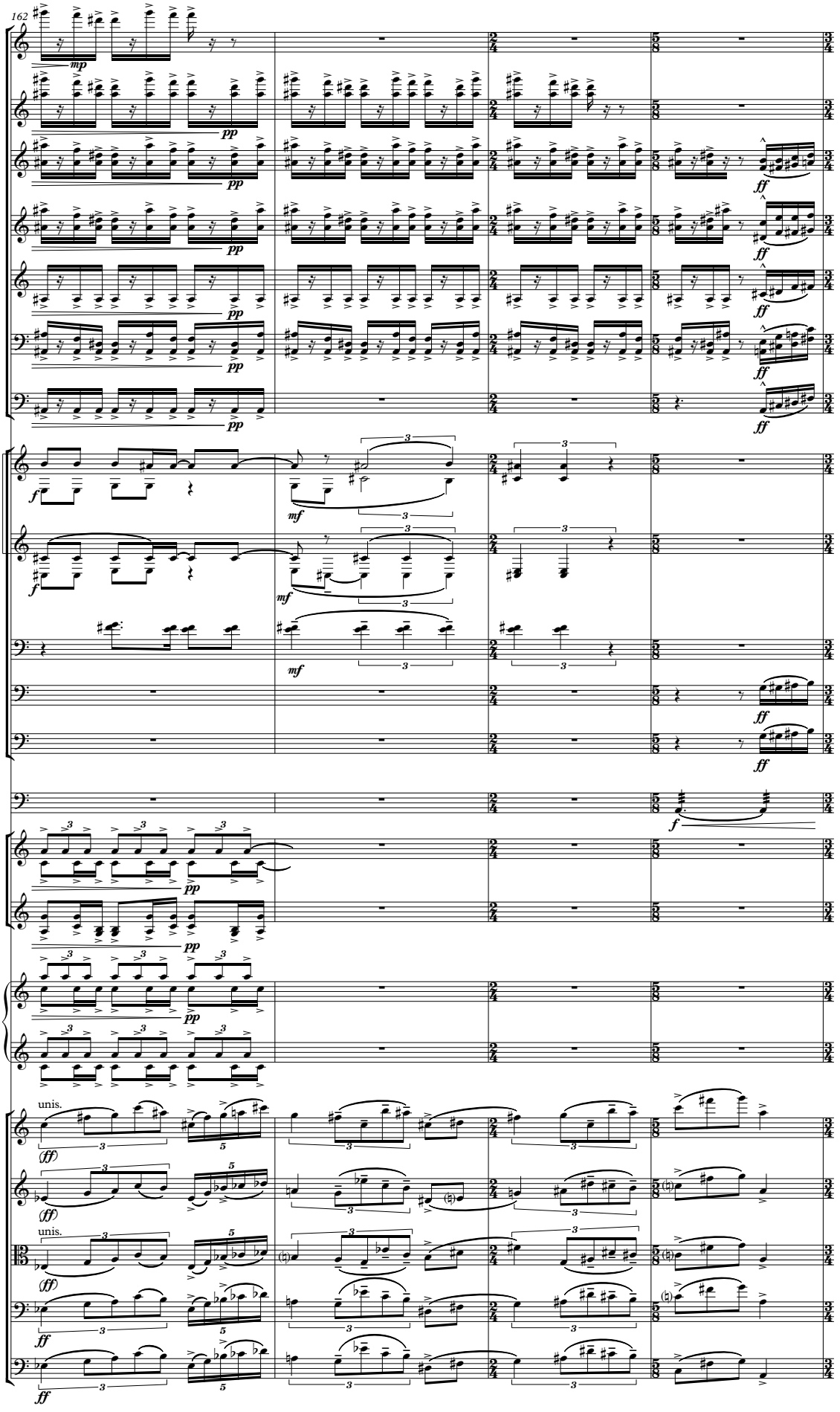
Tpt.
Tbn.
Perc. 1
Perc. 2
Perc. 3
Cel.
ff
(f)
(fff)
f


162
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Hn.
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B. Tbn.
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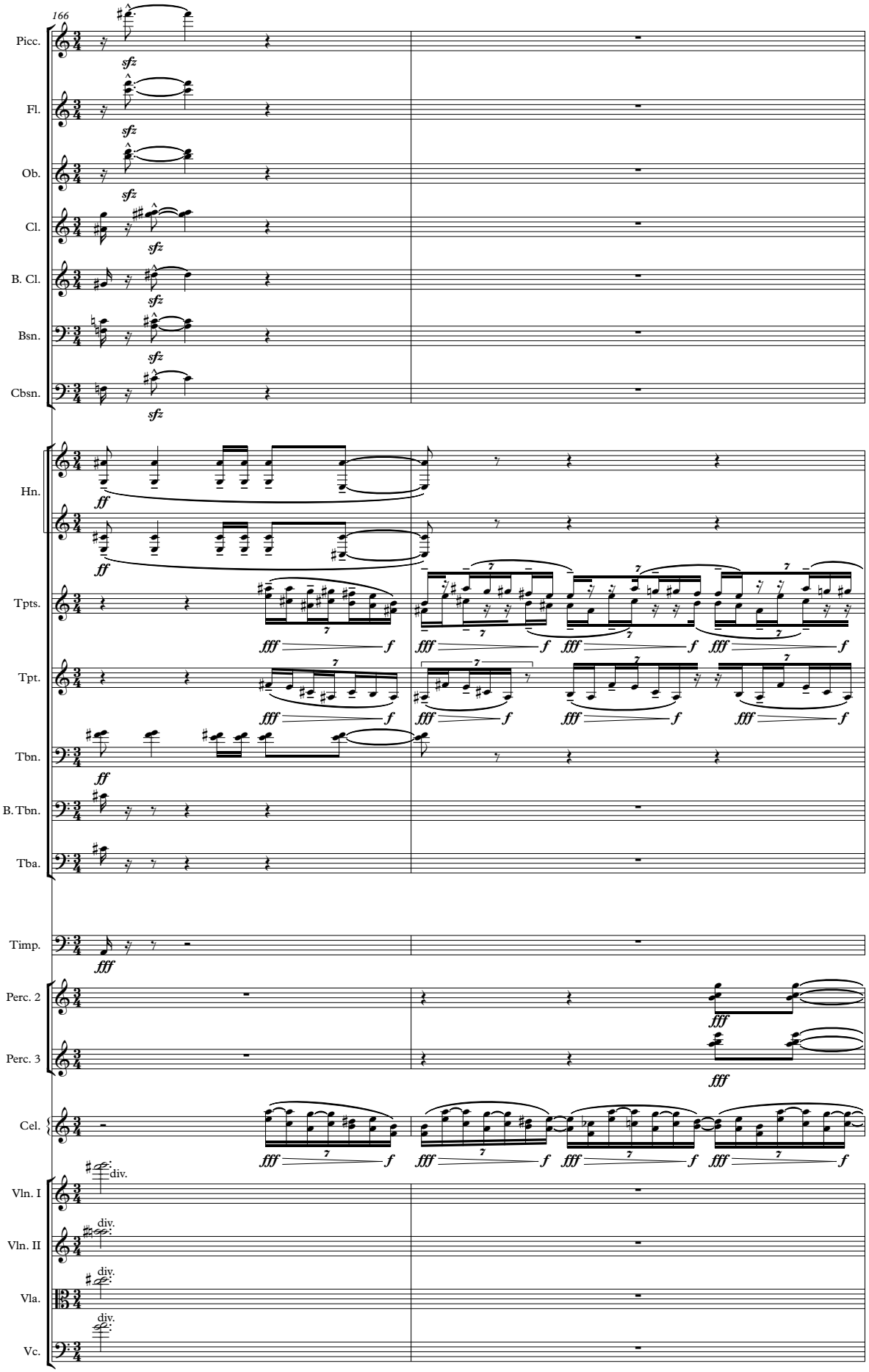
Perc. 3
Cel.
Vln. I
Vln. II
Vla.
Vc.
Db.
unis.
unis.


166
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Tpt.
Tbn.
B. Tbn.
Tba.
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Cel.
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Vc.
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fff
f
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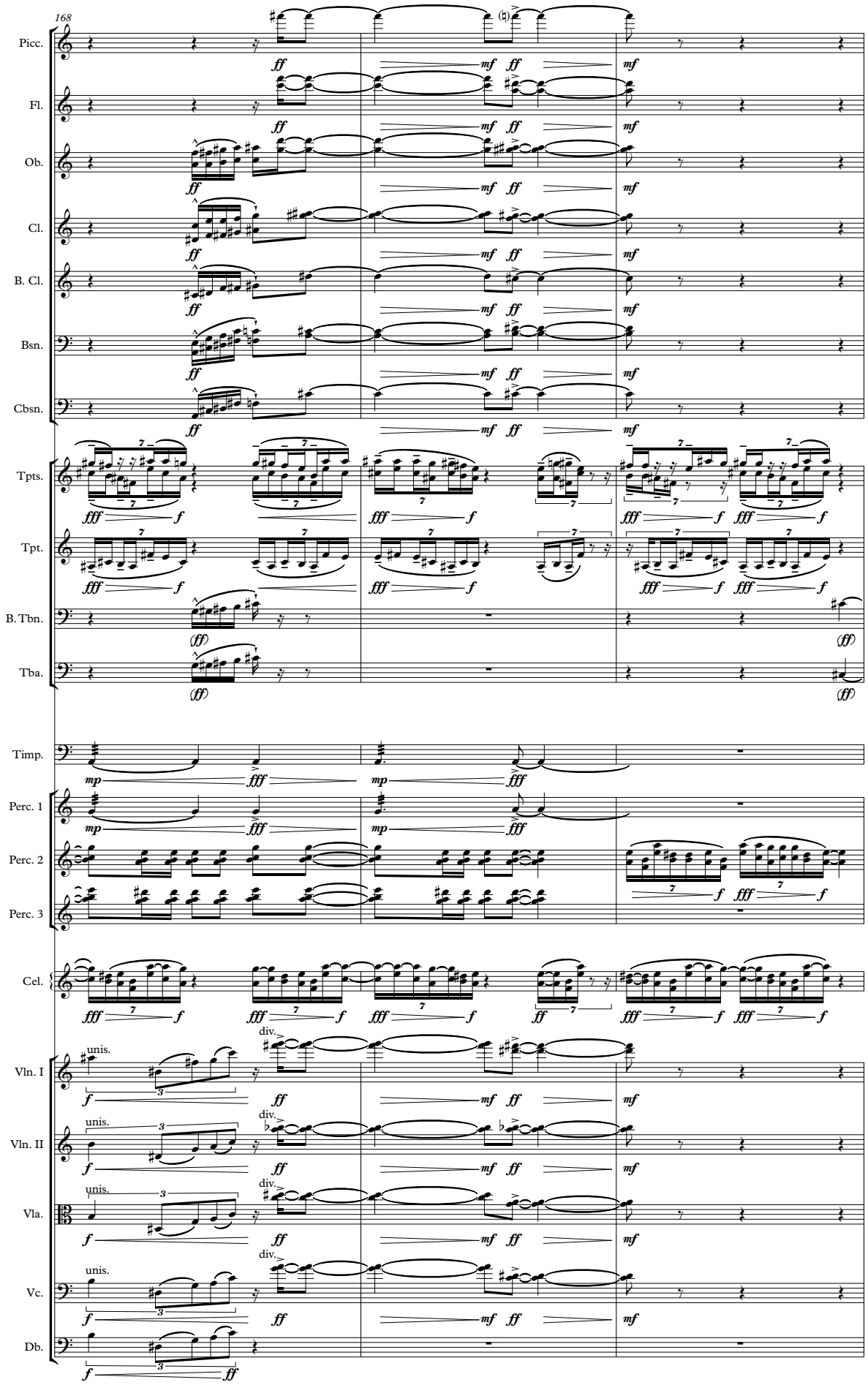
168
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Fl.
Ob.
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B. Tbn.
Tba.
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Perc. 3
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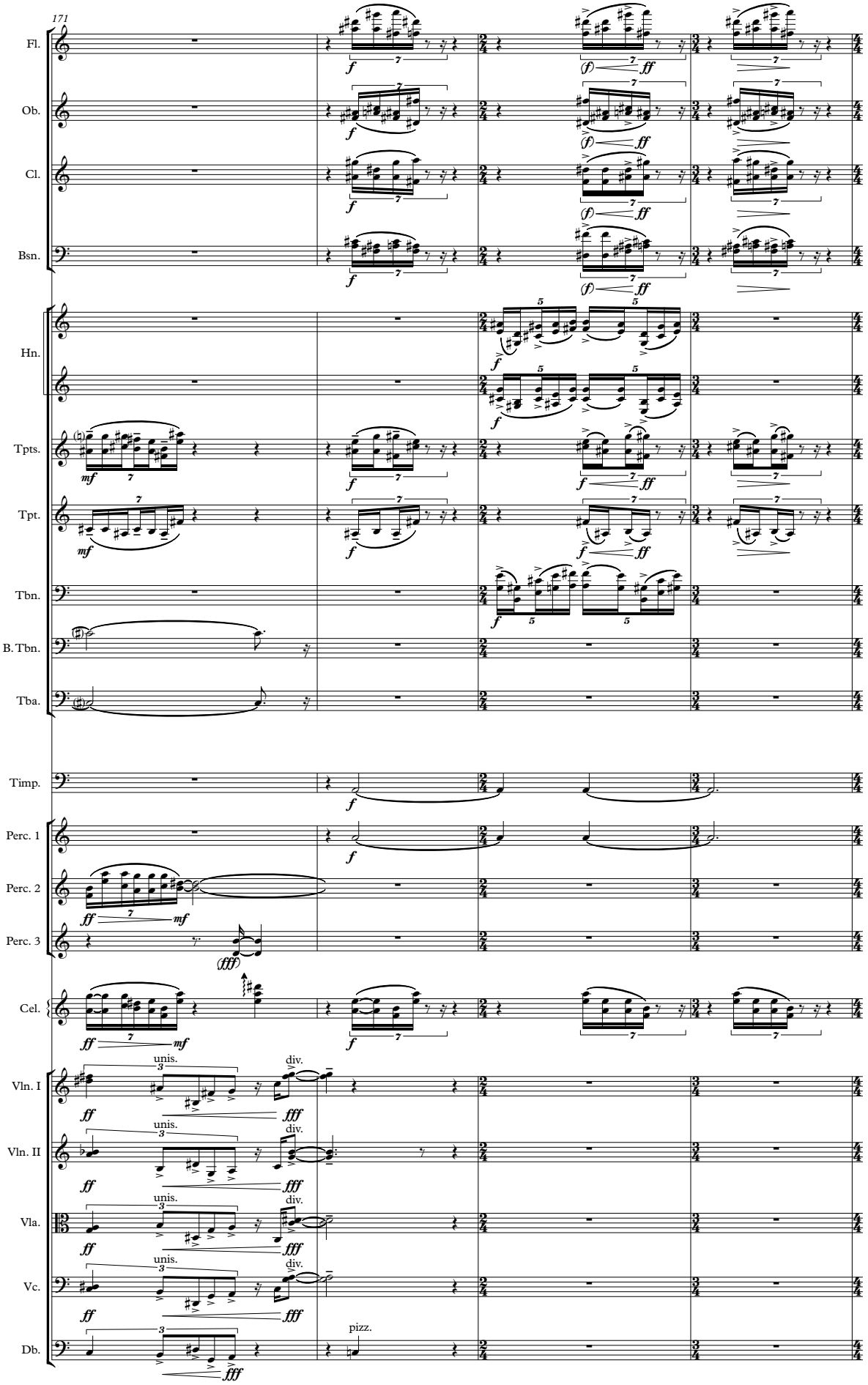
171
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Perc. 3
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Vln. II
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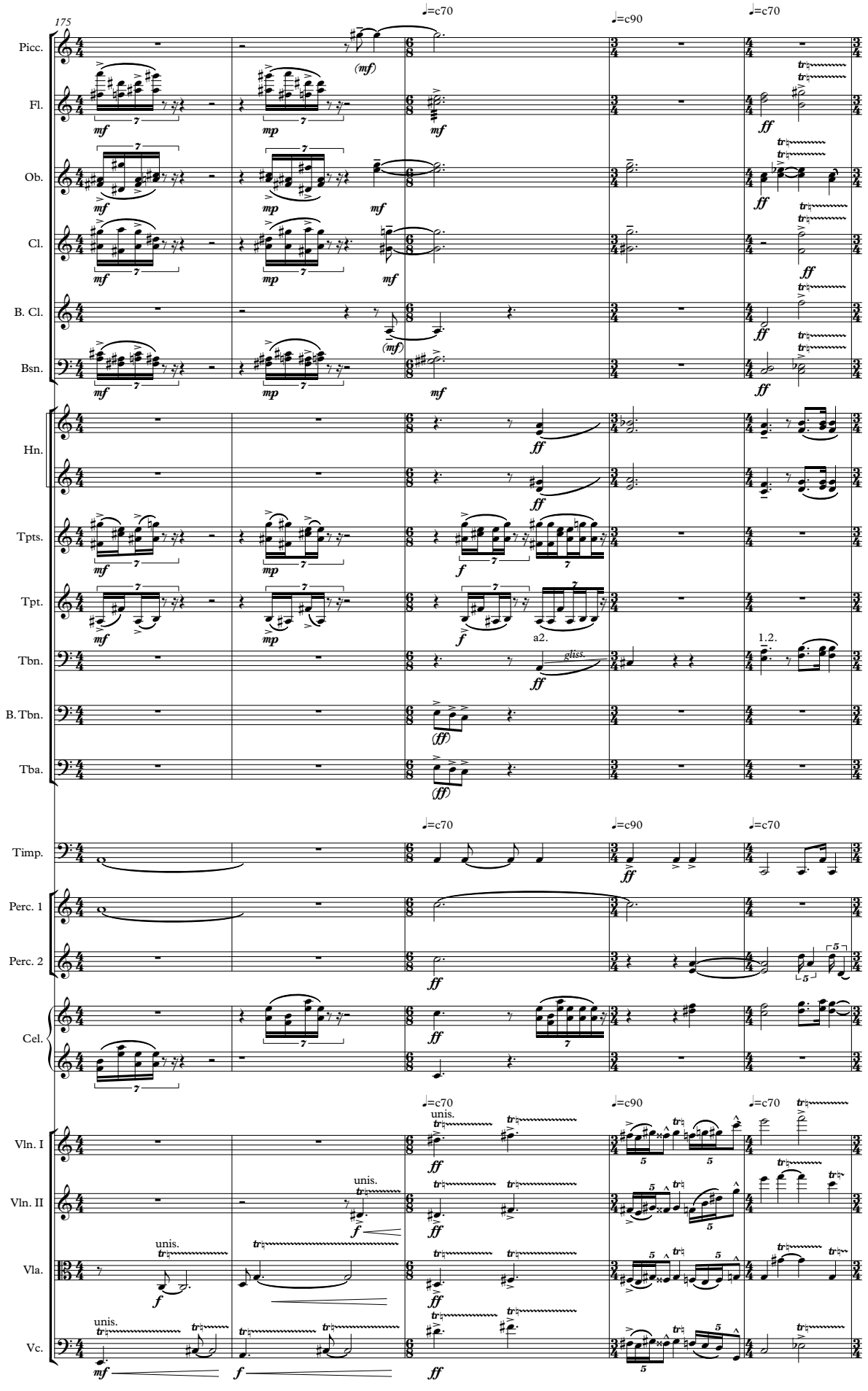
div.
pizz.


175
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Timp.
Perc. 1
Perc. 2
Cel.
Vln. I
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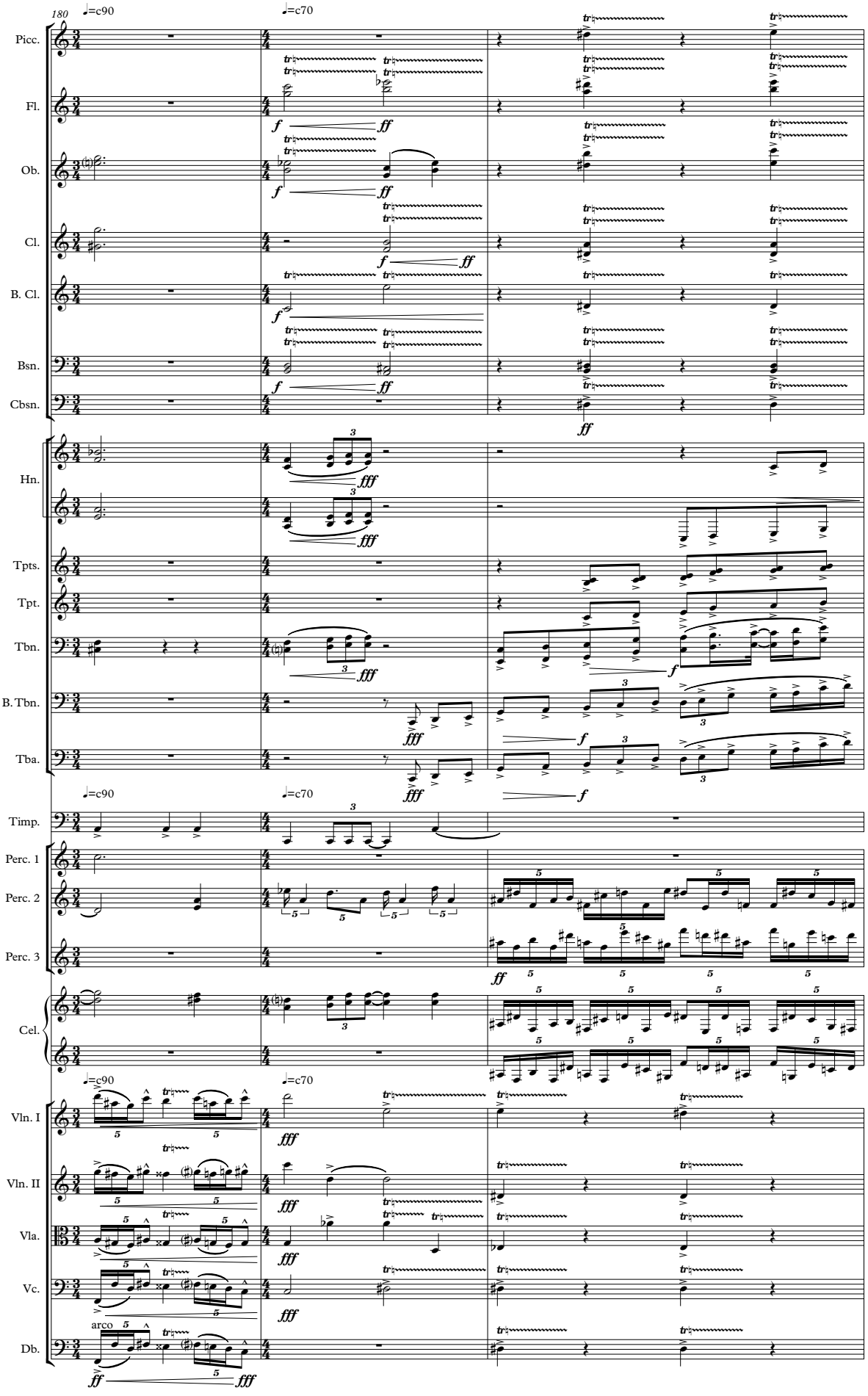
unis.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B.Tbn.
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Perc. 3
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Vln. II
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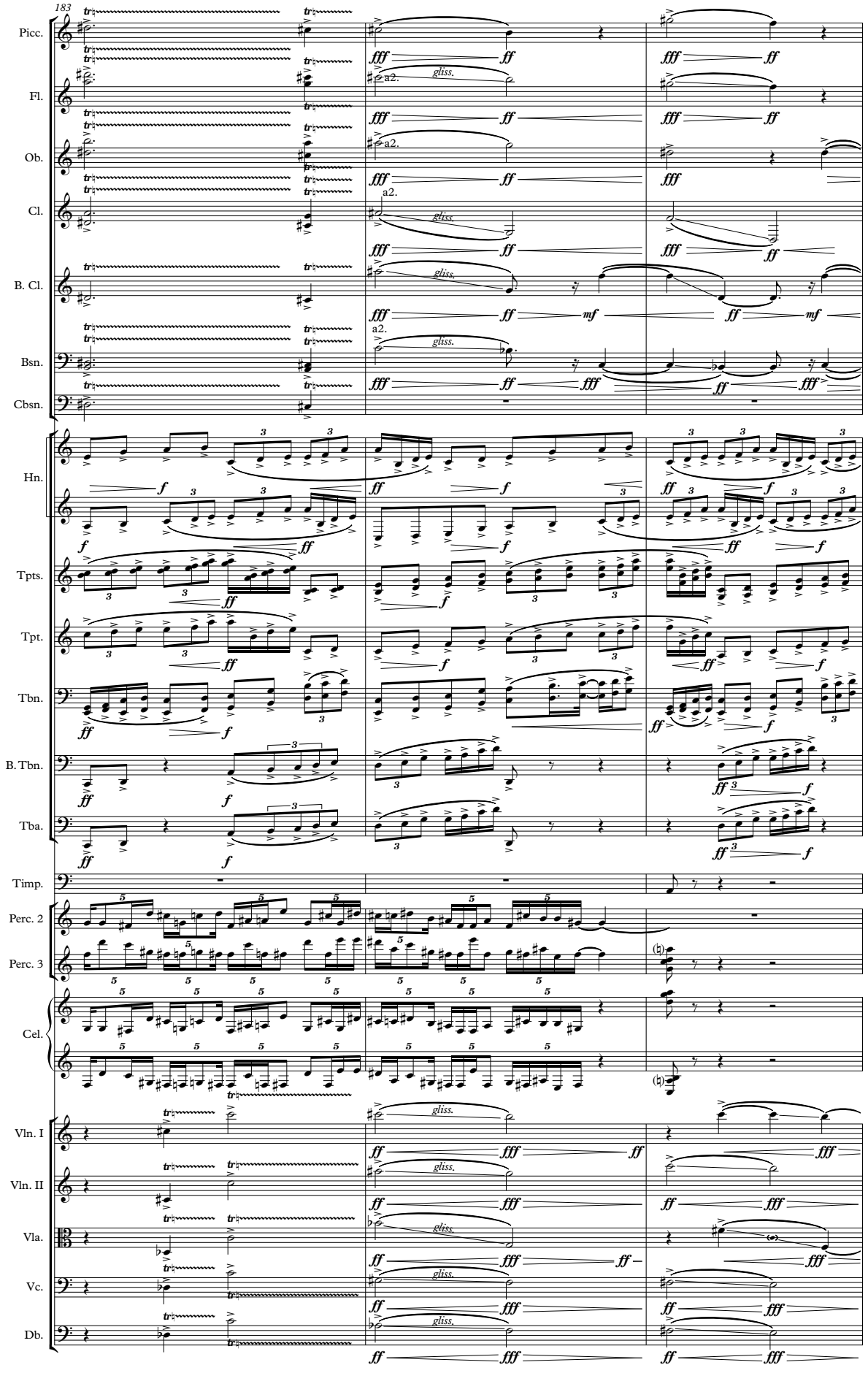
Db.
arco


183
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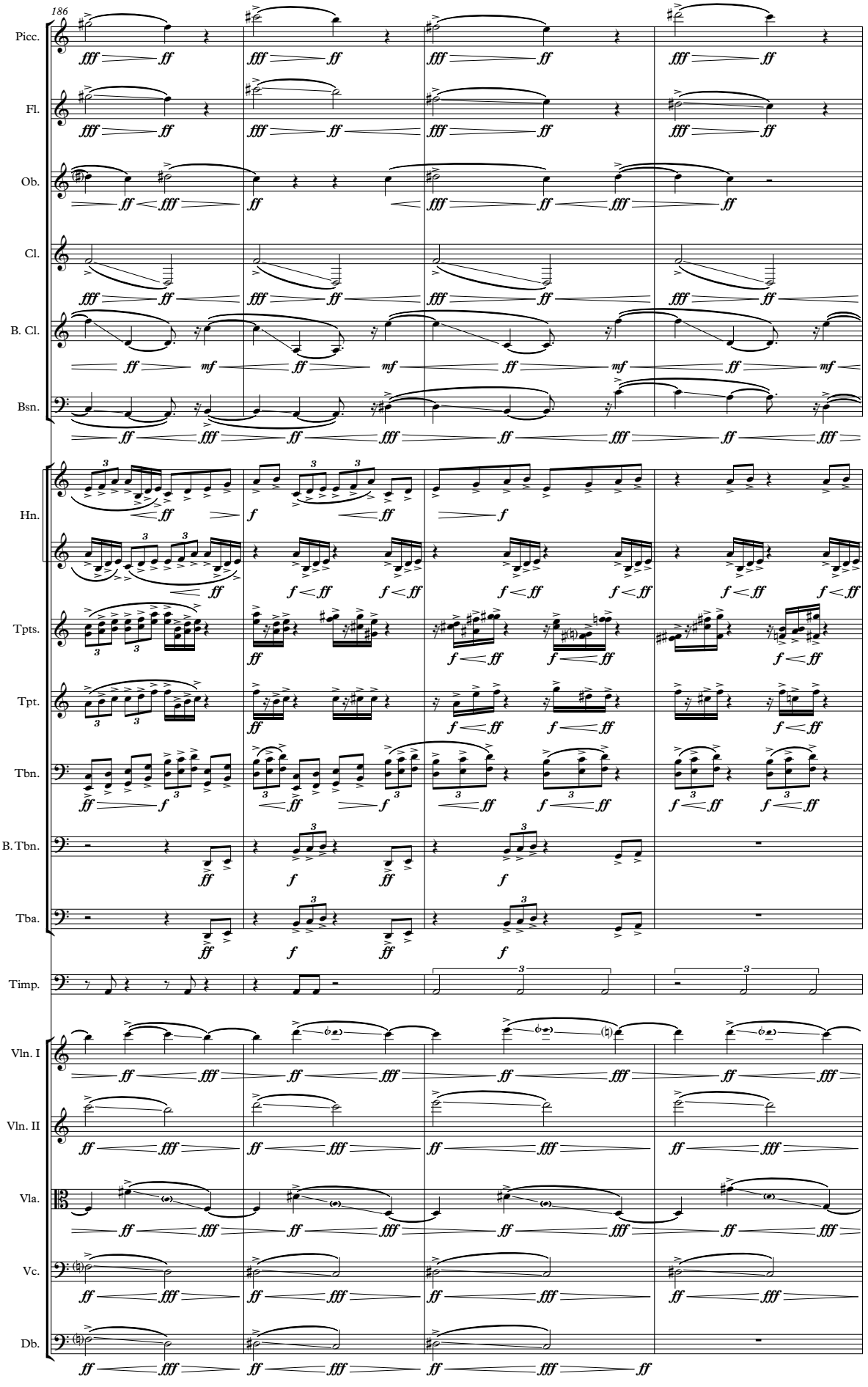
gliss.


186
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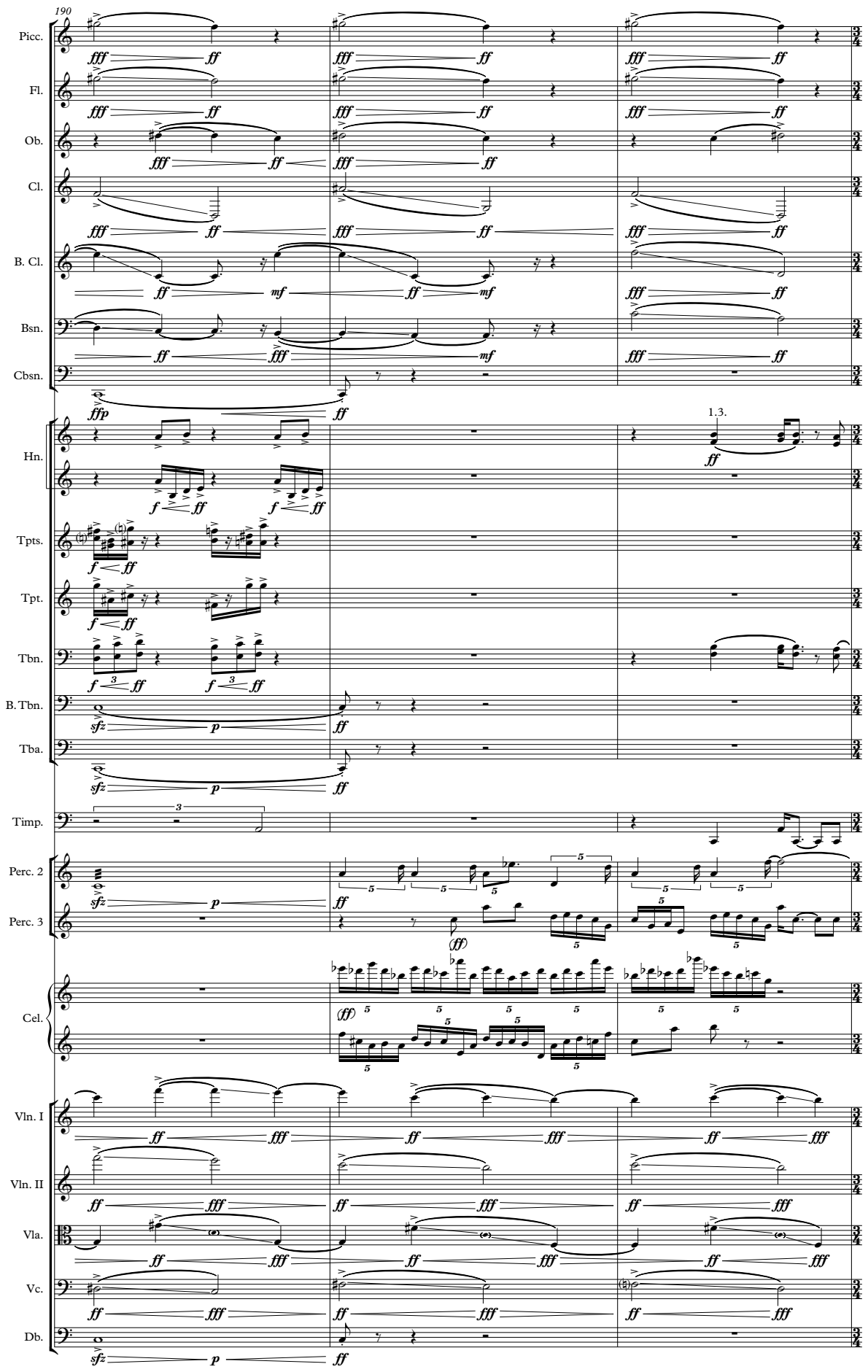
Db.


190
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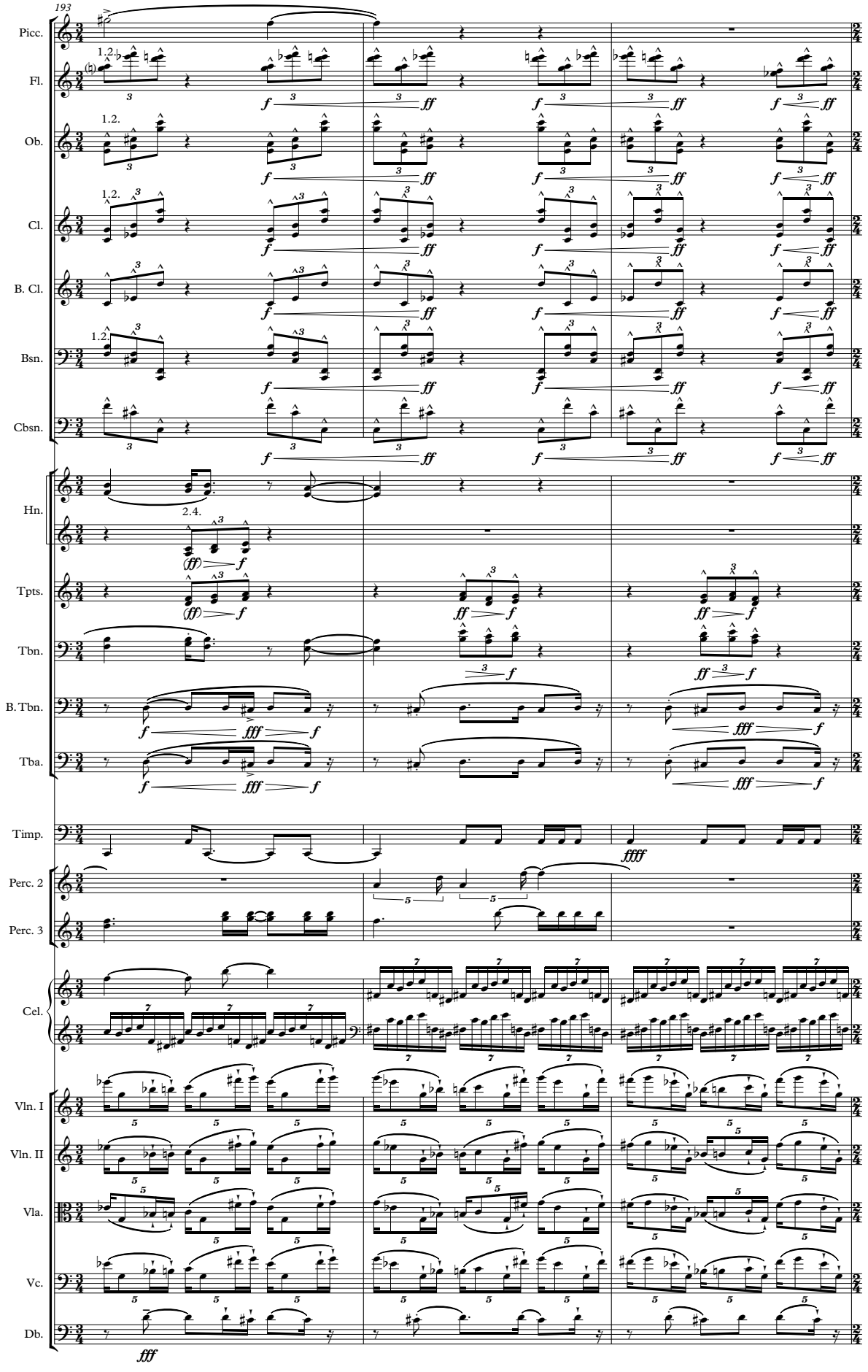
193
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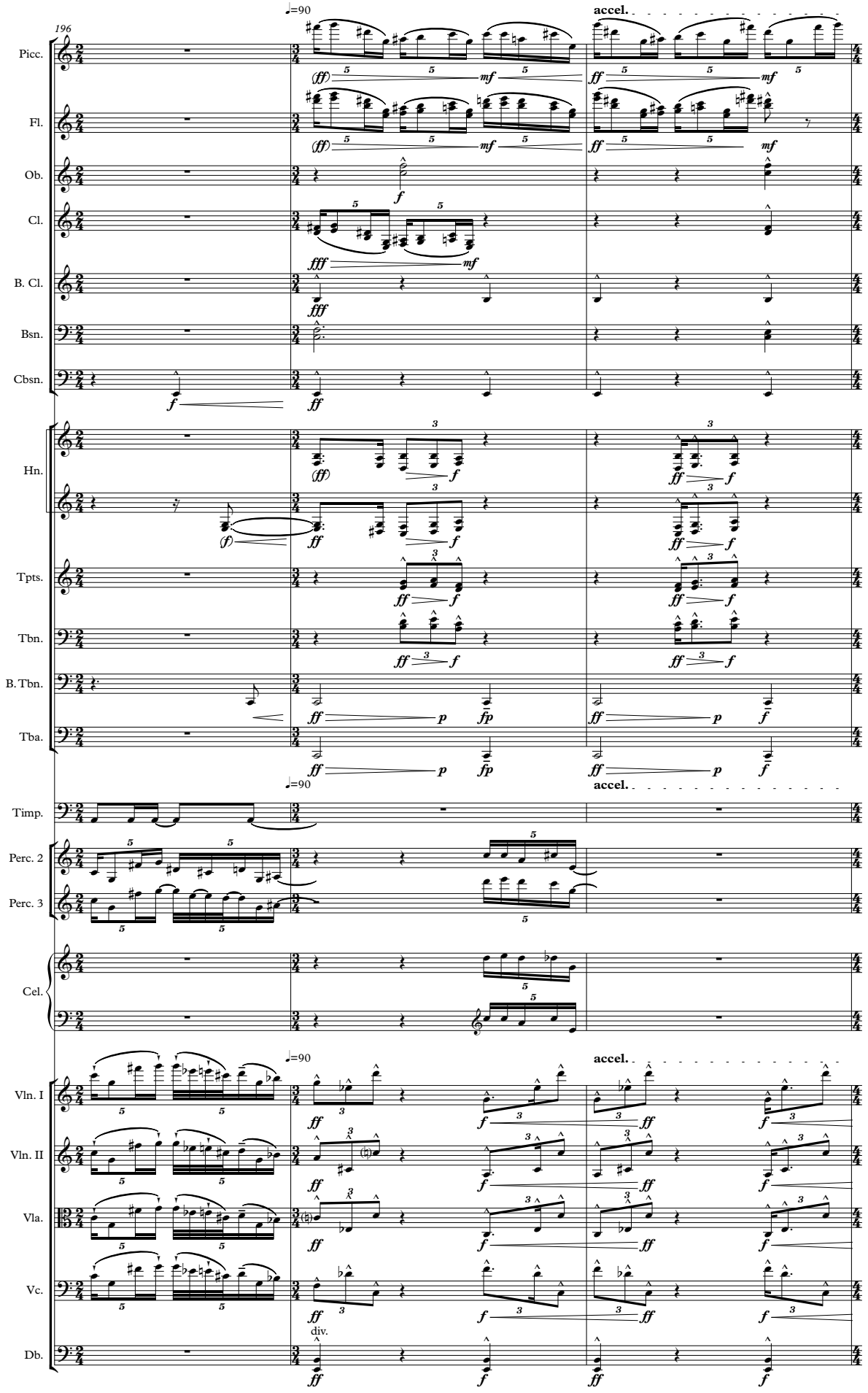
196
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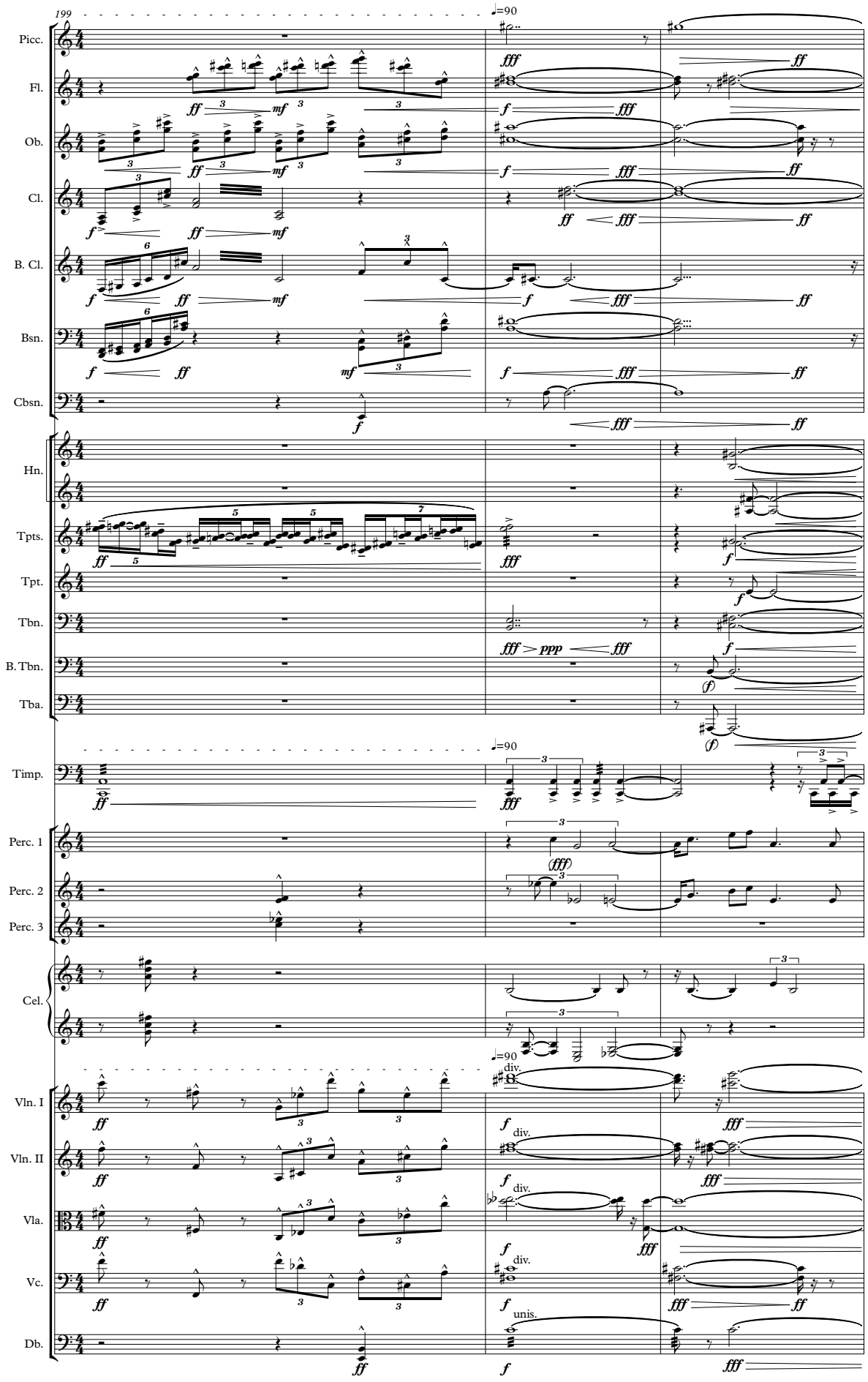
199
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Hn.
Tpts.
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Tba.
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Perc. 2
Perc. 3
Cel.
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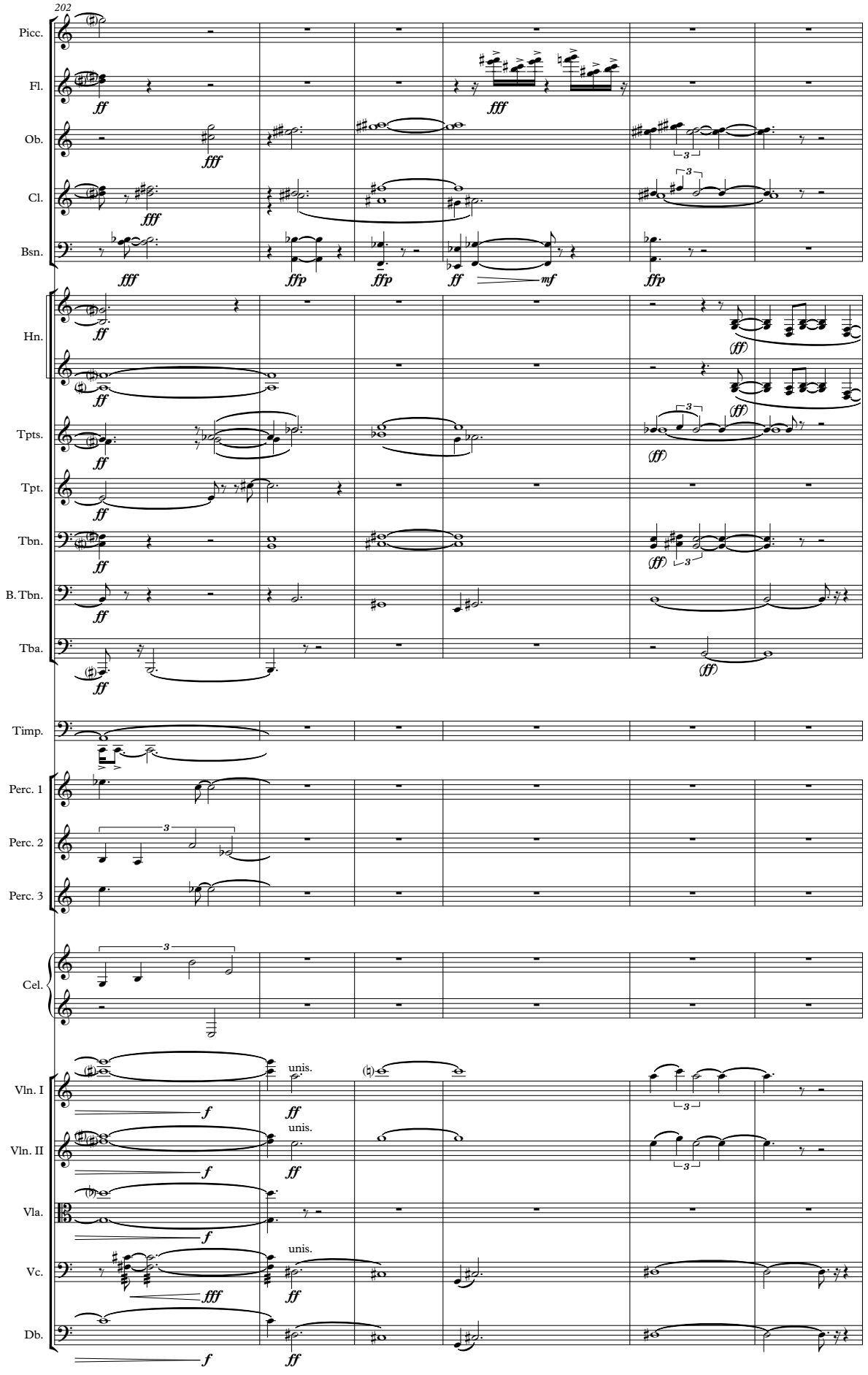
202
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Perc. 2
Perc. 3
Cel.
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Vln. II
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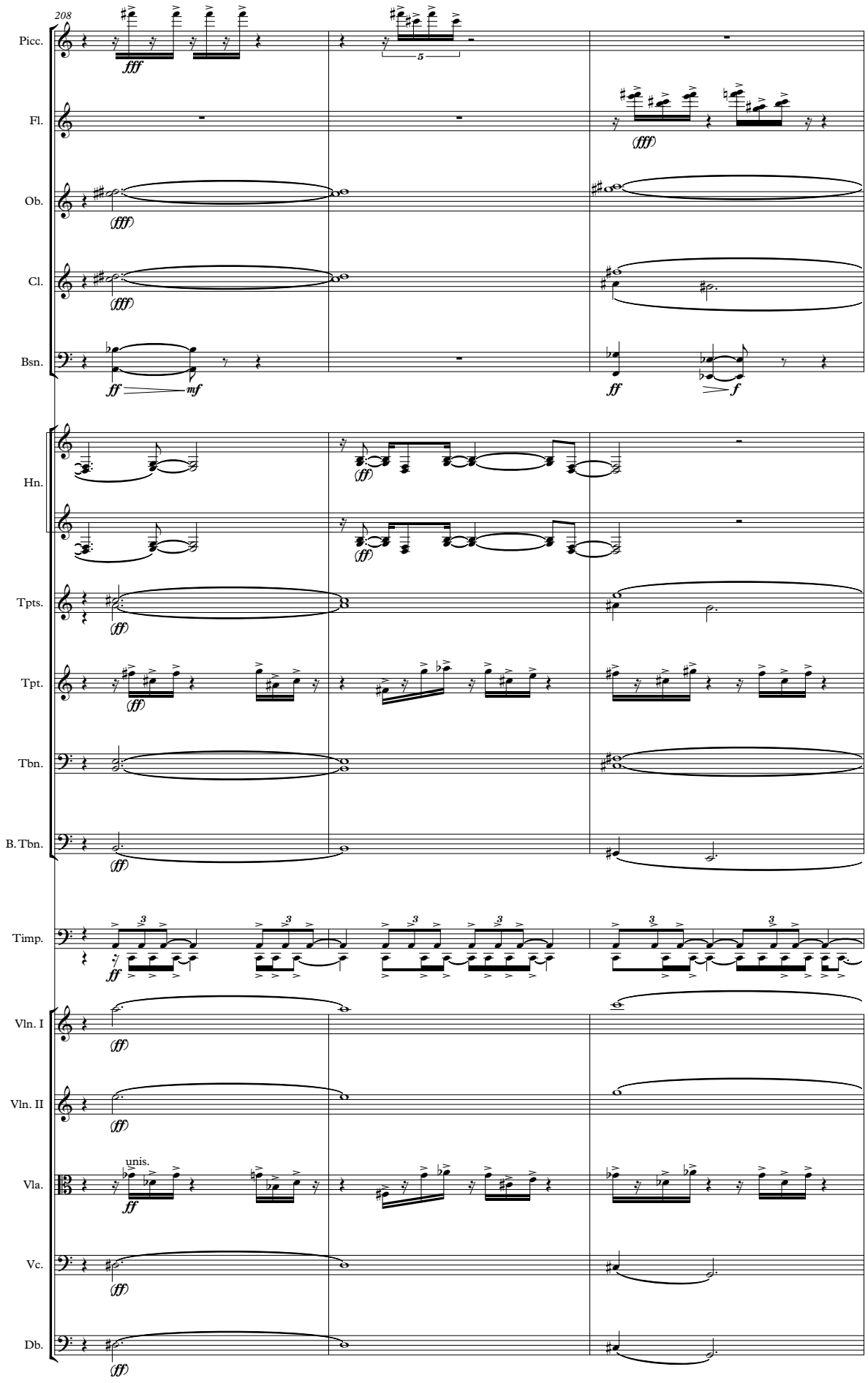
Vc.
Db.
unis.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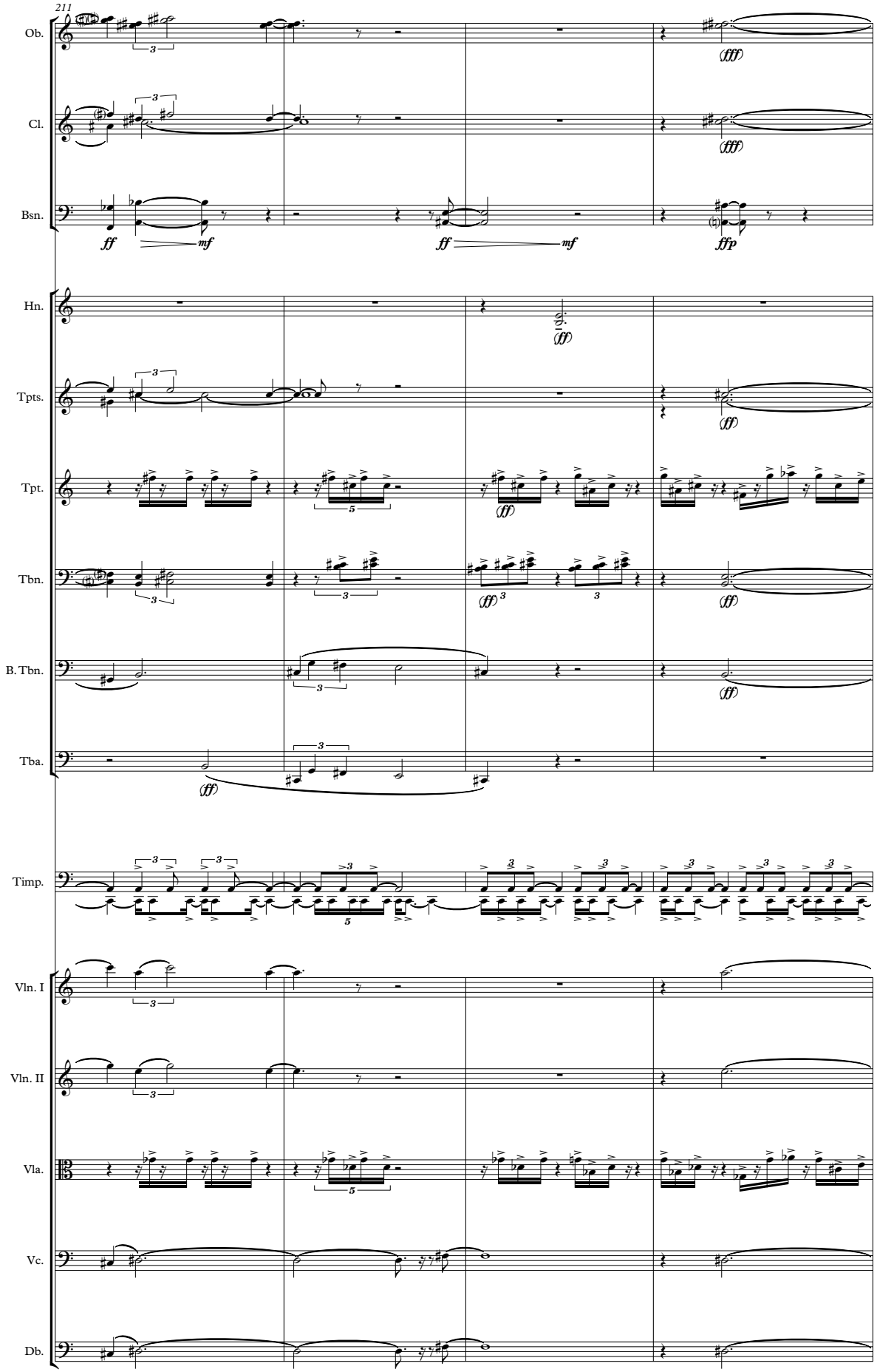
211
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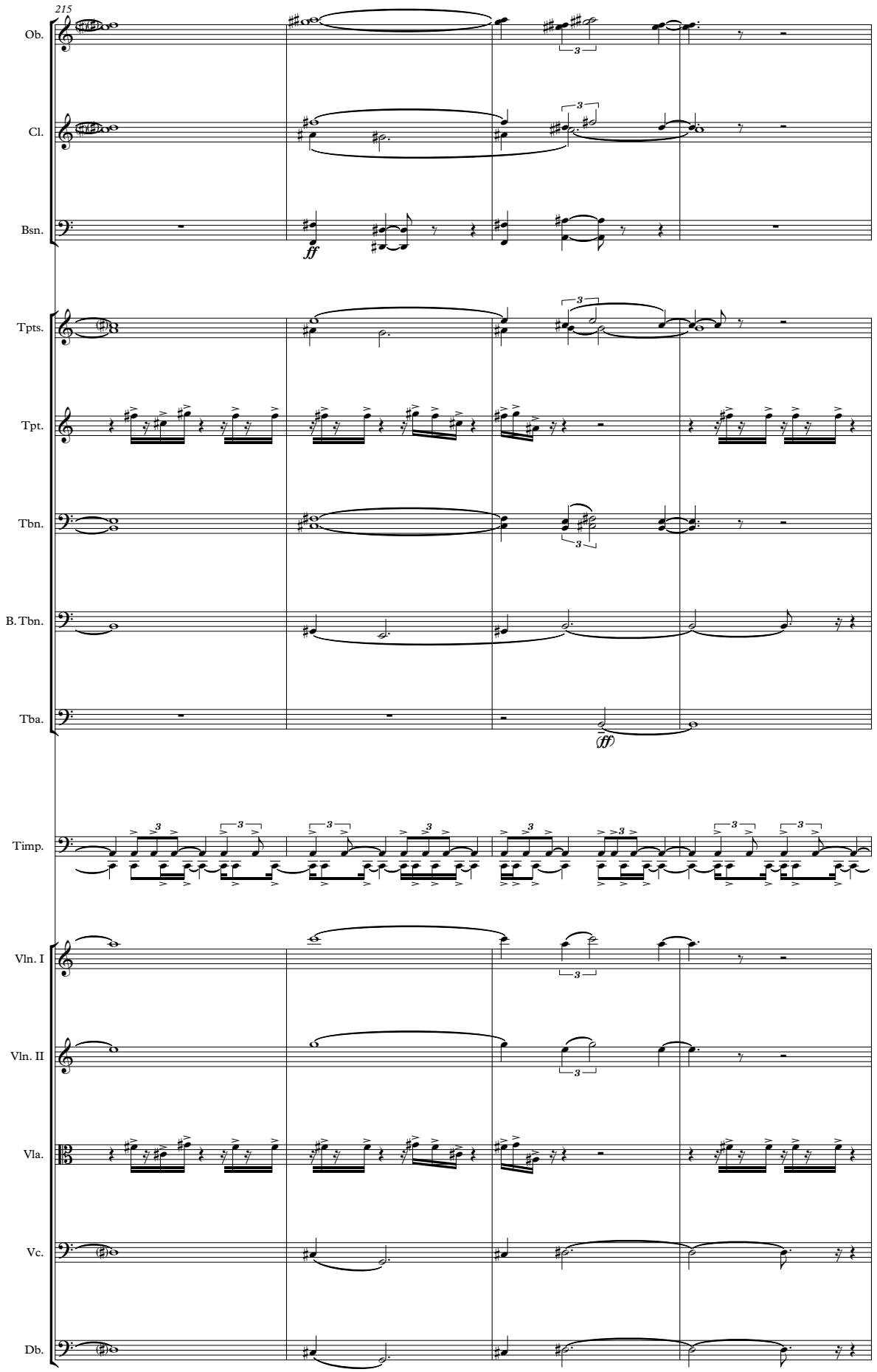
Db.


215
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Vln. II
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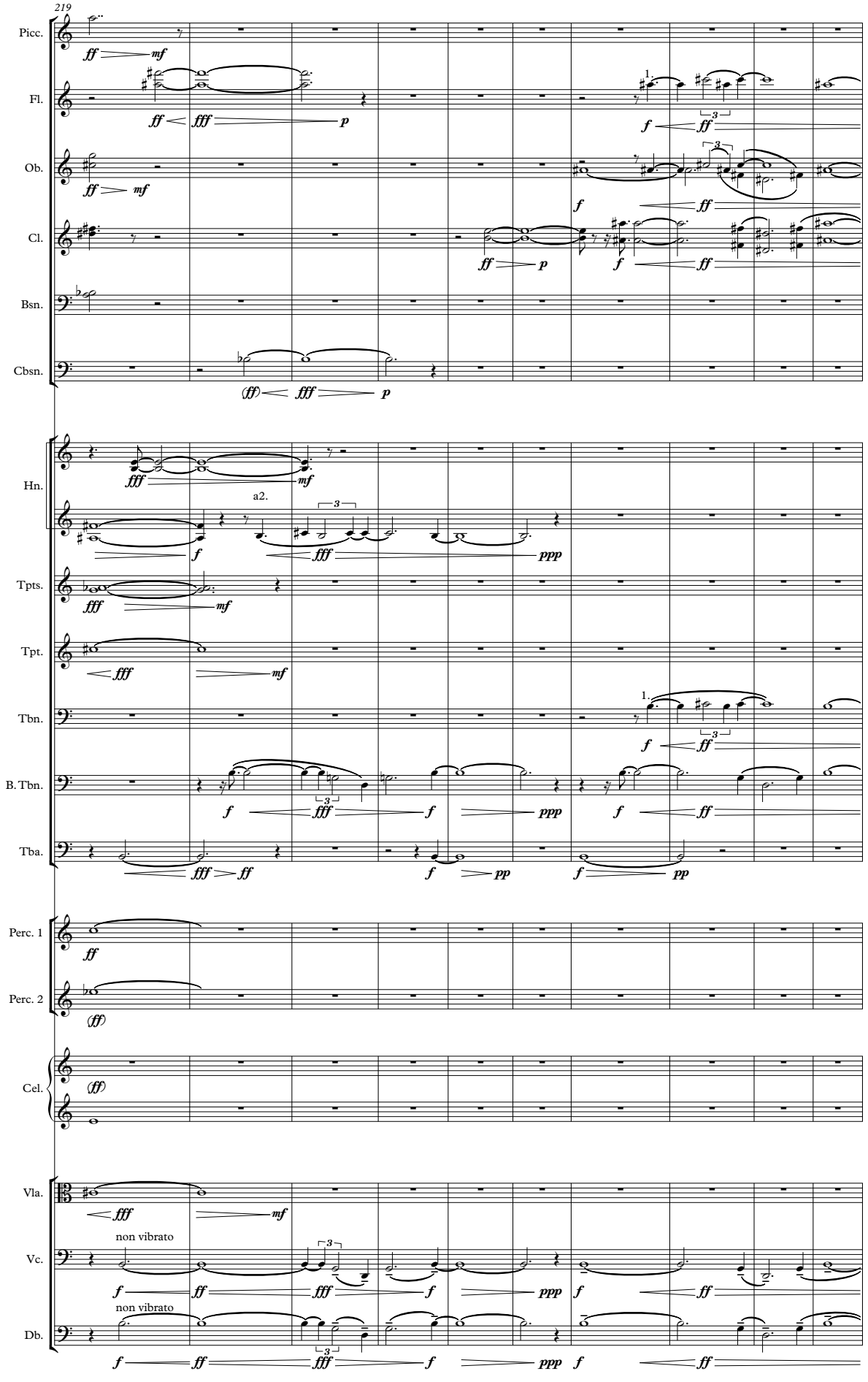
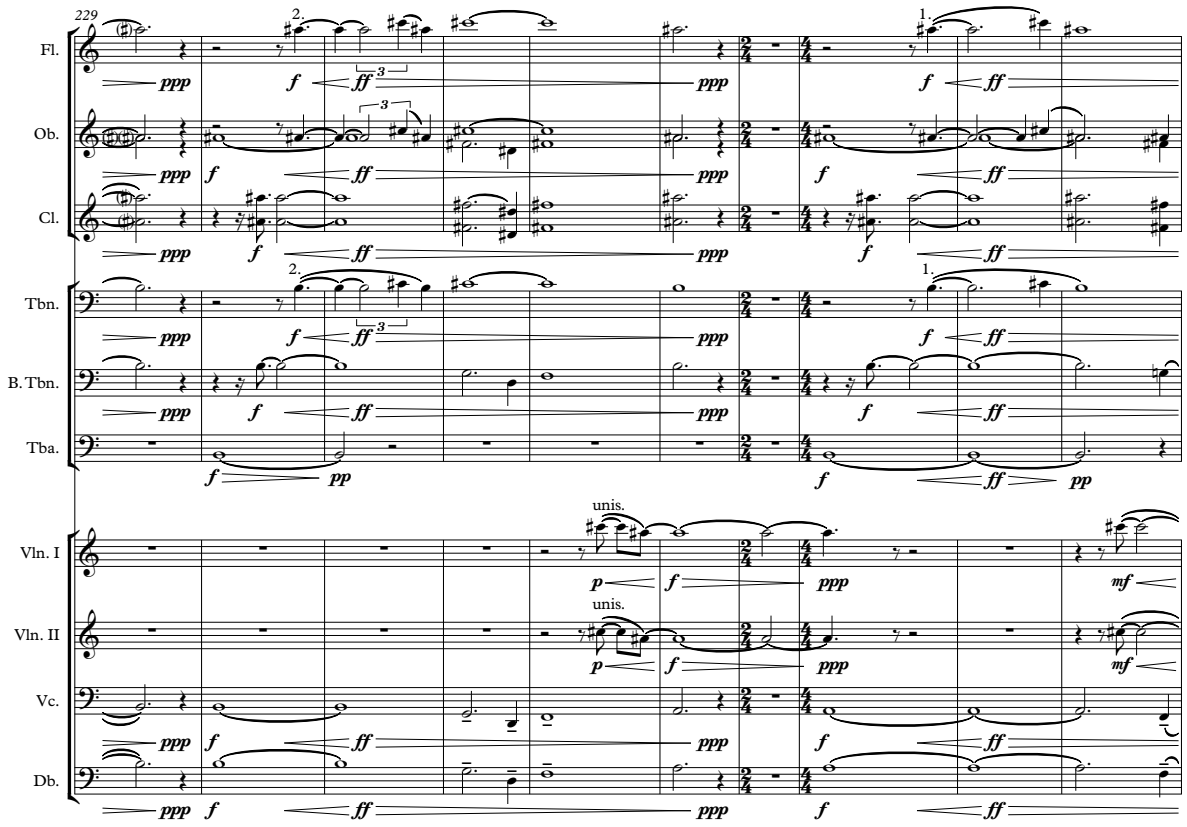
Vc.
Db.
ff
(ff)


219
Picc.
Fl.
Ob.
Cl.
Bsn.
Cbsn.
Hn.
a2.
Tpts.
Tpt.
Tbn.
B. Tbn.
Tba.
Perc. 1
Perc. 2
Cel.
Vla.
non vibrato
Vc.
non vibrato
Db.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Vc.
Db.
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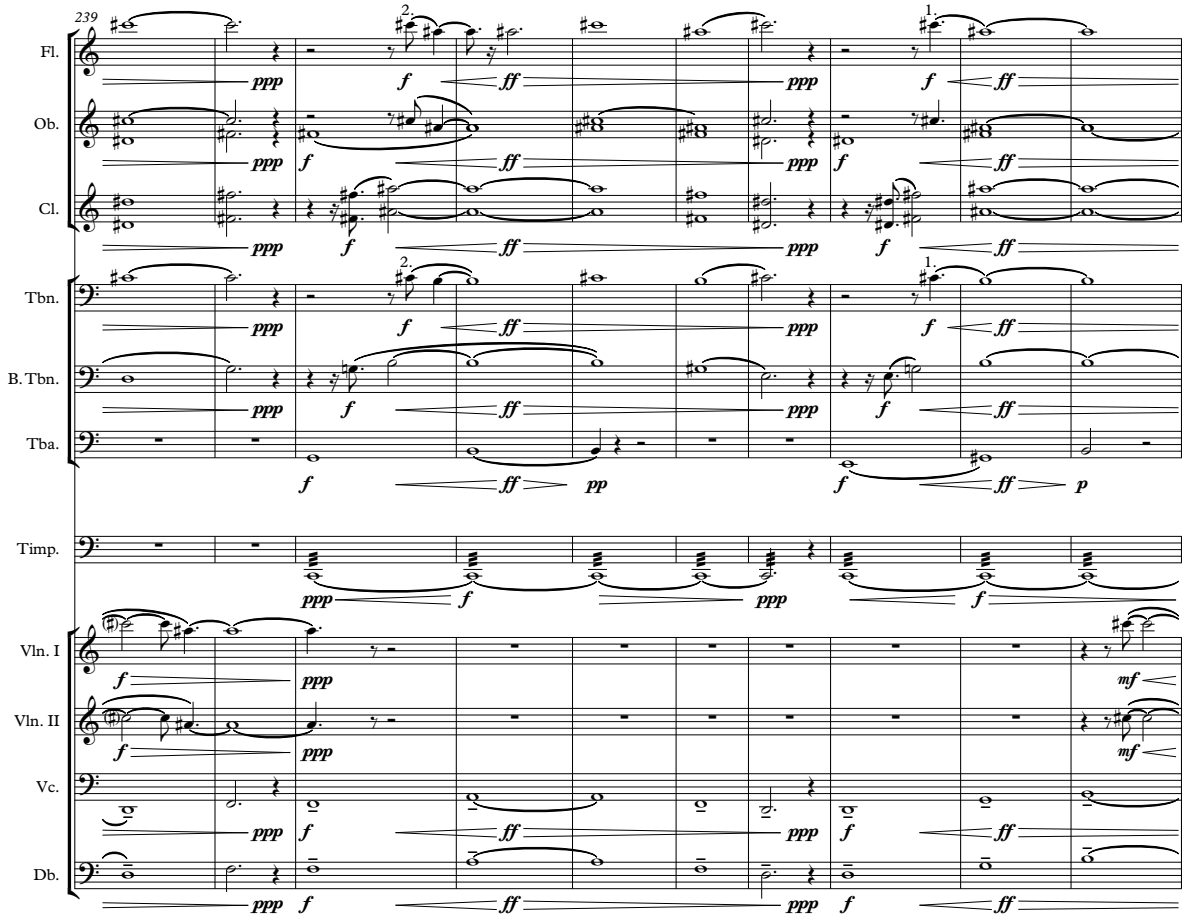
unis.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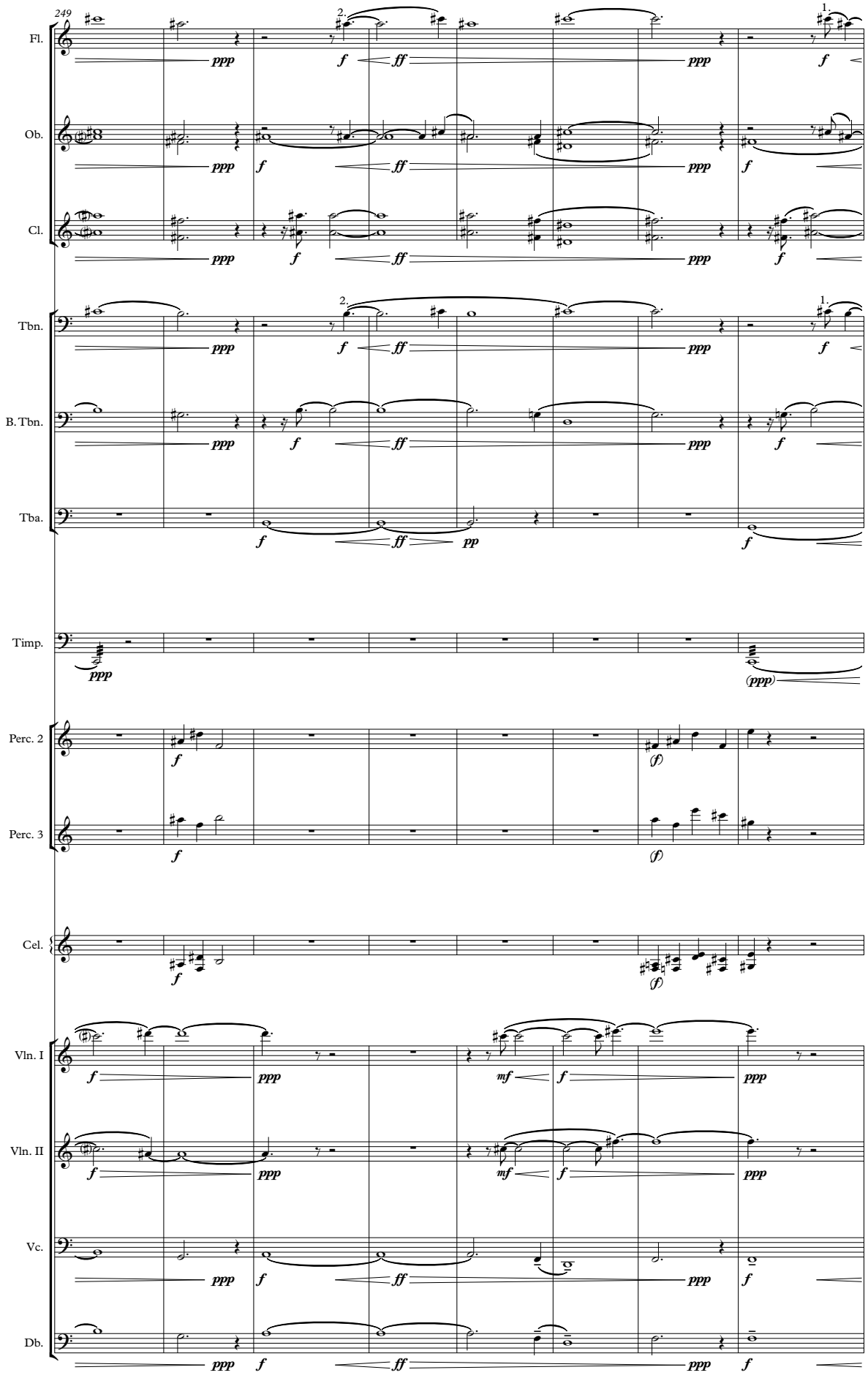
Vln. II
Vc.
Db.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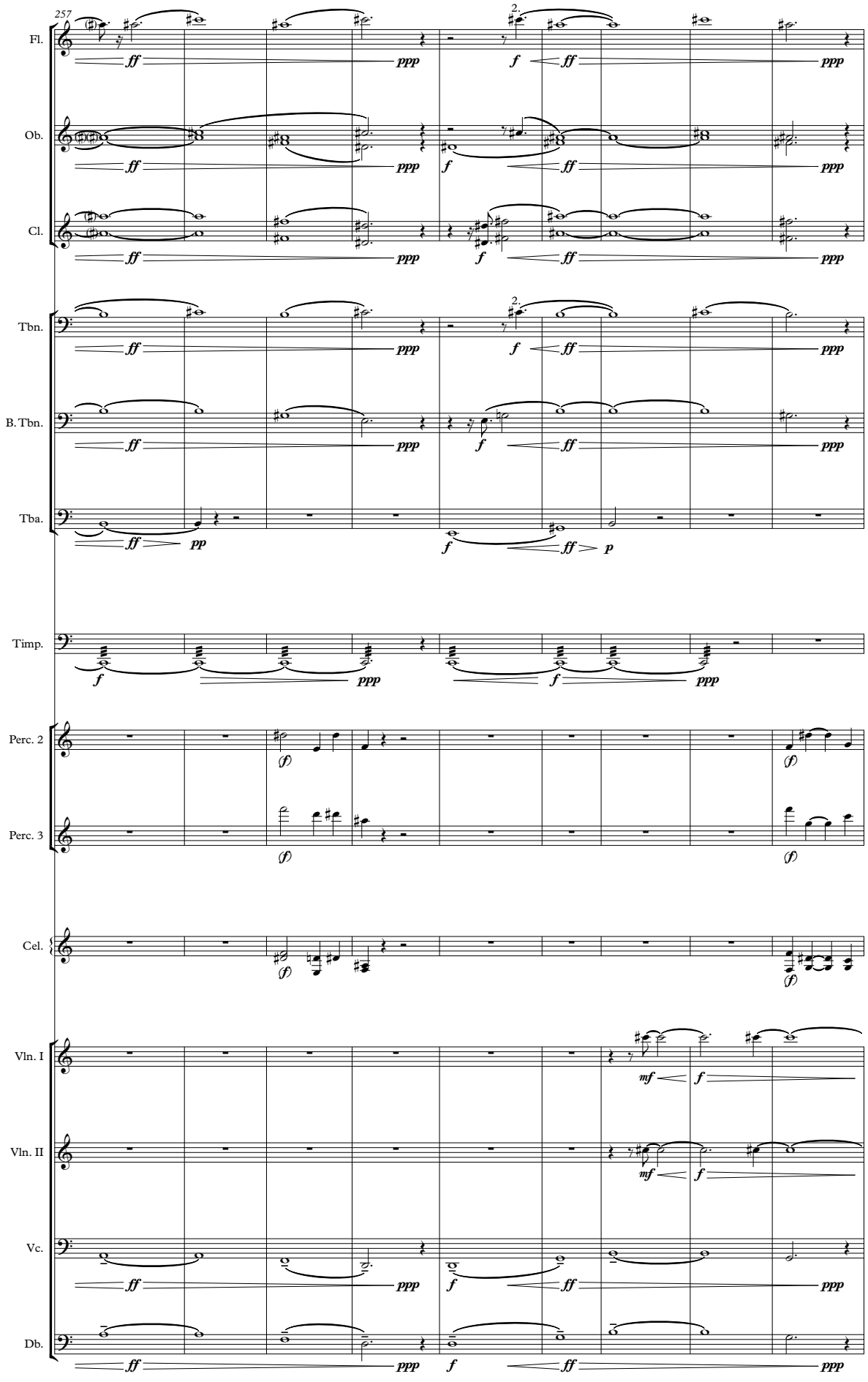
Timp.
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
Vc.
Db.


257
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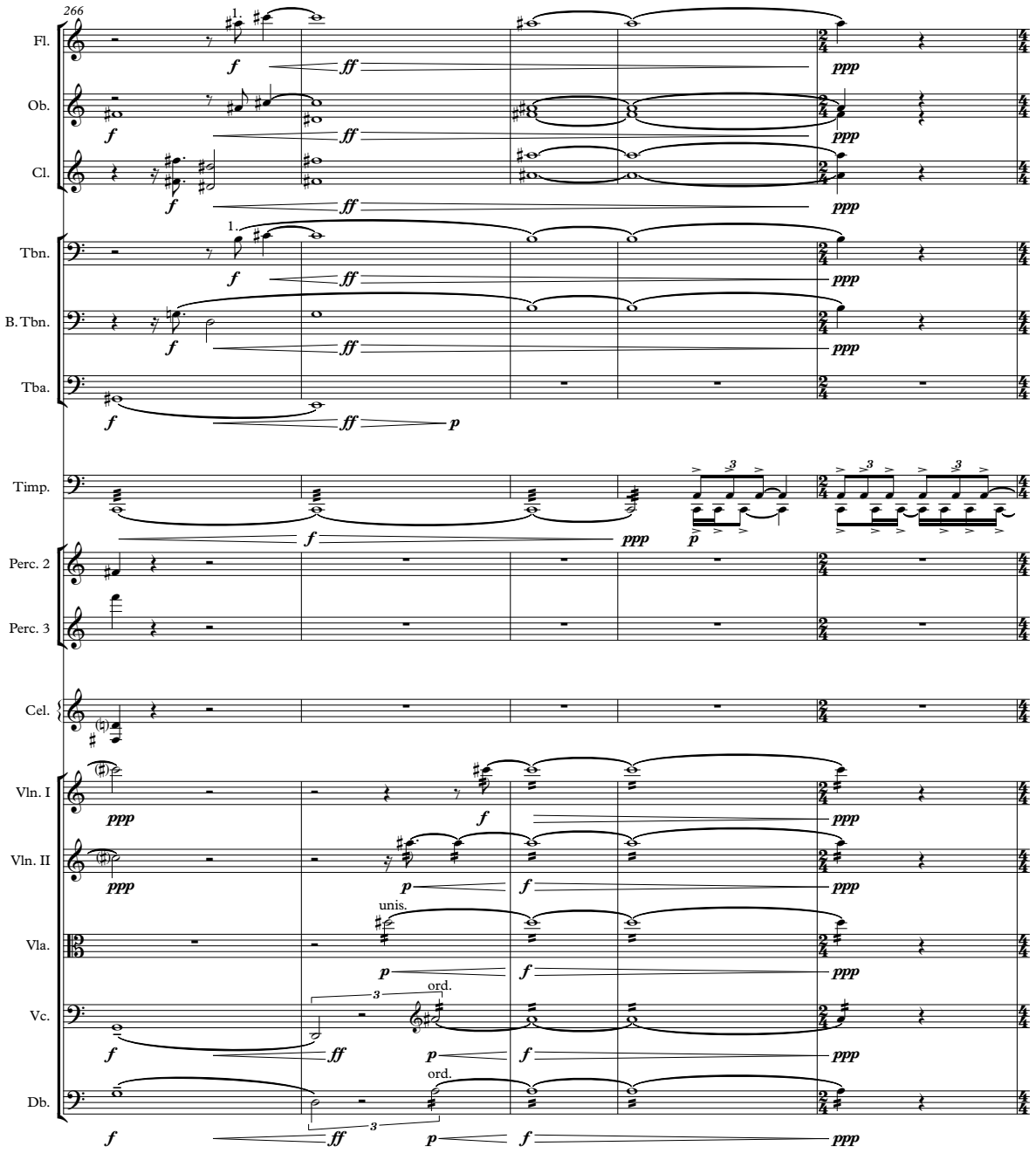
Ob.
Cl.
Tbn.
B.Tbn.
Tba.
Timp.
Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
Vc.
Db.
2.
ff
ppp
f
pp
p
mf


266
Fl.
Ob.
Cl.
Tbn.
B. Tbn.
Tba.
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Perc. 2
Perc. 3
Cel.
Vln. I
Vln. II
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Vc.
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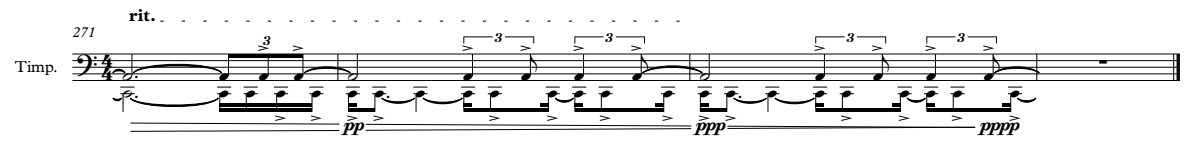

rit.
271
Timp.

Appendix A Texts

Item A.1: ***Charge of the Light Brigade*** [103]

I

Half a league, half a league,

Half a league onward,

All in the valley of Death

Rode the six hundred.

“Forward, the Light Brigade!

Charge for the guns!” he said.

Into the valley of Death

Rode the six hundred.

II

“Forward, the Light Brigade!”

Was there a man dismayed?

Not though the soldier knew

Someone had blundered.

Theirs not to make reply,

Theirs not to reason why,

Theirs but to do and die.

Into the valley of Death

Rode the six hundred.

[103] Tennyson, Lord Alfred, 1854.

III

Cannon to right of them,

Cannon to left of them,

Cannon in front of them

Volleyed and thundered;

Stormed at with shot and shell,

Boldly they rode and well,

Into the jaws of Death,

Into the mouth of hell

Rode the six hundred.

IV

Flashed all their sabres bare,

Flashed as they turned in air

Sabring the gunners there,

Charging an army, while

All the world wondered.

Plunged in the battery-smoke

Right through the line they broke;

Cossack and Russian

Reeled from the sabre stroke

Shattered and sundered.

Then they rode back, but not

Not the six hundred.

V

Cannon to right of them,

Cannon to left of them,

Cannon behind them

Volleyed and thundered;

Stormed at with shot and shell,

While horse and hero fell.

They that had fought so well

Came through the jaws of Death,

Back from the mouth of hell,

All that was left of them,

Left of six hundred.

VI

When can their glory fade?

O the wild charge they made!

All the world wondered.

Honour the charge they made!

Honour the Light Brigade,

Noble six hundred!

Item A.2: ***Behold a Great Red Dragon***

And there appeared another wonder in heaven;
and behold a great red dragon,
having seven heads and ten horns,
and seven crowns upon his heads.
And his tail drew the third part of the stars of heaven,
and did cast them to the earth:
and the dragon stood before the woman
which was ready to be delivered,
for to devour her child as soon as it was born.[104]

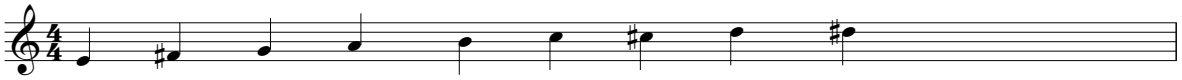
[104] Book of Revelation 12.3-4.

Item A.3: Hymn for the Annunciation, 13th century

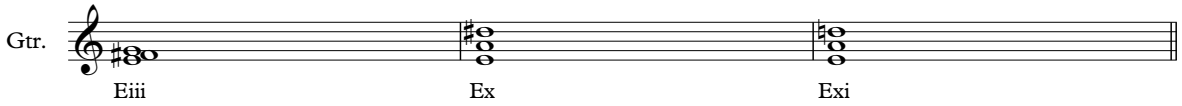
Edi beo thu, hevene quene,	Blessed be you, heaven's queen,
Folkes froure and engles blis,	People's comfort and angel's bliss,
Moder unwemmed and maiden clene,	Mother immaculate and maiden pure,
Swich in world non other nis.	Such in world no other is.
On thee hit is wel eth sene,	In you it is easily seen,
Of all wimmen thu havest thet pris;	Of all women you have the prize;
Mi swete levedi, her mi bene	My sweet lady, hear my prayer
And reu of me yif thi wille is.	And have pity on me if you will.
Thu asteghe so the daiy rewe	You ascend like the ray of dawn
The deleth from the deorke nicht;	Which separates from the dark night;
Of thee sprong a leome newe	From you sprang a new light
That al this world haveth ilight.	That has lit all this world.
Nis non maide of thine heowe	There is no maid of your complexion
Swo fair, so schene, so rudi, swo bricht;	So fair, so beautiful, so fresh, so bright;
Swete levedi, of me thu reowe	Sweet lady, have compassion
And have merci of thin knicht.	And have mercy on your knight.

Appendix B: Harmonic Study

1st subject scale

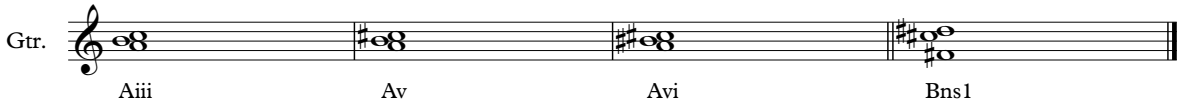


Key of Ea (chosen since first subject scale starts with E as its first degree).
Primary root chords that will fit this scale:

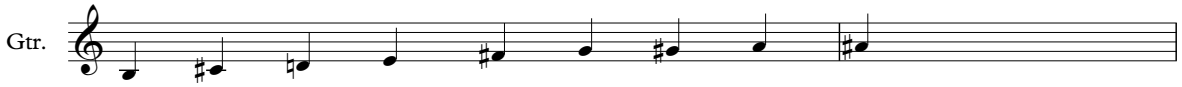


Secondary root chords that will fit this scale:

Bonus chord with neither E nor A (chosen intuitively)



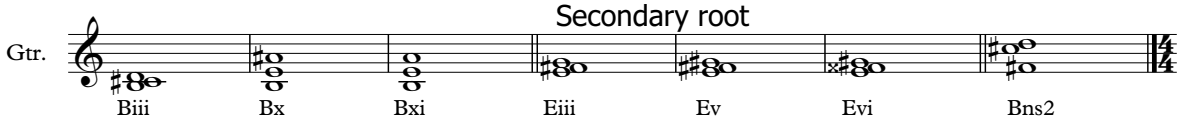
2nd subject scale

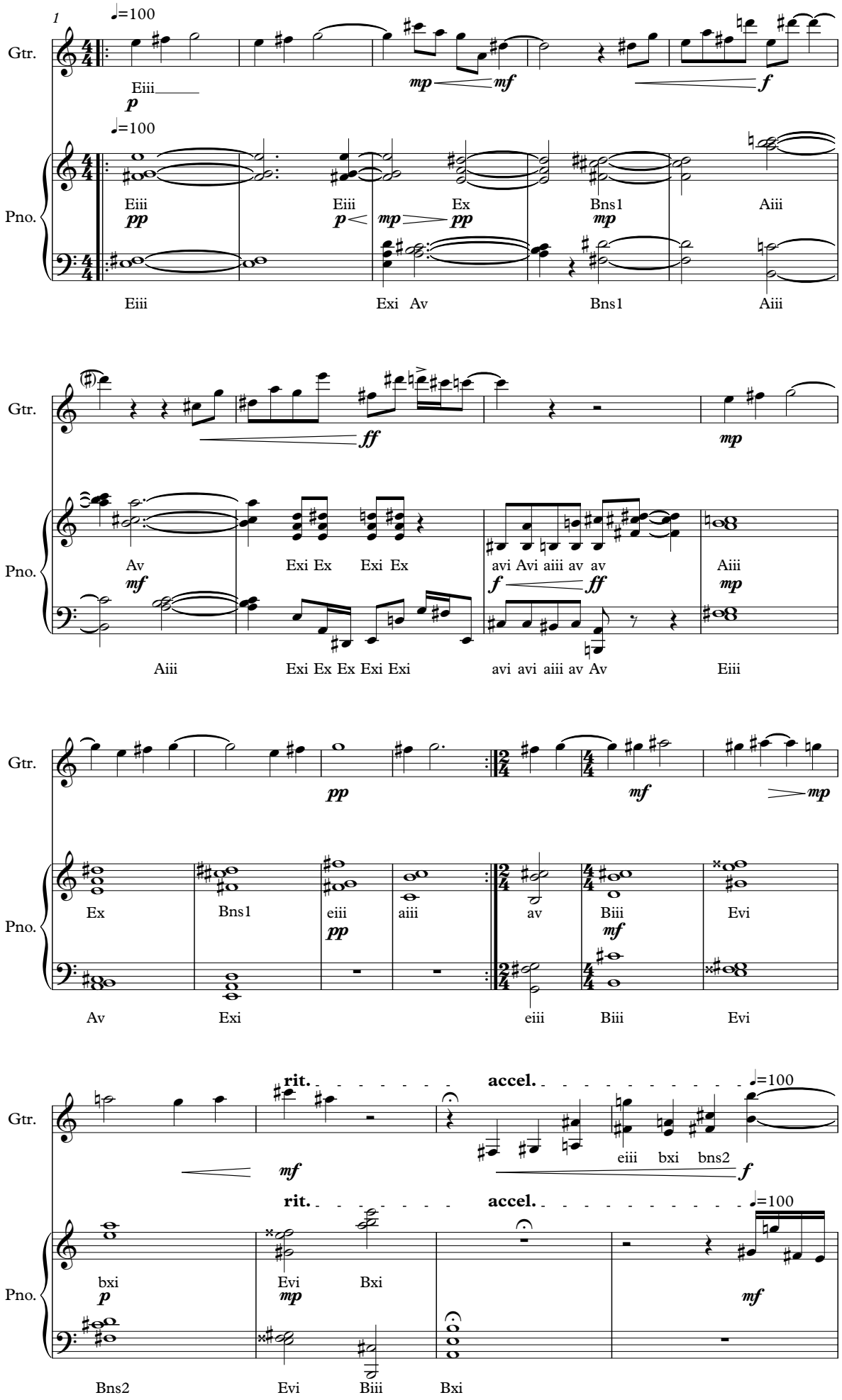


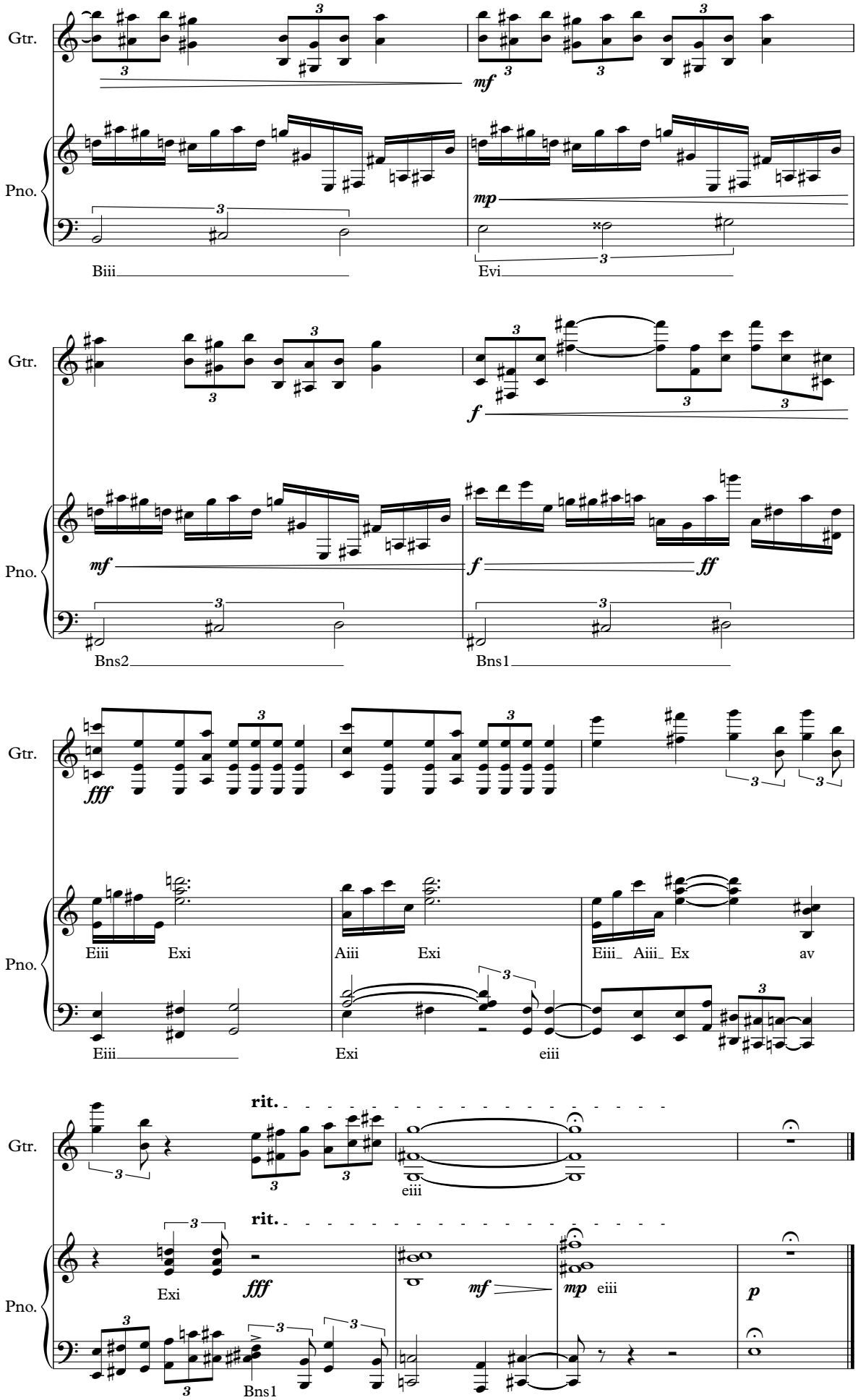
Second key area will use the same chord types if only one scale is used.
If there are two ideas (first and second subjects) then they may each have their own scales.

Key of Be
Primary root

Key of Be:
Secondary root




1
♩=100
Gtr.
Eiii
p
mp
mf
f
♩=100
Pno.
Eiii
pp
Eiii
p
Ex
mp
pp
Bns1
mp
Aiii
Eiii
Exi Av
Bns1
Aiii
Gtr.
ff
mp
Pno.
Av
mf
Exi Ex
Exi Ex
avi Avi aiii av av
f
ff
Aiii
mp
Aiii
Exi Ex Ex Exi Exi
avi avi aiii av Av
Eiii
Gtr.
pp
mf
mp
Pno.
Ex
Bns1
eiii
pp
aiii
av
Biii
mf
Evi
Av
Exi
eiii
Biii
Evi
Gtr.
rit.
accel.
♩=100
mf
eiii bxi bns2
f
rit.
accel.
♩=100
Pno.
bxi
p
Evi
mp
Bxi
mf
Bns2
Evi
Biii
Bxi


Gtr.
Pno.
mf
mp
Biii
Evi
Gtr.
Pno.
f
mf
f
ff
Bns2
Bns1
Gtr.
Pno.
fff
Eiii
Exi
Aiii
Exi
Eiii_ Aiii_ Ex
av
Eiii
Exi
eiii
rit.
Gtr.
eiii
rit.
Pno.
Exi
fff
mf
mp
eiii
p
Bns1

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