Building Worlds: Timbre in Music for Cinema

By

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DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Music

in the

OFFICE OF GRADUATE STUDIES

of the

UNIVERSITY OF CALIFORNIA DAVIS

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2021

Abstract

Film composers devote considerable time and energy building a timbral lexicon or "soundworld" for every project. In fact, timbre is the foremost concern throughout the compositional process for many film composers, often superseding pitch structure (e.g theme, harmony, tonal goals). Historically, this emphasis on timbre over pitch structure comes from a practical place — complex pitch structures need time to develop independently, and thus compete with the dramatic action of a film, whereas tone color alone can provide immediate dramatic accompaniment. Many analyses of film music prioritize the development of theme and its adjacent pitch structures *over* timbre; the analyses in this dissertation flip these priorities. Through close readings of works by John Williams, Ennio Morricone, and Sergei Prokofiev, I focus on the soundworld of film scores when I analyze them, like film composers do when they compose them. I use several timbral analysis methods to achieve this focus, including the traditional study of orchestration, musical gesture analysis, embodied cognition research, and acousmatic music theory.

Contents

Acknowledgements

Thanks to the members of my committee: Sam Nichols, Mika Pelo, and Pierpaolo Polzonetti, for their guidance.

Special thanks to my committee chair, Pablo Ortiz, for providing such great mentorship and encouragement throughout this crazy process.

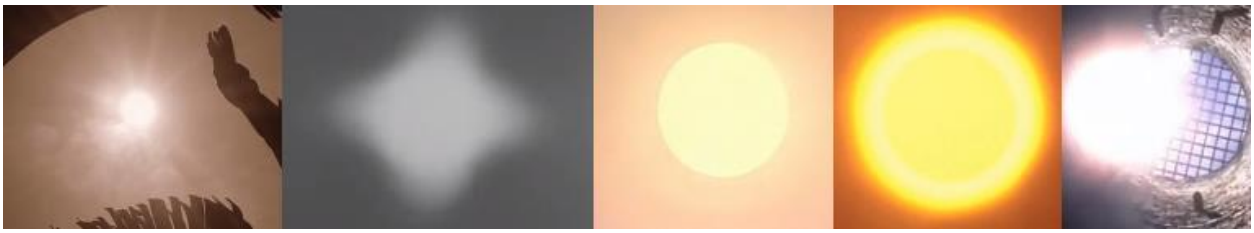
Thanks to my kids for making the process fun.

And most of all, thanks to my wife, Sara Gorchoff, for her unwavering support.

1. INTRODUCTION

Ludwig Wittgenstein posed the following question: how can one *know* something, but not be able to *say* that thing? To demonstrate, he asks the reader to *say* "how a clarinet sounds."[1] To ask a similar, admittedly synesthetic, question: what does sunlight *sound* like? It is difficult, if not impossible, to answer these questions with words.

Figure 1.1: Stills from (left to right): a. The Seahawk *(1942; music by Erich Wolfgang Korngold); b. "The Midnight Sun" from* The Twilight Zone *(1961; music by Nathan Van Cleave); c.* Lawrence of Arabia *(1962; music by Maurice Jarre); d.* Spaceballs *(1987; music by John Morris); e.* Interview with the Vampire *(1994; music by Elliot Goldenthal)*[2]



Film composers, however, attempt to answer such questions routinely not with words, but with music. *Musical* answers to my hypothetical sunshine question, for instance, have been proposed countless times throughout cinematic history (Figure 1.1 gives five examples). Carolyn Abbate notes that in the silent film era "musicalized sound effects" like these for the sun "were often written into the score. As if sunlight, the luminous image, were indeed producing audible noise. But the audible noise is not realistic — it is a 'rendering,' a suggestion."[3] This music-as-sound-effects practice persisted even after (more realistic)

[1] Ludwig Wittgenstein, *Philosophische Untersuchungen = Philosophical Investigations*, Rev. 4th ed. / by P.M.S. Hacker and Joachim Schulte.., Philosophical Investigations (Chichester, West Sussex, U.K.: Chichester, West Sussex, U.K., 2009), 36.

[2] All film stills in this document are used in compliance with the U.S. Copyright Act, Section 107. See p. 115 for further publication details of the excerpted works.

[3] Carolyn Abbate, "Sound Object Lessons," *Journal of the American Musicological Society* 69, no. 3 (December 1, 2016): 821.

sound effects and dialogue were introduced in sound films. Of course, the sun has no sound, at least to us here on earth — you cannot make a field recording of it for a soundtrack. *The Sea Hawk* excerpt in my examples is alone in having an onscreen character say "it's hot," but composer Erich Korngold immediately reinforces the sun's image with a musical rendering.[4] As composer John Williams has said, "in film, music represents the words that cannot be spoken;" at least in these sun examples, filmmakers favored the power of music over words or other sounds.[5,6]

How do composers make this kind of music? To start with a very brief analysis, Figure 1.2 shows the pitches and rhythms used to musically render the sun images from Figure 1.1. These short-score transcriptions reveal some similar approaches. Each example uses more *high* pitches than low ones, which simply makes sense — the sun is set high in the sky. Each uses primarily long, sustained tones, like the unceasing light from the sun. Each also features a relatively higher level of dissonance, perhaps rendering the images more unpleasant: 1.2a uses chromatic passing figures, 1.2b is (in fact) just one of a chain of unresolved dominant seventh chords; 1.2c and 1.2d use chromatic clusters in the strings; and 1.2e features a G major triad set piquantly above an F# in the bass. None of these brief excerpts use what we might easily call a theme or a melody.

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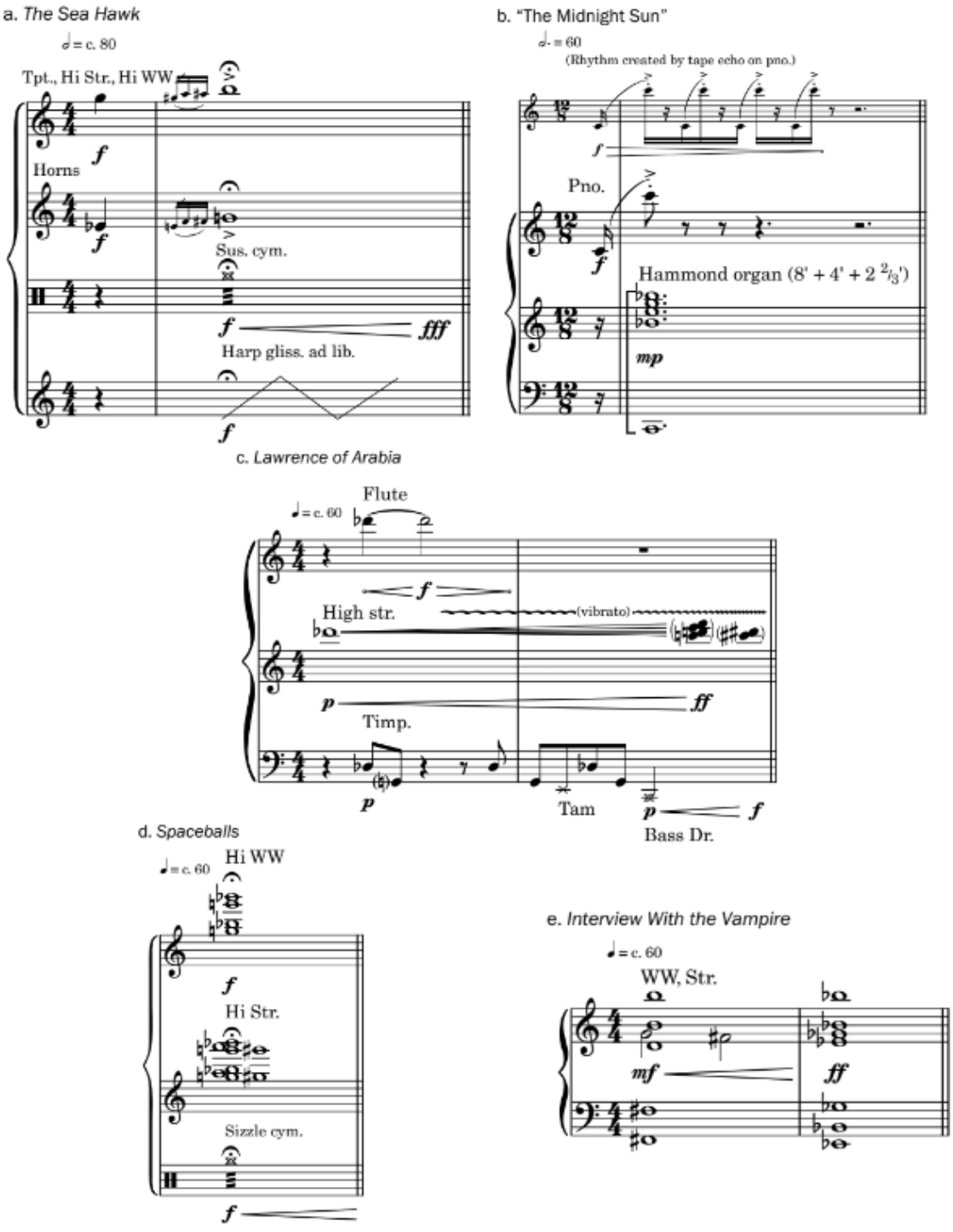
[4] The concept of *rendering* comes from Michel Chion. He defines it as: "the use of sounds to convey the feelings or effects associated with the situation on screen—often in opposition to faithful reproduction of the sounds that might be heard in the situation in reality." Michel Chion, *Audio-Vision : Sound on Screen* (New York: New York : Columbia University Press, 1994), 224.

[5] Tavis Smiley, "Behind the Score: The Art of the Film Composer", Interview with John Williams, July 21, 2014.

[6] Williams perhaps erroneously attributes this quote to director Alfred Hitchcock here. It is unclear where Williams heard it, but he did work with Hitchcock on the 1976 film *Family Plot.* Hitchcock did say something similar in a 1933 interview: "[Film music] makes it possible to express the unspoken. For instance, two people may be saying one thing and thinking something very different." Christopher Sharrett, "Alfred Hitchcock on Music in Films," *Cinema Quarterly*, Winter -34 1933, 81.

Figure 1.2: Transcriptions of the music that accompanies each of the stills from Figure 1.1.[7]



[7] All musical examples in this document (except for Figure 3.13) are ear transcriptions by the author. Used in compliance with the U.S. Copyright Act, Section 107. See p. 115 for further publication details of the transcribed works.

We often discuss film music in melodic terms — love themes, heroic themes, recurring melodic leitmotifs, and the like — but these "sun music" examples struck me primarily for their *un-theme-ness*. They are not melodies the viewer whistles out of the theater, but rather interruptive elements that undermine melodic development. They are extreme sonic effects — exercises in pure sound or tone color that leap out of the filmic world straight into the audio-viewer's brain.[8] Such musical "sound effects" could be dismissed as simple Mickey Mousing: the Adornian brush-off of "birdie sings, music sings."[9] Despite their extremity, however, these examples hint at a much deeper design behind every sound object within a film. Abbate notes that such sound objects emerge from "playful actions by artisans and technicians" employing every kind of sound-producing device to sonically render an onscreen object.[10] The same kind of *sound* thinking that goes into these fleeting, extreme examples of sun music permeate — ideally — every bit of music in a score.

I propose that it is primarily these excerpts' *timbral* design that makes them sound like oppressive sunlight, much more so than the pitches and rhythms shown above. In fact, the pitches and rhythms work in service of the timbral design. Timbre is represented in my transcriptions with orchestrational details written above the pitches: the cymbal roll, harp glissandi, and high trumpet of Figure 1.2a give the music sizzle and bite. The 4' and 2-$^2/_3$' Hammond organ stops do the same to music of Figure 1.2b, while a tape echo continually hammers the piano's upper note into our heads. The high string clusters of Figures 1.2c and 1.2d seem to radiate heat. And what I have notated in Figure 1.5e only scratches the

[8] Throughout this dissertation I will use Chion's term *audio-viewer* which, unlike simply *viewer* or *listener,* emphasizes the fusion of an observer's senses of sight and hearing. Chion, *Audio-Vision,* 11.

[9] Theodor W. Adorno and Hanns Eisler, *Composing for the Films*, New ed. (London: Continuum, 2007), 12.

[10] Abbate, "Sound Object Lessons," 822.

surface of Elliot Goldenthal's mixture of orchestral sound with virtually un-notate-able synthesizer and percussion timbres — timbres which greatly *add value* to the punishing images of sunlight.[11] The higher range, longer sustain, and dissonant combinations of notes help the timbres of each excerpt become, as I observed earlier, exercises in pure sound or tone color that leap out of the filmic world. But if this kind of deep timbral design permeates all film music — not just my extreme musical sound effect examples — how can we describe and analyze it, besides just giving details of instrumentation or using evocative, poetic words like *sizzle, bite, hammer, radiate,* or *heat*?

The Soundworld

Before putting notes to a page or a sequencer, a film composer must build a sonic or timbral lexicon that works with the visuals for a project. At the very least, a composer must know what musical forces are feasible given a project's budget and timeframe: will the score be for full orchestra? Or will it be for synthesizer, or for solo guitar? As composers build their lexicons, some sounds work, and some do not. Thomas Newman, the composer behind the timbrally-adventurous and influential score for the 1999 film *American Beauty,* starts each project by improvising along with the film: "often when playing, bonking instruments, or bowing them, sounds come out, and they come out at you with emotional or dramatic content — wow, what if we put that particular sound there?" (Note that Newman only mentions *sounds* or timbres here.)[12] Composer Alexandre Desplat corroborates this, while

[11] The concept of "added value" also comes from Chion: he defines it as "the expressive and/or informative value with which a sound enriches a given image, so as to create the definite impression (either immediate or remembered) that this meaning emanates "naturally" from the image itself. *Audio-Vision* 221.

[12] OxfordUnion, *Thomas Newman | Full Q&A | Oxford Union*, accessed July 6, 2021, https://www.youtube.com/watch?v=oeHNUJ-hNmE&t=564s.

also highlighting the collaborative nature of film composition: "some directors would hear a high violin and say, well no, that's not scary…but then when you put it to the picture they say, well that's very scary…and then you play a low tone, and they say, well that's scary [on its own], but with the picture it doesn't work."[13]

In my own experience as a film composer, the time I spent finding appropriate sounds or timbres far outweighed the time I spent composing themes. I would typically be charged with matching the orchestration of the temporary score (or "temp") as closely as possible. Reverse engineering the sounds of a temp — almost always without recourse to a score — could be very challenging. Themes and harmonies, on the other hand, were much more malleable, and indeed had to be when matching a temp to avoid copyright infringement. For some of the films I scored, the director would specifically instruct me to avoid themes altogether.[14] Most of my time was spent developing a timbral lexicon — or, to use a common film scoring buzzword, a *soundworld* — for a given project. I was not alone in this. In a 2012 interview, Desplat was asked "once you have the theme down, does it get easier after that?" He replied, "It's not a matter of themes — first you have to find the fabric, then you have to find the colors. Sometimes the theme comes at the very end [of the process], if at all."[15] Even John Williams, the doyen of memorable film music melodies, avoids thinking of themes at a project's outset, and instead asks: "What is the texture, what

[13] Soundtrack Specialist, *Danny Elfman, Alexandre Desplat, Patrick Doyle, Mychael Danna | 2012 THR Composer's Roundtable*, www.youtube.com/watch?v=BP793Rw1clQ&, 31:01.

[14] As in my score for *American Streetballers,* Jimmy McKinney et al., *American Streetballers.* ([United States]: Monarch Home Video, 2010).

[15] Soundtrack Specialist, *Danny Elfman, Alexandre Desplat, Patrick Doyle, Mychael Danna | 2012 THR Composer's Roundtable*, 18:46.

is the tone of this particular film?"[16] In my experience, composing thematic material could be difficult, but the real work came in dressing a theme for any given cinematic moment. Should it be played on flute or a granular synth version of a flute? Or, even more generally, should the theme be low or high? What would be the best instrument for either case? Furthermore, composers and orchestrators hedge their bets, knowing that different timbres do different things to a picture. Steve Bartek (film composer Danny Elfman's longtime orchestrator) said that Elfman often has him orchestrate and record a single tutti cue in separate versions for woodwinds, strings, and brass alone, in case the director requests different options in the dubbing stage.[17] Drawing again from my own experience, finding the right sound was what got a cue approved by a director. Finding the right sound was what elevated the film from cliché to original art. Again, a quote from Desplat highlights not thematic thinking, but timbral thinking:

> Interviewer: How do you avoid clichés when writing emotional music?
>
> Desplat: What is emotion? Where does it begin? Is it a flute playing one note? Or is it the strings?[18]

This emphasis on timbre over theme comes from a practical place. Roy Prendergast notes that film composers have traditionally downplayed "complex line and structure" (e.g., pitch structures — theme, harmony, tonal goals) in their scores because these need time to develop and "cannot successfully be emphasized without competing with the dramatic

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[16] Timothy Mangan, "John Williams Interview: 'It's Not Hard Work That Makes Success; It's Sustained Hard Work That Makes Success,'" *Gramaphone*, April 2005, 93.

[17] Steve Bartek, Interview with Steve Bartek, interview by Daniel Godsil, March 7, 2019, 9.

[18] 2012 THR Composer's Roundtable," https://youtu.be/BP793Rw1clQ?t=1770, 29:30.

action" of a film.[19] For Prendergast (and myself), the thing that displaces "line and structure" in film music is "color."

I was surprised to find, then, how much some analyses of film music prioritize the development of theme and its adjacent pitch structures *over* timbre. Granted, many of these analyses provide fascinating and intriguing insights. The *Film Score Handbook* collection serves as an excellent example; to name two, Roger Hickman's handbook for *Ben Hur* provides an exhaustive list and developmental lineage of Miklós Rózsa's leitmotifs, and David Cooper's handbook for *Vertigo* favors Bernard Herrmann's motivic and harmonic approach.[20] More recently, Frank Lehman has produced an excellent — and gargantuan — catalog of *Star Wars* leitmotifs.[21] But these resources' concentration on theme necessarily relegates timbre to almost footnote status. My own analyses will flip these priorities. The challenge I set out for myself in this dissertation is: how can I put the emphasis on the soundworld of film scores when I *analyze* them, like composers do when they *compose* them?

Theoretical Frame I: Musical Gesture

Of course, music is not made of timbre alone; even an analysis that prioritizes timbre will have to account for other musical properties. My sun music examples, for instance, still have rhythm, pitch structures, and so on, as shown in the transcriptions above.

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[19] Roy M. Prendergast, *Film Music - a Neglected Art : A Critical Study of Music in Films.* (W W Norton : Co., 1991), 215.

[20] Roger Hickman, *Miklós Rózsa's Ben-Hur : a film score guide* (Lanham, Md.: Scarecrow, 2011).; David S.. Cooper, *Bernard Herrmann's Vertigo : A Film Score Handbook* (Westport: Greenwood Press, 2001).

[21] Frank Lehman, "The Themes of *Star Wars:* Catalogue and Commentary," Emilio Audissino, *John Williams : Music for Films, Television, and the Concert Stage*, 2018.

To sidestep getting bogged down in discussions of pitch structures, and to keep the focus on timbre, whenever I discuss musical line or structure I will describe it mostly in terms of *musical gesture*. Musical gesture has the benefit of being very broadly defined and applicable to almost any analytical situation; theorist Steve Larson defined it simply as "purposeful motion through musical space."[22] (This definition is so broad, in fact, that it can applied to rhythm and timbre, too, which I will do often.) Larson isolated three musical forces — gravity, magnetism, and inertia — that can be helpful when describing gestures. Larson openly embraces common metaphors that musicians use when describing music:

GRAVITY:	The soprano's *high* notes rang *above.*
	The *rising* melodic line climbed *higher.*
MAGNETISM:	The music is *drawn to* this stable note.
	The leading tone is *pulled* to the tonic.
INERTIA:	The accompanimental figure, *once set in motion, …*
	This dance rhythm generates such *momentum* that … [23]

Larson's music-as-motion idea bolsters Michel Chion's insistence that music and sound, which are always moving forward in time, serve to *vectorize* visuals, "orienting them toward a future, a goal, and creation of a feeling of imminence and expectation."[24] Chion's words here seem to charge music and sound with considerable agency: we use terms like "futures, goals, and expectations" more often used to refer to characters and actors within a film. Film composers consistently describe their scores as another actor or character in a film; Desplat conveys this beautifully in an interview with Jon Burlingame:

[22] Steve Larson, "Musical Forces and Melodic Patterns," *Theory and Practice* 22/23 (1997), 58.

[23] Larson, "Musical Forces and Melodic Patterns," 58.

[24] Chion, *Audio-Vision : Sound on Screen*, 16.

> I want to be inside the picture, not just distanced from the picture. And I think again and again and again and again every day, each time I write a piece, to make sure that it is really getting into the frame. Into the picture itself, *as if it was an actor*. *Like another actor that comes in and plays with the other ones.* You're in the same landscape (emphasis mine).[25]

Theoretical Frame II: Timbral Analysis

Film composers and filmmakers devote considerable effort to developing their soundworlds. As I hope to show in my upcoming analyses, much insight can be gained by shifting focus to the "stuff" of sounds and developing ways of taking about the sounds themselves. My questions when focusing on timbre will include: how does a sound affect the immediate onscreen moment, and how does it work with the soundworld of the score or film? How does a particular timbre interact with other sounds in the soundtrack? How does it interact with characters on-screen? How was it mixed in the recording? Are there macro, large-scale formal structures that can be found in film scores, but created not with line and structure, but with tone color?

Writing about timbre is tricky. Like Wittgenstein's seemingly impossible-to-answer question (can you *say* how a clarinet sounds?) it is difficult to describe timbre without using synesthetic terms like *bright, dark, cold,* or *hot.* In an interview with timbre researcher Stephen McAdams, Tim Falconer likens these descriptors to the metalanguage wine drinkers use at tastings:

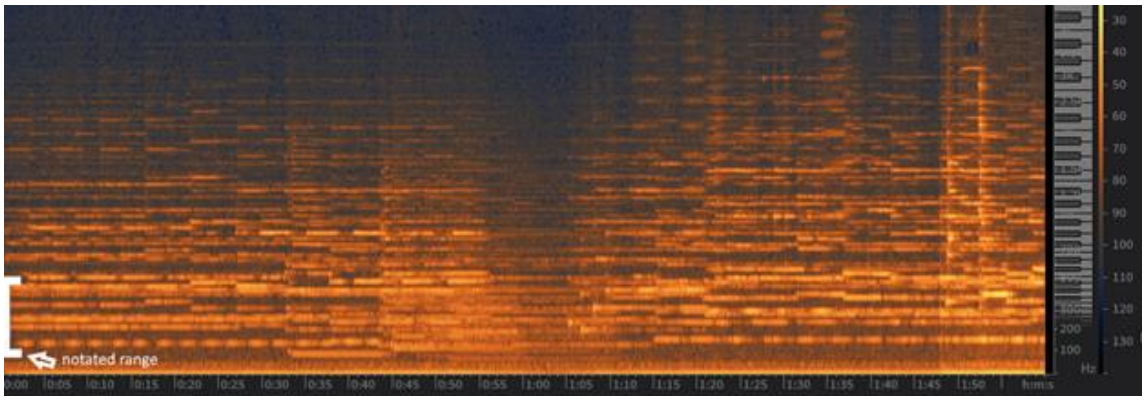
> [McAdams] didn't call it a completely stupid notion. In fact, he pointed out that there were a lot of similarities between the way we describe the taste and smell of wine and the way we describe the timbre of an instrument. Without a clear lexicon, we have to borrow vocabulary from elsewhere when we talk about these things.

[25] BMI, *Multi Award-Winning Composer Alexandre Desplat Speaks Candidly With Jon Burlingame – Part 1*, accessed July 6, 2021, https://www.youtube.com/watch?v=cT30CByZP8w&t=297s, 4:57.

> Oenophiles may describe a wine by comparing it to flavours such as cherry, coffee, or chocolate and sometimes to something we wouldn't want to drink such as leather or charcoal. With timbre, the descriptors tend to be abstract and often borrowed from the tactile (warm, cold, rough) or visual (bright, dark) senses. The absence of a strict coding system means that some characterizations are noteworthy for their inventive evocativeness: one of McAdams's research subjects described a sound as being like someone slapping a steak on a corrugated tin roof.[26]

Many timbre studies in the second half of the twentieth century tried to avoid this linguistic problem by using electronically-generated spectrograms, which visually depict sounds.[27] As an example, Figure 1.3 shows a spectrogram for the first two minutes of Arnold Schoenberg's "Farben" from the *Five Orchestral Pieces,* Op. 16. One can immediately notice how much spectral activity occurs above and below the actual *notated* range of the music, shown in the lower left-hand corner (Figure 1.3):

Figure 1.3: Spectrogram for the first two minutes of Arnold Schoenberg's "Farben" from the Five Orchestral Pieces, Op. 16 (created with iZotope RX software).



Spectrograms have three dimensions: time is represented along the horizontal axis, frequency content along the vertical, and amplitude or volume is depicted with color

[26] Tim Falconer, "Everything We Can't Describe in Music," Hazlitt, April 15, 2016, https://hazlitt.net/feature/everything-we-cant-describe-music.

[27] See especially Robert Cogan, *New Images of Musical Sound* (Cambridge Mass: Publ. Contact international, 1998).

intensity. I will use several spectrograms throughout this dissertation. However, while spectrograms are helpful, their use does not obviate the need to describe sounds somehow. Denis Smalley observes that a spectrogram visualizes sound more objectively than the human ear can hear it; "its shapes therefore have to be interpreted."[28] Spectrograms, then, are like a notational symbol, which Michel Chion claims "closes in on itself" without a specialist mediator, whereas "the word places us back in the world of language."[29]

Smalley and Chion represent a group of primarily electronic composers, Pierre Schaeffer being the most influential, who have invented more precise language systems to describe timbre in their writings about acousmatic music or *musique concrète*. Schaeffer, especially, developed an exhaustive amount of terms and concepts to describe recorded sound.[30] And there is an important connection between acousmatic music and film music — both are recorded media that lack a visible sound producer or performer. I will outline and utilize several of these writers' systems and theories in upcoming analyses. Chion, especially, has written extensively on film sound using an adapted version of Schaeffer's system — I have already and will continue to draw on his ideas. Fred Lerdahl's "timbral prototype" system offers precise descriptors for sound, measuring salient parameters of sound as necessary such as vibrato, breathiness, bow pressure, etc. Denis Smalley's systems of "spectromorphology" and "space-form," also derived from Schaeffer's system, greatly aid in measuring texture, spectral density, and musical distance.

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[28] Denis Smalley, "Spectromorphology: Explaining Sound-Shapes," *Organised Sound* 2, no. 2 (1997): 108, https://doi.org/10.1017/S1355771897009059.
[29] Michel Chion, *Sound : An Acoulogical Treatise* (Durham : Duke University Press, 2016), 183.

[30] Pierre Schaeffer, *Treatise on Musical Objects : An Essay across Disciplines* (Oakland, California : University of California Press, 2017).

Outside of acousmatic music theory, I will also draw on Zachary Wallmark's "timbre as verb" theory. Citing his research in the growing field of embodied cognition, Wallmark claims that "timbre is the sonic result of material engagement [i.e. singing or playing an instrument], imbued with the audible traces of bodies in motion."[31] These audible traces materialize in us physically as we hear sounds, even recorded ones like film scores, and "we motorically mirror (consciously or unconsciously) the fleshly circumstances of production when we listen."[32] For example, when hearing a mouth harp, we can *feel* the twang of it against our teeth, or when hearing a guitar we can *feel* its vibrating strings under out fingers. Like Larson's music-as-motion and Chion's "vectorized sound" ideas do for musical gesture, Wallmark's theory charges timbre with considerable agency.

To return to metalanguage, one recent trend in timbral analysis is the embrace of common metaphors musicians use to describe timbre, similar to Larson's approach with musical forces and gestures.[33] Associating tones with colors has been common practice since at least the Classical era; this trend has only increased in today's visually-mediated, video-crazed culture.[34] Also, since the scores I analyze were mostly written for orchestra, I will often refer to a subsection of music theory that has its own rich metaphorical language — the study of orchestration. And the language orchestration textbooks use to describe instrumental sound is remarkably consistent; in a corpus analysis of 11 orchestration

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[31] Zachary Thomas Wallmark, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise," 2014, ii.

[32] Wallmark, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise," ii.

[33] See especially the use of painting metaphors in Eva McMullan-Glossop, "Hues, Tints, Tones, and Shades: Timbre as Colour in the Music of Rebecca Saunders," *Contemporary Music Review* 36, no. 6 (November 2, 2017): 489, https://doi.org/10.1080/07494467.2017.1452697.

[34] Emily I. Dolan, *The Orchestral Revolution : Haydn and the Technologies of Timbre* (Cambridge: Cambridge University Press, 2013), 23.

treatises and manuals, Wallmark found that "a small subset of terms accounted for a large percentage of all utterances about timbre" — only "50 words comprised around half of the corpus." He asks, "considering that English contains tens of thousands of adjectives, moreover, we might conversely ask ourselves why a paltry 800 or so verbal types suffice to comprise the entirety of the timbre lexicon in this corpus?"[35] My own timbral analyses will embrace metaphors and combine them with more precise systems where necessary.

Organization

My analyses are organized as a double feature, with a short preview beforehand and a "coming attractions" reel immediately following.

The preview focuses on the coda from the "Battle on the Ice" cue Sergei Prokofiev composed for Sergei Eisenstein's 1938 epic *Alexander Nevsky.* It is a brief case study in timbral and gestural analysis.

The overall trajectory of the feature sections is (roughly) from historical background to theory to close reading. In both features, I gave myself the challenge of analyzing film scores by two composers whose thematic prowess is celebrated, John Williams and Ennio Morricone. I did this not only for my masochistic tendencies but also to see what analyses of primarily *thematic* film scores would look like through a timbral lens.

The first feature is called ***The "Farthest From": Sound, Timbre, Texture, and Space-Form in John Williams's Score for*** **Star Wars: A New Hope.** Here I argue that the effectiveness of Williams's *Star Wars* score has as much to do with timbre as it does pitch

[35] Wallmark Z., "A Corpus Analysis of Timbre Semantics in Orchestration Treatises," *Psychol. Music Psychology of Music* 47, no. 4 (2019): 586.

and rhythm. I briefly explore how Williams exploited advances in recording technology. I concentrate extensively on orchestral texture, a property of the score's sound that benefits from enhanced recording fidelity; I use a mix of approaches to help illustrate this, drawing heavily on Denis Smalley's system called — appropriately enough — "space-form." I also argue that the divide between diegetic sounds and non-diegetic musical ones (as they are commonly defined in film music studies) is not so clear-cut in *Star Wars.* I use Smalley's spectromorphology system and his concept of "behavioral spaces" to propose novel ways of thinking about this divide.

The second feature is called ***"More Feeling": Timbre in the Film Music of Ennio Morricone.*** I analyze shorter excerpts from Roland Joffe's 1986 period film *The Mission* and two of Sergio Leone's Westerns: *For a Few Dollars More* (1965) and *Once Upon a Time in the West* (1968). This chapter builds on the timbral, textural, and gestural analyses of the previous sections, and I once again employ Smalley's space-form to detail how Morricone uses instrumental texture. As a supplement to space-form I draw on the "segmented structure" model Sergio Miceli developed to analyze Morricone's Western scores. I also examine a procedure that Morricone hinted at in his writings: that of a *progression of sonorities,* or what I call a *timbral progression.*[36] I will also apply Lerdahl's idea of *timbral prototypes.* Finally, I will investigate timbral properties of Morricone's Western scores using Zachary Wallmark's claim that "timbre perception is a motor mimetic process."[37]

[36] Ennio Morricone, Gillian B. Anderson, and Sergio Miceli, *Composing for the Cinema : The Theory and Praxis of Music in Film* (Lanham, Md.: Scarecrow Press, 2013), 171.

[37] Wallmark, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise," ii.

In the postscript “coming attractions” section I briefly reflect on the previous sections. I then imagine how the analytical methods I used in this dissertation could be applied to more recent, less thematic film scores.

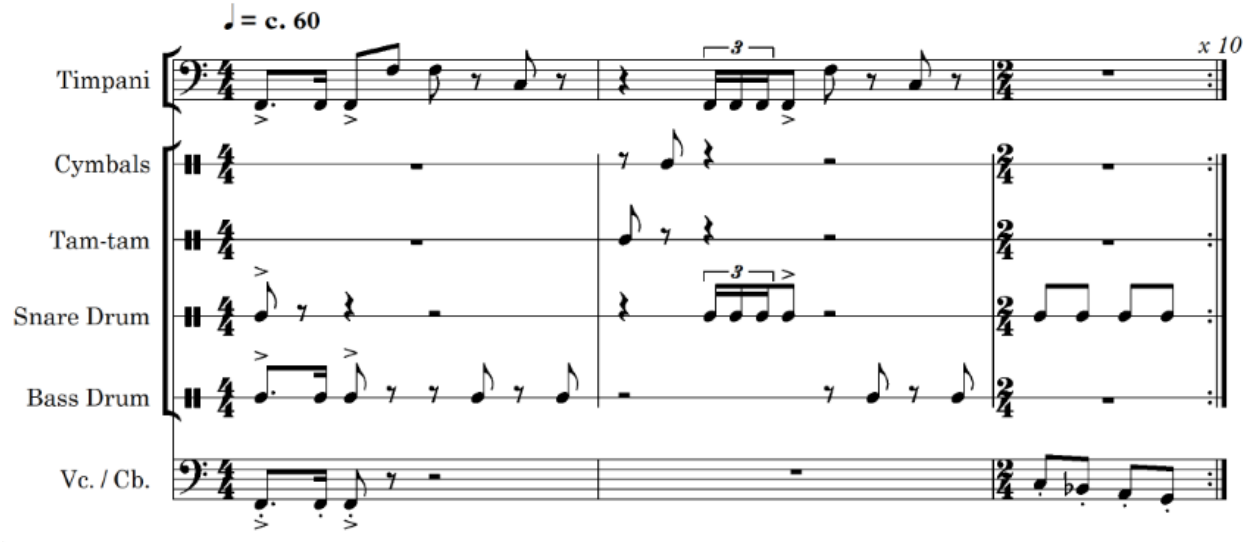
2. PREVIEW

THE FOLLOWING PREVIEW HAS BEEN **APPROVED** FOR **ALL AUDIENCES**

Prokofiev's "Battle On The Ice" Cue From *Alexander Nevsky:* a Short Case Study

As a short case study in timbral and gestural analysis, I will isolate a moment from Sergei Prokofiev's score for the 1938 epic, *Alexander Nevsky.* The famous "Battle on the Ice" cue from this score features a short coda called "The ice breaks," accompanying the Germanic tribe's fatal descent into a frozen lake. It is starkly scored for percussion and low strings (Figure 2.1):

Figure 2.1: Transcription of "The Ice Breaks" from Sergei Prokofiev's score for Alexander Nevsky (1938).



Taken as a standalone piece of music, this short coda is dull — Prokofiev even omitted it in his concert suite of music from the film. Thematically, it is pedantic and simple. Tonic and

dominant notes in F major are played on the timpani, bolstered by hits on snare, bass drum, cymbals, and tam-tam. Low strings answer with a simple $\hat{5}$-$\hat{4}$-$\hat{3}$-$\hat{2}$-$\hat{1}$ descent.

The simplicity of this music, however, takes on great complexity when mixed with the harsh metallic violence of sword and shield sound effects. These sounds all combine to form a relatively volatile whole, especially muddled by the low-quality monaural recording used in the Soviet film. The fast-paced visual edits, energized further by the frantic movements of the doomed soldiers, add considerable rhythmic value to Prokofiev's simple cue. This is likely by design: it is worth noting that throughout *Alexander Nevsky,* Prokofiev consistently blurs the line between pit and screen music in his score. His choral cues are often "sung" by groups of onscreen characters. During the "Battle on the Ice" cue, the orchestra's brass section is supplemented by the raw sound of onscreen war horns heroically played by German soldiers. And, in perhaps the most haunting music in the entire film "The field of the dead," which immediately follows "The ice breaks," a pit music mezzo soprano is slowly revealed to be the voice of love interest Vasilia. The disembodied pit music voice is given visual form when she appears singing onscreen, searching the battlefield for her beloved suitor.

The sounds of timpani and drums have long been used to evoke martial "style topics," to state the timbrally obvious; the same is true for cymbals and "janissary" instruments.[1] Jacques Bril, who has written extensively on the anthropological symbolism of musical instruments, explores the richness and gravity of drum timbre. According to Bril, the membrane of the drum evokes a primal memory of the sacrificed human or animal that

[1] Tim Shephard and Anne Leonard, *The Routledge Companion to Music and Visual Culture*, 2019, 71.

supplied its skin for a drum's construction.[2] Bril also notes that in the East, where many janissary instruments originated, the sounds of cymbals and tam-tams are linked with funeral celebrations.[3] Metal idiophones and metallic "hit" sound effects all combine with the visuals of armored soldiers into a bellicose, ritualistic clangor.

What is most salient, however, is the inevitable feeling of weight this sequence conveys. Prokofiev's downward $\hat{5}$-$\hat{4}$-$\hat{3}$-$\hat{2}$-$\hat{1}$ gesture, to invoke Larson's gestural thinking, exerts its downward magnetic force to ineluctably pull the entire audiovisual ensemble down. The soldiers, weighted down with heavy, wet armor, are doomed to sink into Lake Peipus' icy depths. Musically, the final resting place of every repeated gesture is the timbrally complex bass drum hits that swallow everything whole in spectral gravity. Prokofiev ends this cue with brass instruments: the German soldiers' war horns intone a gasping chant-like melody with unsure embouchure. Their once sure and heroic playing now mimics the defeated and broken German ranks, becoming haphazardly truncated and misaligned. Downward trombone glissandi punctuate the final exhalations of the sinking German soldiers.

[2] Jacques Bril, *A cordes et a cris : origines et symbolisme des instruments de musique,* (Paris: Clancier-Guanaud, 1980), 117.

[3] Bril, *A cordes et a cris : origines et symbolisme des instruments de musique*, 157.

3. FEATURE 1

THE FOLLOWING FEATURE HAS BEEN **APPROVED** FOR **ALL AUDIENCES**

The "Farthest From": Sound, Timbre, Texture, and Space-Form in John Williams's Score for *Star Wars: A New Hope*

"Well, if there's a bright center to the universe,
you're on the planet that is farthest from..."
-Luke Skywalker

Introduction

John Williams adopted a leitmotivic approach for his 1977 score for *Star Wars*; in his mind, it "was a children's film", and tagging characters with "simple tunes would be the key"[...]"to grab the attention of 10-year-olds."[1] The score reached more than just children: the film spawned eight sequels, and after forty years, eighteen hours of music, six Academy Award nominations, one Oscar, an American Film Institute Greatest Score, and over fifty distinct melodies written for the second highest-grossing franchise in film history, it is arguably the most famous and universally beloved film score of all time.

There are many excellent resources that identify and analyze Williams's beloved *Star Wars* leitmotivs. The most exhaustive is music theorist Frank Lehman's *Complete Catalogue of the Musical Themes of Star Wars,* which classifies every instance of every motif (melodic or otherwise: by Lehman's count, now ninety-eight at the time of this writing) that occurs

[1] Emilio Audissino, *John Williams's Film Music : Jaws, Star Wars, Raiders of the Lost Ark, and the Return of the Classical Hollywood Music Style* (The University of Wisconsin Press, 2014), 73.

within the growing *Star Wars* universe.[2] There are several articles and dissertations that explore Williams's melodic craft in general, not just for his *Star Wars* scores.[3] There are endless fan-made articles and videos—less scholarly, but equally exhaustive, and maybe more fun—that feature users' transcriptions and analyses of Williams's scores. More and more strange connections (or "Easter-eggs") are found hidden in his *Star Wars* melodies daily.[4] All of Williams's leitmotivs have been identified, transcribed, and motivically scrutinized. They have been cross-referenced and related to other themes within the *Star Wars* universe and without.

As Alex Ross writes, however, while "it's fun to play tune detective, what makes these [melodies] indelible is the way they're fleshed out, in harmony, rhythm, and orchestration [or timbre]."[5] Many creators of the resources cited above go beyond simple thematic sleuthing. Harmony has been extensively explored; the strategies Williams uses to harmonize his leitmotivs have been discussed at length by Lehman and many others.[6] Rhythm is also frequently discussed, both in terms of tempo (e.g., how tempo affects or compliments visual

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[2] Lehman includes forty-three so-called incidental motifs, which he says, "do not meet criteria for proper leitmotifs" but nonetheless possess dramatic significance. Alex Ross, "A Field Guide to the Musical Leitmotifs of 'Star Wars,'" *The New Yorker*, January 3, 2018, 45.

[3] See Zacharopoulos, Konstantinos, "Musical Syntax in John Williams's Film Music Themes," 2017. Eschenfelder, Melinda, "Musical Narratives: Thematic Combination and Alignment in Fantasy & Superhero Films," 2019.

[4] As a great example, see Andrew Gilman, "The Mandalorian Season 2: John Williams Easter Egg Discovered in New Episode," The Direct, November 6, 2020, https://thedirect.com/article/the-mandalorian-season-2-john-williams-easter-egg-spoilers.

[5] Ross, "Listening to 'Star Wars,'" *New Yorker,* January 1, 2016, 40.

[6] See also Scott Murphy, "The Major Tritone Progression in Recent Hollywood Science Fiction Films," *MTO Music Theory Online* 12, no. 2 (2006).

pacing) and in terms of how it contributes to the identity of the leitmotivs.[7] The timbre of the *Star Wars* musical galaxy, however, is less explored — despite it being, like "The Force," the "mysterious energy field" that binds it all together. Orchestration is usually relegated to a footnote or used simply as a leitmotiv's instrumental identification badge.[8]

"Terra Cognita": Historical Background of the *Star Wars* Soundworld

It was timbre — specifically, orchestral timbre — that helped the *Star Wars* score make its indelible impression on the cinematic landscape of the 1970s. Orchestral scores had fallen out of fashion for many reasons, not least of which were the dissolution of studio orchestras and the sheer cost of hiring musicians; as a result, orchestras were used primarily in large-budget films. Pecuniary concerns, in fact, abounded. Filmmakers and composers began to experiment with pop and rock elements, and production companies loved the hit records that resulted. Electronic instruments had become more affordable and more adept at replacing studio musicians, especially for television scores. Aesthetically, electronics could create futuristic sounds, so their use exploded in the sci-fi genre, which already had a rich history of electronic experimentation. Lucas—whose *American Graffiti*

[7] Williams himself says that success of film music "almost always comes down to rhythm." From "The Mythology of 'Star Wars' with George Lucas," *BillMoyers.Com* (blog), accessed July 6, 2021, https://billmoyers.com/content/mythology-of-star-wars-george-lucas/.

[8] Two very recent outliers are Nicholas Kmet, "Orchestration Transformation: Examining Differences in the Instrumental and Thematic Colour Palettes of the Star Wars Trilogies" and Ian Sapiro, "Star Scores: Orchestration and the Sound of John Williams's Film Music," both in Audissino, *John Williams : Music for Films, Television, and the Concert Stage*. Kmet's excellent article explores the evolution of Williams' orchestrational practice from 1977 to 2017, over the span of seven *Star Wars* franchise films. Sapiro's informative article interviews several of Williams's orchestrator collaborators and deals with provides technical details of Williams's orchestration, not just in *Star Wars* but throughout his entire output. My current chapter differs in that it deals primarily only with the 1977 *Star Wars: A New Hope* and analyzes its timbral and textural aspects more generally through an electroacoustic lens.

from 1973 had produced a hit 1960s rock revival record—rejected both pop and electronic approaches for *Star Wars*, despite pressure from studio executives.[9] He wanted a symphonic sound, but he further rejected the experimental orchestral approaches fashionable in sci-fi films from the time—often eclectic, modernist, atonal, and athematic (Lalo Schifrin's score for Lucas' 1971 *THX 1138* is an excellent example). Lucas wanted *Star Wars* to be a retro homage to 1930s adventure films; he filled his temp track with clips from romantic-style, Golden-Age Hollywood scores by Erich Wolfgang Korngold and Miklós Rózsa. He also used existing Romantic-era classical works, *à la* Kubrick's approach for *2001: A Space Odyssey*. And, like Kubrick, Lucas intended to make this temporary track permanent — until he met John Williams in 1975.

Through this temp track, Lucas demonstrated to Williams that the timbral landscape or "soundworld" for the score should be in "the late-romantic dialect, that of classical Hollywood."[10] This was a dialect that Williams knew well — although he had composed several fine eclectic, experimental scores himself in the 1970s, he started as a pianist in late-classical Hollywood studios in the 50s and 60s, playing for Golden-Age luminaries like Alfred Newman, Henry Mancini, Bernard Herrmann, and many others. Williams explained that while *Star Wars* depicted "characters we hadn't seen before and planets unimagined," it was decided that the music should be "very non-futuristic" and "emotionally familiar…it was not music that might describe *terra incognita* but the opposite of that."[11] For Williams, as a musician, "emotionally familiar" translated into "the use of a nineteenth-century

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[9] Audissino, *John Williams's Film Music*, 72.

[10] Ibid., 71.

[11] Michael Matessino, "A New Hope for Film Music," CD booklet for *Star Wars: A New Hope*, BMG, 1997, 09026 68772 2, 7.

operatic idiom, if you like, Wagner and this sort of thing."[12] Since Wagner's influence pervaded the classical Hollywood style, Williams felt he could write a "swashbuckling score" that "put us in touch with remembered theatrical experiences, as well."[13]

Besides being emotionally familiar, the late-romantic style is inherently thematic, which Lucas had planned to exploit even before Williams signed on to score the film. Lucas intended to use themes from these preexisting works "as leitmotivs for the film."[14] Williams convinced Lucas that such an approach would hurt the story. In his estimation, themes from repertoire music would take on a static, lifeless association with narrative elements: "for instance, if you took a theme from one of the selections of Holst's *The Planets* and played it at the beginning of the film, it wouldn't necessarily fit in the middle or at the end."[15] Williams made his newly composed themes "fit" throughout the entire film with timbre.

Theoretical Frame

I argue that the effectiveness of Williams's *Star Wars* score has as much to do with timbre as it does pitch and rhythm. Far from simply evoking the sounds and scoring practices of classical Hollywood, Williams's orchestration takes on a narrative function of its own. And, far from being a superficial color or a footnote to a leitmotiv, it elaborates and amplifies aspects of the film equally as well as melodic craft. By orchestration, I mean

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[12] Matessino, "A New Hope for Film Music," 7.

[13] Ibid.

[14] Audissino, *John Williams's Film Music*, 71.

[15] Ibid.

timbre in a technical, measurable sense — not just a poetic, colorful one. I will analyze the orchestral score as a quantifiable sound mass that asserts narrative agency through texture, spectral distance, instrumental register, physical attributes of instruments, and other factors. This chapter is not meant to be a comprehensive analysis of the entire film score; rather, I will discuss certain key moments and overall characteristics of the soundworld.

Acknowledging that film music is an inherently mediated sonic art form, I will briefly explore how Williams exploited advances in recording technology. I will also concentrate on orchestral texture, a property of the score's sound that benefits from enhanced recording fidelity. Williams's textural strategies add new dimensions beyond those of the flat, 2D picture and linear narrative of the film. Through texture, the score traverses space and time in ways the other components of the film do not and can not. I will use a mix of approaches to help illustrate this, drawing on Denis Smalley's system called—appropriately enough—"space-form." While intended specifically for acousmatic music built from found sounds, Smalley introduces concepts and terms for space-form to be applied to human-performed acoustic music. Building on this, I posit that timbre and texture help to bolster aspects of the *Star Wars* mythology; George Lucas has often stated that the universal appeal of his story is due in large part to the influence of mythologist Joseph Campbell's book *Hero With A Thousand Faces.* I will draw parallels between Williams's use of timbre and texture and Campbell's ideas of archetypal heroic journey.

Of course, Williams's timbral and textural landscape in *Star Wars* is populated with his leitmotivs; these motives are so integral to the score that it is impossible to extricate them from any analysis. Throughout my discussion, I will focus primarily on the timbral aspects of Williams's leitmotivs. Part of my investigation is to consider these leitmotivs as

musical gestures, with a special emphasis on their timbral functions, to analyze how they achieve narrative agency. Williams's skill as a performer and conductor greatly informs how these gestures "speak" in the film; I will discuss how this translates into relative ease or relative difficulty of the actual performance of these gestures in the recording studio, and how this in turn affects the visual dimension.

I will examine not only orchestral sounds and textures but also sound design, and interactions between the two. Every sound, musical or otherwise, has a "spectromorphology" — its own "shape" or sonic footprint—that helps it achieve some narrative end.[16] How is a sound initiated? Does it have a soft or hard attack? What are the characteristics of its continuation? Does it have vibrato or micro-alterations in frequency? How does the sound end? These questions help to articulate ways that sound can carry information. I argue that the divide between diegetic sounds and non-diegetic musical ones (as they are commonly defined in film music studies) is not so clear-cut in *Star Wars.* I will draw on Smalley's spectromorphology system and his concept of "behavioral spaces" to propose novel ways of thinking about this divide.

Finally, throughout this chapter, I attribute all orchestrational choices to Williams himself. Williams, like countless other Hollywood composers, employs several orchestrators to aid in the herculean task of writing his full scores. In his short sketch scores, however, he indicates very exacting details about final orchestration. As Paul Henning, an orchestrator who has worked with Williams, said, "you don't have a lot of creative input on the way his

[16] Smalley, "Spectromorphology: Explaining Sound-Shapes," 107.

music sounds in the final orchestration, because he's really done that for himself."[17] Ian Sapiro cites several other of Williams' orchestrators who corroborate Henning's claim.[18]

"A Long Time Ago": Recording Technology And Space-Form in the *Star Wars* Score

In a nostalgic nod to Golden Age Hollywood, Williams and Lucas insisted on accompanying the opening Fox logo with Alfred Newman's "20th Century Fox Fanfare" from 1933, a practice that had fallen out of favor in the 1970s. Newman's fanfare was not rerecorded for *Star Wars*—a version made in 1954 for the CinemaScope release of *River of No Return* was used.[19] After the Fox fanfare, the famous introductory phrase "A long time ago in a galaxy far, far away" is silently presented. Then suddenly, at the *Star Wars* title card, with a quarter-century's improvement in recording technology, we snap back to 1977 and hear the brilliant opening chord of Williams's score in the same key as Newman's fanfare, B-flat. The recording and mixing techniques used had a significantly expanded dynamic range, stereo soundfield, and timbral spectrum. In theaters using Dolby SVA systems capable of faithful reproduction, "audiences would be in for an aural treat." [20] Aural fidelity establishes timbre as a vectoring agent from the very opening of *Star Wars.* Mirroring the fantastic and

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[17] Sapiro, "Star Scores: Orchestration and the Sound of John Williams's Film Music*,* 195.

[18] Ibid.

[19] A stereo recording of the fanfare was sought, and this was the only one they could find. Chris Malone, "Recording the Star Wars Saga: A Musical Journey from Scoring Stage to DVD," Recording the Star Wars Saga: A Musical Journey from Scoring Stage to DVD, March 2012, 12, http://www.malonedigital.com/starwars.htm

[20] *Star Wars* was one of the first films to be released in Dolby Stereo, a system used with optical sound tracks on 35mm film introduced in 1975. "SVA" stands for "stereo variable-area." Dolby SVA could be used in either 2-channel stereo or 4-channel quadraphonic configurations. Malone, "Recording the Star Wars Saga: A Musical Journey from Scoring Stage to DVD," 12.

unsettling shift in time and space implied by the film's introductory phrase, a timbral shift occurs in both time (i.e. 1933 via 1954 to 1977) and space (i.e. lesser to greater dynamic range and stereo soundfield).

Figure 3.1: Stereo waveforms and spectrograms of a.) 20th Century Fox Fanfare as used in Star Wars and b.) first 30 seconds of Williams's opening title cue. Created with iZotope RX software.

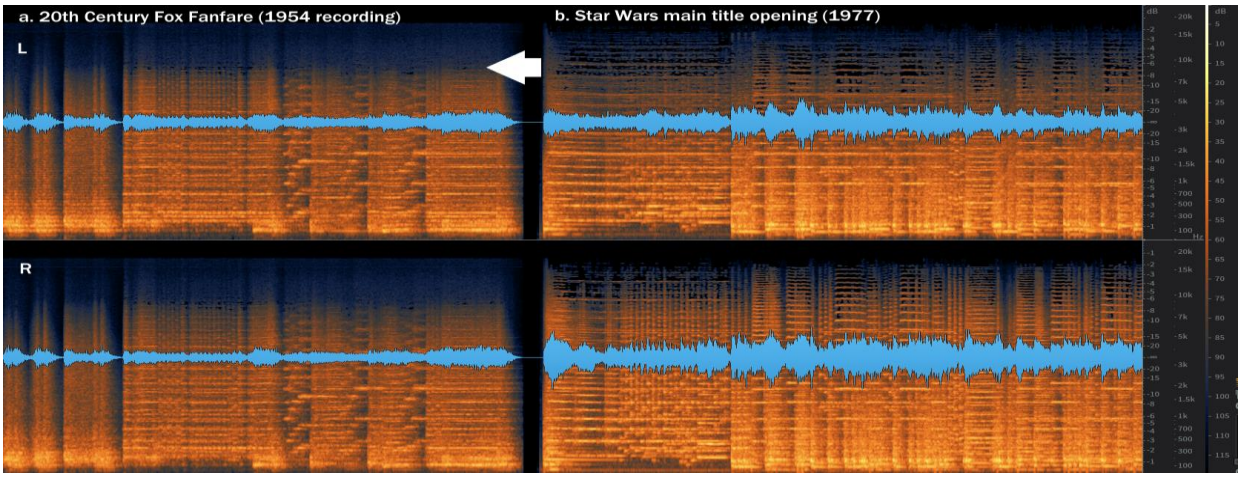
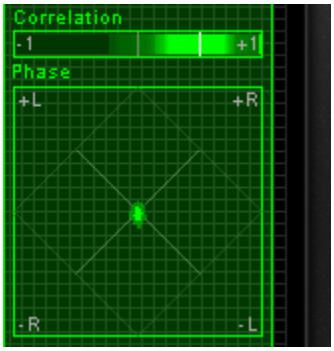


Figure 3.2: Stereo soundfield vectorgraphs showing stereo correlation of a.) 20th Century Fox Fanfare as used in Star Wars *and b.) first 30 seconds of Williams's opening title cue. Created with iZotope Ozone 3 software.*

a.



b.

Figure 3.1 compares stereo waveforms and spectrograms of the Fox fanfare and Williams's opening cue. The waveform of the latter has more vertical presence, revealing a larger dynamic range. The average dynamic range of the Fox fanfare peaks at -17.5 dB, whereas that of the *Star Wars* recording is -11.5 dB—a full 6 dB more of dynamic headroom. Improvements in tape formulation made throughout the 1960s are partly responsible but recording technology in the 1950s (when the Fox Fanfare was recorded) also tended to be noisier. Parts of the signal chain—microphones, cables, etc.— introduced unwanted sounds especially in higher parts of the spectrum. Engineers would counter by recording as hot a signal as possible, introducing distortion; distortion or "saturation" was sometimes seen as more acceptable than too much noise—a lesser of two evils.[21] In Figure 1a this distortion manifests as a blur above 8 kHz (shown above the arrow—compare with the more defined lines above 8kHz in 1b). The tape recorders used for the *Star Wars* recording sessions were equipped with Dolby A-type noise reduction, a technology introduced in 1965.[22] Along with improved tape formulations, these Dolby modules reduced the noise floor and increased dynamic range in the higher spectrum by as much as 15 dB.[23] With this increased definition and dynamic headroom, engineers discovered that saturation was not necessarily a bad thing—in fact, it could add its own pleasing timbral stamp to a recording. The *Star Wars* recording team did just this, and Williams was thrilled with the result. Head recording engineer Eric Tomlinson recalled that "setting levels a few dB hotter than normal produced an appealing sound. Williams and I had a gag. Where it says on the VU [Volume Unit] meters

[21] Stephen Bingen, Orchestral Recording Techniques, August 15, 2020.

[22] Malone, "Recording the Star Wars Saga," 11.

[23] "Dolby History: 50 Years of Innovation," www.dolby.com/about, 2015.

'VU' he used to say 'let's have a bit of voo-voo land.' Just get into the red to give it that edge, a little bit of crispness." [24]

Figure 3.2 compares stereo correlation tracers and soundfield vectorgraphs of the Fox fanfare and Williams's opening cue. The increased dynamic range of the *Star Wars* recording allowed for a more vivid spatial representation of the orchestral soundstage. As the correlation tracer in Figure 3.2a shows, the Fox fanfare trends more toward +1 (the far right position). A correlation of +1 means that the left and right channels correlate 100%—they are completely in phase and less stereophonically diverse. The correlation tracer in Figure 3.2b shows the *Star Wars* clip trending more often to 0 (the center position). A correlation of 0 indicates a wide left/right divergence. Tomlinson mixed the *Star Wars* score with very wide stereo panning, and the resulting stereo diversity is shown by increased activity in the *Star Wars* vectorgraph. [25]

Dynamic and spatial concerns were paramount when deciding how to record Williams's score. Given the complexity of the music, the film's music team sought a world-class orchestra for the scoring sessions in England (where production of *Star Wars* took place). They chose the London Symphony Orchestra (LSO). The LSO had a rich history of recording film music going back to Arthur Bliss' score for *Things To Come* in 1935,[26] and was renowned for "its powerful brass section."[27] In Williams's words, the LSO is "a very 'hot' orchestra, its decibel level is large, and the orchestra looms at the audience in a very

[24] Malone, "Recording the Star Wars Saga," 11.

[25] Ibid.

[26] Robert Rider, "LSO and Film Music" (London Symphony Orchestra, June 14, 2004).

[27] Audissino, *John Williams's Film Music*, 73.

vigorous, athletic way."[28] Anvil Studios in Denham, England, was selected as the recording site for its "clear and well-defined ambience and ample size."[29] Orchestras of up to 120 players could comfortably fit within the space.[30]

Spatial aspects of the resulting recordings can be described using Denis Smalley's *space-form* concept. Smalley states that when testing an acoustic space—when learning how "to communicate across" a space's size and characteristics—our first impulse is to "raise our voices", shout out, or clap, for instance.[31] There is no better way to excite the ambience of an orchestral space than to take it for a spectral test drive with loud brass and percussion—exactly what Williams does with the opening music for *Star Wars*. This space becomes understood to the listener as what Smalley calls *performed space*. Smalley divides performed space into three subcategories, arranged from smaller to larger: gestural, ensemble, and arena spaces. My reading of the *Star Wars* score asserts that Williams creatively exploits the first two—gestural and ensemble spaces—in his use of orchestral texture, and I will discuss each in turn.[32]

Ensemble space is the "social space among performers." It is a "panoramic space of greater or lesser breadth."[33] In the case of the *Star Wars* score, this is the breadth of the orchestra projected onto the larger stereophonic field of the recording. Ensemble space also

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[28] Audissino, *John Williams's Film Music*, 73.

[29] Malone, "Recording the Star Wars Saga," 10.

[30] Ibid.

[31] Smalley, "Space-Form," 41.

[32] Arena space, in the case of the *SW* score, is the theater or room the film is projected in. While interesting, investigating these spaces is beyond the scope of this paper.

[33] Smalley, "Space-Form," 41.

has “a certain distal extension;”[34] certain sounds are perceived to be farther away from a listener in both physical distance and in the ambience of a performance space.

The individual soundspaces that make up an ensemble space are called *gestural spaces.* Smalley defines gestural space as “the intimate space of individual performer and instrument.”[35] Gestural space is heard as a fixed point in the soundfield. A solo flute, for example, makes up a gestural space. Intimacy and nuance are easily communicated within this gestural space.

Film music orchestration has the added element of integrating with sound effects and dialogue. All sounds, including non-musical ones, have their own gestural space within a greater ensemble space; a film composer or orchestrator must account for all these sounds, working around or incorporating them as context demands. In some film scores, the gestural spaces of instruments are artificially magnified with closely-positioned microphones and/or mixing techniques, helping them to compete with other sounds. The *Star Wars* recording team did very little of this, opting instead for a more natural orchestral sound.[36]

Smalley’s idea of *source-bonding* should be addressed here. Source-bonding is defined as “the spatial zone and mental image produced by, or inferred from, a sounding source and its cause (if there is one) [...] the space carries with it an image of the activity

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[34] Smalley, “Space-Form,” 41.

[35] Ibid.

[36] The Star Wars recording team used 23 microphones, “positioned at distances ranging from two to ten feet from instruments.” This amount is larger than that of a traditional classical orchestral recording session, but very little signal processing was used. In the mixing sessions for the Star Wars score album release (not the score itself), “stereo image” was “narrowed periodically to draw focus to a particular solo [...] for example, the horn statement of Luke’s theme in the ‘The Robot Auction’ cue emanates predominantly from the centre” channel (a manipulation of the horn’s setting in the left of the recording soundstage).Malone 11, 14.

that produces it."[37] In the case of the *Star Wars* score, the mental image created is the orchestra and its hall. The orchestra is the *terra cognita* that Lucas and Williams wanted the film's score to inhabit. It is the sounding body that they so boldly and shamelessly used, contrary to scoring trends of the time. It is the ensemble they recorded in a relatively straightforward, true-to-life way, at least compared with other orchestral soundtracks. Williams is an extremely accomplished orchestrator and conductor, and I will occasionally use source-bonding to elucidate more subtle aspects of his orchestral craft in my analyses. Williams and Lucas did not intend their melodies to be "unheard"—in fact, quite the opposite for successful character-tagging.[38] The orchestra, while unseen in the film, is thrust into the sonic spotlight. It is not a stretch to consider that viewers can "see" an imaginary pit orchestra. In fact, fans often have the chance literally see one today—major orchestras now regularly perform the entire *Star Wars* score in sold-out, live-to-picture concerts.[39]

"You Must Learn the Ways of the Force": Timbre and Luke's Theme

In 1973, John Williams scored Robert Altman's neo-noir film *The Long Goodbye.* At Altman's suggestion, Williams composed only one melody for the entire 112-minute film, arranging it differently for distinct narrative situations.[40] While the melody itself adequately evokes the melancholy mood of the film, Williams's arrangements of it are a masterclass in

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[37] Smalley, "Space-Form," 56

[38] David. Neumeyer and Oxford University Press., *The Oxford Handbook of Film Music Studies* (New York: Oxford University Press, 2015), 3.

[39] Allison Keyes, "'Star Wars In Concert' Puts The Force In The Music," July 24, 2010.

[40] There are precedents for monothematic films. See Gorbman, *Unheard Melodies,* 29.

timbral and stylistic storytelling. Musical cues jump in and out of the diegesis, appearing as a hippie chant at a party, a jazz piano solo at a club, "muzak" in a supermarket, a classical guitar solo underscore, and a mournful orchestral epilogue. Every leitmotivic gesture in the *Star Wars* score was similarly orchestrated for maximal clarity regarding diegesis and narrative function—albeit with perhaps more subtlety. To investigate Williams's orchestrational strategies (and those of his chief orchestrator, Herbert Spencer), I will isolate the timbral development of one leitmotiv—Luke's theme—throughout the film.

Williams opens *Star Wars* in the spirit of the classical Hollywood style; overtures or opening sequences from that period were a composer's chance to shine and present themes, unencumbered by the need to underscore onscreen action. The supernova-like opening chord is followed by a short fanfare for horns, trumpets, and trombones set in their most "brilliant register" — Williams said he wanted to "smack [the viewer] right in the eye and do something very strong," complementing the stunning visual lettering.[41] The main *Star Wars* theme immediately follows, scored for three unison trumpets in their most brilliant possible register—their ringing "home" key of B-flat.

The viewer does not yet know that this main melody doubles as a character theme for the film's hero, Luke Skywalker. LSO principal trumpeter Maurice Murphy led the playing; fantastically—perhaps even heroically—the *Star Wars* sessions were Murphy's first job with the LSO. Williams said of Murphy's performance of the theme:

> It was electrifying … Everyone felt it. And I think people around the world, whenever they hear that piece now, there's a kind of instant reaction that I think really was elicited in its initial spirit by Maurice's sound, and just that heraldic spirit that lies

[41] Audissino, *John Williams's Film Music*, 74.

> within everything he plays … I think of his playing, or the effect of his playing, as having created the voice of a hero.[42]

The trumpets give the viewer an objective ideal of Luke's theme from the outset of the film. The theme accompanies Luke (or mentions of Luke) almost twenty times throughout, but none of the subsequent iterations are scored with such flattering brilliance. Over the course of the film, Williams colors the theme to have more and more boldness or facility as narrative dictates, mirroring Lukes's growth throughout. In this coming-of-age story, Luke continually aspires to the spirit of the heroic trumpets from the opening.

Figure 3.3 is a table of each occurrence (labelled "LT#" : LT = Luke's theme) . I include the tonal center of each only as a comparison to the ideal B-flat trumpet version from the opening.[43] Note that only two of the others are in B-flat: one near the beginning (LT3) is played softly with flutes, and the other near the end (LT15) is played loudly by horns.

Figure 3.3: Orchestrational/timbral characteristics of each occurrence of Luke's theme.

LT #	Time (HH:MM:SS)	Narrative situation	Instrument(s)*	Tonal center	Dynamic*	Timbral characteristics/ observations
1	00:00:35	Main title/opening	Tp a3	B♭	ff	heroic
2	00:17:15	First appearance of Luke	Horn solo, then + high ww 8ves	D♭	mp	Distant; ww add behavioral space with droids
3	00:25:15	Uncle Owen dismisses Luke's plans (right before binary sunset)	Fl a2*, then cl solo	B♭	mp	Warm, distant (when aunt speaks); more piquant and present (when uncle speaks)
4	00:26:30	C3PO tells Luke that Artoo has run off to find Ben Kenobi	Cl solo	D♭	p	Continuation of "present" cl tone
5	00:52:13	Mos Eisley spaceport; selling land speeder to pay Solo's fee	fl/ob/bsn*	E	mp	More massed timbre as Luke amasses

[42] Pearson, "Maurice Murphy Podcast," 24:00.

[43] Any kind of long-range tonal plan analysis is beyond the purview of this chapter. That said, I do think that Williams had a plan: I think he chose certain tonal centers for a given cue based on how they made the instruments *sound*, and little else (e.g. his choice of B♭for the opening to set trumpets "in their most brilliant register.")

						more friends; immediately contrasted with dark timbre
6	00:54:13	Walking over to Millenium Falcon	fl/ob/bsn*	E	mp	(same as above)
7	01:08:52	Sneaking into communication room in Death Star	Blended unison ww (best guess: ob a2 + bsn)	D	p	Reedy; an artificial approximation of trumpet tone, like an organ reed stop
8	01:13:54	Pretending that Chewbacca is a prisoner ("but why didn't you say so before?")	Blended unison ww (best guess: fl a2 +ob a2 + bsn)*	D	mp	Less reedy; more flute tone confounding the heroic brilliance
9	01:14:45	Stormtroopers descend on the heroes; blaster battle	horns	D	ff	Horn tone dominated by SFX
10	01:27:02	Trying to get back to the Falcon	horns	G, then C	p cresc f	Using natural registral char. Of the horns to build
11	01:28:24	Battle over the chasm protecting Leia	horns/tp	G	ff	Most heroic orchestration since opening
12	01:28:58	Jumping the chasm with a rope	Tbns + tba (8vb)	F	ff	Still heroic, but less facile than tp/horns; Williams uses tuba tone for humor elsewhere in the score
13	01:29:31	C3PO looking for Luke et al: "Where could they be?!?"	Horn solo	G (min)	mp	Distant; once again, high ww form behavioral space with droid speech
14	01:55:19	Luke flying X-Wing through Death Star trench on bombing approach	Tbns + tba (8vb)	G (min)	f	Labored
15	01:56:00	Luke has switched off his targeting computer	Horns	Bb	f	Nearest to the heroic opening statement; not as present as tp tone
16	01:56:15	Artoo has been blasted	Hi ww; muted tp*	D	ff	Behavioral space with Artoo's sounds; stopped horns add timbral roughness
17	01:56:36	About to fire the bombs/Darth Vader has Luke in radar lock	Ww + strings in 8ves	D +M3 below	ff	Labored; tense
18	2:00:15	Closing credits	Horns	D♭	ff	Heroic horn sound

**Without recourse to a score, details like dynamics and instrumentation my own best guesses.*

Our first impression of Luke Skywalker is far from a heroic one. He lives on a desert planet called Tatooine, working at his uncle Owen's moisture farm; despite Luke's dream of

escaping and exploring the galaxy, he feels obligated to stay. In his first onscreen moments, he approaches a used robot auction with Owen, and a solo horn plays his theme softly in a D-flat major with light string accompaniment (LT2). The music is quaint and pastoral; it would not be out of place as a lighter moment in Williams's score for the 1970 period film *Jane Eyre*.

The use of solo horn here gives the theme a distant sound. Williams is fond of solo horn tone—he attributes this fondness to a sort of temporal distance: "When I've tried to analyze my lifelong love of the French horn, I've had to conclude that it's mainly because of the horn's capacity to stir memories of antiquity. The very sound of the French horn conjures images stored in the collective psyche. It's an instrument that invites us to 'dream backward to the ancient time.'"[44] The distance of a horn's sound is not just metaphysical, however. In orchestral ensemble space, horns are customarily seated near the back of a hall or studio (as they were in the *Star Wars* sessions). As opposed to the forward-facing bell of a trumpet, a horn's bell faces to the rear; its sound hits the back of a hall before bouncing back to a listener's ear.[45] A player's breath must also travel farther through a horn's conical bore than through the cylindrical bore of a trumpet.[46] Sound emanates from the large bell of a horn diffusely. Sound from a trumpet's smaller bell, on the other hand, is direct and incisive. Put another way, a soft presentation of Luke's theme on a solo horn, on a spectrum of distant to

[44] Audissino, *John Williams's Film Music*, 75.

[45] Or, in the case of *Star Wars,* a microphone. The mics for the *Star Wars* sessions were placed in front of the horns. Malone, 11.

[46] Kent Kennan attributes the distant, less "sharp-edged and incisive" tone of the horn to the actual distance of the conical bore. Kent Kennan, *The Technique of Orchestration*, 6th ed. (Upper Saddle River, N.J.: Prentice Hall, 2002), 124.

present brass tone, is a distant sound—not just temporally or poetically as Williams describes it, but also physically.

The use of solo horn also boxes Luke's theme into gestural space. Williams describes the features of Luke's theme in very energetic, kinesthetic terms: it "*jumps* an octave in a very dramatic way, and has a triplet placed in it that has a kind of *grab*" (italics mine).[47] One way to cool or suppress this gesture's energy is through a mismatch in instrumental choice. The loud, heroic trumpets at the beginning (LT1) project energy over the entire ensemble space; the soft, solo horn of LT2 buries the theme's energy in gestural space.

After Luke arrives at the robot auction, the horn repeats the theme, but this time joined by high woodwinds in octaves (most prominently piccolo). In strictly musical terms, orchestrating a repetition of a theme with an added color adds variety; such strategies fit with the neo-romantic style of the score. In this case, it is also a bit of timbral foreshadowing. Williams routinely uses high woodwinds (especially flutes) as a *Leitklangfarben* for droids or robots throughout the film.[48] Luke is about to meet his loyal droid companions, C3P0 and R2D2. The latter speaks mostly in beeps and whistles; to make the "voice" of R2D2 more lifelike, sound designer Ben Burtt mixed synthesizer sounds with his own vocalizations, most notably with his own whistling.[49] Not only does a human whistle sound closely resemble the spectromorphology of a piccolo's, but Burtt's mixture of breath sound with an electronic instrument resembles a performer's activation of a piccolo. These similar spectromorpholgies become tied together sonically in what Smalley calls a *behavioral space.*

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[47] Audissino, *John Williams's Film Music*, 74.

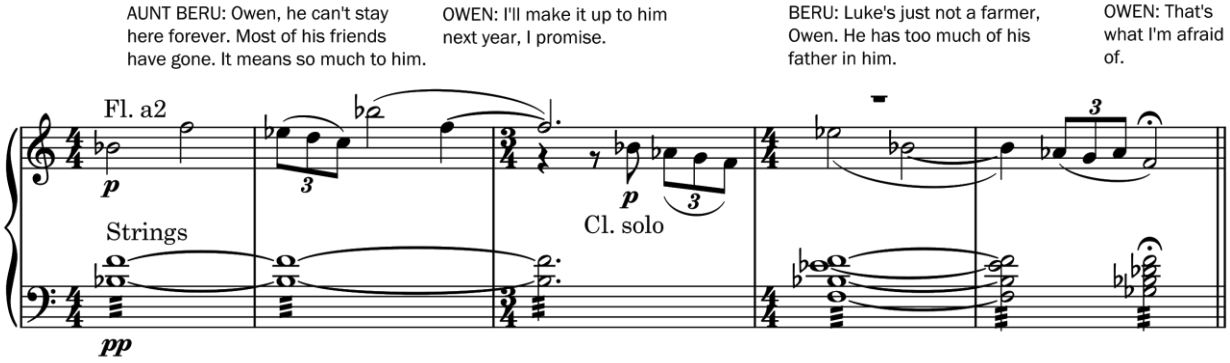
[48] Inspired by the terms "Leitmotif" and "Leitharmonie," I use this term to denote a distinctive tone color associated with a narrative element.

[49] Cynthia Gorney, "Ben Burtt," *The Washington Post (1974-Current File)*, 1984, D1.

This is “a zone of perspectival space produced by the interaction of sounds which spectromorphologically indicate collaborative, group identity.”[50] High woodwind timbre forms a behavioral space with the droids’s sounds. Luke’s solo horn theme becomes wedded to other specific timbres as he meets new friends. His own gestural space is combined with others in ensemble space.

Given the versatility of orchestral color, sounds like woodwind tone can communicate different information in different filmic contexts. In a sequence shortly after, Luke tells his uncle and aunt (Beru) his plan to leave the farm early and enroll at the Imperial Academy. Owen demurs, and Luke departs angrily, leaving an uneasy bed of soft tremolo strings in his wake. Even in Luke’s absence, Williams underscores Owen and Beru’s following conversation with Luke’s theme (LT3, Figure 3.4).

Figure 3.4: “Luke’s Theme 3”



This is likewise a conversation between flutes and clarinet. Beru uses language that suggests distance in both space (“he can’t stay here”) and time (“forever”). Williams pairs Beru’s lines with soft flutes *a2,* presenting Luke’s theme in the same tonal center as the

[50] Smalley, “Space-Form,” 47.

opening, B-flat.[51] Flutes are duller and less focused in this register, lending an airy, distant, and dreamlike sound. They have a diffuse sound not unlike the horn's.[52] Samuel Adler calls this part of the flute's register "sweet," which a touch of vibrato here helps to sweeten further.[53] The *a2* choral effect echoes the quantities Aunt Beru is conveying: "most of his friends," or referring to both Luke and "his father."[54] Uncle Owen dismisses Beru's comments and brings the dreaminess back down to Earth (or, in this case, Tatooine), descending a perfect fifth to E-flat. Luke's theme becomes fragmented and rhythmically distorted. Owen speaks in stern, direct terms, like the reedy, vibrato-less, and more present solo clarinet tone. The clarinet plays LT4 shortly thereafter when Luke realizes that R2D2 has run off to find Obi Wan Kenobi. Luke says "that little droid is going to cause me a lot of trouble," presumably with his uncle, as the clarinet tells us.

Luke's theme is not heard again for almost thirty minutes of running time; Williams instead makes much use of "The Force" theme for reasons I will explore in the next sections. Luke's theme reemerges as he, Obi Wan, and the droids search for a pilot in the Mos Eisley spaceport (a "wretched hive of scum and villainy"). The orchestration of LT5 and LT6 is identical. Like in LT2, it uses high massed unison woodwind timbre; Luke has gained yet another friend in Obi-Wan. This massed woodwind timbre has a very homogenous blend unlike the more transparent scoring in LT2. Since Luke's aunt and uncle were killed by Imperial forces, his soft solo horn soliloquies are gone. He is steadfast in joining Obi Wan

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[51] Flute a2 is my best guess: this could be another mixture, but is clearly not a solo woodwind.

[52] Although produced at the opposite end of the instrument: the diffuseness is due to a breathy embouchure in this register.

[53] Adler, *The Study of Orchestration,* 181.

[54] The quantities are communicated through source-bonding (see next paragraph)

and R2's mission to Alderaan, and this united purpose is reflected in the blended multiple-woodwind scoring as a very subtle source-bonding effect. The timbre of LT5 and LT6 is relatively bright, with traces of oboe tone. An oboe's double-reed sound is spectrally similar to the nasal sound of LT1's heroic trumpets, but less powerful.[55] This pipsqueak nasal bite is tempered with softer flute tone; Luke is perhaps overconfident here, ignorant to the dangers of Mos Eisley (Kenobi tells Luke to "watch his step," to which he replies "I'm ready for anything"). There is, in fact, an alien pursuing Luke's party; Williams immediately juxtaposes the brighter timbre of LT5 and LT6 with darker, lower chords for trombones, strings, and bass drum as their stalker is shown onscreen.[56] This is *not* a subtle effect, but it is in keeping with Williams's goal of helping 10-year-olds follow the film. Here, he achieves it with timbre as much as with theme.

Luke learns how to be heroic over the next seven instances of his theme aboard the enemy spaceship the *Death Star*. LT7 occurs as his even larger party — now including Han Solo and Chewbacca — dons enemy armor and infiltrates a communication room. Luke is full of youthful bravado, even ordering the more experienced Solo around. Williams uses high massed woodwind in unison, again dominated by trumpet-like double reeds. LT8 is similar but again introduces flute tone to temper the reediness; here, Luke senses trouble and

[55] John Grey found in his perceptual scaling study that 22 listeners confused the timbre of an oboe for a trumpet 8 out of approximately 88 times. This is not a large percentage but is certainly larger than 0 out of 88 for flute. John M. Grey, "Multidimensional Perceptual Scaling of Musical Timbres," *The Journal of the Acoustical Society of America* 61, no. 5 (1977): 1276, https://doi.org/10.1121/1.381428.The oboes here DO sound like a trumpet organ stop: a "fake" trumpet that uses a double-reed to create its tone. My own training as an organist colors my perception, here.

[56] The darker music is also built from planed minor triads, following Williams' practice throughout *Star Wars* of using planed major triads for good guys and minor for bad. This unsubtle practice is an excellent example of what Frank Lehman calls "intensified major/minor chromaticism." Lehman, Frank, *Hollywood Harmony: musical wonder and the sound of cinema,"* 47.

doubts the efficacy of his plans. LT9 accompanies Luke's first taste of the confusion of battle. The experience is exhilarating, and perhaps a little overwhelming; horns voice his theme but are hopelessly obscured by the sounds of blaster fire and explosions. Williams reserves stronger trumpet tone here for outbursts, interjecting Luke's theme and cutting through the thick sound effect mix.[57] After escaping the battle, the horns crescendo the theme through two connected, ascending versions in G, then C (LT10). The higher ranges of a horn become increasingly more difficult for a player to control; a brassy tension builds as the horns ascend and Luke plans the seemingly insurmountable retake of the Millennium Falcon. Luke's theme is finally marked by trumpets again in LT11 as he dauntlessly shields Leia from Stormtrooper fire—not quite in B-flat, but only a m3 lower in G.

LT12 highlights a fascinating aspect of Williams's orchestrational craft. As Luke readies to swing Leia and himself to safety over a chasm, trombones and tuba bound through his theme in octaves. Both instruments are perfectly capable of playing this theme but have considerably more tubing than a horn or trumpet. The physical effort required to get air through this distance—especially at this brisk tempo and strong dynamic—is substantial, manifesting as a relatively labored tone color. Williams uses tuba tone for humor elsewhere in the score, but not here; this is a musician's bold feat simultaneously accompanying a character's one onscreen.[58] As I will explore in an upcoming section, Williams routinely pairs dangerous onscreen situations with difficult-to-perform music.

[57] Williams often uses louder instruments like trumpets to cut through a sound effects mix. See discussion of the ball-rolling sequence in *Raiders of the Lost Ark* on page 57.

[58] Like for the Jawas inspecting C3PO: see *Star Wars Episode IV: A New Hope,* 00:13:50.

The remaining instances of Luke's theme head into battle with the Rebels, elaborating on narrative action. As Threepio nervously inquires about the location of his companions, LT13 uses distant, soft solo horn tone cast in a rare minor-mode version. LT14 plunges perilously into the Death Star trenches with "labored" low brass, also in a foreboding minor mode. LT15 is the boldest presentation yet. It comes at a fraught moment when Luke switches off his targeting computer. Timpani pound out a G in a regular but heightened cardiac pulse. Syncopated *sforzandi* trombones and battle sound effects combine with rapid-fire visual edits, threatening to distract Luke. LT15 is presented above this fray in "heroic" B-flat by a battery of horns high in their register, keeping steady time with the timpani's pulse. Unlike their presentation in LT9, the horns in this register can compete with other sounds—Williams even augments the theme rhythmically, allowing their highest notes to ring longer. Luke's sidekick Artoo gets blasted in LT16, and source-bonded high woodwinds and muted trumpets telescope out into an elaborate, agitated variation of the theme. LT17 underscores a tense sequence as Vader trails Luke in a Tie fighter. For almost twenty seconds, the full orchestra divides into two simultaneous instances of the Luke's theme set in close quarters, only a M3 apart. LT18 is featured in the closing credits sequence. Williams sets Luke's theme in D-flat in the horns. This scoring inadvertently sets up the sequels; neither Lucas nor Williams had planned on *Star Wars* becoming a breakout success, but Luke now has a long trilogy ahead to equal Maurice Murphy's ringing, heroic voice. [59]

[59] Audissino, *John Williams's Film Music*, 74.

The "Farthest From": Space-Form and Texture

As explored earlier, the recording sessions for the *Star Wars* score produced a high-fidelity sonic space, larger both vertically (i.e. dynamic range) and horizontally (i.e. stereo field) than earlier recordings. This expanded sonic space could be structurally filled or emptied with music, producing dramatic results. In the previous section I focused primarily on individual instrumental characteristics within this space, or *gestural spaces;* the following analyses will investigate how Williams combines these in *ensemble space,* using smaller or larger orchestral textures to achieve narrative ends.

The first eight minutes and thirty seconds of *Star Wars* (including the title crawl) are *physically* set in another kind of space—that is, *outer* space.[60] With one slight exception (a five-second silence to make way for an explosion sound effect), Williams covers this entire sequence with score. Large ensemble space subsumes intimate gestural space. Approximately five minutes of this music is devoted to full *tutti* scoring (or a slightly smaller subset: a "kind of a *tutti*," as Williams might call it).[61] One thing becomes certain to the viewer: outer space is a loud place, filled with explosions, blaster fire, and bold, brassy, percussive orchestral music.[62]

The other primary physical setting of *Star Wars,* Tatooine, is much less sonically intense. In the half-hour the film spends on the planet, ten minutes have no score. When music is present, intimate, chamber-style, *gestural space* scoring is the norm, accounting for

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[60] I am of course referring here to an imaginary physical space as depicted in the film.

[61] In a BBC documentary, Williams is seen telling his chief orchestrator Herbert Spencer to score a passage from *The Empire Strikes Back* in "a kind of *tutti.*" David Buckton, *Star Wars: Music by John Williams* (BBC, 1980), 49:02-49:12.

[62] …which drives more scientifically-minded viewers crazy…sound cannot travel through space's vacuum.

almost ten minutes. Ensemble space (which I roughly calculate as three or more gestural spaces sounding simultaneously) accounts for only about seven-and-a-half minutes. Sound effects on Tatooine are generally quieter and more understated. Not having to compete, musical ensemble space here tends toward softer dynamics, allowing the intimate nuance of separate gestural spaces to be heard. Luke's theme is an example: LT2-LT6 occur on Tatooine, and all feature solo or small groups of instruments and softer dynamics. Compared with outer space, the desert planet Tatooine is sonically empty.

Music theorist Randolph Johnson's *Standard, Power, and Color* (SPC) model for orchestral textures helps to further refine descriptions of gestural and ensemble spaces. SPC describes how texture is used in 19th-century symphonic music (the language of the *Star Wars* score) to achieve expressive goals.[63] Instruments are classified as "Standard" (perform for the majority of the time; are dynamically moderate; cover a broad pitch range); "Power" (are dynamically intense; cover the middle and extremes of the pitch spectrum without sacrificing loud dynamic levels); or "Color" (are used less commonly; are modified versions of common instruments; work well as unique soloists).[64] Strings, conventional woodwinds, and horns form the "Standard" core; heavy brass and percussion supplement with "Power," and "Color" instruments like harp or extended woodwinds (e.g. English horn) add variety. Williams often employs "Power" instrumental combinations in his music for outer space, whereas his music for Tatooine tends more toward "Standard" and "Color" instruments.

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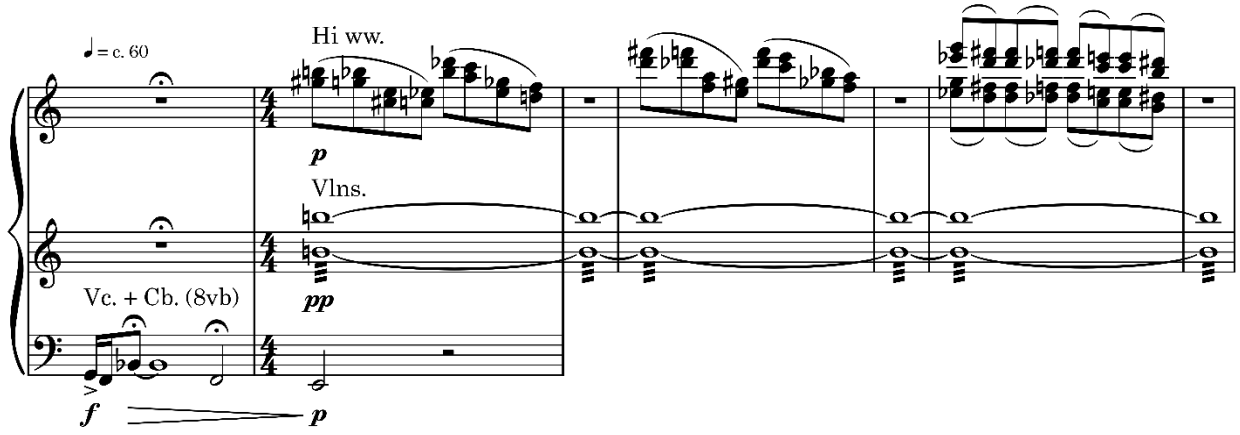
[63] Randolph Johnson, "The Standard, Power, and Color Model of Instrument Combination in Romantic-Era Symphonic Works," *Empirical Musicology Review* 6, no. 1 (2011): 2.

[64] Johnson, "The Standard, Power, and Color Model of Instrument Combination in Romantic-Era Symphonic Works," 5.

In the first act, desert-bound Luke is confronted with impressions of the greater galaxy. As he cleans his uncle's new droids in a garage, the loquacious Threepio says "I'm not even sure which planet I'm on!" Luke dejectedly replies, "if there's a bright center to the universe, you're on the planet that is farthest from." Threepio admits that he and his companion Artoo have recently come from space; to Luke's excitement, they have even seen battle. Luke falls as Artoo suddenly projects a holographic image of Leia; Williams jumps into the scene, highlighting the fall with a jarring downward gesture in the low strings (Figure 3.5).

Figure 3.5: "Before the Holograph"



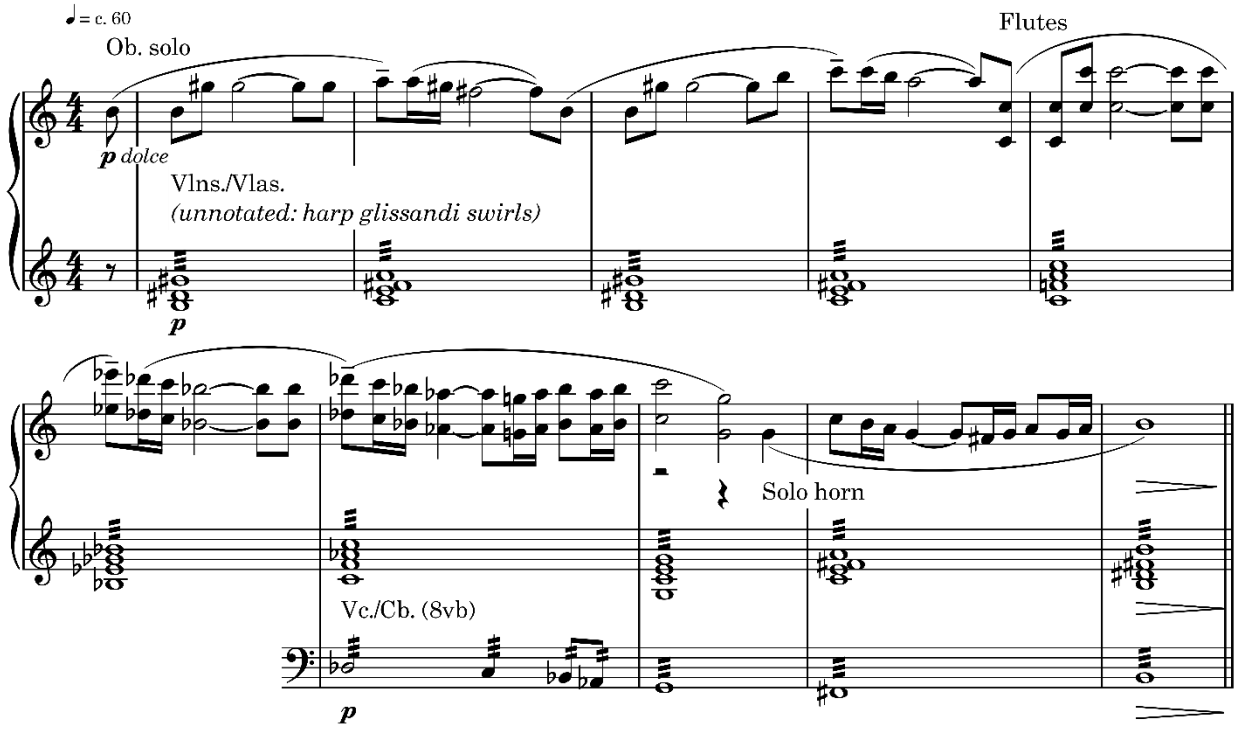
This gesture activates a soft, high, sustained string tremolo in its wake, barely audible in the confusion. Artoo insists that the holograph is "merely a malfunction—old data," speaking in quick, short whistles.[65] Williams contradicts, using high woodwinds (the *Leitklangfarben* for the droids) set in slow, long tones. Luke demands to know the identity of the woman in the

[65] His whistles are translated here by Threepio…

holograph: Threepio replies, “she was a passenger on our last voyage. A person of some importance, sir.” At this exact moment, Leia’s leitmotiv is played by a solo oboe.[66]

More importantly at the same moment, Williams adds a greater number of tremolo strings (Figure 3.6).

Figure 3.6: “Holograph”



As viewers, we have only briefly met Leia, so the oboe’s thematic reminder is welcome; to Luke, however, she is a mysterious, alluring “passenger” on a ship far out in space—far from the “rock” he lives on now. Her theme is taken up by more distant flutes, and then by an even more distant solo horn. This is a message from the clamorous outside world. Leia’s

[66] This is similar to the nasal timbres she was introduced with earlier in the film: muted trumpet at 00:05:07, and flute + oboe at 00:06:15.

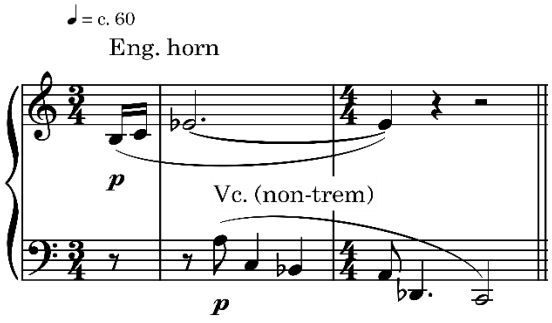
theme is boxed into gestural space, but the expanded tremolo strings, greater in number and spread throughout the scoring stage, immediately swell ensemble space with stereophonic breadth. Harp glissandi further expand the effect while adding their own unique, evanescent "Color" (and perhaps forming a *behavioral space* with the shimmering holograph, to extend Smalley's definition to incorporate visual behaviors). This is a quiet ensemble, but it is also a continuous one: almost three unbroken minutes of ensemble scoring on relatively quiet Tatooine. The tremolo strings do not merely occupy ensemble space; they *activate* it. Michel Chion writes that the "micropulsations" of tremolo strings lend "*temporal animation* or *vectorization"* to an image."[67] He adds that tremolo is a "very fragile effect" that "bad sound balance" can easily compromise.[68] While this sequence in the garage is hardly static visually, in the context of the of the film's fast-paced edits, it is not the most dynamic. The recording fidelity the of *Star Wars* score allows tremolo string timbre to move the visuals forward. Tremolo strings also have a "slightly uneven vibrating that both alarms and fascinates," akin to the sound of "nocturnal insects" that make us "sensitive to the smallest quivering on the screen."[69] With heightened senses, Luke has discovered something fantastic in the doldrums of his life on Tatooine, something that moves him forward to action ("it sounds like she's in trouble"). Williams only breaks the greater, more active ensemble texture when Luke talks about Ben Kenobi, a "strange old hermit" living on Tatooine. This short moment is scored for a *strange* "Color" instrument—solo English horn—accompanied by *non-tremolando,* and therefore less *animating* low strings (Figure 3.7).

[67] Chion, *Audio-Vision,* 14.

[68] Ibid., 21.

[69] Ibid.

Figure 3.7: "Luke Mentions Ben Kenobi"



Following this sequence in the garage, Owen denies Luke's plans to leave the farm early and enroll at the academy (LT3, Figure 3.4). Luke walks outside alone and looks wistfully at Tatooine's double suns, and Williams's famous "Binary Sunset" cue begins. The tremolo string and harp colors from the holograph sequence resume, but languidly, and flicker away. The Force leitmotiv—not Luke's theme—is played by a solo horn. The (spectrally and physically) more distant solo horn passes the melody to the (spectrally and physically) more present full violins and high woodwinds. These instruments take up the theme with an intense dynamic swell, engendering one of the loudest, truly full *tutti* (or "Power") moments on Tatooine. Ensemble space becomes spectrally packed, creating a "solid wall" of sound "very close to the listener."[70] There is a "so close, yet so far" feeling to this sequence—Luke has just seen a holographic message from outer space, but now feels more trapped on Tatooine than ever. The expansive world of outer space feels like a memory, and the *tutti* quickly fades away.

It was George Lucas' idea to use the Force theme (or "Ben's theme, as it is sometimes called) for this scene. Williams had written another cue for it that Lucas rejected

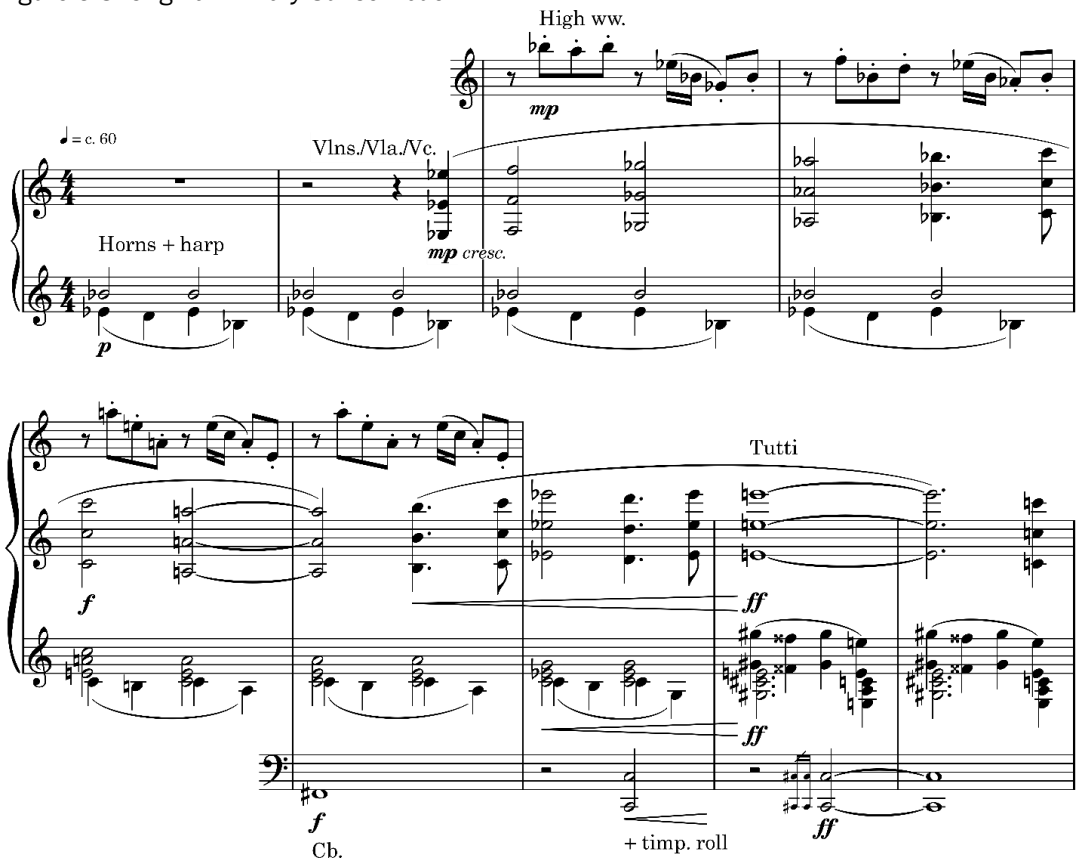
> "When [Lucas] heard the other, he said, 'Could you put Ben's theme in there?' He liked it for some reason or other better for that scene. It is difficult to explain why. It is

[70] Smalley, "Spectromorphology: Explaining Sound-Shapes," 107.

contemplative and reflective, and it works really very well. I think I have to say in the end he was very right."[71]

The Force leitmotif "is the most common and flexible" in the *Star Wars* universe; it can refer to Obi-Wan (Ben) Kenobi, Fate/Destiny, or it can be what Lehman calls an "all-purpose leitmotif."[72] In this case, Lucas's suggestion stripped Luke of his normal leitmotivic tag and gave him one from outside his insular world, perhaps to foreshadow his relationship with Kenobi. Williams's discarded original cue only seems to hint at the Force theme's profile, but perhaps more damningly, it resides almost exclusively in greater ensemble space (Figure 3.8).[73]

Figure 3.8: Original "Binary Sunset" cue



[71] Lippincott, Charles, "John Willams: The *Star Wars* Interview," April 22, 1977, 5.
[72] Lehman, "The Themes of *Star Wars,"* footnote 3.
[73] The string melody here begins with a $\hat{1}$-$\hat{2}$-$\flat\hat{3}$ ascent, hinting at the $\hat{5}$-$\hat{1}$-$\hat{2}$-$\flat\hat{3}$ ascent of Ben's theme.

Simply grafting Ben's theme onto this much larger texture would not have worked as well. Lucas' suggestion stripped Luke of his theme and gave him an identity crisis. Williams's solution went one step further, pitting Luke between the film's two opposing soundworlds: the ensemble space of the greater galaxy and the gestural one of Tatooine. The score traverses the film's disparate narrative realms in time and space, not only with melody but equally well through orchestral texture, all within the context of a single shot or sequence.

"You've Taken a Step Into a Larger World": Timbre, Texture, and Joseph Campbell

Aspects of these two opposing soundworlds map onto concepts put forward by comparative mythologist Joseph Campbell in his book *The Hero With A Thousand Faces*. Lucas read the book while writing the script for *Star Wars* and used Campbell's ideas to refine the *Star Wars* mythology. In the book, Campbell posits that classical mythological narratives frequently share a "motif" or fundamental structure that he calls a "monomyth" or a "Hero's Journey." The hero of a monomyth is made to cross between two worlds: the "Known" or "Ordinary" world and the "Unknown" or "Special" world. Lucas said: "in reading *The Hero With A Thousand Faces* I began to realize that my first draft of *Star Wars* was following classical motifs;"[74] Lucas was especially drawn to the threshold between the known and unknown:

> I said, "Where is the frontier today?" Well, I can stand in my front yard and look up into the sky and say, "I wonder what's out there." And that is what I think is the basis of all mythology in terms of the man standing, looking at the horizon, saying, "I wonder what's out there, what's over the hill." And then saying, "I'll make up a story about what's out there, what's over the hill."[75]

[74] Stephen Larsen, *A Fire in the Mind : The Life of Joseph Campbell*, 1st ed. (New York: Doubleday, 1991), 155.

[75] Ibid., 156.

This threshold is mirrored in Luke's own journey and amplified by Williams's use of orchestral texture. Williams was not aware of the connection in 1977 (Lucas was likely too frazzled to mention it, and anxious to finish the film).[76] Williams said that: "[Campbell] explained to us all about the interrelatedness of the mythological elements of the story that struck the psyches of people worldwide. But that came later. I certainly didn't have that feeling at first, and I don't think anyone on the production did, really."[77] Regardless, Williams's intuitive but skillful use of timbre bolsters these mythopoeic connections, forming a large part of why this score rewards repeated study. I will investigate several of these connections here.

Known/Unknown is not the only binary relationship in Campbell's monomyth. Character archetypes can be defined, for instance, by their relation to the good/evil binary. Heroes align with mostly good virtues; "Shadow" characters align with mostly evil. Lucas designed the color schemes of *Star Wars* costumes and sets accordingly (e.g. white for Leia/black for Vader; brown for Tatooine/grey and black for the Death Star).[78] Williams's score uses analogous tone color schemes. Earlier, I discussed Williams's juxtaposition of bright timbre in LT5-6 with dark timbre for the alien stalker. Williams often amplifies bright/dark timbral oppositions even further by tying them to major/minor triads. The stalker's music, for instance, is not just scored for darker instruments, but is built from

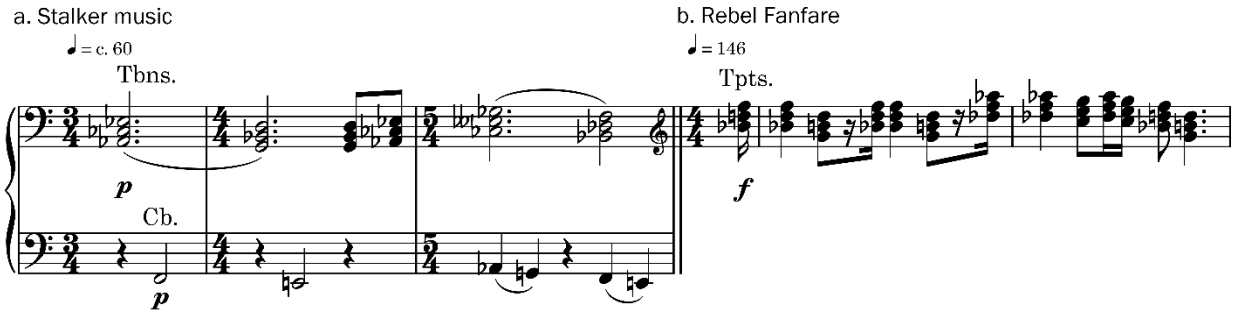
[76] Lucas had an extremely difficult time trying to meet production deadlines when directing the original *Star Wars* film. See Kevin Burns, *Empire of Dreams: The Story of the Star Wars Trilogy* (20th Century Fox, 2004), 58:01.

[77] Juliet Simon, "A Conversation with John Williams on Star Wars | News," BMI.com, accessed July 6, 2021, https://www.bmi.com/special/john_williams.

[78] Moyers, "The Mythology of 'Star Wars' with George Lucas," 1999.

planed minor triads (Figure 3.9a). The Rebel Fanfare leitmotiv, often presented by brighter instruments like trumpets, is composed of a string of major triads (Figure 3.9b).

Figure 3.9: "Stalker music" and "Rebel Fanfare"



Lehman calls these planed triadic complexes "intensified major/minor pantriadicism:" similar triads are chained together less for their harmonic function and more to maximize their innate coloristic properties (i.e. major = bright/minor = dark).[79] When combined with a corresponding tone color, intensified major/minor pantriadicism creates a sort of super-timbre — major sounds even brighter, and minor sounds even darker.

Campbell divides the monomyth's traversal of known and unknown worlds into seventeen distinct motifs or "stages." Examples of each can be found in *Star Wars,* and several are intriguingly highlighted by William's timbral choices. Luke's "Call To Adventure" stage occurs in the holograph sequence. This stage often begins "as a mere blunder…some passing phenomenon," that reveals the unknown world to the hero (see the "blundering" low strings that open the "Before the Holograph" holograph cue in Figure 3.5).[80] As described above, Williams uses tremolo strings and harp for the Unknown world; conversely, he pairs

[79] Lehman, Frank, *Hollywood Harmony,* 47.

[80] Joseph Campbell, *The Hero with a Thousand Faces*, 1st Princeton, Bollingen pbk. (Princeton, N. J.: Princeton University Press, 1972), 48.

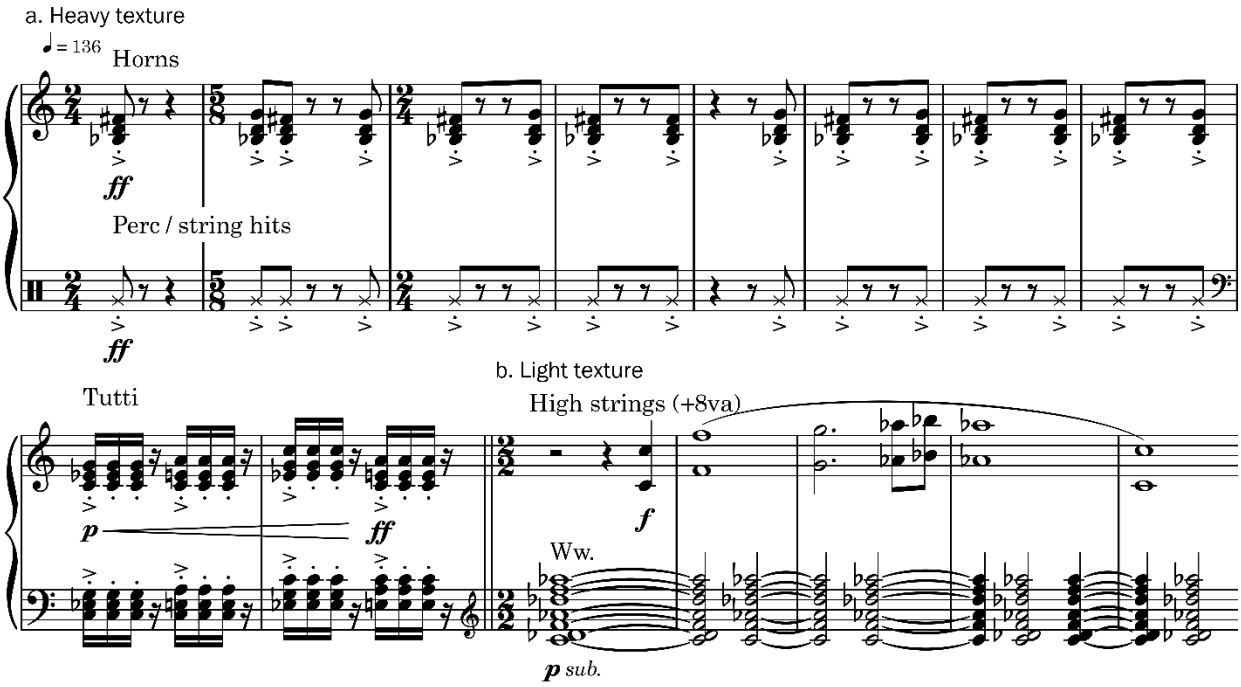
Luke's "Refusal Of The Call" with *non-tremolando* strings. This is a "Standard," bland timbre—in Italian *"ordinario"*— devoid of any "Power" or "Color" instruments. Whereas tremolo strings can activate and move a visual, sustained *arco* strings can do the opposite.[81] Here they statically tie Luke down to Tatooine as he refuses to join Obi-Wan's mission. In the "Crossing of the First Threshold" stage, the hero ventures dangerously into the Unknown world. Luke's first attempts are timbrally striking—in one, he is attacked by a Tusken raider in Tatooine's hinterland, accompanied by a unique and frightening percussive outburst. In another, he encounters the only non-symphonic music in *Star Wars* at the Mos Eisley spaceport cantina. Williams's diegetic cue uses obscure "Color" instruments almost exclusively, including saxophones, electronic piano, synthesizer, and steel drums. The "Road of Trials" stage forces the hero to undergo a transformation, and the hero is often helped by other characters. The absence of Luke's theme at this stage of the film is conspicuous; the hero can suffer "a real or symbolic death during the quest and the crossing of the underworld.[82] William's timbral transformations of Luke's theme thereafter map uncannily onto this stage as Luke evolves (see my above discussion of Luke's theme). In the "Master of Two Worlds" stage near the end of the film, Williams strikingly juxtaposes and then blends two opposing textural soundworlds. Luke (in LT14, minor mode) flies treacherously through the Death Star's trenches while brass and percussion pound out fragmented staccato hits (not unlike Williams's infamous bellicose chords near the opening "borrowed" from Gustav Holst's *Mars, The Bringer of War) (Figure 3.10a).* Luke suddenly hears the disembodied

[81] Chion, *Audio-Vision,* 14

[82] Françoise Storey and Jeff Storey, "Transcending Postcolonial Identity Through Myth: Yann Martel's Life of Pi," *Cross* 202 (2018): 210.

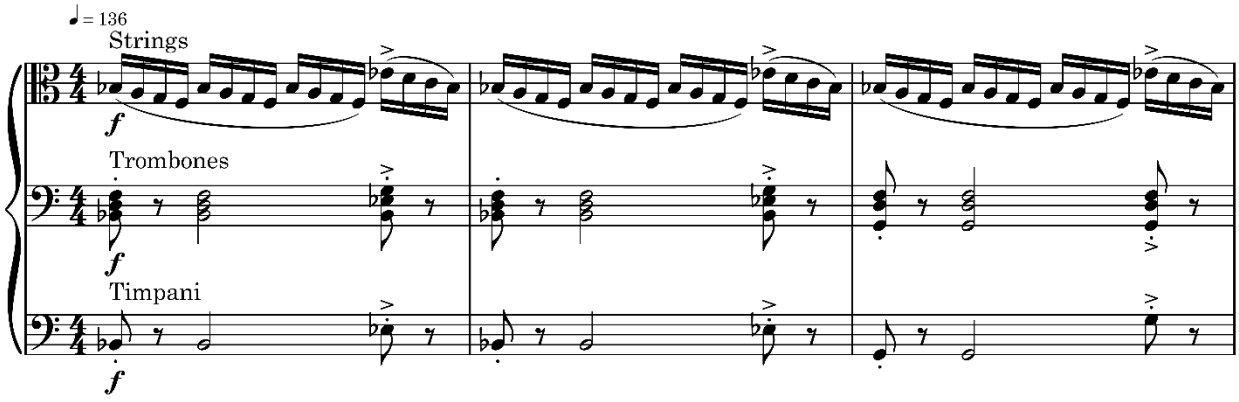
voice of his Campbellian mentor figure Obi-Wan imploring “use the Force, Luke.” Williams switches immediately to a light-filled, weightless texture *(Figure 3.10b).*

Figure 3.10: separate textures of “Master of Two Worlds”



There is no low spectral activity; high, sustained string tone floats above mid-range, lightly articulated sustained woodwind accompaniment. Luke then switches off his targeting computer, and Williams fuses characteristics of the two soundworlds together in a major-mode frame. The opposing gestural languages of the two textures are also fused: long, sustained tones are punctuated by short, staccato ones *(Figure 3.11).*

Figure 3.11: "Master of Two Worlds" synthesis of textures.



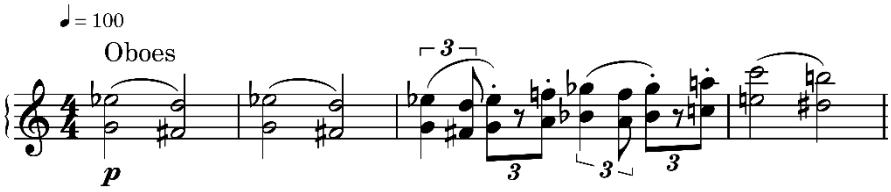
"I Think We Took a Wrong Turn": Space-Form, Gesture, and Action

Williams often uses textural changes to heighten onscreen action. As Luke's party sneaks through the Death Star's hallways in stolen Stormtrooper gear, gestural-space scoring creates a claustrophobic feel. They enter a larger detention corridor to free Leia, and Williams *crescendos* into a larger ensemble space with horns and tremolo strings. We as viewers are unsure what kind of space the characters are about to enter, but Williams, through this vectorizing textural zoom, suggests that it might be quite large. Effects like this can create intense drama, even if the "payoff" revelation of the target visual space is underwhelming (as it is here). They can also make visuals seem larger or smaller than they appear to be onscreen — a request often lobbied at composers by nervous directors.

A similar approach to texture adds a descriptive formal level to the sequence inside the Sandcrawler. C3PO and R2D2 have been captured by desert-dwelling Jawas and confined in a holding area within the giant vehicle. The editing jumps between close shots of several disheveled robots; viewed without music, the sequence is a jumble. Williams adds his own context to the space. He begins the sequence in the larger ensemble space of a

string section, suggesting a more extensive setting. Upward and downward *glissandi* gestures suggest that the setting is filled with shifty bad actors. As Artoo powers up, gestural space concentrates visual attention on him. Gestural space also zooms in on other robots, and we begin to hear individual timbres as more humorous than threatening. The solo tuba used here can have a sluggish, lugubrious sound due to its physical distances explored earlier. A pair of nasal oboes dance around in minor seconds and thirds, the characteristic intervals of playground taunts (*nya-nya!*) (Figure 3.12).[83]

Figure 3.12: Robot gestural space



Timbre tells us that Threepio and Artoo are not in any immediate danger. Williams reminds us however, that greater trouble may await, zooming back out to ensemble space at the exterior long shot of the Sandcrawler.

Chion posits that every "audio element" of a film "enters into simultaneous relationship" with "narrative elements contained in [an] image."[84] This is true of all sounds, including musical ones. Earlier I extended Smalley's definition of *behavioral space* to incorporate visual behaviors, acknowledging the fusion of visual and aural stimuli in films. I use this as a subtle defense of the much-maligned practice of "Mickey-mousing:" some

[83] Jeremy Day-O'connell, "Speech, Song, and the Minor Third An Acoustic Study of the Stylized Interjection," *Music Perception: An Interdisciplinary Journal* 30, no. 5 (2013): 443.

[84] Chion, *Audio-Vision,* 40.

music is gesturally designed to function as an elaborate, sophisticated sound effect. Directly before the sequence above in the Sandcrawler, Artoo is raised into the vehicle with a lifting mechanism. We see the mechanism descend to grab him, but it has no corresponding sonic behavior where we might expect one, like a grinding or whirring. Williams provides a *musical* sonic behavior — a simple downward scale that behaviorally fuses and adds gravity to the mechanism's descent. He adds a more forceful upward *crescendo* gesture to the mechanism's subsequent ascent, alerting us with "Color" xylophone timbre. The way Williams does this here is not subtle, keeping with his classical Hollywood style models. Gestural or behavioral correspondences like these tend to make music "fit" with a visual, however, and are likewise often requested by directors.

"Have You Been in Many Battles?": Difficulty of Music and Onscreen Action

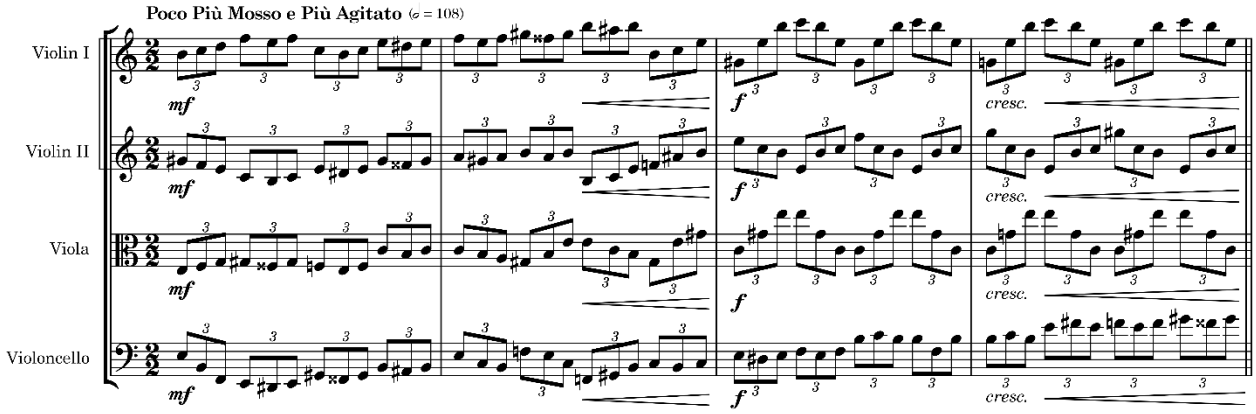
I addressed several of Williams' use of more difficult passages for instruments in the discussion of Luke's timbral evolution: e.g. the horns' ascent in range from LT10 and the use of trombone and tuba in LT12 and LT14. Williams routinely pairs dangerous action sequences with relatively more difficult-to-perform music in all his scores, not just *Star Wars*. In an interview about his score for *Raiders of the Lost Ark*, he was asked "how do you write music for rolling boulders?" (referring to Indiana Jones's iconic temple escape from the beginning). Williams's first reply was simply "hard!"[85] He elaborated further: "you have that rumble of the rock which will wipe out most of the music. My solution was to get up high in the orchestra and use trumpets—I probably had three of four of them in the London Symphony when we recorded that. And do high repeated notes over and over and over as

[85] Dan Golding, "Raiders of the Lost Ark — Part II," Art of the Score, accessed May 17, 2020, artofthescore.com.au, 24:00.

this rock would go, in a register of the orchestra and on the loudest instruments of the orchestra, the trumpets, to penetrate the sound effects track as much as I could and to grab the ear of the listener."[86] Conductor Nicholas Buc, who has performed the score live-to-picture with several professional orchestras worldwide, calls this passage "frighteningly difficult to play—it requires huge stamina [for a trumpeter]. It sounds difficult, it looks difficult on paper, it looks difficult onscreen, and it all works beautifully together."[87]

Williams is concerned with the practical matter of how his scores interact with the sound effects track. As a practical musician and experienced conductor, he is also aware of how difficult a passage like the following would be for the strings *(Figure 3.13):*

Figure 3.13: String flurry from end of opening cue[88]



This bowstring-breaking passage comes after the title crawl directly before we see Leia's small ship *Tantive IV* getting bombarded by a giant *Star Destroyer.* In his typical dueling-textures approach to *Star Wars* it is followed by massive, hammered, full *tutti* chords (both

[86] Golding, "Raiders of the Lost Ark — Part II," 24:30.

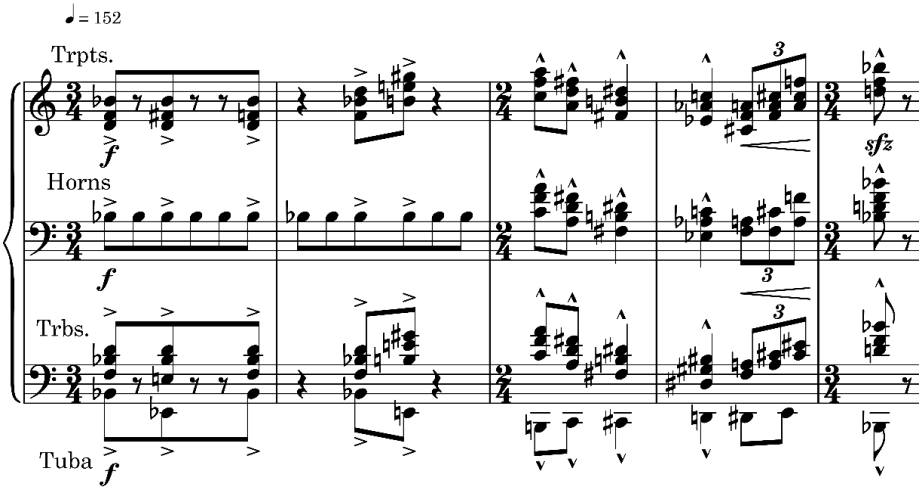
[87] Ibid, 25:05.

[88] *Star Wars : Suite for Orchestra* (Milwaukee, WI: Leonard, 2007), 18.

textures are taken almost directly from Holst's *Mars.)*[89] With limited rehearsal time in a tight film scoring session, even the forty-six LSO string players heard here (including a young Irvine Arditti) had a difficult go — the recording heard in the score is a flurry of slightly misaligned attacks. The celli's strained upper register can be distinctly felt in the quivering sound mass. This is perhaps by Williams's design to anticipate the small ship's unsuccessful struggle against the *Star Destroyer*. But this *feeling* of the instrumentalists' struggle comes through; Smalley writes that "when we hear spectromorphologies, we [try to] detect the humanity behind them by deducing gestural activity."[90]

Difficult rhythm can add unstable qualities to otherwise stable timbres. This is clearly demonstrated in the *"Here They Come!"* cue that accompanies the first battle with Imperial TIE fighters. The main *"Here They Come"* motive constantly shifts meter, adding its own volatility to the scrambled visuals *(Figure 14).*

Figure 3.14: "Here they come!" meter changes (note: excerpt is in C)



[89] See pp. 30-31 of the Dover edition of Holst's *The Planets, The planets : in full score* (Mineola, N.Y.: Dover, 1996).

[90] Smalley, "Space-Form," 47.

The music is fast but not blazingly so. Nevertheless, it greatly moves the sequence forward: Chion notes that "temporalization" (i.e. this feeling of movement added to the visuals) "depends more on the regularity or irregularity of the aural flow than on tempo in the musical sense of the word. For example, if the flow of musical notes is unstable but moderate in speed, the temporal animation will be greater than if the speed is rapid but regular."[91] This irregularity is exacerbated further by the performance. The "large-decibel-level" LSO brass perform admirably but their effort to grab a breath in the unrelenting texture can be viscerally—better yet, *asthmatically*— felt. As listeners, "we covertly mirror the bodily actions implied in the production of timbre."[92] We can't help but empathize; we want to vocalize or sing along but our throats are breathlessly taut. Our momentary tension may even be revealed in strained singing tone.

Conclusion

This brief discussion of musical difficulty brings the chapter back to my original premise: it was orchestral timbre that helped the *Star Wars* score make its lasting, indelible impression on the cinematic landscape. Orchestral timbre helped the score to become an epic cultural force. For millions of people (including myself), the *Star Wars* scores served as a first introduction to the power of an orchestra. Orchestras are composed of human performers creating sounds with their hands and their breath. Orchestras are capable of timbral nuance that other sound-producing devices cannot replicate, and this nuance can be detected even through the medium of a recording. And, importantly, orchestras are *not*

[91] Chion, *Audio-Vision,* 15.

[92] Wallmark, Zachary, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise", iii.

comprised of robots — difficult music will *sound* difficult as the humans performing it strain to produce sounds, like in my example of the tuba playing Luke's theme. Even from Luke Skywalker's far-flung galaxy, the *terra cognita* of the orchestra can express his very human struggles and feelings.

4. FEATURE 2

THE FOLLOWING FEATURE HAS BEEN **APPROVED** FOR **ALL AUDIENCES**

"More Feeling": Timbre in the Film Music of Ennio Morricone[1]

"Instead of talking, he plays. And when he better play, he talks."

-Cheyenne

Introduction

Ennio Morricone, one of the most prolific and influential composers for modern cinema, passed away in 2020 at the age of 91. His obituary in the New York Times describes how his "wry sonic weirdness" catapulted him to international prominence:

> The work that made him world famous, and that was best known to moviegoers, was his blend of music and sound effects for Sergio Leone's so-called spaghetti westerns of the 1960s: a ticking pocket watch, a sign creaking in the wind, buzzing flies, a twanging Jew's harp, haunting whistles, cracking whips, gunshots and a bizarre, wailing "ah-ee-ah-ee-ah," played on a sweet potato-shaped wind instrument called an ocarina.[2]

This New York Times obituary itself is a testament to Morricone's unique esteem; the craft of film composition rarely emerges from its behind-the-scenes niche into public consciousness.

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[1] "More feeling" is a line of dialogue from *The Good, the Bad and the Ugly*, spoken by the Union warden leading a prison camp ensemble in song. The ensemble is drowning out the sounds of Angel Eyes' torture of Tuco. "Suddenly, one of the prisoners stops singing, but he is promptly forced to start again by the warden;" The original Italian "piú forte" was dubbed in the English version as "more feeling" Ennio Morricone, Alessandro De Rosa, and Maurizio. Corbella, *Ennio Morricone : In His Own Word*s (New York, NY: Oxford University Press, 2019), 49.

[2] McFadden, Robert D., "Ennio Morricone, Oscar-Winning Composer of Film Scores, Dies at 91", July 6 2020, New York Times.

Morricone, however — despite never moving to Hollywood and remaining in Rome his whole life — not only came into the limelight but became a cultural force akin to a rock star. He achieved this by bringing timbre to the forefront in his film scores.

Morricone composed over 400 scores for visual media and over 100 concert works throughout his long career. His composing "both for and outside the cinema" was informed chiefly by "celebration of sonority for its own sake."[3] And his sounds were not all just "wry" or "weird;" Morricone had three distinct trajectories in traditional, commercial, and experimental music, and drew materials from each as a project necessitated. He received traditional training in harmony, counterpoint, composition, and trumpet at the Conservatorio Santa Cecilia in Rome from 1940 to 1952. His teacher Goffredo Petrassi instilled a versatile, if derivative, approach: "with Maestro Petrassi, we had to try to compose as they used to do in the past, starting from the year 1100 right up to modern times" (modern at that time was strict dodecaphony).[4] This training was doubtless beneficial to the future film composer, as film music often requires a polystylistic approach. While still in school, Morricone started to work in the Italian commercial music industry to financially support his growing family.[5] He began playing trumpet in studio orchestras and composing for radio dramas and films. By the mid-1950's he had become a top studio arranger and conductor for RCA Victor's international recording artists. He added rock, jazz, and "world" music

[3] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 228.

[4] Richard Bratby, "'Darmstadt Taught Me How to Compose': Ennio Morricone Interviewed," The Spectator World, accessed July 6, 2021, https://spectatorworld.com/book-and-art/darmstadt-ennio-morricone-interviewed/.

[5] Charles Leinberger, *Ennio Morricone's The Good, the Bad and the Ugly : A Film Score Guide* (Lanham: Md. : The scarecrow Press, 2004), 3.

techniques to his stylistic palette. He gained invaluable experience in recording and studio technology. He also gained knowledge of commercial music's signature sounds: singers, drum kits, electronic instruments, and electric guitars. Morricone continued to compose experimental concert music throughout this time, too. In 1958 he participated in the Darmstadt Festival, the leading international forum for avant-garde music. Darmstadt, a summer music course inaugurated in 1946, had quickly become a bastion for the most revolutionary figures in Western concert music like Pierre Boulez and Karlheinz Stockhausen. The 1958 festival Morricone attended was especially pivotal — it marked the first participation of the controversial American composer John Cage. Cage's advocacy of chance and indeterminacy as compositional materials directly opposed the European trend toward hyper-serial, quasi-mathematical predetermination, typified by Boulez. Cage's lectures and demonstrations — especially those on improvisation — galvanized Morricone and his immediate cohort to form the Gruppo di Improvvisazione Nuova Consonanza in 1964. This free-improvisation composers collective served as both sonic laboratory and cathartic escape for Morricone:

> Nuova Consonanza really reunited me with the love of my life — composing absolute music, music that is not related to a film, or to a pop song. One of our rules was to avoid anything that was melodic, anything that was usual. We had to produce very strange sounds, very complicated sounds, because we wanted to get as far away as possible from the so-called traditions of classical music. The experience with them really helped me to bear the burden of working in the commercial sector.[6]

Far from just helping him "bear the burden" of his commercial work, however, Morricone brought the experimental spirit of "Il Gruppo" to every project. His pop

[6] Bratby, "'Darmstadt Taught Me How to Compose.'"

arrangements were risky and "demanding, both technically and conceptually [...] the musicians would find themselves playing things" or making sounds "they had never made before."[7] In his film scores, even in "simpler" ones, he used "radical and contemporary elements."[8] For him, these elements were "imbued" with his background in the Cage-ian, "post-Webernian avant-garde, in which the introduction of atypical instruments and noises was common practice."[9] His traditional training, commercial experience, and experimental leanings coalesced into surprise hits. The soundtrack album for *The Good, the Bad and the Ugly,* for instance, spent more than a year on the *Billboard* pop charts in 1968 — unheard of for a film score.[10] His music is appreciated by popular audiences and intelligentsia alike. Even Helmut Lachenmann, one of the most experimental and timbrally adventurous composers in recent history, is an admirer: "[Morricone's music] has an irresistible aura. I can't find a rational way to peek behind the curtain and explain it. I never come away indifferent, because of the immediacy it has." Lachenmann then immediately offers, however, a possible, *timbral* explanation: "but I mean, that entrance of the bells and the bass guitar in *Once Upon a Time in the West*—it's brilliant."[11]

In countless interviews Morricone repeated the following two statements enough that they became a sort of double refrain (with subtle variations): the first is simple, that 1) the "inventive use of tone color is one of a film composer's most important means of

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[7] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 24.

[8] Bratby, "'Darmstadt Taught Me How to Compose.'"

[9] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 50.

[10] Leinberger, *Ennio Morricone's The Good, the Bad and the Ugly : A Film Score Guide*, 63.

[11] Tobias Rempe and Jeffrey Arlo Brown, "I Am The Wound," VAN Magazine, September 29, 2016, http://vanmagazine-en-staging.newspackstaging.com/mag/helmut-lachenmann/.

expression."[12] The second is perhaps paradoxical: that 2) melody is not so important. This is paradoxical, of course, coming from the composer of such beloved themes as "Gabriel's Oboe," "Deborah's Theme," or the (in)famous motif from *The Good, the Bad and the Ugly.* Morricone, however, "always considered [melody] of little significance." His themes were often a concession to other filmmakers: "It is the only element with which one can reach an understanding with the director." He insisted that a good film composer should "*drown* [a] melody in other solutions," especially timbral ones.[13] Morricone's two refrains certainly ring true for film music in general (recall Prendergast, who asserts that tone color often supplants replaces "line and structure" in film music).[14] The colors with which Morricone "drowned" his melodies are often more iconic than the melodies themselves. Try to perform *The Good, The Bad, and The Ugly* theme without whistling the *ah-ee-ah-ee-ah* or nasally singing the *wah-WAH-wah:* it doesn't work. Imagine if "Jill's Theme" from *Once Upon a Time in the West* had never been sung by a wordless soprano: the film would lose much of its intimacy and pathos.

This chapter aims to ponder these two refrains (1, timbre is important; 2, theme is less important), framed by another Morricone-ism: he said that "if you take away the melody from all my pieces [they] still will remain . . . on [their] own feet." Here I take Morricone at his word and ask the question: what can be learned by focusing on the timbral properties of his film scores? Or, as Morricone hoped his audience would do above all else, I will offer ways to

[12] Morricone, Anderson, and Miceli, *Composing for the Cinema : The Theory and Praxis of Music in Film*, 167.

[13] Ibid.

[14] Prendergast, *Film Music - a Neglected Art : A Critical Study of Music in Films.*, 214.

"assimilate and appreciate the instrumental solutions" he devised in his scores.[15] It is impossible to tackle all of Morricone's vast and diverse output, but I have chosen a cross-section of his important scores from different genres. I will analyze shorter excerpts from Roland Joffe's 1986 period film *The Mission* and two of Sergio Leone's Westerns: *For a Few Dollars More* (1965) and *Once Upon a Time in the West* (1968).

Analytical Methodology

This chapter will build on the timbral, textural, and gestural analyses of the previous sections. I will again employ Denis Smalley's space-form to detail how Morricone uses texture. As a supplement to space-form I will draw on the "segmented structure" model Sergio Miceli developed to analyze Morricone's Western scores. I will also examine a procedure that Morricone hinted at in his writings: that of a *progression of sonorities,* or what I will call a *timbral progression.*[16] This procedure is simple — Morricone stated that he conceived of his scores as a "progression of sonorities" that logically helped the narrative of a film. I will also apply Lerdahl's idea of *timbral prototypes.* Finally, I will investigate timbral properties of Morricone's Western scores using Zachary Wallmark's claim that "timbre perception is a motor mimetic process."[17]

Regarding orchestration, I will once again attribute all orchestrational choices in these scores to Morricone himself. This is easy to do; throughout his long career, Morricone never enlisted the help of an orchestrator, and he was critical of those composers that did.[18]

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[15] Morricone, Anderson, and Miceli, *Composing for the Cinema : The Theory and Praxis of Music in Film*, 172.
[16] Ibid., 171.

[17] Wallmark, Zachary, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise", ii.

[18] Leinberger, Ennio Morricone's The Good, the Bad and the Ugly : A Film Score Guide, 111.

"Inextricably Intertwined": Storytelling Through Timbral and Textural Progressions in *The Mission*

One of the clearest examples of Morricone's timbral storytelling comes from his Academy Award-nominated score for *The Mission* (1986), directed by Roland Joffé. The film is based on historical events that occurred in the borderlands of modern-day Argentina, Paraguay, and Brazil during the eighteenth century. It depicts the clash between Father Gabriel, a Jesuit priest, who has come to create a Christian mission for the indigenous Guaraní, Rodrigo Mendoza, a slave-trader, who has come to enslave and export the Guaraní, and the Guaraní themselves. The film explores the ways in which the characters' worlds become, as is said in the film, "inextricably intertwined."[19]

Morricone's score likewise intertwines disparate sonic elements. As he recounted, the film presented him with three musical constraints: 1) the onscreen performances of oboe, Western bowed-string instruments, and choir; 2) European (and more specifically Jesuit) musical traditions; and 3) "ethnic" music, or the music of the Guaraní.[20] Once he had devised the separate soundworlds for each of these, he proceeded to construct the score using what he called a "modular concept" approach, mixing the timbral zones together as narrative situations dictated.[21] Morricone said that this mixture was done "mostly in pairs: oboe and music of the Indians, music of the Indians and liturgical chorus," and so on.[22] As my analyses will show, his mixture often went deeper than a simple juxtaposition of sounds. Before this, however, I will introduce features of the separate soundworlds.

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[19] Roland Joffé et al., *The Mission* (Leipzig: Kinowelt Home Entertainment, 2010), 05:06.

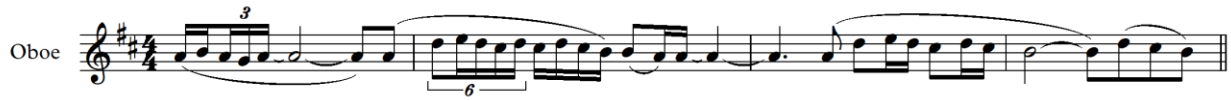
[20] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 136.

[21] Morricone, Anderson, and Miceli, *Composing for the Cinema : The Theory and Praxis of Music in Film*, 176.

[22] Ibid.

The first two soundworlds (of onscreen performers and European musical traditions) are interrelated. The character Gabriel plays the oboe; near the beginning of the film, he attempts to communicate with the Guaraní not with language but with a simple melody on his instrument. Morricone mimicked the silent movement of the actor's fingers in the scene to craft the melody we hear. And, drawing on his traditional training, he further based the melody on "something typical of the instrumental music of that period," or "what [...] a man would play on an oboe in 1750" —complete with "grace notes, mordents, grouplets, and appoggiaturas."[23] These are very practical origins for a theme that would go on to become one of his best known and beloved film works, "Gabriel's Oboe" (Figure 4.1). He approached the onscreen violin and choral music in the same way, using mannerisms of Baroque music and liturgical music of the high Renaissance à la Palestrina — both were musical styles that the Jesuits promoted at that time.[24]

Figure 4.1: "Gabriel's Oboe theme"



Morricone retained Western orchestral instruments as a backbone for his score. In my upcoming analyses I consider the orchestra as multifaceted; sometimes Morricone seems to use it in the soundworld of the Guaraní, sometimes in that of the Europeans, and sometimes as an impartial non-diegetic commentary. This last can be heard in a celebrated and widely performed cue called "The Falls." In another possibly practical origin, "The Falls" bears a

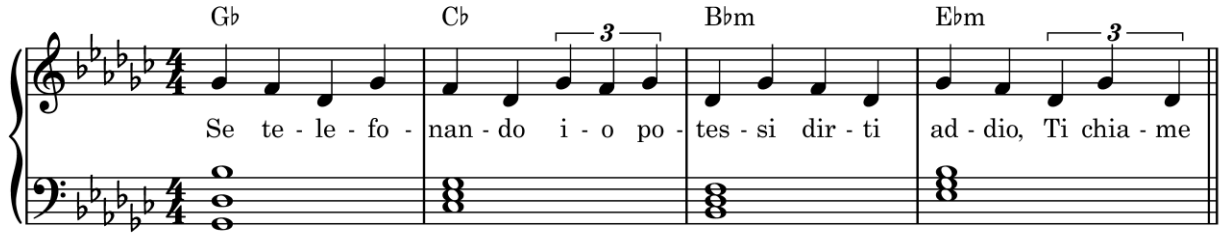
[23] Emanuele Colombo, "The Miracle of Music: A Conversation with Ennio Morricone," *Journal of Jesuit Studies* 3, no. 3 (June 8, 2016): 475–83, 476.

[24] Ibid.

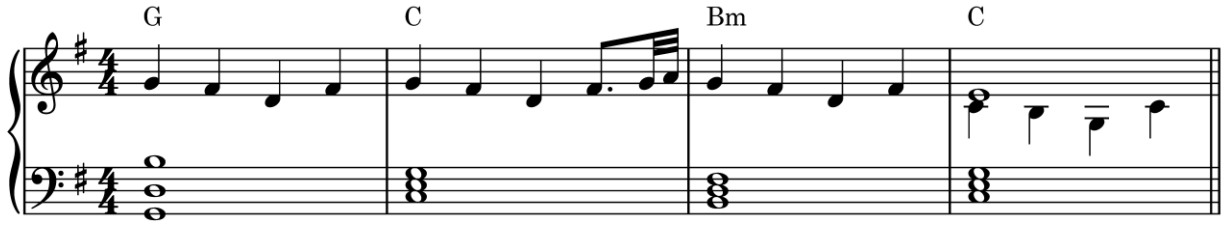
striking resemblance to a piece Morricone knew was effective — his 1966 pop hit "Se Telefonando" composed for Italian singer Mina. The two pieces are similar in both melodic gesture and harmonization (Figure 4.2). Morricone's work in popular music often informed his film scoring approach; in this case, he also shows a shrewd business sense, translating a pop hit into a film music one.

Figure 4.2: transcriptions of a.) "Se Telefonando" and b.) "The Falls"

a. "Se Telefonando" (1966) — chorus



b. "The Falls" from *The Mission* (1986)



For the Guaraní, Morricone was unable to find examples of music they had made independently of Jesuit influence. He instead drew from his "general knowledge of indigenous music;" to him this was music made of repetitive, rhythmic sounds and "short sentences handed down by heart from generation to generation."[25] He scored the Guaraní soundworld with drums, choir, and what he called "wood flutes."[26] Unlike the more

[25] Colombo, "The Miracle of Music: A Conversation with Ennio Morricone," 477.

[26] Morricone, Anderson, and Miceli, *Composing for the Cinema : The Theory and Praxis of Music in Film*, 166.

technologically-mediated instruments of the Jesuits (i.e. keyed, double-reed oboes, or bowed-string instruments), these timbres are more connected to direct human interaction (i.e. breathing through or striking instruments directly, or singing). The wood flutes he used were mostly pan flutes, which he notably used to highlight characters' "unusual ethnic background" in his score for Sergio Leone's 1984 epic *Once Upon a Time In America.*[27] In *The Mission,* the pan flutes generically evoke a "South American" sound. The film's representation of the Guaraní has been criticized, especially its screenplay; as Dan Golding writes, "not one [of the Guaraní] is named anything more specific than 'Indian Chief', 'Witch Doctor', 'Indian Boy' and so on, and certainly none become active participants in the story."[28] Regardless of his score's inauthenticity, Morricone was sincere in his empathy for the Guaraní and was deeply touched by their story.[29] Given his tendency toward research into several styles of music, had he been aware of instruments or styles the Guaraní used he likely would have incorporated them (see page 25 of this chapter for a more critical discussion.) [30]

Following is an analysis of Morricone's score for the first act to the midpoint of the film, organized chronologically according to musical cues.

[27] The choice for panflutes here was the scriptwriter's and not Morricone's; see "An Interview with Ennio Morricone" by Marco Werba, CinemaScore #13/14,1985, 15.

[28] Dan Golding, "Why the Music of 'The Mission' Is More Enduring than the Film Itself," Text, ABC Classic (Australian Broadcasting Corporation, January 17, 2020), https://www.abc.net.au/classic/read-and-watch/music-reads/ennio-morricone-music-for-the-mission/11876172.

[29] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 266.

[30] Jon Pareles, "The Maestro of Spaghetti Westerns Takes a Bow," *The New York Times*, January 28, 2007, sec. Arts, https://www.nytimes.com/2007/01/28/arts/music/28pare.html.

Cue 1: “Guaraní”

The film opens on a close-up of a Catholic emissary dictating a letter to the pope in Rome (Figure 3a). He explains that all the Jesuit missions surrounding colonial Asunción have failed and the Guaraní are “free once again to be enslaved.” The emissary labors over setting the right tone for his letter, and Morricone vacillates between *musical* tones with quiet, non-vibrato glissandi in the strings. Glissando gestures can create unease. For one, Chion writes that they are like “a smooth wall without purchases from which to hang pitches,” putting the listener on unsure sonic footing.[31] Morricone’s use of smooth, non-vibrato strings here amplifies this effect. Also, glissando gestures can resemble corporeal sounds of alarm, like crying or wailing, or non-human sounds like mechanical sirens. The string glissandi’s quieter dynamic here gives them a distant sound; our senses are heightened when we hear, for example, a baby crying or a police siren from farther away. We try to seek out any trouble or danger. More shots reveal more clues about the immediate setting, but it contains innocuous things: a desk, a book, the emissary’s assistant taking dictation, the assistant’s quill pen (Figure 4.3).

Figure 4.3: Stills of the a) emissary; b) emissary’s study; c) Guaraní man.

While still in the emissary’s study, two other sounds are heard over the strings: low bass drum hits and biting wood flutes (the soundworld of the Guaraní). When we finally see shots

[31] Chion, *Sound*, 208.

of the natives (Figure 3c), Morricone has already colored them as potentially dangerous by mixing their soundworld with the alarming strings. More shots of the Guaraní are seen as we cut to the jungle.

Morricone further disorients the viewer in this cue by avoiding — Nuova Consonanza-like — anything "usual" and by using "strange" and "complicated" sounds.[32] The cue is constructed of loosely organized, short statements; it is much more color than structure. Morricone used the bass drum hits to undermine any feeling of regular pulse and lend the Guaraní music "authenticity:"

> The drumbeat is casual — not in time. I wanted that grave sound to be exactly that way. [...] Every time that I have heard Argentine and also Brazilian music, but above all Argentine, there always has been a strange drum performed almost casually. Maybe it wasn't written casually, but I found it casual. Therefore, as a little effort at authenticity, I wanted to insert that characteristic.[33]

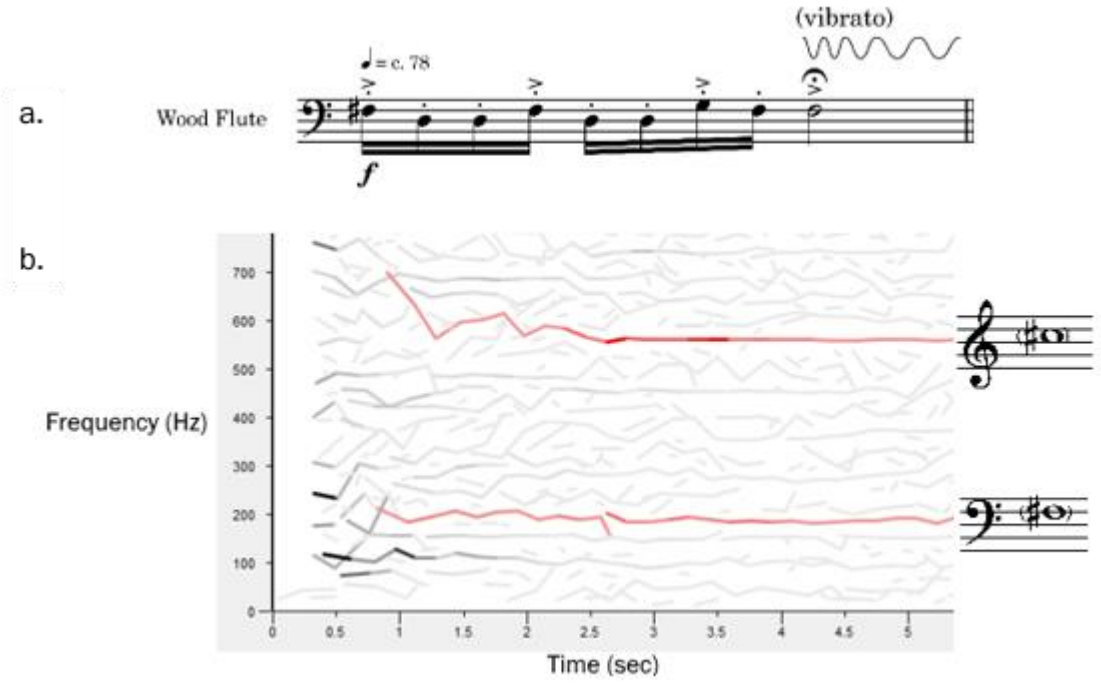
The flutes here are played primarily overblown. Overblowing is a common technique in wind instruments and causes the sounded pitch to jump higher by using a greater amount of breath. In most western instruments the jump is an octave; in open wood flutes like the ones used here the jump can be more volatile, creating complex overtones. Morricone uses several explosive harmonic glissando gestures or "jet whistles." Even in the closest thing to a theme in the cue (the repetitive motif seen in Figure 4.4a), a percussive, overblown attack is used. The overblowing here creates the "biting" sound; in addition to a very audible breath noise on each note, a prominent twelfth sounds above the written pitches (seen in the spectrogram in Figure 4.4b). The flutes and drums continue through the following flashback

[32] Bratby, "'Darmstadt Taught Me How to Compose.'"

[33] Morricone, Anderson, and Miceli, *Composing for the Cinema,* 178.

sequence, where we see the catalytic event for the film — the Guaraní martyr a Jesuit priest by tying him to a cross and sending over the Iguazu Falls. The bass drum gives these scenes a bellicose hue. The raw timbres of this music seem to confirm that the Guaraní are dangerous and alien, at least to the Europeans.

Figure 4.4: a) Transcription of wood flute motif and b) graph of its frequency content (created with SPEAR software)



Cue 2: “The Falls”

This cue introduces the character Father Gabriel. We hear the voice of the emissary, still dictating his letter, as a voiceover. Directly on the shot introducing Father Gabriel, the emissary utters the line “how could the Indians have supposed that the death of that [martyred] priest would bring among them a man whose life was to become inextricably intertwined with their own.” At that same moment, Morricone tags Father Gabriel with a wood flute playing “The Falls” theme from Figure 4.2b, but quietly — not with the volatile,

overblown flute timbre from moments before. This is important to note: Gabriel is the main Jesuit protagonist in the film, and in a bit of timbral foreshadowing Morricone introduces him with the soundworld of the Guaraní, not with that of the Europeans. Put another way, the first step in Gabriel's *timbral progression* though the film is a Guaraní wood flute, not a western instrument. Furthermore, Morricone does not use wood flute timbre in an overblown state here. This begs the question, what is the timbral prototype of the wood flutes?[34] Is it the overblown or the non-overblown state? This music suggests that Gabriel can appeal to a different side — a different timbral facet — of the Guaraní.

Cue 3: "Climb"

This cue accompanies Father Gabriel as he responds to the earlier martyrdom and ascends the steep cliffs of the Iguazu Falls to contact the Guaraní. Morricone uses orchestra exclusively. He uses melodic gestures that trend upwards, certainly helping the closeup shots of Gabriel "look" like they are ascending (Figure 4.5). But the effectiveness of this cue is created by its terraced buildup of texture. String tone accumulates throughout from low double basses at the opening to high violins at the closing tutti. Horns intone the "Falls" theme halfway through the cue. Once a registral layer is added, it remains until the end. Low timpani hits doubled with low strings seem to resound from the bottom of the chasm as Gabriel ascends, reminding us that he is a long way up from the ground. The final tutti chord traces the entire register — or topography — of the orchestra. The additive compass or caliber of this cue describes the sheer height of the falls.

[34] Timbral prototype can be defined as an instrument's ordinario style of playing, that is, how a note would be played in the absence of any special instructions. For a modern violinist, the timbral prototype would be played con vibrato ("with vibrato"). If we give this prototype a value of 2, poco vibrato ("little/less vibrato") would be 1 and senza vibrato ("without vibrato") would be 0. In the other direction, molto vibrato ("much vibrato") is 3 and moltissimo vibrato ("the most vibrato") is 4. Fred Lerdahl, "Timbral Hierarchies," *Contemporary Music Review* 2, no. 1 (1987): 140.

Figure 4.5: Stills of Gabriel's ascent up the falls

Cue 4: "Gabriel Meets the Guaraní"

After climbing the falls, Gabriel goes to the jungle and attempts to communicate with the Guaraní using music. He unpacks his oboe and begins to play the "Gabriel's Oboe" theme (Figure 4.6a). Morricone alters this oboe solo using reverberation. First, we see only closeups of Gabriel playing alone, and no reverb is used. Then the solo is suffused with reverb as we see long shots of the jungle vista (Figure 4.6b). Finally, the reverb is taken away as closeup shots of the Guaraní are shown and drums can be heard. Rick Altman calls this kind of alteration "point-of-audition" sound. Point-of-audition sound typically begins with a shot of a sound source accompanied by an unaltered recording; on subsequent shots of an auditor, reverb is often introduced to convey the distance from the sound source to the auditor. [35]

Smalley's space-form gives us more precise language to describe what is happening. The solo starts in Gabriel's gestural space, then reverb projects his musical message to the Guaraní out into the larger space of the jungle. Once the reverb is taken away, we *aurally* zoom back into the oboe's gestural space, but we (forebodingly) do not see shots of Gabriel — we instead see closeups of the Guaraní (Figure 4.6c). They have heard Gabriel's message and have come into his space with weapons. Morricone amplifies the suspense with drums. Not only do we associate drum timbre with the Guaraní at their more bellicose, but the

[35] Rick. Altman, *Sound Theory, Sound Practice* (London: Routledge, 1992), 251.

drums fill out ensemble space under the closeups of the Guaraní. This ensemble suggests a larger space that the viewer cannot see — there may be hundreds of Guaraní warriors closing in on Gabriel.

Figure 4.6: Stills of a.) close-up of Gabriel playing oboe; b.) long shot of jungle; c.) close-up of Guaraní warrior

The Guaraní emerge from behind the trees and surround Gabriel. Some approach closely with spears; some only listen, almost transfixed. Gabriel continues to play nervously, but a Guaraní elder snatches the oboe and smashes it. One of the elder's sons retrieves the pieces of the oboe and shows them to Gabriel, who shakes his head saying it is beyond repair. The elder's son consults briefly with the other Guaraní, and then hands the oboe back to Gabriel — Gabriel has been accepted into the fold.

At this moment Morricone begins a non-diegetic presentation of Gabriel's oboe theme accompanied by string orchestra. Sergio Miceli finds the strings here perhaps "extraneous" to the development of the film. He goes on to say, however:

> [The strings'] insertion imitates the parts of the *a cappella* chorus and as a result presents melodic recognizability against tone color diversity. But this insertion of the timbre of the strings is enough to insinuate into the piece a stylistic swerve and a temporal slide. This is the music of artifice that reveals the falling of the curtain. At the point of transition between fiction and reality, it offers itself as such to the spectator. In this gesture I see even a secret autobiographical allusion, a declaration of belonging, of artistic and spiritual identification (a little like when Renaissance painters would make a self-portrait in an angle of an altarpiece).[36]

[36] Morricone, Anderson, and Miceli, *Composing for the Cinema*, 177.

Miceli hints at space-from aspects of the cue that amplify the effect of Gabriel joining the fold. The "tone color diversity" Miceli references is oboe above strings. These two timbres are disparate but begin working together immediately after the Guaraní welcome Gabriel. The gestural space of Gabriel's oboe has been joined with the larger ensemble space of the strings, and a very "wet" reverb used in the recording gels the two together. I disagree with Miceli's statement that this is simply "music of artifice." The behavior of the musical ensemble (oboe plus strings) is a direct musical analog and perfect complement to the visuals (Gabriel plus Guarani) — so much so that I thought Morricone was engaging in subtle Mickey-Mousing at this moment when I first viewed the film.[37] I agree with Miceli, however, that the strings introduce a "stylistic swerve and a temporal slide." On a deeper level, Morricone is engaging again in timbral foreshadowing. Miceli likens the strings to a choir, pointing to a moment later in the film when Morricone uses singing as a feature of the Guaraní's timbral progression. Morricone scores the strings for this iteration of Gabriel's theme in a chorale-like manner, not unlike the Jesuit choral anthems Gabriel will teach the Guaraní to sing later in the film. It is these timbral progressions — mixing characteristics from the different soundworlds — that create the "stylistic swerve" and "temporal slide," transforming the characters and progressing the narrative forward.

Cue 5: "Remorse"

Morricone would often compose longer pieces of music that a director could cut and paste into a film as they saw fit. Cue 5 is extracted from a later cue, Cue 9 "Remorse." Here

[37] My disagreement with Miceli is likewise subtle. I do not think that this is the exact moment where the "curtain falls" between fiction and reality, especially since Morricone has already made extensive use of the string ensemble in his score. What comes across more here, I think, is Morricone's brilliant use of solo instrument joining a larger group — or, a solo gestural space joining a larger space — and tying this together with visuals showing the same thing into a larger audiovisual behavioral space.

it accompanies scenes of the slave-trader Rodrigo as he kills or captures the Guaraní as slaves. Thematically, the music is very simple — the "Falls" theme is stacked and planed in fourths, creating increasingly dissonant chords.

More importantly, however, it is scored primarily for strings. This timbral choice could be interpreted in multiple ways. In the string scoring we have heard so far, we can deduce a neutral timbral prototype: ordinario, con vibrato, arco. The strings here resemble the non-vibrato glissando strings from the opening that put us in a state of alarm, but they progress to even more agitated states: tremolo, non-vibrato, marcato attacks, sul ponticello, sharp pizzicato. Morricone is flipping the script with timbre; where at the beginning he was alerting us to the potential danger of the Guaraní, here he is doing the same with the European slave-traders. Another possible interpretation of this timbral choice associates the strings with the Guaraní. The strings in the last cue, according to my reading, represented the larger group of Guaraní accepting Gabriel. Here, he has not only shed his oboe *Leitklangfarben*, but has taken on the Guaraní 's string timbre, and even their heightened emotions as conveyed by agitated playing styles.

Low bass drum hits are scattered throughout this cue; I described similar bass drum hits from Cue 1 as "bellicose." Morricone said he wanted the bass drum to mimic the sound of the firearms seen in the film, and the firearms belong to Rodrigo's band of slave-traders, not the Guaraní.[38] We can retroactively apply the warlike association of bass drum timbre to the soundworld of the Europeans — not that of the Guaraní.

[38] Morricone, Anderson, and Miceli, *Composing for the Cinema,* 178.

Cue 6: “Asunción”

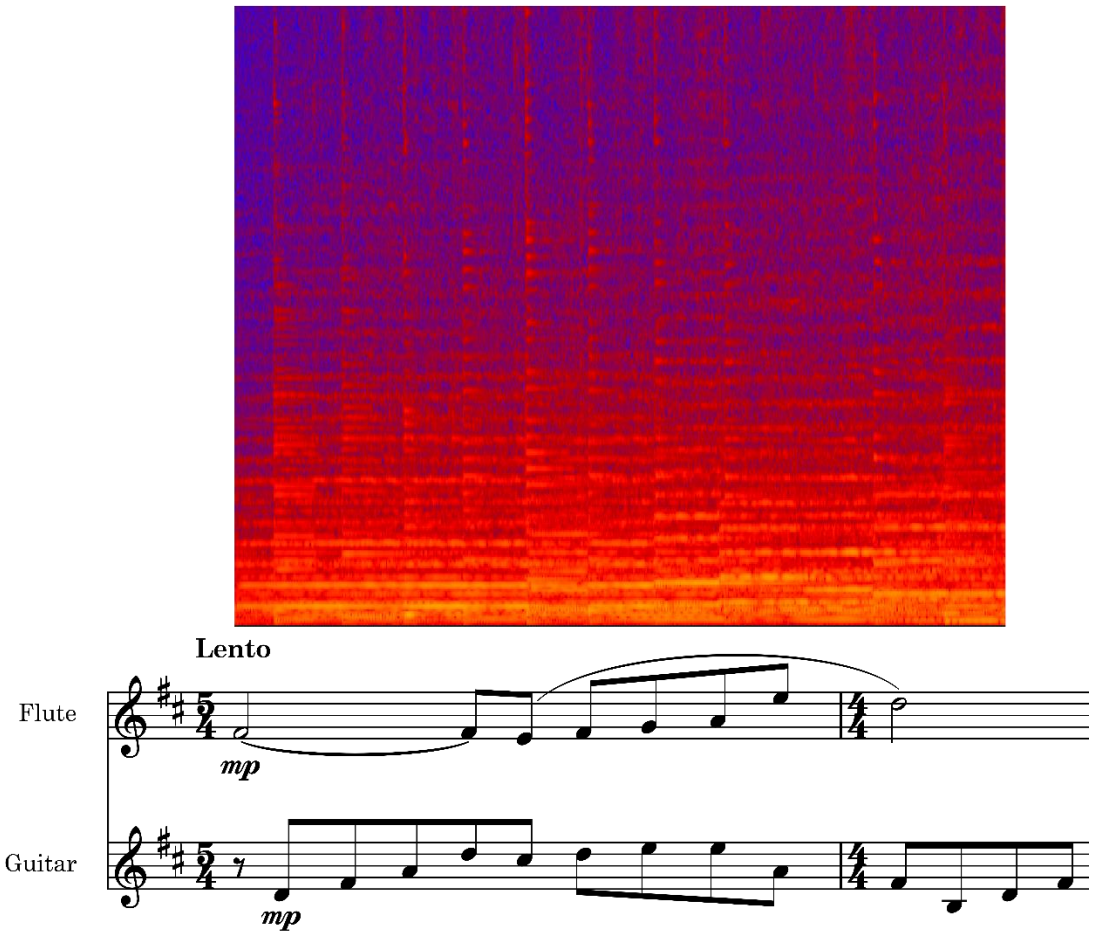
This cue accompanies Rodrigo as he brings a cartful of captured Guaraní into the town of Asunción to be sold as slaves. It introduces a theme Morricone wrote for the Guaraní called “Vita Nostra.” “Vita Nostra” is typically sung, complete with lyrics in Latin that Morricone himself compiled. Here, however, the theme is played on overblown wood flutes accompanied by low percussive piano, drums, and pizzicato and marcato strings. Gone is the rhythmic freedom of the first Guaraní cue; the flute theme feels oppressively boxed into the driving pulse of the accompaniment. Morricone’s timbral flip from the earlier cue continues — now the string and percussion timbres color the Europeans as bellicose and dangerous as we see them riding atop horses and brandishing guns. The Guaraní are tied up and rounded into the city square. We can now interpret their overblown flute state as it probably was all along — as a state of terror.

Cue 7: “Brothers”

After delivering the Guaraní to merchants, Rodrigo meets with his brother Felipe. Morricone scores the meeting with a simple duet for concert flute and classical guitar accompanied by light string orchestra. Moving beyond the well-worn trope of associating guitar timbre with Spanish characters, a musical *behavioral space* that coincides with the visuals is created. In the scene, Rodrigo is training Felipe in horse riding. Spatially, Felipe is saddled on a horse while Rodrigo stands on the ground holding the reins. If the reader will forgive this trite simile, the flute (Felipe) is set higher in register than the guitar (Rodrigo). The spectromorpholgy of the flute here is significantly different than the guitar’s — whereas the former has a soft attack and vibrato continuation, the latter is all initial attack with very little (in this case) vibrato. The spectrograph in Figure 4.7 shows these disparate

spectromorphologies and reveals that the guitar attacks dominate more of vertical spectral space than the ear might detect; Rodrigo is the dominant brother. We have already heard the first step in Rodrigo's timbral progression: the sharper attacks of marcato and pizzicato strings in Cue 5. The guitar here represents Rodrigo at his more domestic, perhaps, but he is still harder and more forward than his brother. Rodrigo is especially forward with his assumed fiancée Carlotta (who briefly joins this scene), confident that she will soon marry him.

Figure 4.7: Transcription of flute/classical guitar duet excerpt from "Brothers" with spectrogram superimposed (spectrogram created with Sonic Visualizer software)



Cue 8: “Carlotta”

In this scene, Carlotta sits with Rodrigo alone. She confesses she is in love with Felipe. We hear a guitar solo over string accompaniment. The flute from the previous cue is gone. Rodrigo’s guitar timbre sounds more strident and *marcato* as it ticks away a low B pedal point in half-notes. In a brilliant rhythmic gesture, Morricone ends this cue with the opposite of a fade-out: Carlotta begs Rodrigo not to hurt Felipe and steals away; Morricone doubles the ticking pedal point to a quarter-note pace and the guitar timbre becomes even more strident. The cue ends suddenly, and we are left in suspense of Rodrigo’s next move.

Cue 9: “Duel/Remorse”

Rodrigo bursts into a room where Felipe and Carlotta lie naked together in bed, and lures Felipe into a duel. Morricone uses loosely-structed music not unlike that of Cue 1, with alarming strings, high toms, and — most prominent in the mix — a tam-tam, hit and scraped with a triangle beater. The percussion instruments have a spectromorphological profile like the guitar’s; Rodrigo’s strident guitar timbre from the last cue has exploded into attack-heavy, toneless, and volatile percussion impulses.

Rodrigo kills his brother in the duel. We cut to him sitting alone in a monastery, refusing to speak to anyone. Father Gabriel has come to Asunción, and a fellow Jesuit asks Gabriel to consult with Rodrigo. As the two meet, Morricone’s underscore strips Rodrigo of his guitar and percussion timbres. Muted, non-vibrato strings sound out the dissonant quartal harmonies first heard in Cue 5, but devoid of any vigorous or agitated continuations like tremolo or sul ponticello.

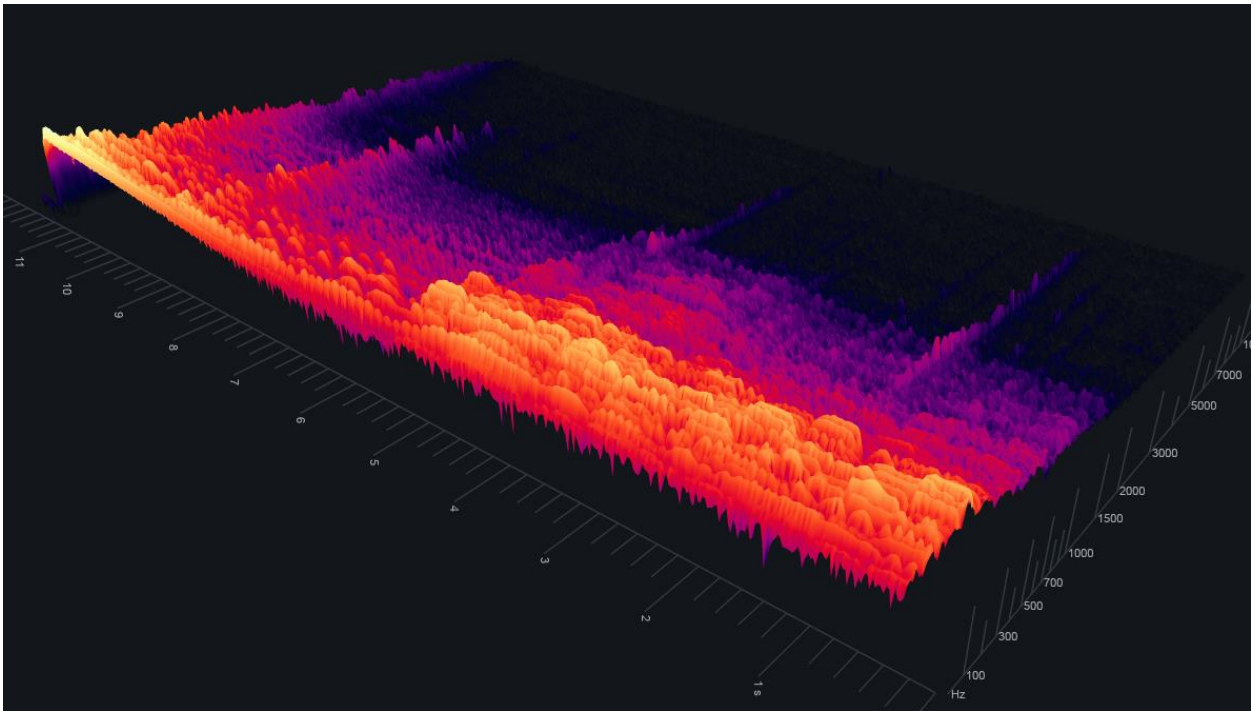
Cue 10: “Penance/Gabriel’s Oboe I”

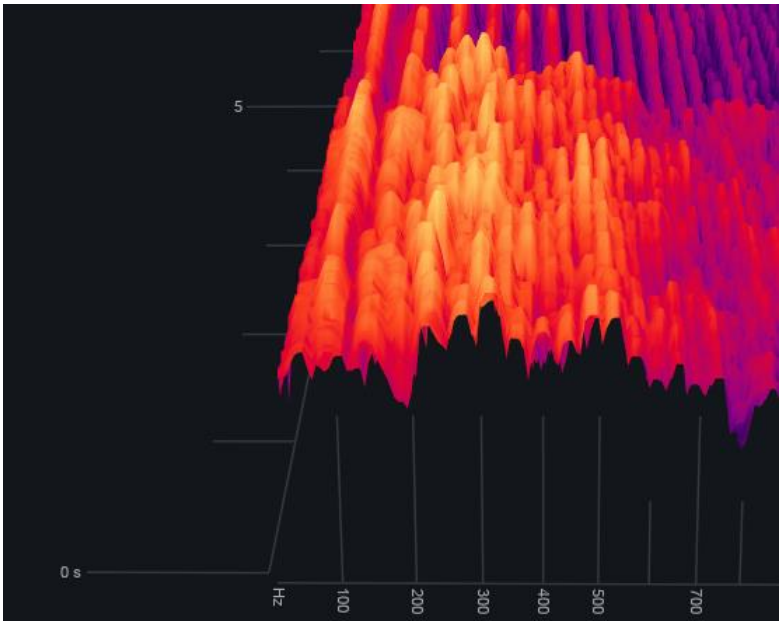
Gabriel challenges Rodrigo to help the Jesuits build the San Carlos mission as penance. Rodrigo accepts, and joins their arduous ascent up the cliffs. He aggravates his penance by strapping a heavy bag of armor to his back; he struggles, and some of the Jesuits plead with him to drop his bag but he stubbornly refuses. The Guaraní greet the Jesuits at the top warmly, but they recognize and want to kill Rodrigo. Gabriel speaks to the Indians who then cut the armor from Rodrigo’s back, forgiving Rodrigo.

Morricone uses the same additive textural procedure from Cue 3, “The Climb.” In Cue 10, however, the low register constantly threatens any upward progress. Bassoons, low piano, bass drum, and double basses drag the ensemble down. The bassoons, especially, are prominently featured. They sound oppressive, and they look oppressive — observe the entrance of the contrabassoon ostinato in the spectrogram below (Figure 4.8a).[39] Their timbre cuts through sound effects in the final mix. Figure 4.8b shows the same spectrogram from another angle; the harmonic-rich contrabassoon dominates spectral activity from about 35 Hz to almost 600 Hz. Standard bassoons join an octave higher in repetitions of the ostinato, and the low double-reed ensemble thunders for almost three minutes of the three-and-a-half minute cue. Morricone uses the bassoons here *almost* beyond the threshold of what an audience could stand — stubborn and unyielding, like Rodrigo.

[39] I mean “look” here, obviously, in the spectrogram. However, I also imply “look” in the sense that some viewers may picture the large bassoons bleating out this figure and get a richer experience via Smalley’s concept of s*ource-bonding.* See my chapter on the *Star Wars* score, p. 56.

Figure 4.8: a) Spectrogram showing contrabassoon entrance at 00:06 in "Penance;" b) same spectrogram viewed from another angle (spectrograms created with iZotope Insight 2) [note: Insight 2 displays the time in seconds backwards]





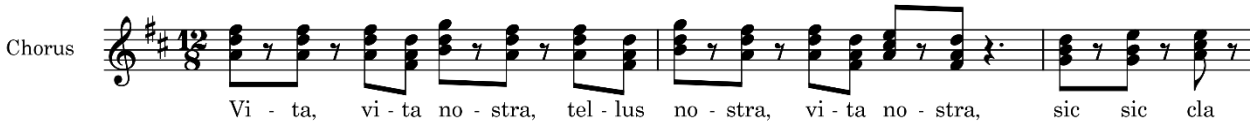
We hear double-reed timbre even as a Guaraní warrior cuts the bag from Rodrigo's back. An English horn plays the "Gabriel's Oboe" theme an octave below where it usually heard. It is only after a long closeup shot of Rodrigo sobbing, after he realizes that the Guaraní have accepted him, that a lighter oboe takes up the theme. Strings fill ensemble space as they did in Cue 4 for Gabriel's acceptance. Rodrigo's timbral progression — from low bassoons to English horn and finally up to oboe — suggests that he has shed the weight not only of his armor, but of his sins. He renounces his past and begins to study as a priest.

Cue 11: "Gabriel's Oboe II/Vita Nostra"

The film flashes forward in time and we see a montage of Rodrigo and the Guaraní constructing the buildings of the mission. The "Gabriel's Oboe" theme is played by a solo wood flute over string ensemble accompaniment.

A new timbral layer is slowly added: the choral theme Morricone composed for the Guaraní called "Vita Nostra" (Figure 4.9).

Figure 4.9: Transcription of "Vita Nostra" theme



Alessandro De Rosa says this theme "doesn't look like much on paper, yet its sonic result, obtained through the selection of voices and their specific timbres, produces a very significant and strong identity that makes it memorable."[40] De Rosa is referring to the choirs

[40] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 267.

Morricone employed for the recording. In addition to the professional London Voices choir, he mixed in the more "untrained" sounds of the Barnet Schools Choir.[41] The children's chorus adds significant imperfection to the (assumed) Guaraní singing, with entrance notes and sustains slightly off throughout.

This choral layer represents a new step in the Guaraní timbral progression. Until now, Morricone has represented them with instruments — here they are given *voice*.
It must be remembered, of course, that this is not the authentic voice of the Guaraní. Morricone invented this music (complete with his own lyrics) and grafted it onto them. This is possibly why Miceli detected "a secret autobiographical allusion, a declaration of belonging, of artistic and spiritual identification" in Morricone's choral cues for *The Mission.* But in so doing, how much did Morricone's music act as its own kind of colonizing force on the Guaraní? How much did it contribute to the film's much-criticized representation of them? As Golding noted, "the sum of the Guaraní's existence in the film" is that "colonisation happens to them."[42] In 1986, perhaps, this was okay, but no longer. Film composers have an important responsibility to represent cultures more faithfully in their scores going forward. This applies especially to the use — or misuse — of a culture's distinctive timbres.

Conclusion

Morricone's score for *The Mission* has not suffered the same fate as the film itself, which has largely been forgotten (in large part due to its poor depiction of the Guaraní

[41] James Southall, "The Mission," *Movie-Wave.Net* (blog), July 11, 2020, http://www.movie-wave.net/the-mission/.

[42] Golding, "Why the Music of 'The Mission' Is More Enduring than the Film Itself."

described above).[43] Many of Morricone's most performed works come from *The Mission*, most notably "Gabriel's Oboe," "On Earth as It Is in Heaven," and "Vita Nostra" (the composer claimed these cues were "must-haves" at his popular film music concerts).[44] The score earned him an Academy Award nomination, a Golden Globe Award for Best Original Score, and a BAFTA Award for Best Music, and was selected as the 23rd best film score in American Cinema in the American Film Institute's 100 Years of Film Scores. The score put him back on the international stage and helped him shed the typecast of being only a composer for Westerns.[45] But beyond its beloved themes, the real art of *The Mission* score is found in Morricone's timbral invention. His multifaceted timbral progressions propel and augment the film's narrative, and greatly reward repeated viewings.

[43] Golding, "Why the Music of 'The Mission' Is More Enduring than the Film Itself."

[44] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 264.

[45] Ibid., 265.

"And Just As Reckless As You": Timbral Invention in Morricone's Scores for the Leone Westerns

Morricone gained international fame scoring Sergio Leone's Westerns, but his work in popular music got him the job with Leone in the first place.[46] When Morricone was recommended to score Leone's 1964 film *A Fistful of Dollars,* he had already scored two low-budget Westerns for Italian cinema, *Duello nel Texas* (1963) and *Le pistole non discutono* (1964). Leone hated not only these films but also Morricone's scores for them. Morricone had copied the lush Hollywood Western scoring style of Max Steiner and Dimitri Tiomkin, complete with "fully orchestrated main themes based on a four-chord structure," Mickey-moused "hoofbeat drums," and slick cowboy ballads.[47] Leone loved, however, a standalone popular arrangement Morricone had done of Woody Guthrie's song "Pastures of Plenty" for the American singer Peter Tevis. In this arrangement, Morricone had experimented with the strange, career-making sounds cited by Morricone's New York Times obituary writer ("haunting whistles, cracking whips, gunshots"), and even added electric guitar and chanting male chorus. Leone wanted to make Westerns that defied the norms of the genre. He recognized that the creator of this subversive arrangement was the perfect musical accomplice for his subversive films.

[46] Morricone and Leone were schoolmates in the 1930s but had not maintained a friendship. They were reacquainted in the early 1960s; Leinberger, *Ennio Morricone's The Good, the Bad and the Ugly : A Film Score Guide*, 4.

[47] Christopher Frayling, *Spaghetti Westerns Cowboys and Europeans from Karl May to Sergio Leone* (London: Tauris, 2012), 147.

Morricone scored Leone's entire cycle of Westerns — six films in the time span from 1964 to 1973 — with a consistent compositional approach throughout. [48] To describe this approach, musicologist Sergio Miceli developed a tripartite "segmented structure" model; the three segments of Miceli's model are classified by their timbral or organological features, inviting a further exploration of Morricone's sonic palette. [49] The three segments are 1) *Minimal* or *Archaic*; 2) *Rock*; and 3) *Pseudo-Symphonic*. Miceli's model also supplements a space-form reading of the scores. I will describe timbral and spatial aspects of the three segments below, highlighting how they interact with Leone's cinematic style. I will then analyze representative excerpts from (primarily) *For A Few Dollars More* and *Once Upon a Time in the West* using Miceli's model as a frame.[50] I will also use Miceli's system of musico-dramatic levels — the *internal level,* the *external level,* and the *mediated level.* The *internal* and *external* levels correspond with the conventional descriptors of *diegetic* and *non-diegetic* film music, respectively. The *mediated* level is Miceli's innovation that describes "a situation in which the character in a film expresses himself or herself not only and not so much through verbal language but rather through the music."[51]

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[48] This cycle includes: *A Fistful of Dollars* (1964), *For a Few Dollars More* (1965), *The Good, the Bad and the Ugly* (1966), *Once Upon a Time in the West* (1968), *Duck, You Sucker!* (also known as *A Fistful of Dynamite* and *Once Upon a Time… the Revolution)* (1971), and the Leone-produced western parody *My Name Is Nobody* (1973).

[49] Morricone himself greatly approved of Miceli's model. Morricone, Anderson, and Miceli, *Composing for the Cinema*, 171.

[50] I choose *For a Few Dollars More* because, in my opinion, it contains all the timbral and compositional innovations of *A Fistful of Dollars* but integrates much more experimental music. Because of the success of the earlier film, the second film had a dramatically increased budget and allowed Leone and Morricone more room for experimentation. Morricone called *For A Few Dollars More* "a decisive step forward" precisely because of its timbral experimentation. (MIHOW 47). Furthermore, I choose *Once Upon a Time in the West* is often considered Leone and Morricone's finest collaboration, and frankly I just like it a lot.

[51] Morricone, Anderson, and Miceli, *Composing for the Cinema*, 102.

Minimal segment

Sounds in the Minimal segment are almost exclusively situated in gestural space. Mostly, they are made with solo human whistling or singing, or with "simple, humble instruments."[52] Miceli identifies these instruments as *marranzano* (mouth harp), *argilophones* (mallet percussion instruments), recorders, panpipes, harmonica, and acoustic guitar. Morricone often introduces cues in the Leone Westerns with exposed solos from this sound set, sometimes accompanied by simple percussive instruments: whips, anvils, castanets, bells, and so on. Like the Jesuit's oboe from *The Mission,* these simple instruments would have been believably played by characters in the rough setting of the 19th century American West. Miceli calls these "archaic" instruments; however, Morricone routinely employs non-archaic orchestral instruments in a gestural way also, so I prefer to use Miceli's "Minimal" designation.[53]

Morricone's exposed gestural space solos are the perfect musical analogs to a staple of Leone's cinematic style — extreme close-up shots. Leone meticulously researched the history of the American West and wanted to capture its "grit and grime" in his films.[54] He did this especially through close-ups of his (mostly male) actors, who were presented as they would have been in the Old West — sweaty, dirty, and unshaven. His close-ups magnified every wrinkle of his actors' faces and every movement of their mouths and eyes. We as viewers cannot escape this magnification. We can almost touch and smell the screen.

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[52] Morricone, Anderson, and Miceli, *Composing for the Cinema*, 169.

[53] See foregoing discussion of the "Pseudo-Symphonic segment"

[54] John Wesley Fawell, *The Art of Sergio Leone's Once Upon a Time in the West : A Critical Appreciation* (Jefferson, NC: McFarland, 2005), 113.

Morricone's Minimal sounds seem to have a similar synesthetic effect; we *feel* as if we are the ones doing the whistling. We can feel the twang of a mouth harp against our teeth or the vibration of guitar strings under out fingers. Zachary Wallmark proposes that this kind of sensory cross-pollination happens with timbre. Citing his research in the growing field of embodied cognition, Wallmark claims that "timbre is the sonic result of material engagement [i.e. singing or playing an instrument], imbued with the audible traces of bodies in motion, and, as recent neurological research has established, we motorically mirror (consciously or unconsciously) the fleshly circumstances of production when we listen."[55] Claustrophobic gestural space heightens this "motoric mirroring" effect, and Morricone's music virtually connects us to the screen, much like Leone's close-up shots.

Minimal segment sounds make the transition from sound effects to music seamless. Because many of these sounds are made with human utterances or simple instruments, it is plausible that they emanate from the *internal* world of the film itself. Morricone and Leone often exploit this plausibility to great effect.

Rock segment

Rock segment sounds are delegated exclusively to the electric guitar. Morricone was certainly not the first film composer to employ electric guitar timbre; just two years before *A Fistful of Dollars,* for instance, John Barry used it to great effect in the popular *James Bond* films. Notably, too, Masaru Sato used it liberally in his score for Akira Kurosawa's *Yojimbo* (1961), the film that initially inspired Leone to make his Westerns.[56] But Morricone's use of

[55] Wallmark, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise," ii.

[56] Frayling, *Spaghetti Westerns Cowboys and Europeans from Karl May to Sergio Leone*, 55.

electric guitar in the Leone Westerns was so essential, so idiosyncratic, so influential — and so strange — that it requires more scrutiny. For many (including myself) the electric guitar *is* the signature sound of Morricone's Western scores. Several of the observations I make below can be applied more generally to other timbral aspects of his scores.

The electric guitar's amplification and distortion project the gestural space of the acoustic guitar — the electric guitar's Minimal segment counterpart — out into the greater expanse of ensemble or even arena space. This explosion of a gestural space sound into a larger space is very powerful; like the guns that Leone's characters wield, amplification and distortion weaponize the sounds of the guitar. (Morricone even told his guitarist Bruno D'Amario Battisti that the distorted tone for *Once Upon a Time in the West* should "sound like a stab.")[57] And Leone's heroes often let their guns do the talking. Leone kept his scripts spare; when his heroes do speak, they express themselves "in brief aphorisms" — John Falwell notes that it is really Morricone's music that "expresses their thoughts and gives body to the deepest parts of their character."[58] Distorted electric guitar timbre makes Leone's characters seem more dangerous — much quicker on the draw.

Distorted electric guitar timbre imparts a rough hue to Leone's characters. The sound is literally rough in the sense that it adds noise or fuzz to an otherwise focused guitar timbre. Motor-mimetically, Wallmark likens distorted guitar to a rougher grain of voice; if we try replicate a distorted guitar sound by singing, for example, it requires considerable, even painful effort to add noise.[59] Viewed from this aspect, distorted electric guitar makes

[57] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 79.

[58] Fawell, *The Art of Sergio Leone's Once Upon a Time in the West : A Critical Appreciation*, 178.

[59] Wallmark, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise," 89.

Leone's characters seem even rougher than the Minimal segment sounds do. These are hard characters exerting themselves in a hard world.

Viewed from another aspect, the electric guitar can be interpreted as more cynical. Leone's characters seem to be interested only in themselves. Distorted guitar sound is a perfect fit for them; it does not mix well with the Minimal or Pseudo-Symphonic sounds — it stands out. Furthermore, distorted guitar timbre is deceitful. In an experiment, Wallmark had test subjects rate sounds according to the higher or lower perceived bodily exertion it took to make them. Distorted guitar rated very high, notwithstanding that the sound is produced rather easily:

> Higher levels of *exertion* were heard in the distorted timbres, even though the physical means of producing guitar distortion do not require increased physical effort. It could be argued that the acoustic qualities under observation somehow "trick" the listener into hearing increased bodily exertion, although no more work is required to produce distorted electric guitar than a clean tone. If the voice is primary in mapping timbral qualities onto embodied experience, then perhaps listeners were responding not to the perceived pick hitting the string, an act involving fingers, steel, and transducers, but rather to what this timbre *might feel like* to produce vocally.[60]

In other words, Morricone's distorted guitar timbre colors Leone's characters as not only larger-than-life, dangerous, rough, hard, and egomaniacal, but also as shifty. And cynicism and deceit were at the heart of Leone's Westerns, opposing them from the films of America's foremost Western director, John Ford. Ford "championed the value and force of the group" — his heroes were often loners and outcasts but came together in the end.[61]

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[60] Wallmark, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise," 89.

[61] Ephraim. Katz, Fred Klein, and Ronald Dean. Nolen, *The Film Encyclopedia : [The Most Comprehensive Encyclopedia of World Cinema in a Single Volume]* (New York: Collins, 2005), 490.

Leone admired Ford's films but considered Ford's West a utopia. He rejected Ford's mythology "with the edginess and rancor of a rebellious son" and populated his films with anti-heroes.[62] These are not courageous, upstanding Ford-ian characters — we never really know what side they are on. Perhaps Leone's cynicism trumped his desire for realism when it came to Morricone's scores — there is nothing realistic about an electric guitar in the 19th century American West, unlike the more period and setting-appropriate Minimal segment instruments. But its timbre greatly enhances Leone's anti-heroic protagonists.

Also "with the edginess and rancor of a rebellious son," electric guitar timbre carries a counter-cultural and subversive element (Miceli reminds us of the obvious "sex, drugs, and rock 'n' roll" association).[63] The timbre was even illegal — around the time Morricone started working with Leone, "(I Can't Get No) Satisfaction" by the Rolling Stones had been banned from Italian public radio and television "precisely because of Keith Richards's demonic distorted riff."[64] Morricone might have been aware of this given his work in popular music. I hope so, because it adds a delightfully subversive element to Morricone's Western scores — he was openly flaunting the rules. Viewed in this way, distorted guitar is weaponized further against the good taste of the musical establishment. Whether it was out of defiance or (in some cases) ignorance, Morricone and Leone were brothers-in-arms contravening the established norms of the Hollywood Western.[65]

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[62] Fawell, *The Art of Sergio Leone's Once upon a Time in the West : A Critical Appreciation*, 45.

[63] Morricone, Anderson, and Miceli, *Composing for the Cinema*, 170.

[64] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 79.

[65] Leone was unaware, for example, of the Motion Picture Production Code (or "Hays Code") rules that censored America's filmmakers from 1934 to 1968 — the Hays Code rule for gunplay dictated that a character being struck by a bullet from a gun could not be in the same frame as that gun when it was fired. See Christopher Frayling's comments in Howard Hill et al., *Once Upon a Time : Sergio Leone.* (Brisbane, Qld.: University of Queensland [distributor], 2015),08:54.

Pseudo-Symphonic segment

Miceli defines the Pseudo-Symphonic segment as using "elements that are borrowed from the system of the 'classical' music tradition: string orchestra and vocalizing chorus."[66] These two massed timbres situate the Pseudo-Symphonic segment primarily in ensemble space. As noted earlier, however, some orchestral instruments are used as soloists in gestural space, especially flute, English horn, and trumpet. Morricone often pits a gestural space solo sound over a string ensemble and/or chorus for dramatic effect.

For all the grit, grime, and subversion of the Minimal and Rock segments, Miceli says that the Pseudo-Symphonic segment represents a "return of reason, in which a cloyingly rhetorical, triumphal, autocelebratory tone and an absolutely conventional timbral and harmonic system dominate."[67] He suggests that the segment lends Morricone's scores a bit of higher-brow gravitas, as it allows "lower-middle-class taste" to "recover its proper reference points and security," especially contrasting the feather-ruffling Rock segment. While I think this is true in many instances, it ignores the many spots in the Leone scores where Morricone uses a very experimental use of Pseudo-Symphonic timbre, which I will explore in the upcoming analyses.

For a Few Dollars More: Opening/Title Credits

The cold open of *For a Few Dollars More* trains the audio-viewer to hear sound spatially. We see a beautiful mountain vista, unpopulated except for a single horse and rider in the distance (Figure 4.10). There is no music; we hear a blanket of ambient wind sound.

[66] Morricone, Anderson, and Miceli, *Composing for the Cinema*, 169.

[67] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 170.

Situated inside this space we hear the horse neighing, reverberated to suggest distance. Above this in the mix — unreverberated, and thus sounding closer to us— we hear the approach of boot spurs and the sound of someone blithely whistling and humming. An attentive viewer who has seen the first of Leone's *Dollars Trilogy (A Fistful of Dollars)* might recognize actor Clint Eastwood's voice. A sharp match strike confirms that these foregrounded sounds are indeed coming from Eastwood's cigar-smoking anti-hero Manco. A gun cocks, and a single shot rings out through the cavernous arena space. We see the horse and rider fall, but we never see Manco. The title sequence then begins.

Figure 4.10: Still of long shot at cold open of For a Few Dollars More

Morricone's score for the title sequence starts in gestural space (presumably Manco's space) with the Minimal segment sounds of a mouth harp and a whistled tune, punctuated randomly with gunshot sound effects. More gestural sounds are added: a recorder answers the whistler's tune and a drum and bell keep time. A Pseudo-Symphonic sound enters to fill out the ensemble, but it is a half-grunting, half-shouting male chorus (certainly not one of Miceli's "absolutely conventional" timbres). This edgy experimental sound acts as a timbral bridge to an edgier electric guitar, which enters and then dominates

the mix. A string orchestra enters next, and a male chorus joins them in a melody, doubled with horns. Orchestral snare drum and timpani nervously beat a martial rhythm. Above this Pseudo-Symphonic bed, however, the Minimal sounds can still be plainly heard. The overall effect of this music is a spatial accumulation; single Minimal sound characters are slowly joined into a motley, unlikely band, and precariously glued together with orchestral sounds. This is a musical microcosm of the film's plot; solitary bounty hunters jockey for position, forging and breaking alliances along the way.

This title sequence also introduces timbres that Morricone will use as *Leitklangfarben* for two of the film's characters. The bounty hunter Manco is typically associated with the whistling sound, and his part-nemesis/part-accomplice Colonel Mortimer is associated with the mouth harp. For Manco, Morricone thought Eastwood's character moved "like the wind;" throughout the film he associates shots of Manco with whistling and whistle-like instruments — recorder and flute.[68] Colonel Mortimer, on the other hand, is equipped with an impressive arsenal of curious guns in the film; the mouth harp, with its own curious steel construction, is an appropriate gestural space sound tag for him. Morricone routinely used *Leitklangfarben* like these to color Leone's characters.[69]

For a Few Dollars More: "Prison Break" and "North or South"

How do the three segments function in dramatic situations? A brief and clear example comes from the "Prison Break" cue in *For a Few Dollars More*. This cue progresses from Minimal to Rock to Pseudo-Symphonic and back. Manco and Mortimer have formed an

[68] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 45.

[69] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 48.

uneasy partnership to take down another bounty hunter, Indio. To lure Indio out, Colonel Mortimer convinces Manco to break one of Indio's gang, Sancho Perez, out of jail. We see a closeup shot of Perez in a jail cell, and suddenly hear a quiet, quick ostinato on solo recorder (Minimal segment). A whistled tune joins the ostinato, and Manco emerges in the jail cell's window. He produces a stick of dynamite and, smiling, winks at Perez; he lights the fuse. This is an especially reckless way of breaking someone out of jail, and Perez recoils and braces himself. At this moment Morricone seems to smile and wink, too, and adds grunting male chorus (Pseudo-Symphonic) and explosive electric guitar (Rock). We cut to a long shot of the exterior of the jail, and a blaring horn chord (Pseudo-Symphonic) punctuates the moment of the dynamite blast. Pseudo-Symphonic strings enter in the wake of the horn chord, and the male chorus continues their grunting as a prison guard shoots at the escaping Perez. Manco and Perez slide into the night on horseback, and the recorder (Minimal) quietly plays the ostinato theme once more as the cue ends.

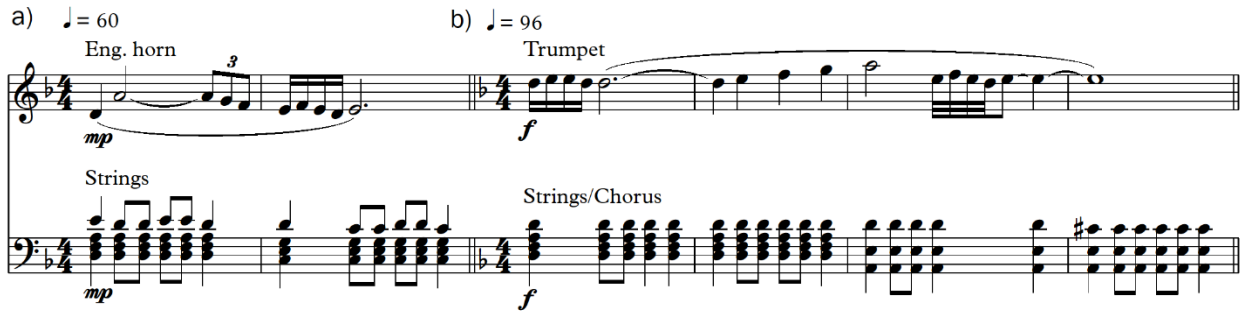
The segment procedure does not always progress in this order, however; in the following cue "North or South" the segments go in reverse. After Indio and his gang break into the El Paso bank and steal its safe, they ride out into the desert. The gang's getaway is shown in beautiful long-shot desert vistas. Dozens of men ride horses along the valley floor in a flurry of activity; Morricone accompanies the shots with a tutti (full strings, a trumpet solo, and a wordless soprano, over strumming guitar and drums). Then in close-up shots, Manco and Mortimer argue about how to go after the gang; the Pseudo-Symphonic level diminuendos to accompany a solo electric guitar as Manco says he will "go it alone." Solos from the Minimal level then take over — first English horn over light strings and then recorder over a single bass drum. Like Manco taking on the gang by himself, the exposed

solos are set in stark relief against the accompaniment, before becoming truly alone in gestural space. The segments do not always match up spatially with onscreen events (i.e. gestural space only for close-ups or shots of single characters, ensemble space for long shots or shots of many characters). For example, directly after the "North or South" cue, Manco rides alone into the town of Agua Caliente and Morricone uses an epic Pseudo-Symphonic texture.

A Fistful of Dollars: "Get Three Coffins Ready" and *The Good, the Bad and the Ugly:* "Il Triello"

This type of homophonic texture, in which a solo instrument is set in relief to a contrasting accompaniment (mostly wind instruments over string orchestra) should be especially noted: it lends the visuals with a kind of "me-against-the-world" feeling, which is especially appropriate for Leone's solitary characters, and Morricone uses it often. Notable examples include 1) *A Fistful of Dollars,* where Manco takes on an entire town by himself — Morricone makes ample use of the cue in Figure 4.11a with English horn over strings; and 2) the famous final "Il Triello" duel from *The Good, the Bad and the Ugly* (Figure 4.11b) where a trumpet solo lends close-ups of each anti-hero a kind of bravura in turns. (This last cue is interrupted often by solo Minimal and Rock segment sounds, especially the experimental sound of an electric guitarist unplugging their instrument and touching the amplifier cable with their fingers, creating a crackle. This strange and literally electric timbre charges the sequence with intense energy).

Figure 4.11: Homophonic textures in a.) "Get Three Coffins Ready and b.) "Il Triello"



For a Few Dollars More: "Chapel Shootout" or "La Resa Dei Conti"

Earlier in the film, the bounty hunter Indio escapes from prison. He immediately sets off to get revenge on the man who turned him in. Indio kills his former captor's wife and child and challenges him to a gun duel in an abandoned chapel. The duel is controlled solely by Indio's musical pocket watch, which we later find out is a watch that belonged to Mortimer's sister.

Morricone's music for this sequence is one of the most celebrated cues of his career, "La Resa Dei Conti" ("The Showdown"). It brilliantly blurs the lines between what Miceli calls *internal, external,* and *mediated* levels of film music. The *internal* level is represented here with the music of the pocket watch, scored for celesta. The celesta's upper register produces sounds that could convincingly come from a pocket watch's chimes. We see the watch, so this internal level music is obvious enough to the audio-viewer.

Morricone then immediately adds strings, which brings us to the *external* level of musical commentary — or does it? What follows plays on an admixture of Minimal, Rock, and Pseudo-Symphonic sounds that confuse and excite simultaneously. After the strings'

entrance, we hear a classical guitar. Minimal segment sounds take on the characteristics and spirit of Rock segment sounds: the classical guitar is played so intensely that it verges on a distorted sound. It is a quasi-weaponized sound; the guitarist for the score's recording, Bruno D'Amario Battisti, recalls that Morricone wanted him to play so loudly here that his strings almost broke off the instrument.[70] Coupled with the lack of dialogue and Leone's close-up shots of the duelists, the music crosses over into the *mediated* level. We feel the duelists' internal tension — we cannot help but tense up our hands and faces as the guitar laboriously pounds out its tremolo figure.

Then Morricone imprecates the Pseudo-Symphonic segment with the twisted spirit of Rock. Classical music's closest version of the electric guitar, the pipe organ, bursts in with a solo. No other "classical" instrument can project a single player's performance as far into arena space as the organ, and Morricone uses a full tutti registration. This huge sound goes on for almost forty seconds, leaving us in rapt anticipation of the guns' power before a bullet is even fired. Within this deconsecrated chapel, it at least seems plausible that a character might be internally playing an organ in the sequence. Thankfully, there is no such player (thankfully because such an effect would creep into parody, or almost slapstick comedy). Instead, organ timbre gives the sequence a ghostly, horrifying color; organ music may have indeed resounded within this dead chapel in the past, but we are now here witnessing a "death ritual."[71] The organ finishes its Bach-inspired music on a half cadence, building suspense; the celesta/pocket watch music returns, bringing us back to the internal level.

[70] David Thompson, Livio Negri, and Happy Valley Films, *Ennio Morricone*, Documentary (British Broadcasting Corporation, 1995), 12:30.

[71] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 47.

The pocket watch music slows, then stops. Indio — who has been made to seem super-human with organ timbre — shoots his rival down.

Once Upon a Time in the West: "Harmonica's Theme" and "Frank's Theme"

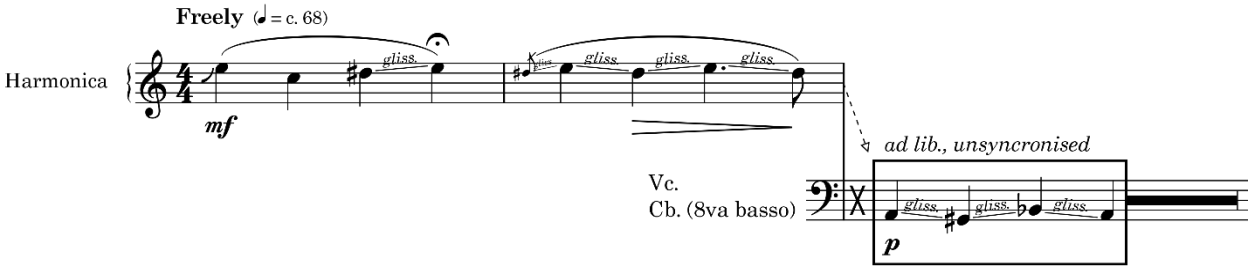
In *Once Upon a Time in the West,* the two characters Harmonica (played by Charles Bronson) and Frank (played by Henry Fonda) are closely and mysteriously linked. Morricone depicts this link in part by giving each of their themes the same harmonization and accompaniment; he often presents their themes together, in fact, depending on dramatic situations. This is a brilliant surface feature, but Morricone's genius lies equally in his timbral invention here. Without spoiling the film's exquisite ending for the reader, I can describe aspects of the instruments and sounds Morricone uses for both characters.

Charles Bronson's character is given no name; he is instead called Harmonica by the other characters for his obstinate playing of that instrument. The harmonica is a Minimal segment instrument, and as noted earlier it is plausible that its sound comes from the *internal* world of the film. Harmonica is often seen playing his instrument, but even when he is not seen the filmmakers suggest his presence with harmonica timbre alone.

More importantly, Morricone colors Bronson's taciturn character with harmonica timbre in two vital ways: 1) the recorded sound of the harmonica is always wet with reverberation, and 2) he relies heavily on the glissando power of the instrument. Harmonica (the character) is reluctant to enter any relationship with others throughout the film, and Morricone's constant reverberation keeps the character distant even when he is seen playing in an extreme close-up. The glissandi gestures add another dimension to Bronson's performance — they help color him as evasive. None of the other characters really know

where they stand with Harmonica. The long, drawn-out glissandi Morricone had his performer use create (like the strings from the first cue of *The Mission)* "a smooth wall without purchases from which to hang pitches," putting the other characters (and the audience) on unsure sonic footing.[72] Morricone amplifies the effect by often letting the harmonica's glissando gestures propagate into the string orchestra in an experimental, avant-garde use of the Pseudo-Symphonic segment (Figure 4.12).

Figure 4.12: Harmonica glissando gestures propagating into string orchestra



The sounds and gestures of Frank's Theme are directly opposed to those of Harmonica's. Morricone uses his most distorted guitar sound in the Leone westerns here. The sound is eruptive and direct; as noted earlier, Morricone told guitarist Bruno D'Amario Battisti that the distortion should make the guitar "sound like a stab" here.[73] Frank is not a distant character like Harmonica. There is little reverberation and no glissando — the electric guitar broadcasts Frank's presence unforgivingly through loudspeaker to ear. Fonda, who typically played a strait-laced hero in American westerns, was controversially cast against type in this film to play the evil Frank. This casting was part of Leone's disruptive filmmaking strategy; Leone "consciously drew out the Fordian iconography" of Fonda but contrarily put

[72] Chion, *Sound,* 208.

[73] Morricone, De Rosa, and Corbella, *Ennio Morricone : In His Own Words*, 79.

him in an "evil role" that Ford would have never given him.[74] Morricone made this subversion even more acute with electric guitar.

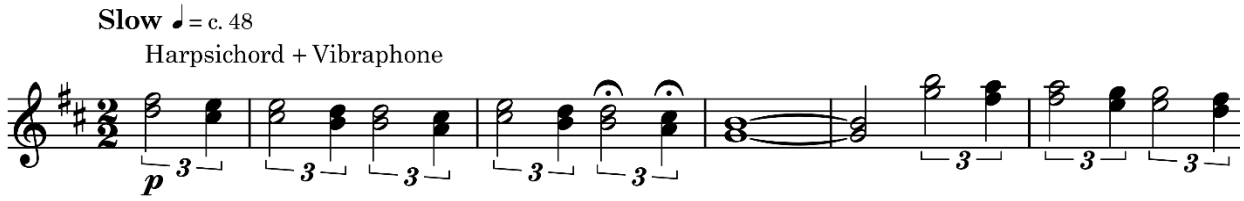
Once Upon a Time in the West: "Jill's Theme"

Morricone accompanies the character Jill's development with a timbral progression. When we meet her, she has just completed the long train journey from New Orleans to join her husband in the fictional town of Flagstone. As she steps off the train into the rough, bustling pioneer town, her elegant dress makes her conspicuous. We hear the busy town: other passengers leaving the train, porters transporting luggage, and internal music played by a distant saloon band, featuring a banjo and an old-time tack piano.[75] Jill searches for her escort. Leone gives a close-up of her face, the sound effects die away, and Morricone's score enters. Morricone timbrally bridges the hard attack of the banjo and tack piano with the similar attack of a harpsichord. The harpsichord searches, too, playing a wandering gesture in conjunct thirds, doubled softly with vibraphone (Figure 4.13). As a Minimal segment sound the harpsichord is as alien in this Old West environment as Jill is. It is part old-world European, part genteel, and it tags Jill (perhaps erroneously) as having a cultured, educated background. Like all Minimal segment sounds, we can *feel* this sound. Each strike of the harpsichord lightly but sharply plucks at our heartstrings as we watch Jill search in vain for her husband's son, who we know has been killed by Frank moments before.

[74] Fawell, *The Art of Sergio Leone's Once Upon a Time in the West : A Critical Appreciation*, 11.

[75] A tack piano is an altered piano in which thumbtacks or nails are placed on the felt hammers of the instrument, giving the instrument a tinny, more percussive sound. Tack pianos are commonly associated with ragtime music, often appearing in Hollywood Western saloons. Appropriately here, too, tack pianos were often used for classical music performances as a substitute for a harpsichord — perhaps influencing Morricone's timbral bridge.

Figure 4.13: Harpsichord/vibraphone figure from opening of "Jill's Theme"

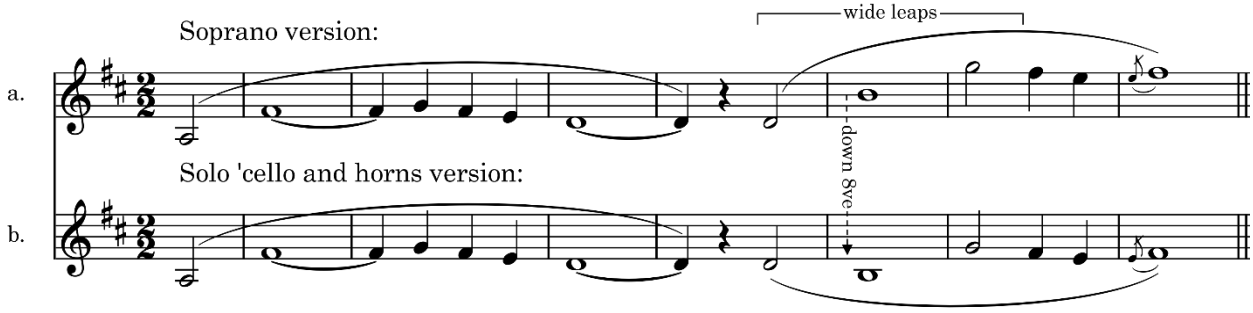


We, the audience, know that Jill is alone; Morricone pulls at our heartstrings even further here, giving us the most intimate timbre of all — the human voice — in an aria for solo wordless soprano set above a string orchestra accompaniment. The solo part, sung beautifully by Morricone's longtime collaborator Edda Dell'Orso, is just as conspicuous over the strings as Jill is in this place. The strings swell and Morricone adds a full tutti complement in ensemble space as the camera pans up on a long shot over the town.

Throughout the film, Morricone assigns Jill's theme not only to Dell'Orso but to other instruments, giving her timbral progression some interesting dramatic implications. Morricone's timbral choices for Jill's progression reveal his genius for applying orchestral technique to visuals. Jill's theme covers a very wide range (over two octaves)[76] and contains several leaps that would be difficult for a lesser singer; the virtuosic Dell'Orso is able to navigate it effortlessly (Figure 4.14a).

[76] There is a high B later in the theme (not shown in Figure 4.14).

Figure 4.14: a.) Transcription of soprano melody from "Jill's Theme" and b.) transcription of same melody as arranged for horn and solo cello



Some instruments are likewise capable of navigating the theme. The violins, for example, replace Dell'Orso's singing in a repeat of Jill's theme directly after the vertical pan long shot. At this moment in the film Jill has found a carriage driver to take her to her husband's house; she looks curiously but contentedly at her new environment, and the violins comfortably play her theme an octave above where we heard Dell'Orso sing it. As Jill continues her carriage ride to her husband's house, however, we start to see scenes of a railroad being constructed. Jill is entering a difficult new life in the frontier — a world that is still being built. Morricone assigns her theme to the horns here, instruments which cannot as easily scale his melody's peaks. He brings the second half of the melody down an octave; the result is like an orchestrational-coming-down-to-earth, or a tempering of Jill's dreamy ambitions (Figure 4.14b). In a fascinating moment later in the film, Jill allows herself to be seduced by Frank in a bid to save her late husband's land. Morricone presents the theme not only in the same decapitated way he did with the horns, but also with just a single cello. Jill is truly alone here and stripped even of her voice.

For a Few Dollars More: "Mortimer Kills Callaway"

I will close my analyses of the Leone Westerns with a *very* brief cue from *For a Few Dollars More* where Morricone does not use theme at all — he uses *only* tone color. Like my opening "sun music" examples, this cue struck me primarily for its *un-theme-ne*ss. And like the sun music, it is an exercise in pure timbre and musical gesture that leaps out of the filmic world straight into the audio-viewer's brain. To bring back the questions that opened my dissertation: how can one *know* something, but not be able to *say* that thing? Ludwig Wittgenstein asked us to try *saying* "how a clarinet sounds."[77] I then asked: what does sunshine on your face sound like? Imagine, now, that Leone asked Morricone: what does fear sound like? What does tension sound like?

At the beginning of the film Mortimer is searching for killer-at-large Guy Callaway in the pioneer town of Tucumcari. He finds Callaway in a brothel and chases him out into the empty streets. Callaway tries to flee on horseback; Mortimer unpacks his impressive arsenal of guns with a sharp twang of his *Leitklangfarben* mouth harp and chooses a weapon. Mortimer shoots and kills Callaway's horse, and a standoff ensues. At that moment, we see an extreme closeup of the horrified Callaway, and Morricone abruptly starts a high, piercing tone cluster in the high strings (he is using the Pseudo-Symphonic segment very experimentally here, à la the avant-garde music of Polish composer Penderecki). Like the sun music, the cluster is set high in registral space. Its raw timbre is sun music in its own right: it starkly blares down, white-hot over the dusty city street. And almost like blast-

[77] Ludwig Wittgenstein and Joachim Schulte, *Philosophische Untersuchungen*, 2017, 36.

induced tinnitus, it makes us clench our jaw in pain. It goes on for twelve tense, eternal seconds before being shorn off by Mortimer's fatal shot.

Conclusion

This chapter has only scratched the surface of Morricone's huge film score output. His timbral lexicon was vast and diverse, owing to his three distinct trajectories in traditional, commercial, and experimental music. Throughout his career Morricone downplayed the importance of melody and wished his audience would, above all else, "assimilate and appreciate the instrumental solutions" he had devised in his soundworlds.[78] My hope is that I have provided intriguing tools for future analysis that does just that. The concept of timbral progression I explored in my close reading of *The Mission* score has broad potential to show how timbre influences filmic narrative, and not just for Morricone's scores; for example, I applied the same concept to Luke's Theme from Williams's *Star Wars* score. Wallmark's observations on embodied timbral perception show similar potential, especially when analyzing music with little or no thematic content (see section 5 of this document). And Smalley's space-form once again shows its power to describe the dramatic functions of musical texture. Finally, timbral analysis alone can yield interesting observations on the social aspects of cinema, like mine above on the Guaraní timbres from *The Mission* and the electric guitar timbres from the Leone Westerns.

[78] Morricone, Anderson, and Miceli, Composing for the Cinema, 172.

5. COMING ATTRACTIONS

THE FOLLOWING PREVIEW HAS BEEN **APPROVED** FOR **ALL AUDIENCES**

Postscript: Where This Research Will Lead Next

> "Morricone had this genius of knowing what color to give to his material [...] because if you give a theme to the flute or the trumpet or the violin the whole world changes."
>
> — Enrico Pieranunzi[1]

> Personally, I can do without a melodic theme. In fact, in many cases I have tried to disguise the melodic theme within rests, pauses, and silence, and to encourage the public to identify sentimental sensations with musical colors instead of a theme. Unfortunately, even though I've conducted many experiments along these lines, the public still wants to hear a melody. (from p. 37 of FSG)
>
> — Ennio Morricone[2]

There are new analytical worlds to be discovered in the timbres of film scores. Again, the challenge I set out for myself in this dissertation was: how can I put the emphasis on the soundworld of film scores when I *analyze* them, like many composers seem to do when they *compose* them? My foregoing close readings observed primarily *thematic* film scores through a timbral lens, opposing them from analyses of film music that prioritize the development of theme and its adjacent pitch structures *over* timbre. I used several timbral

[1] Ruggero Longoni and Pierpaolo De Sanctis, *Celebrating Ennio Morricone: The Secrets Behind His Genius* (CAM Sugar/Decca, 2020), 20:30.

[2] Leinberger, *Ennio Morricone's The Good, the Bad and the Ugly : A Film Score Guide*, 37.

analysis methods to achieve this focus, including the traditional study of orchestration, musical gesture analysis, embodied cognition research, and acousmatic music theory.

There are many more recent cinematic soundworlds to explore. In the second quote that opens this section, Morricone laments that "the public still wants to hear a melody" in film music — he uttered this, however, in 1995. In the early 21st century, the public no longer seems to want a melody, at least not all the time. Roy Prendergast's observation that "color" tends to replace "line and structure" in film music is becoming more and more true. Because of the recent explosion in digital music technology, many contemporary scores feature an even higher level of timbral or colorful experimentation than Prendergast could have predicted in his 1992 book. In many recent films timbral design often supplants discernible line and structure altogether; the "timbral thinking, not thematic thinking" quotes from Alexander Desplat and Thomas Newman in the introduction certainly reflect the spirit of our current times. In future research I intend to explore some more recent timbre-focused approaches from David Lynch, Jóhann Jóhannsson, Hans Zimmer, and others. Much of these filmmakers' work does not use real musical instruments at all and often blurs the line between music and sound design; accordingly, the timbral analysis methods I borrowed from embodied timbral perception and acousmatic music theory — which can easily be applied to all sonic situations, not just musical ones — will be especially helpful.

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Tonbilder

suite for instrumental ensembles + fixed video

Daniel Godsil

Tonbilder | Suite for Instrumental Ensembles + Fixed Audio/Video

The four movements of this suite explore various ways of combining music with visual media.

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1. *Cathedral Grove* for orchestra + fixed video

7'

For me, the orchestra is a very special thing: I love its beautiful concert halls, its rituals, and the great works that have been written for it. I especially love how so many people assemble together, both onstage and off, to present and hear this music. As I was deciding what to do with this piece, I thought about how much an orchestra, and all its accompanying social structure, is similar to America's national parks. We take time out of our busy days to go experience something out of the ordinary; we've decided as a culture how much certain extraordinary places mean to us, and how important it is to preserve them for future generations. The Muir Woods–of which the "Cathedral Grove" is a part– is one such place for me. And there's immediate beauty, yes, but these ancient trees have been around long before us and will hopefully still be there long after we're gone: this evokes a very sublime feeling. John Steinbeck said in his book *Travels With Charley* that "no one has ever successfully painted or photographed a redwood tree;" this piece is my humble attempt to, instead, make a painting in sound.[1] I tried to capture some of that sublime feeling, and also vitality, majesty, tenderness, silence, light or color filtering through the tops of trees, and so on. I created the accompanying video after composing the work; the visual material comes from public domain nature documentaries.

2. *A Kind of Stopwatch* for woodwind trio + fixed video

9'30"

The video for this work is a transformation of beautifully-shot footage from the original Twilight Zone TV series, scored with new music for woodwind trio.

[1] Steinbeck, John, and Jay Parini. 2012. Travels with Charley: in search of America, 50.

3. *Into Gold* for multiple percussion solo + fixed video

9’

The video for this work was assembled from mid-twentieth century public domain films produced by General Motors, Kodak, and the United States military.

4. *de rerum natura I “el leñador”* for amplified string quartet + video

10’30”

> *“But it always happens that we hear the sound of the thunder some time after we perceive it lighten, because objects, which affect the hearing, always come more slowly to the ears, than those, which affect the sight, arrive at the eye. This you may easily understand from the following instance. If you observe a man at a distance cutting down the trunk of a tree with an axe, you will see the stroke itself before the noise of the stroke makes any sound in the air.” Lucretius, De Rerum Natura e. vi. 160-184 (translation by John Selby Watson)*

The video for this work is an assemblage of public domain science and art film clips, manipulated with Jitter for Max. The music is designed to react to onscreen events, but almost always after these events have occurred. No click track is used, so the interaction is deliberately intended to be volatile and change from performance to performance. Live audio feeds from the players control video playback speed and blur. I loosely used dactylic hexameter (the poetic meter of Lucretius’ epic De Rerum Natura) as a guide for timing the video editing and, therefore, the accompanying music. Much of the musical material in this piece was built from spectral analyses of speech which I transcribed for string quartet.

Cathedral Grove

for orchestra + fixed video

Daniel Godsil

"The redwoods, once seen, leave a mark or create a vision that stays with you always. No one has ever successfully painted or photographed a redwood tree. The feeling they produce is not transferable. From them comes silence and awe. It's not only their unbelievable stature, nor the color which seems to shift and vary under your eyes, no, they are not like any trees we know, they are ambassadors from another time."

— John Steinbeck, Travels with Charley: In Search of America

INSTRUMENTATION

Piccolo
2 Flutes
2 Oboes
2 Clarinets (B1)
Bass Clarinet
2 Bassoons

4 Horns (F)
2 Trumpets (B1)
3 Trombones
Tuba

Percussion (3 players)
Bass Drum
*2 Tam-tams**

Strings

This score is in C with standard octave transpositions
(piccolo / double bass)

**Tam-tams should be placed at left and right back of hall*

ELECTRONIC REQUIREMENTS
—this piece was written to accompany a video (provided by composer)
—exact coordination with video (i.e. specific "hit points") is NOT required,

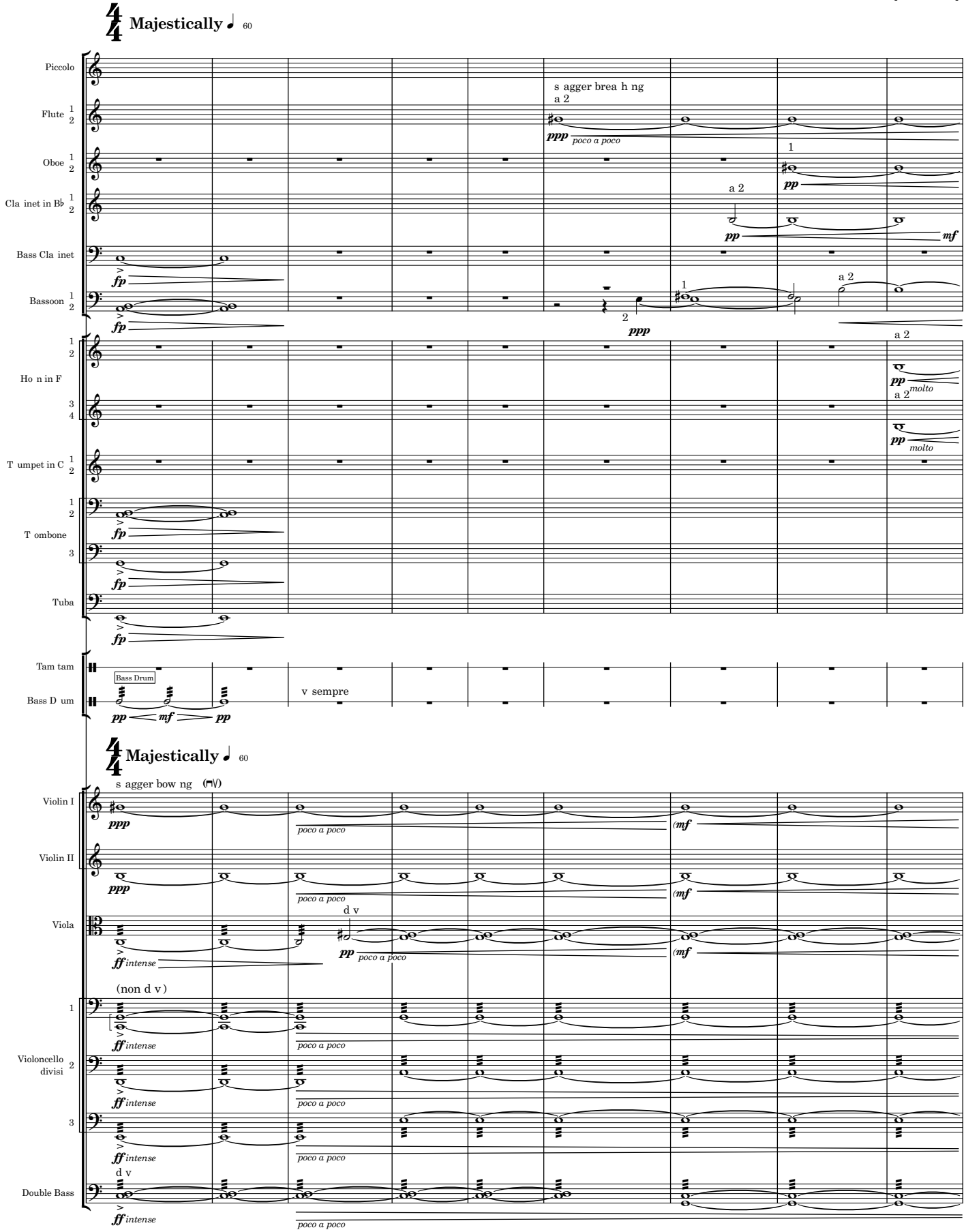
DURATION 7 minutes

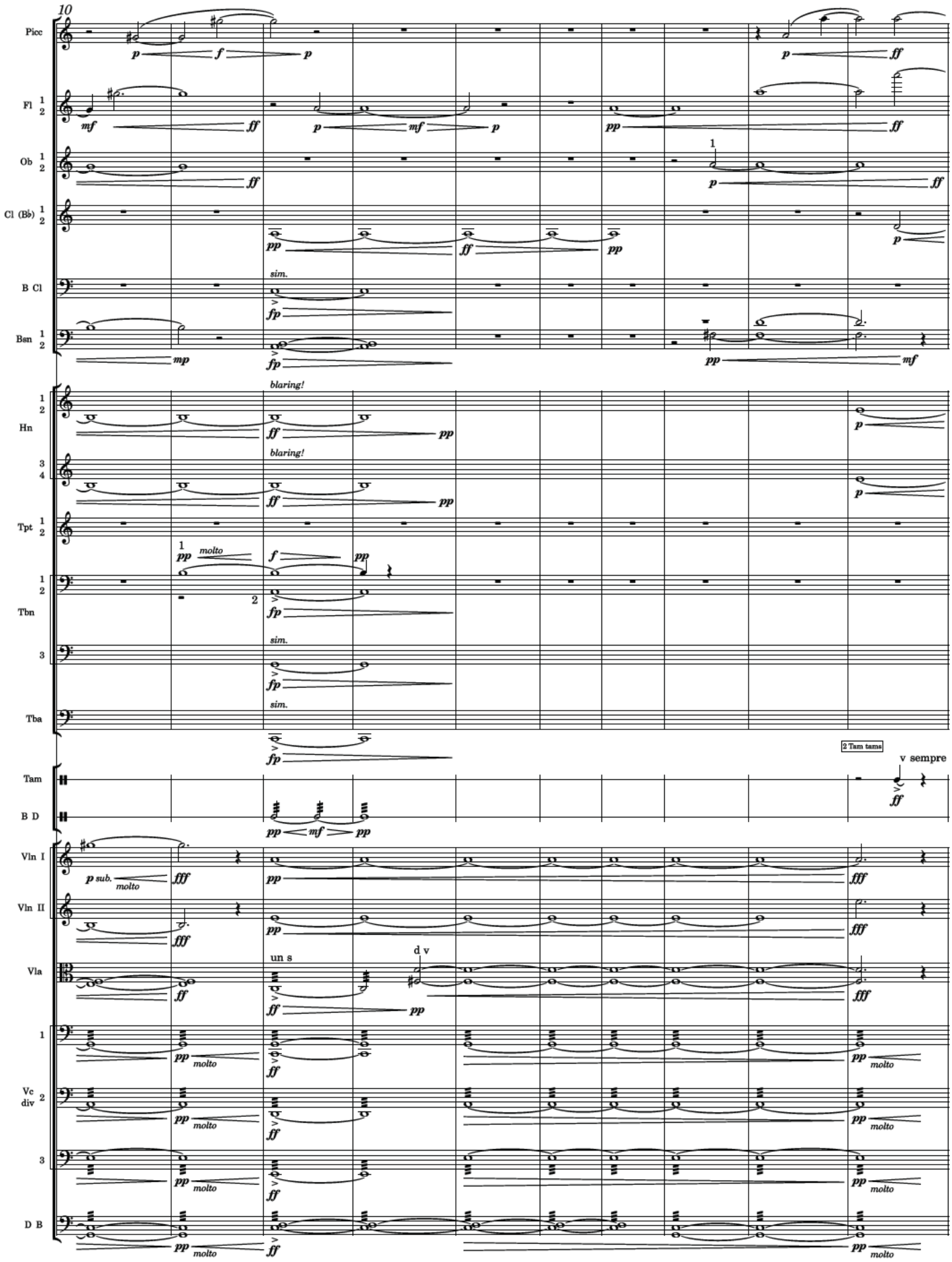
Daniel Godsil | composer
godsildaniel@gmail.com

Cathedral Grove for orchestra + fixed video

SCORE IN C

Daniel Godsil (2019)




10
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2 3 4
Tpt 1 2
Tbn 1 2
Tba 3
Tam
B D
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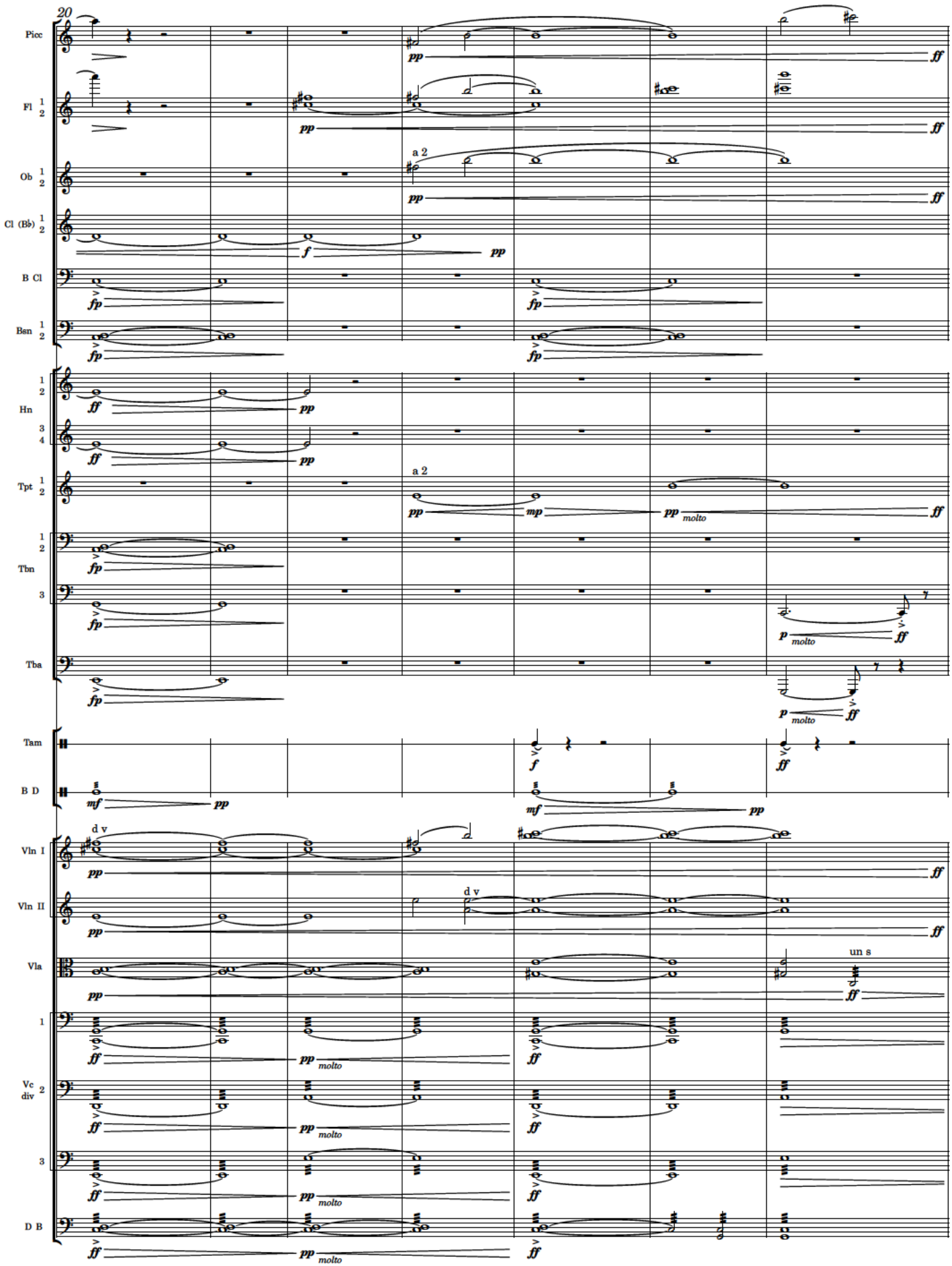
v sempre


20
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2 3 4
Tpt 1 2
Tbn 1 2 3
Tba
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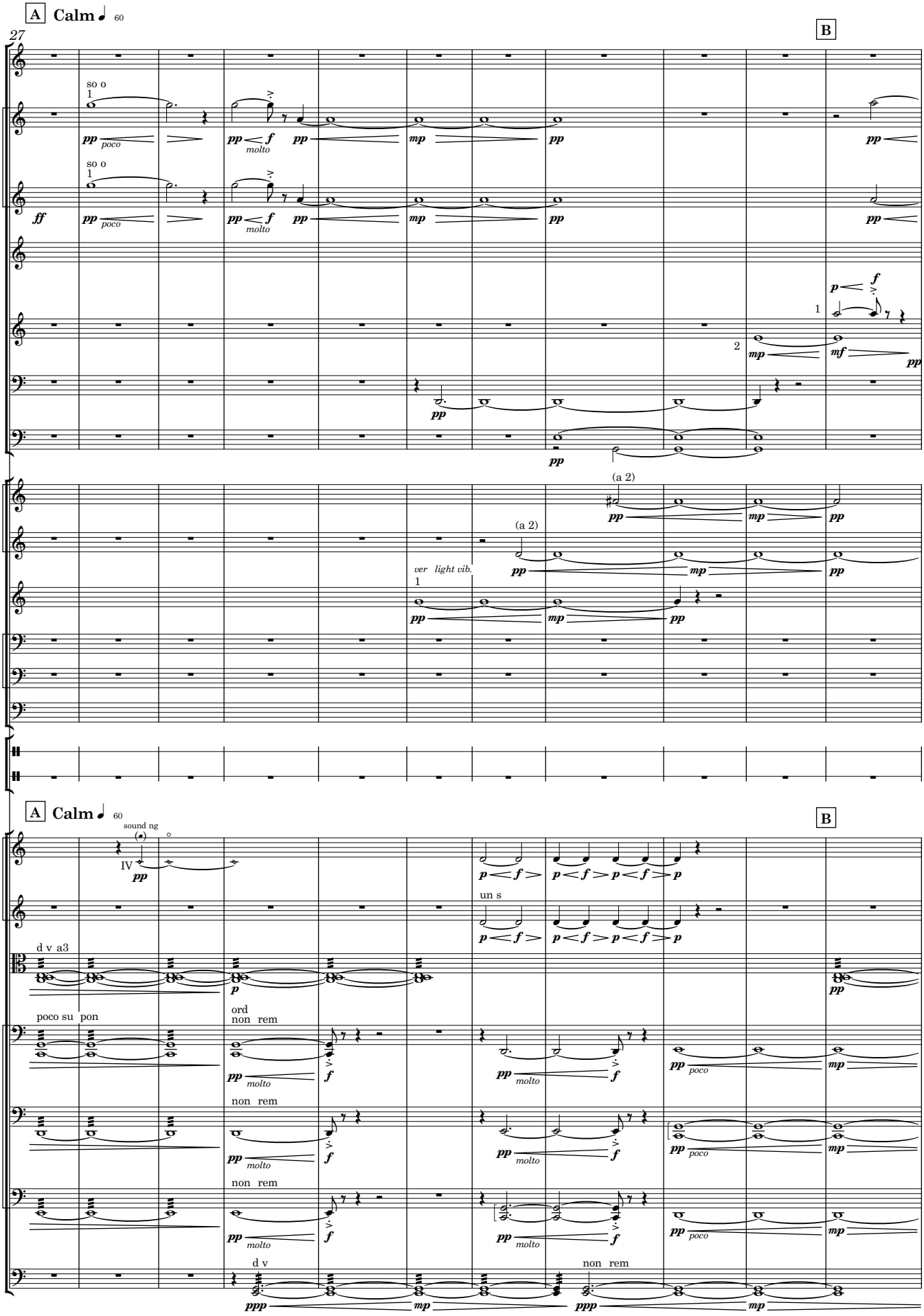
A
Calm
60
27
B
Picc
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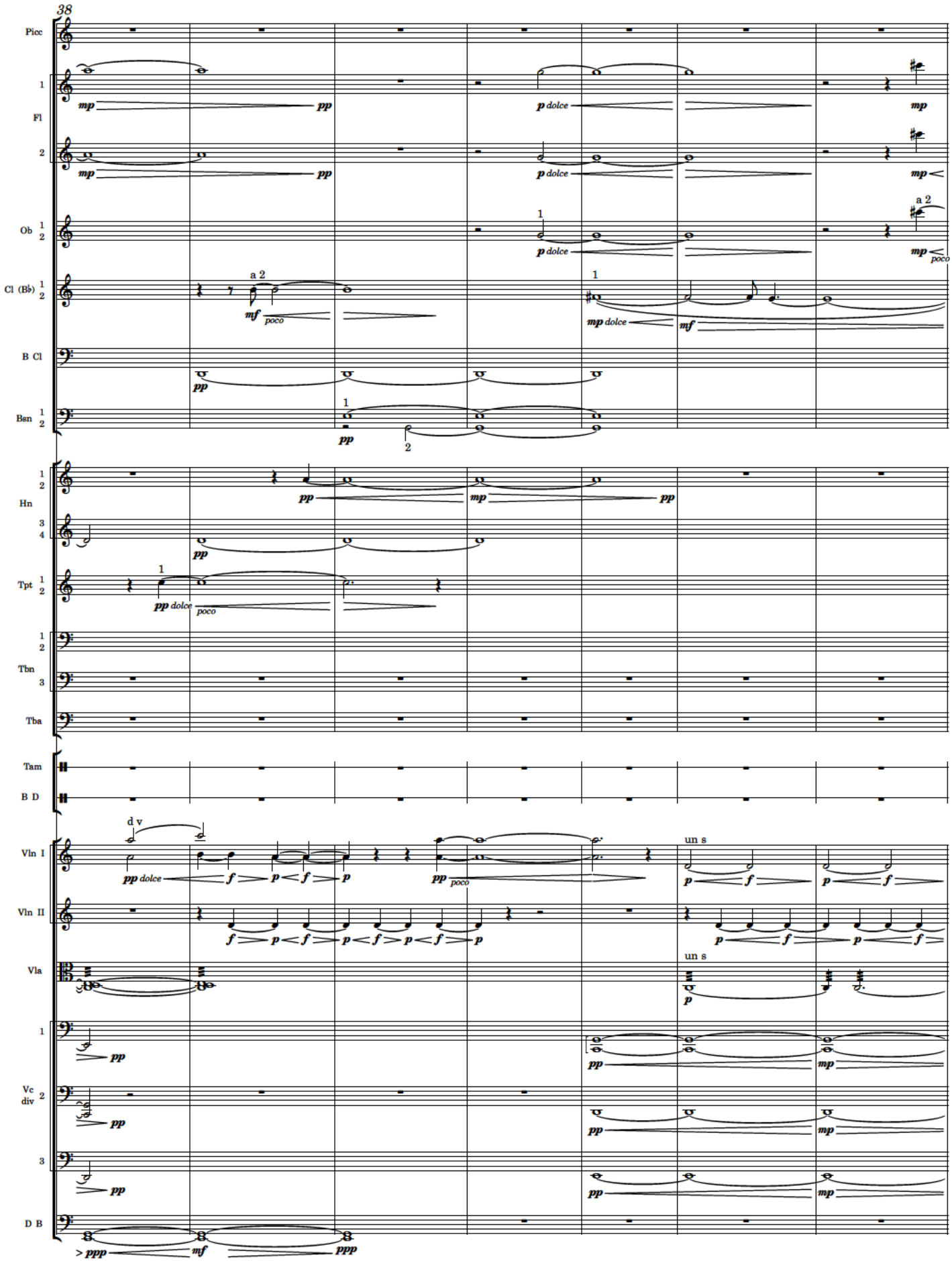
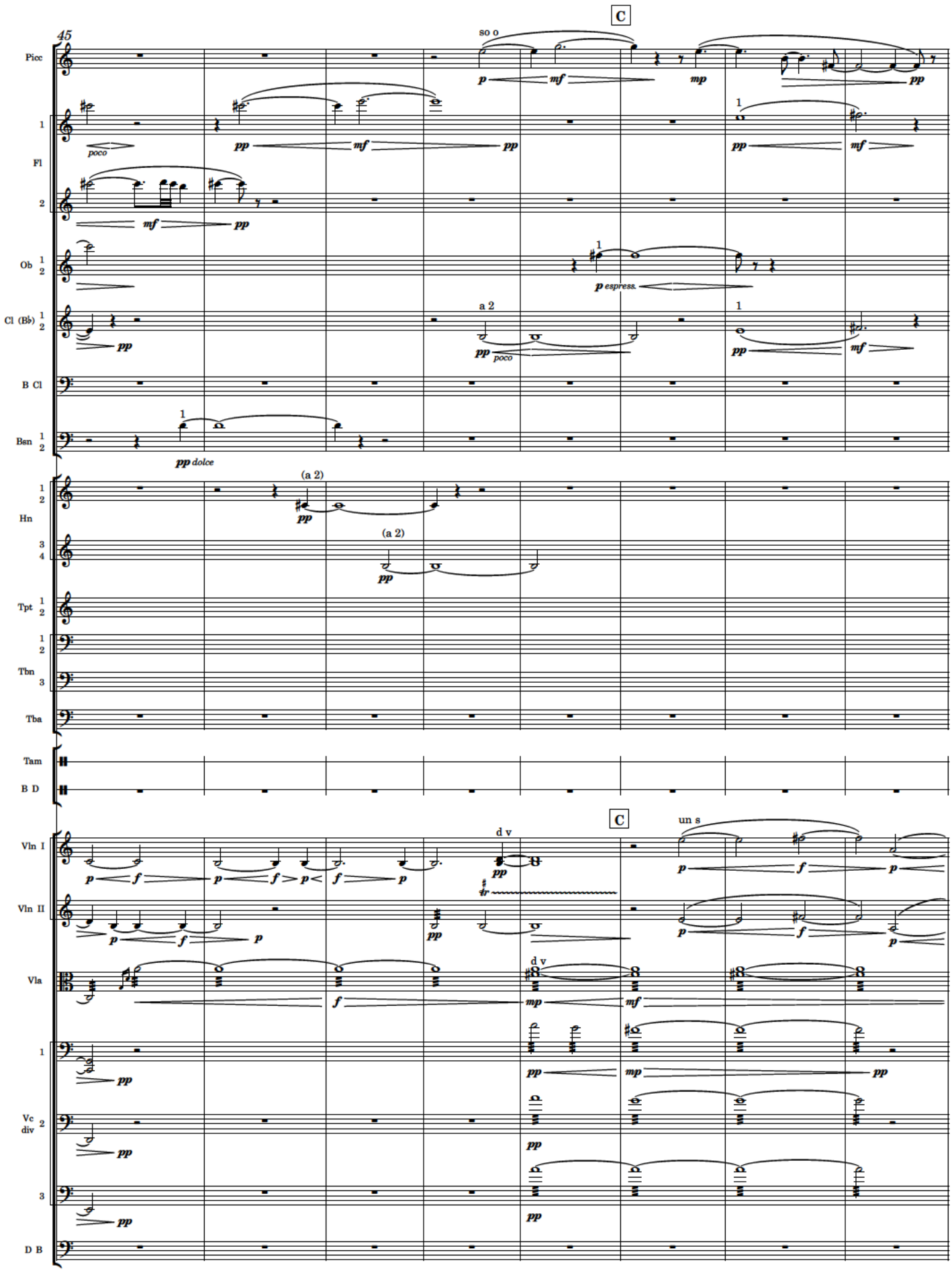
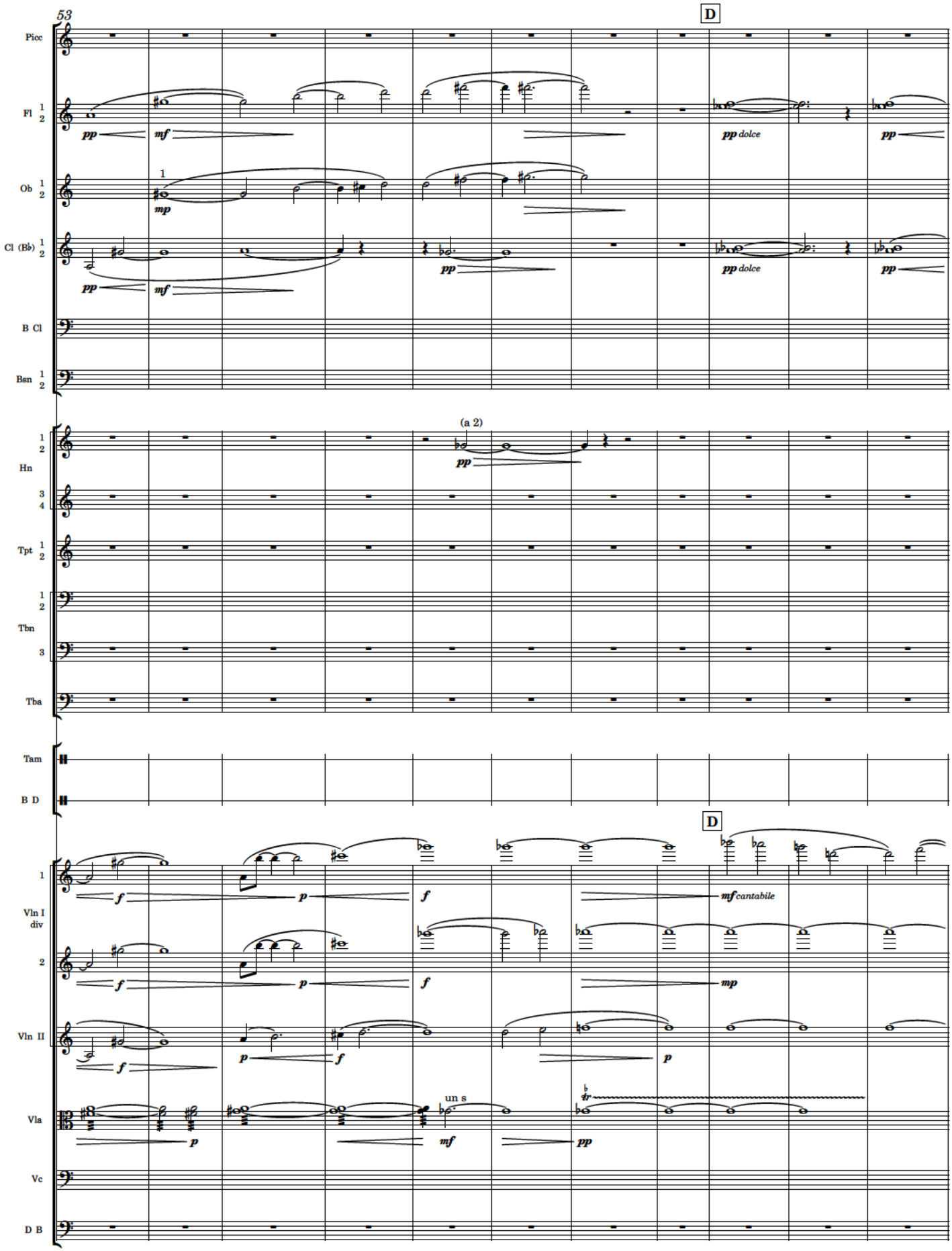
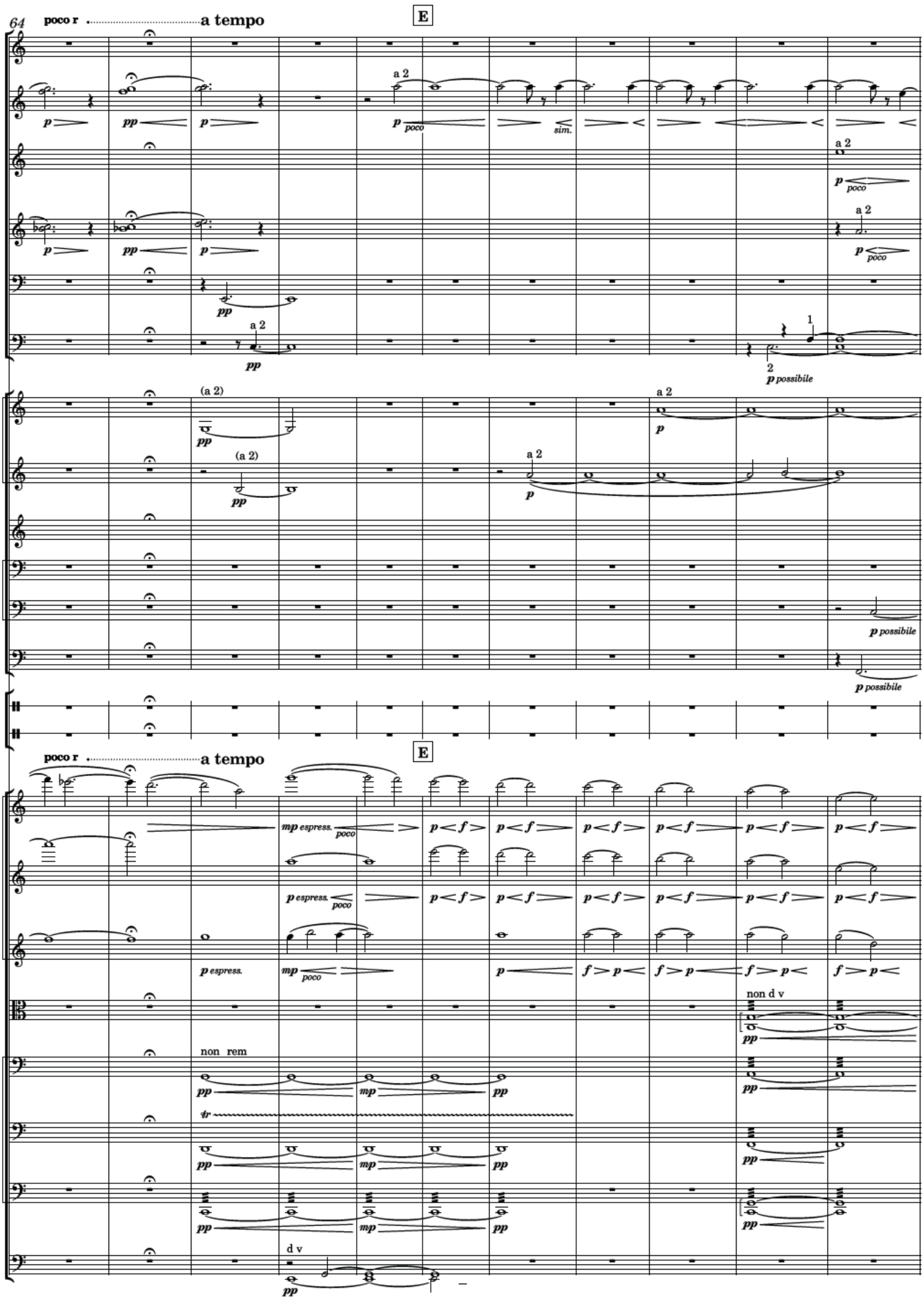
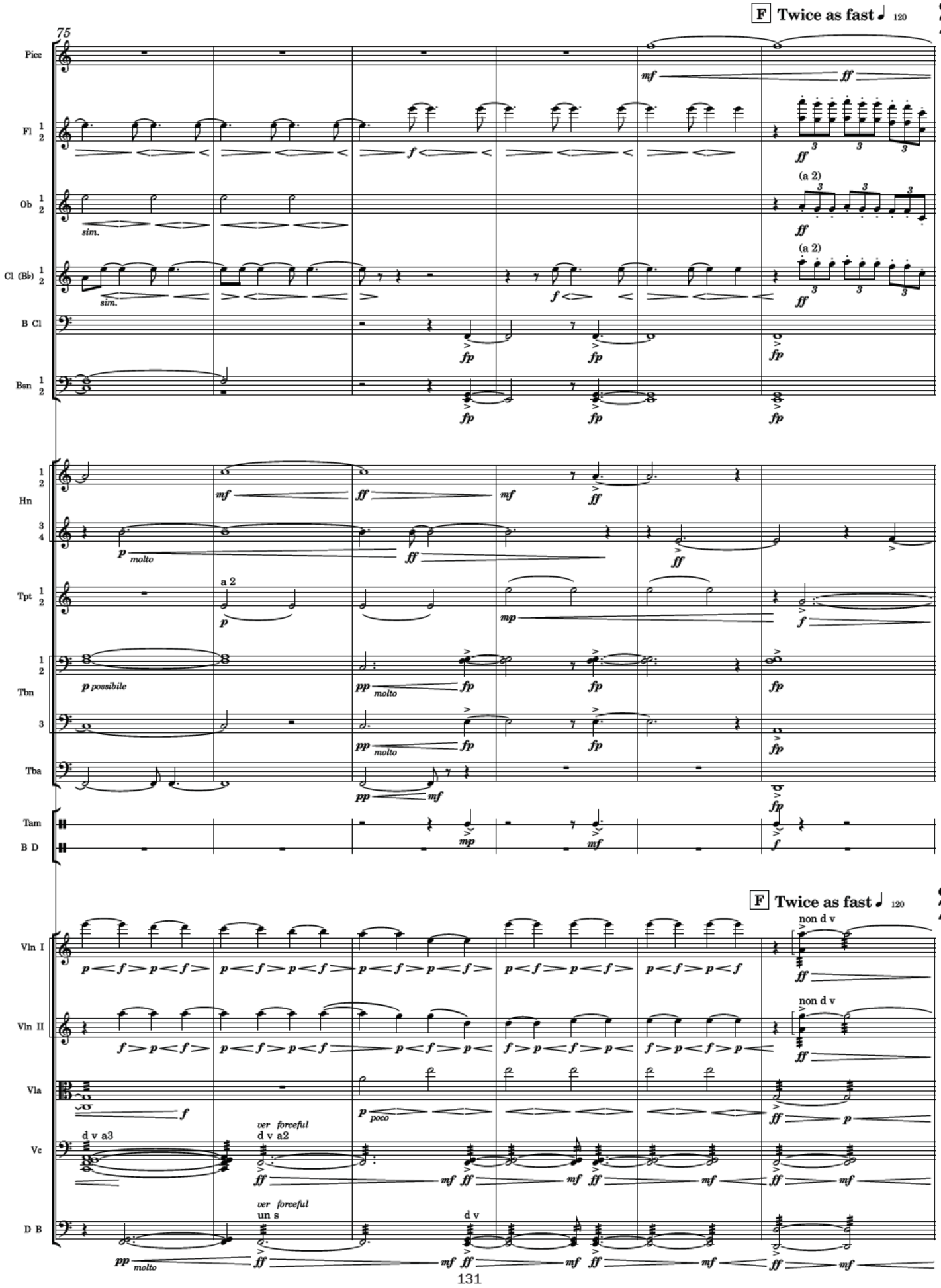
non rem
d v

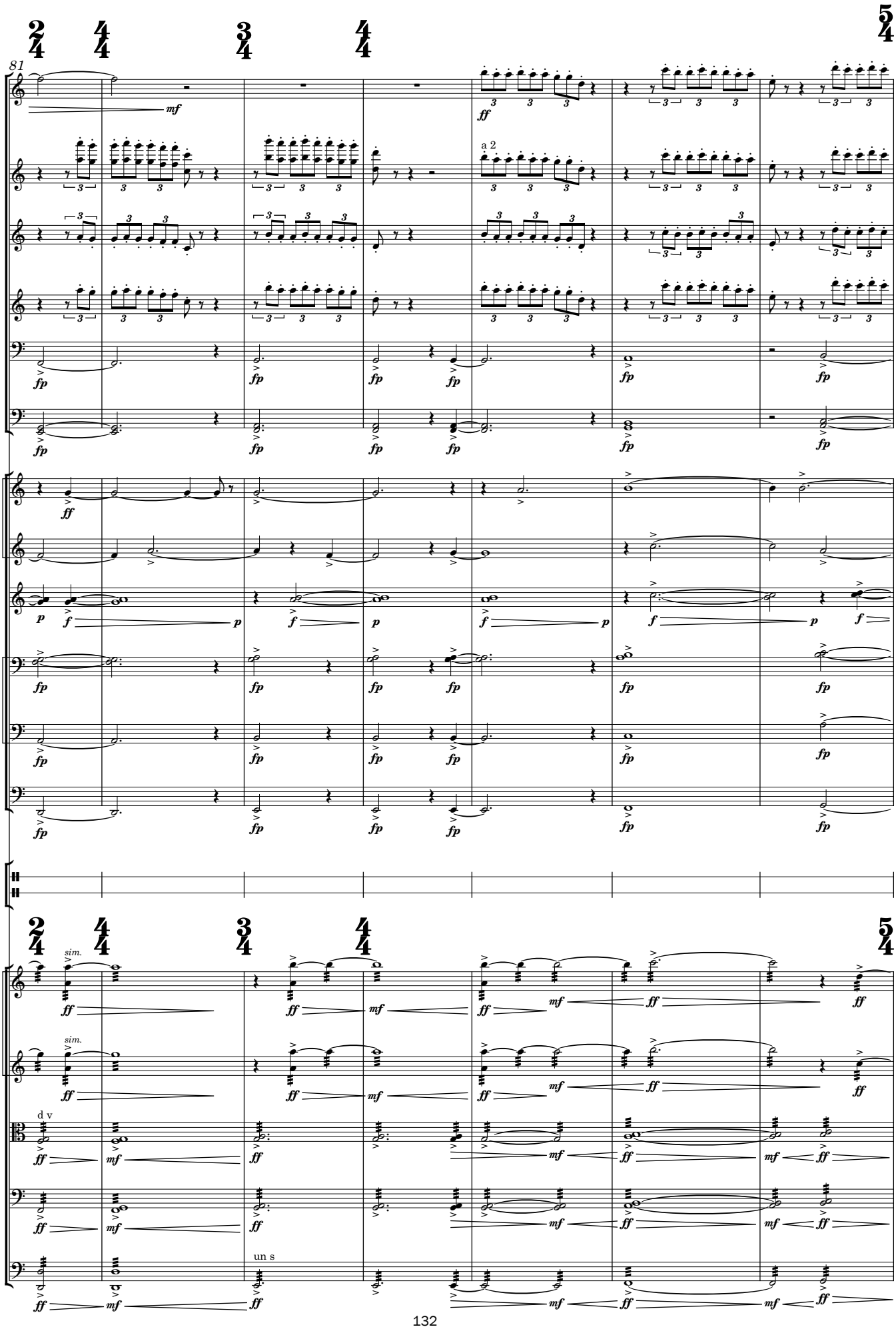

38
Picc
1
Fl
2
Ob 1
2
Cl (B♭) 1
2
B Cl
Bsn 1
2
Hn 1
2
3
4
Tpt 1
2
Tbn 1
2
3
Tba
Tam
B D
Vln I
Vln II
Vla
Vc 1
div 2
3
D B
a 2
poco
dolce
un s
d v

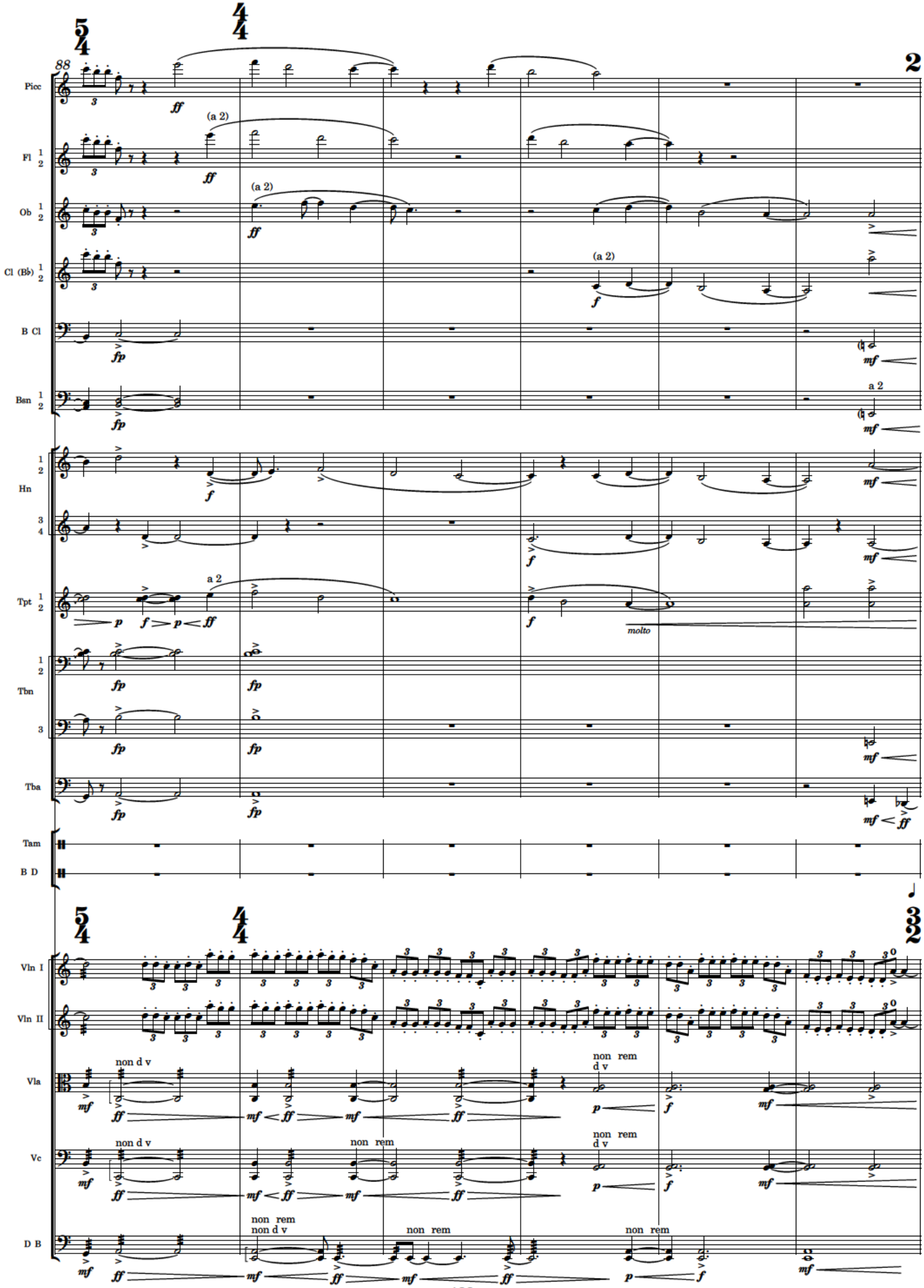

45
C
so o
Picc
1
Fl
2
poco
Ob 1 2
p espress.
Cl (Bb) 1 2
a 2
poco
B Cl
Bsn 1 2
pp dolce
1 2
Hn
(a 2)
3 4
Tpt 1 2
1 2
Tbn
3
Tba
Tam
B D
C
un s
d v
Vln I
Vln II
Vla
1
Vc div 2
3
D B

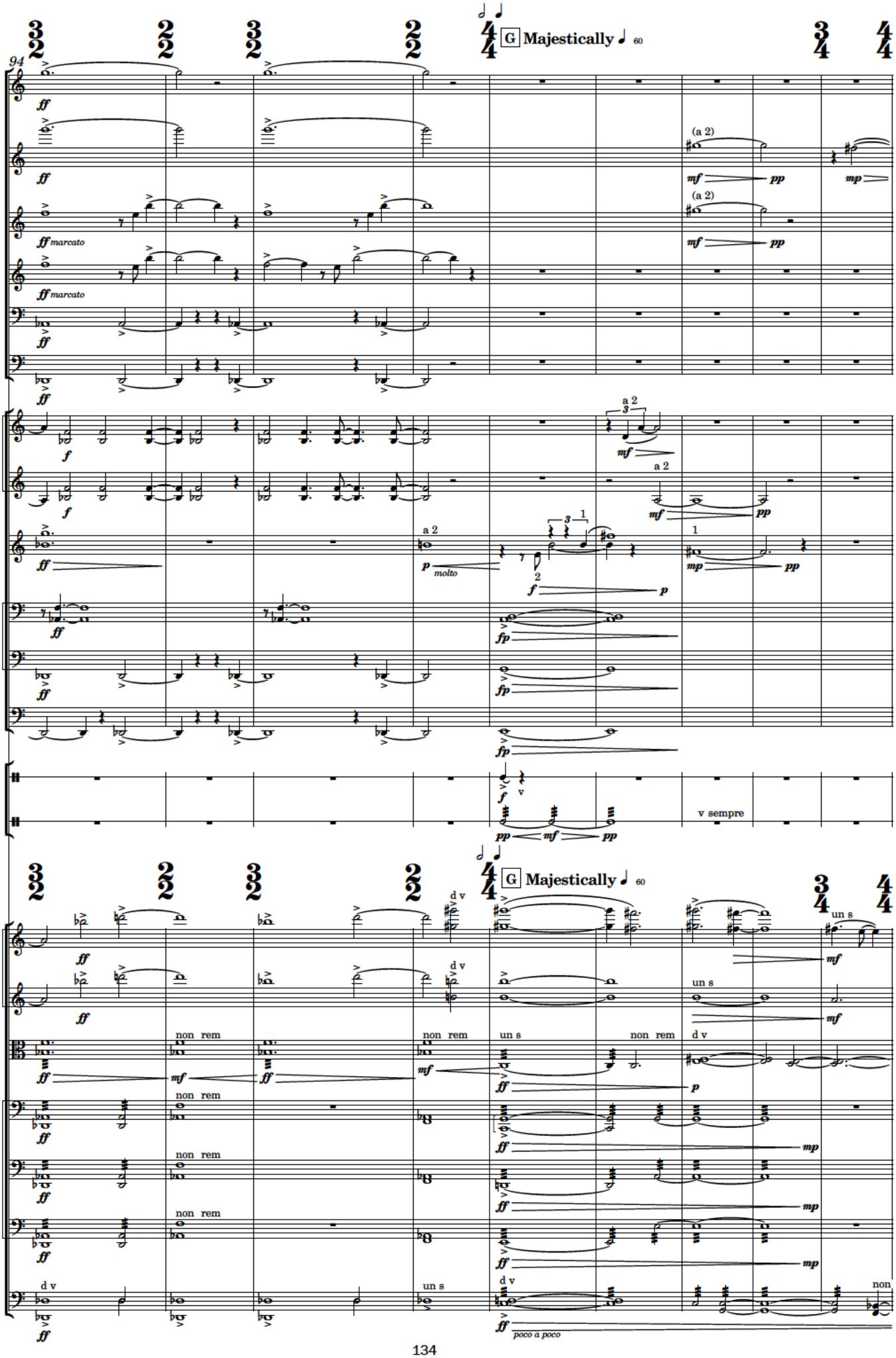

53
D
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
pp
mf
mp
pp dolce
(a 2)
Hn 1 2 3 4
Tpt 1 2
Tbn 1 2 3
Tba
Tam
B D
Vln I div 1 2
Vln II
Vla
Vc
D B
f
p
mf cantabile
mp
un s
tr

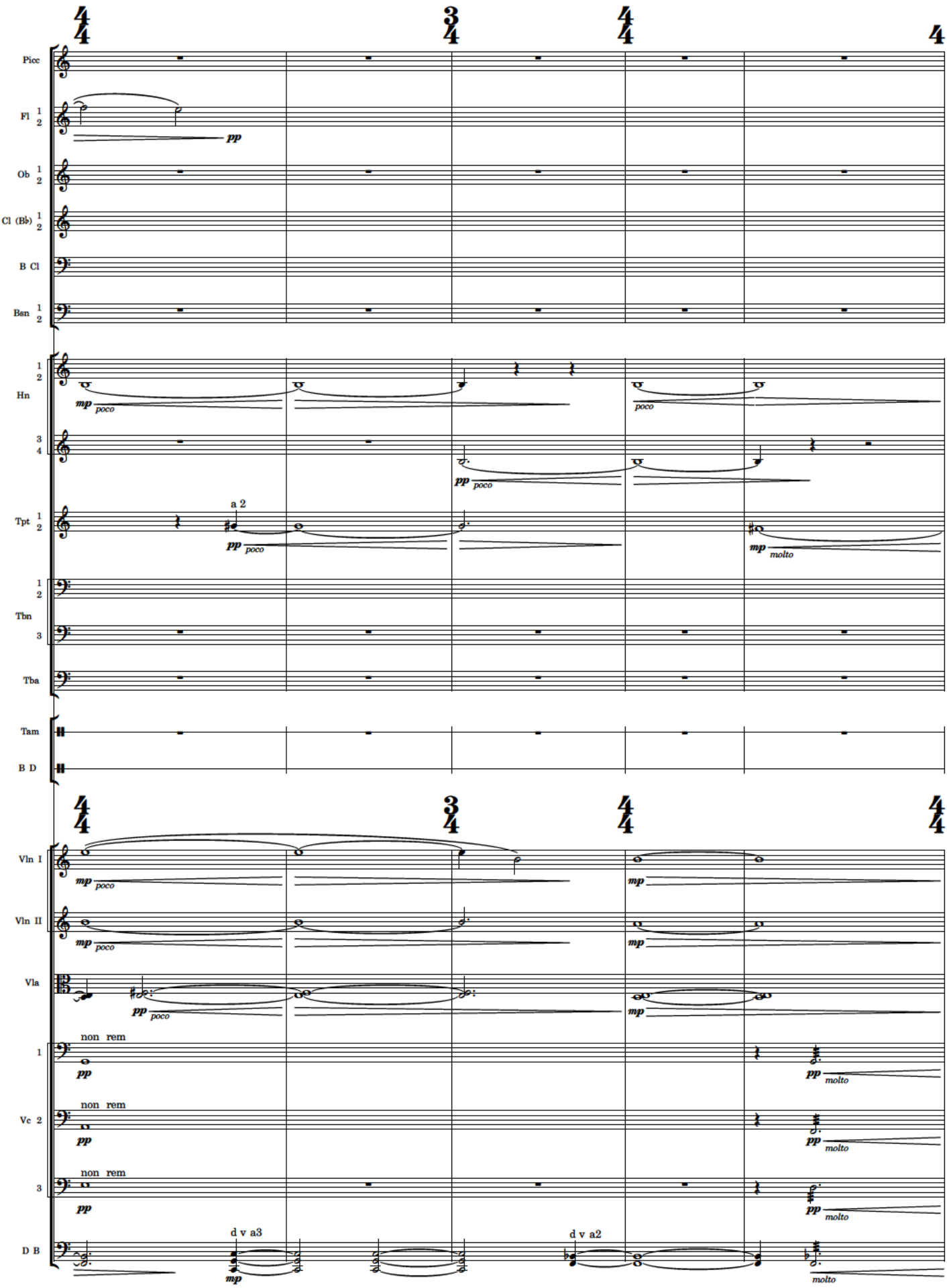

64
poco r
a tempo
E
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2 3 4
Tpt 1 2
Tbn 1 2 3
Tba
Tam
B D
Vln I 1 2
Vln II
Vla
Vc 1 2 3
D B
a 2
(a 2)
sim.
poco
possibile
espress.
non rem
non d v
d v
tr

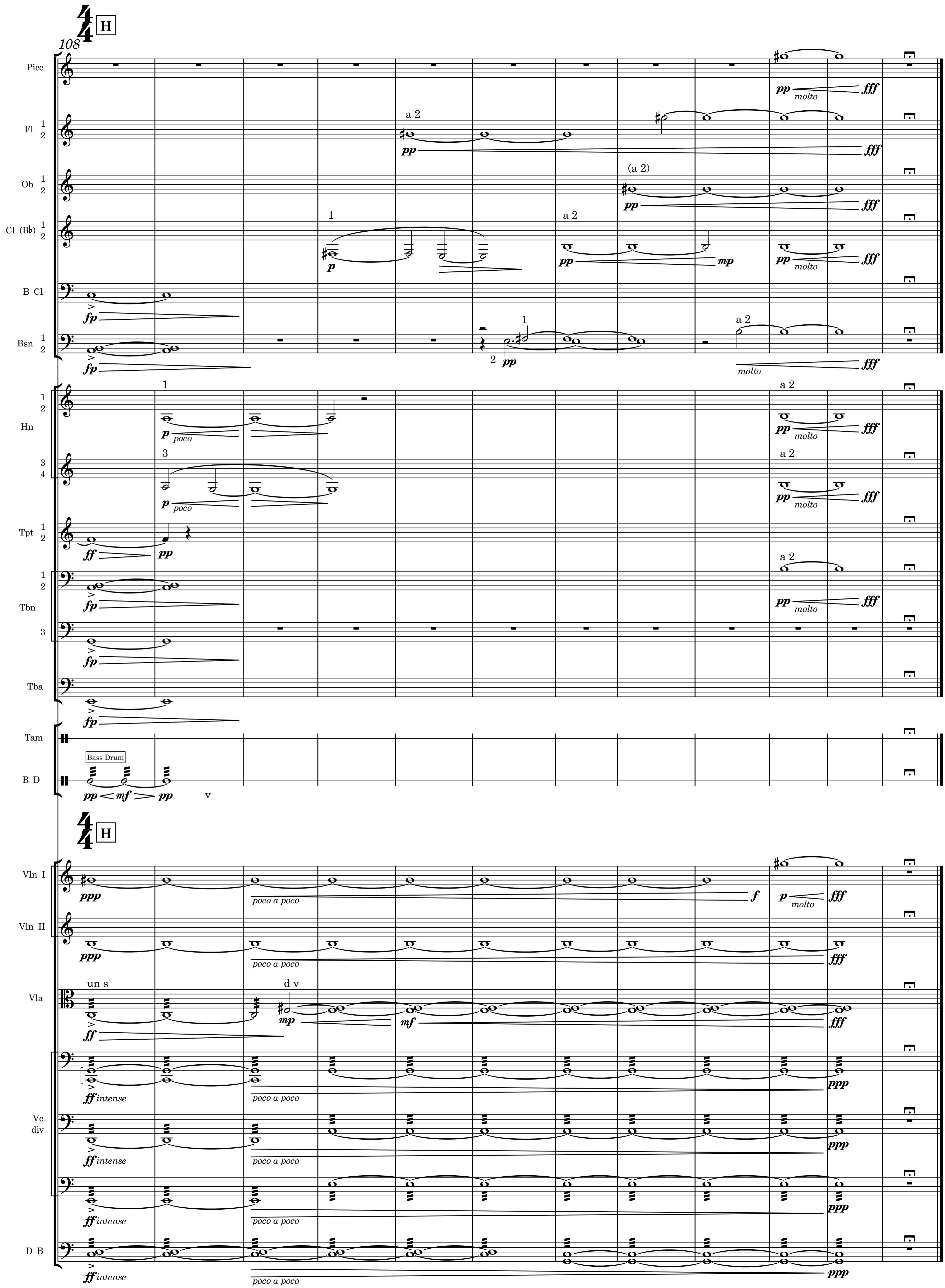

75
F Twice as fast ♩ 120
2/4
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2
Hn 3 4
Tpt 1 2
Tbn 1 2
Tbn 3
Tba
Tam
B D
Vln I
Vln II
Vla
Vc
D B
(a 2)
a 2
non d v
d v a3
ver forceful
d v a2
un s
d v
sim.
molto
possibile
poco


81
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2 3 4
Tpt 1 2
Tbn 1 2 3
Tba
Tam
B D
Vln I
Vln II
Vla
Vc
D B
a 2
sim.
d v
un s


88
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2
Hn 3 4
Tpt 1 2
Tbn 1 2
Tbn 3
Tba
Tam
B D
Vln I
Vln II
Vla
Vc
D B
(a 2)
a 2
molto
non d v
non rem
non rem d v


94
G Majestically ♩ 60
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2 3 4
Tpt 1 2
Tbn 1 2 3
Tba
Tam
B D
Vln I
Vln II
Vla
Vc 1 2 3
D B
(a 2)
a 2
molto
v sempre
un s
non rem
d v
poco a poco


Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2
Hn 3 4
Tpt 1 2
a 2
Tbn 1 2
Tbn 3
Tba
Tam
B D
Vln I
Vln II
Vla
non rem
Vc 1
non rem
Vc 2
non rem
3
D B
d v a3
d v a2
pp
mp
poco
molto


H
108
Picc
Fl 1 2
Ob 1 2
Cl (B♭) 1 2
B Cl
Bsn 1 2
Hn 1 2 3 4
Tpt 1 2
Tbn 1 2 3
Tba
Tam
B D
Bass Drum
Vln I
Vln II
Vla
Vc div
D B
a 2
(a 2)
molto
poco
poco a poco
un s
d v
intense

A Kind of Stopwatch

for woodwind trio + fixed video

Daniel Godsil

This piece is a reworking and transformation of five episodes from The Twilight Zone*, a speculative television series that aired on CBS from 1959 to 1964. The cinematography for this series was, for television programs of the time, remarkably good; for my video I edited shots and sequences from the show into entirely new assemblages. My music is inspired by the often modernist chamber and jazz scores created for* The Twilight Zone *by such outstanding composers as Jerry Goldsmith, Leonard Rosenman, Nathan Van Cleave, and Bernard Herrmann.*

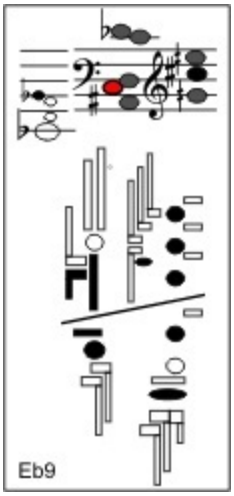
PERFORMANCE NOTES

—all glissandi refer to sempre glissandi, indicated with a solid line

—quarter tone alterations are indicated with arrow accidentals

—there is one multiphonic for the bassoon; below is a possible version, but any multiphonic with a similar harmonic profile/dominant pitch structure may be used

http://www.leslieross.net/multies2T.html



ELECTRONIC REQUIREMENTS

—this piece was written to accompany a video (provided by composer)

—an offstage operator should ideally be used to start and stop video playback

—video should be projected above players on as large a screen screen as possible

—exact coordination with video is achieved with a click track, provided as a sound track with the video

DURATION approx. 8 minutes

Daniel Godsil | composer
godsildaniel@gmail.com

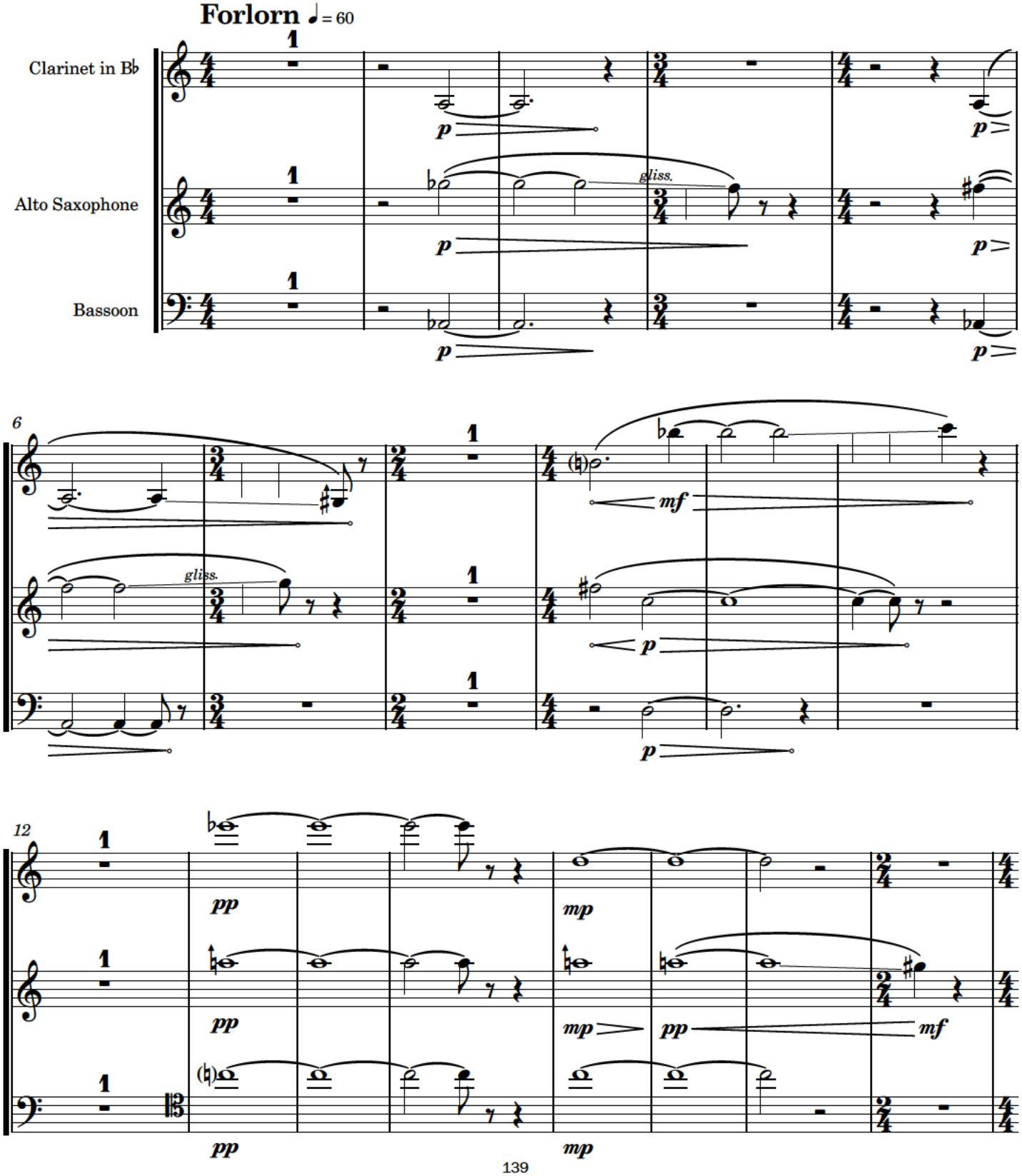
A Kind of Stopwatch wr en for Keyed Kon rap ons

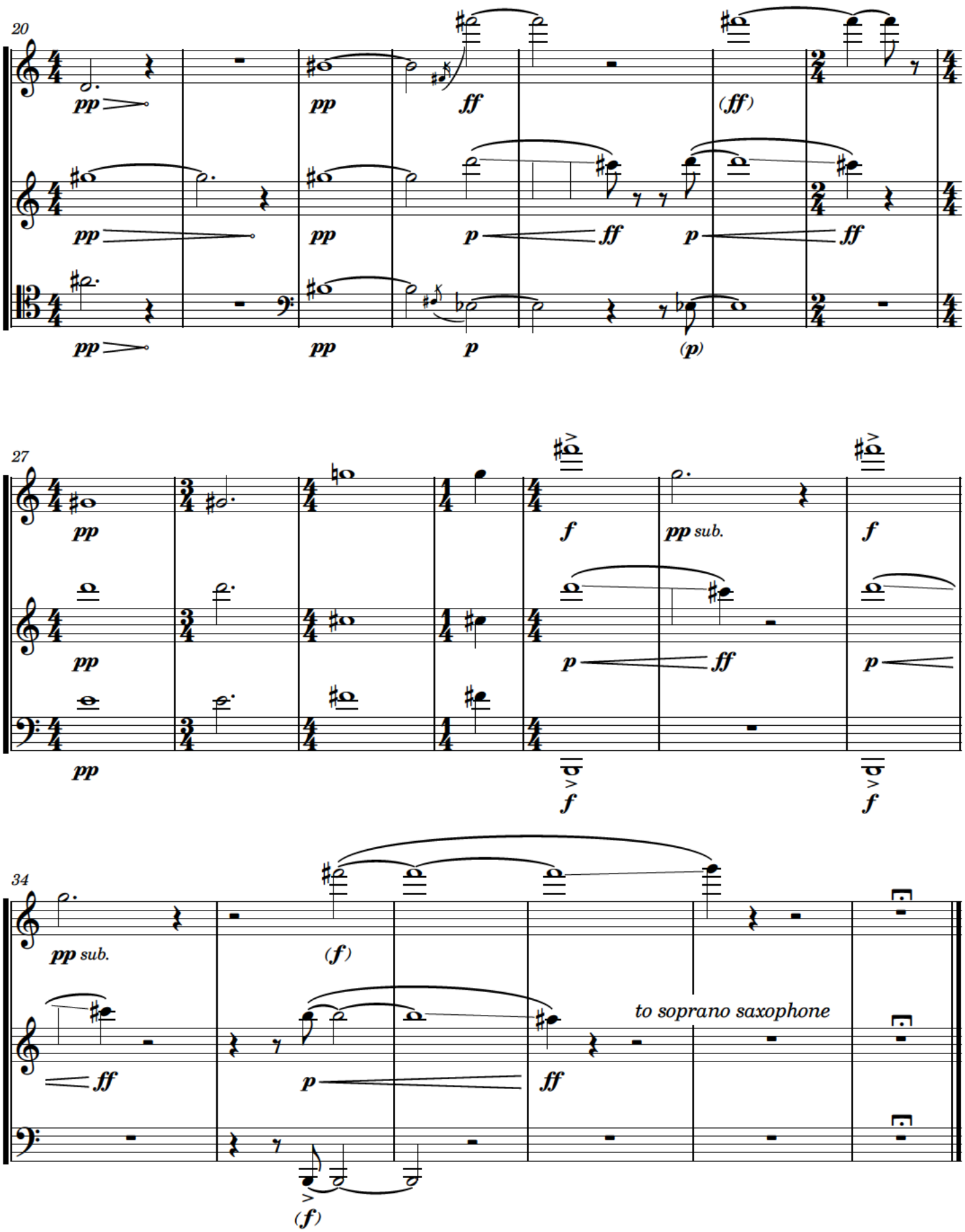
for woodwind trio + video projection

Daniel Godsil

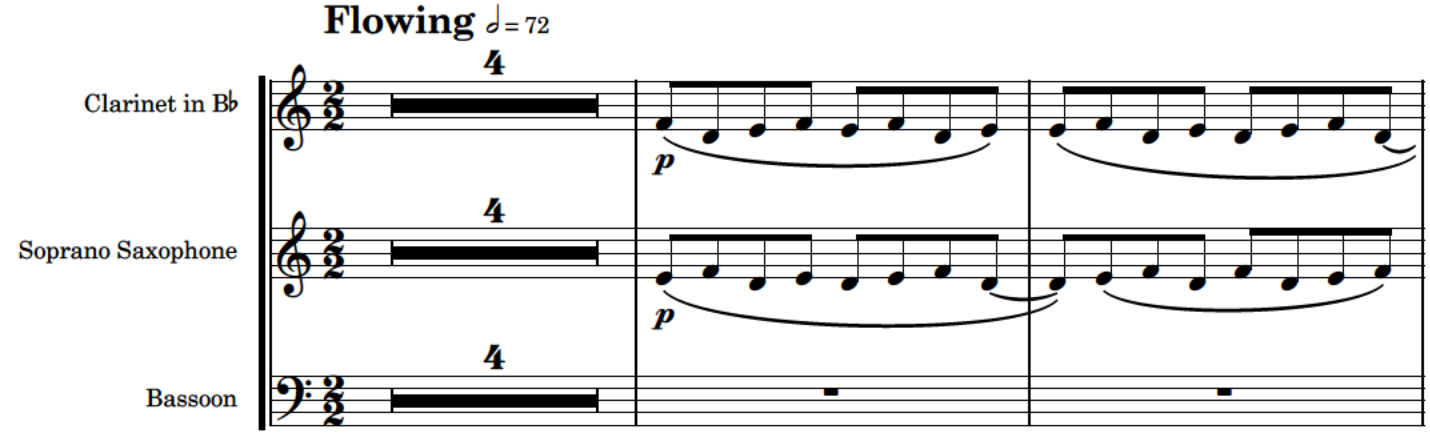
TRANSPOSING SCORE

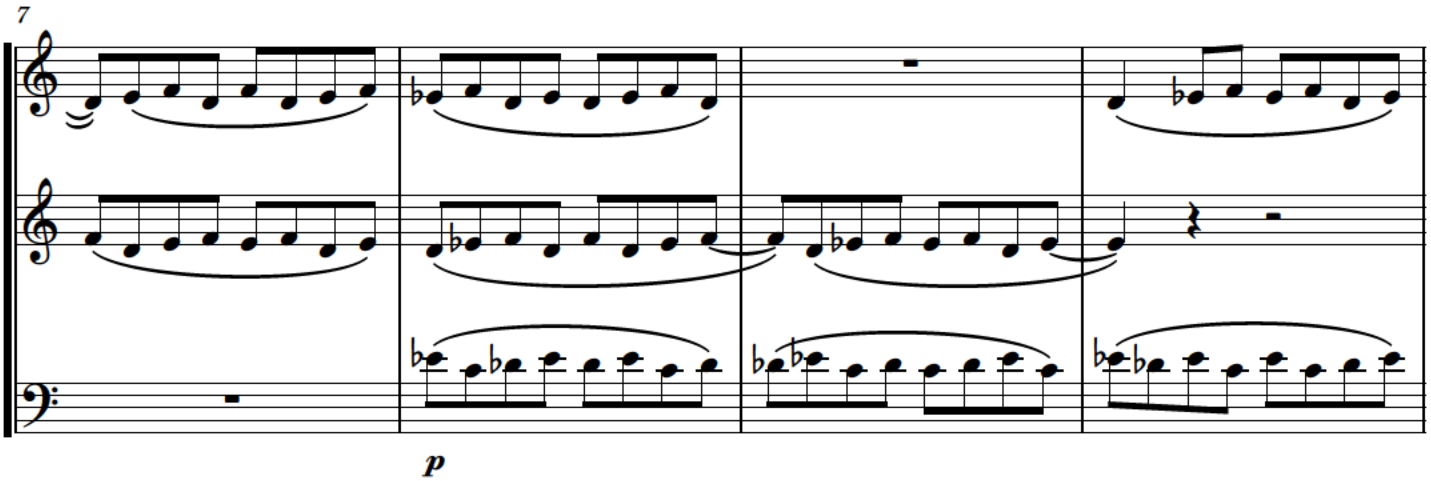
1. A Kind Of Stopwatch

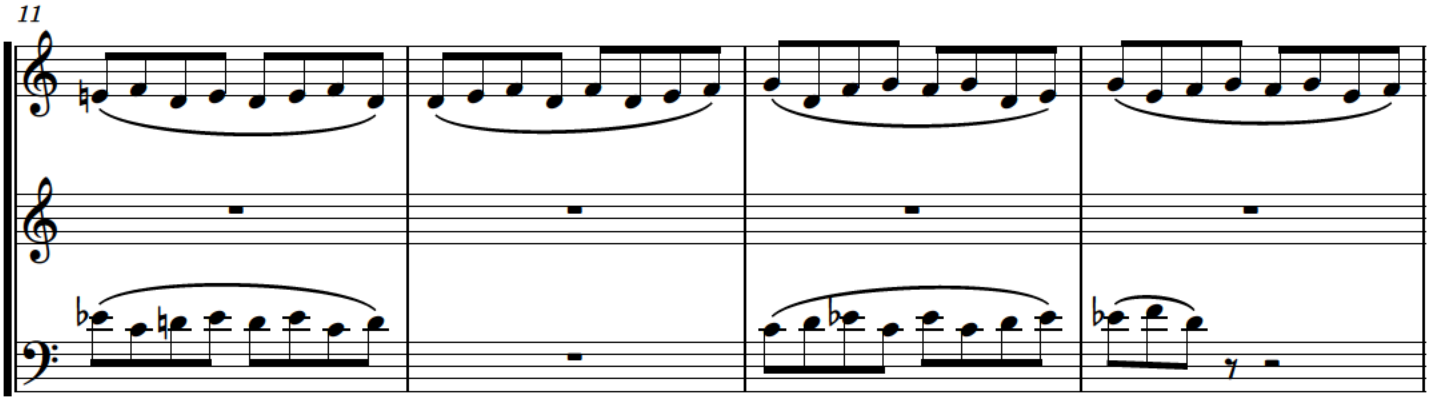



20
pp
ff
(ff)
p
(p)
27
f
pp sub.
34
(f)
to soprano saxophone

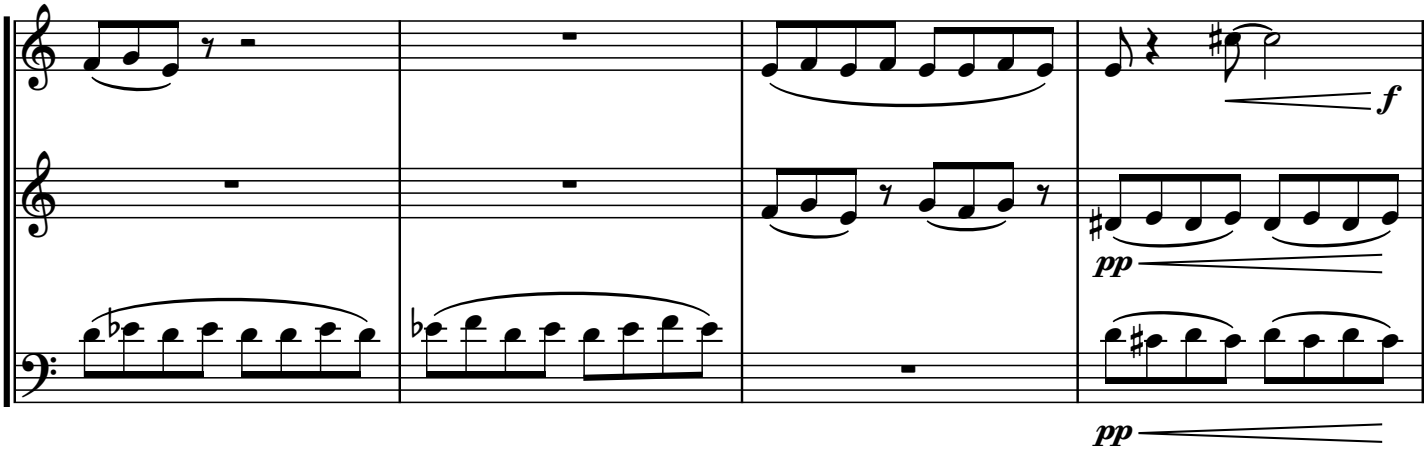
2. The Parallel





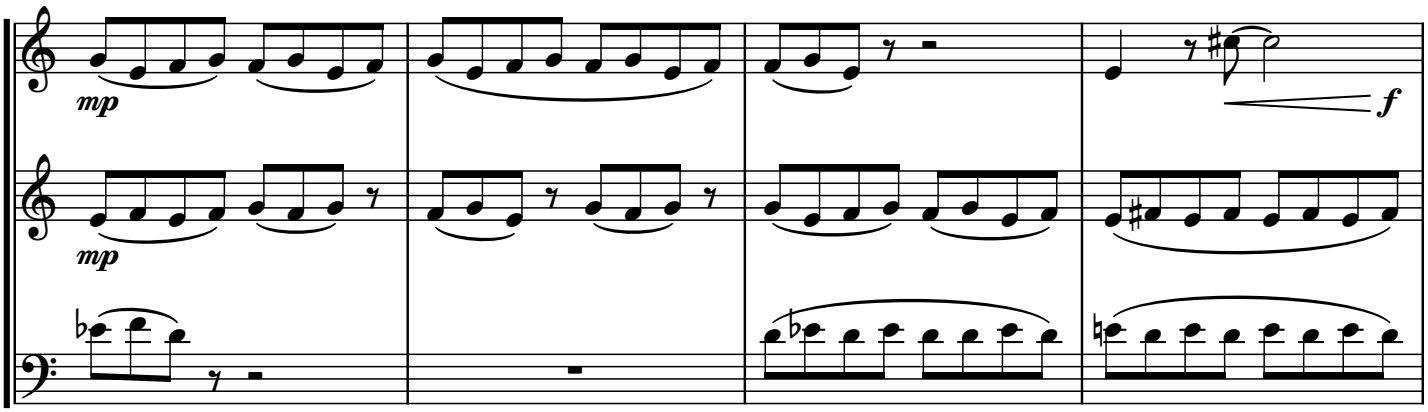


15

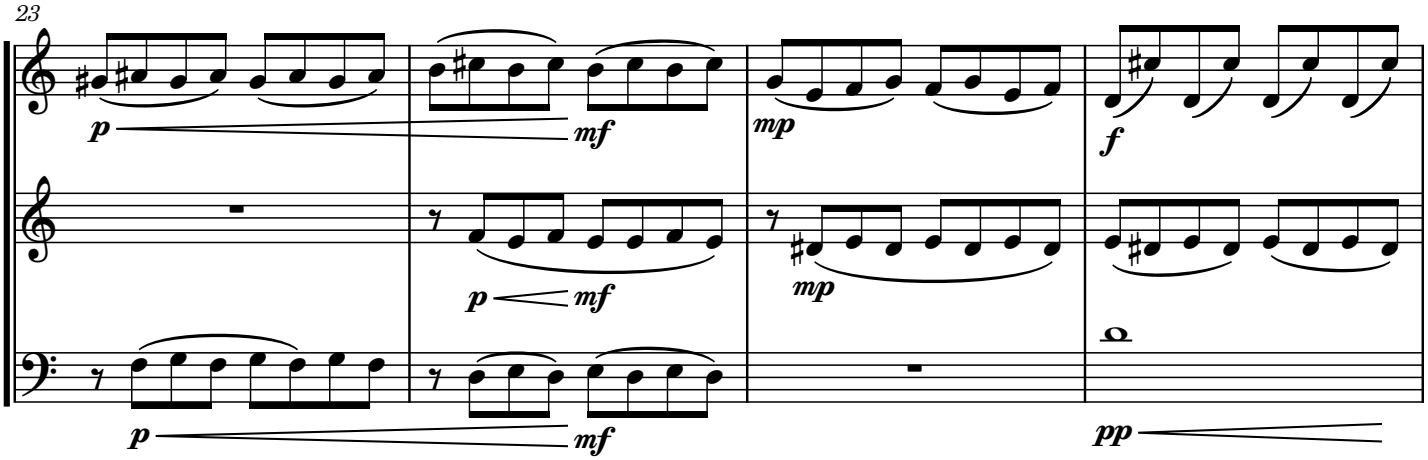


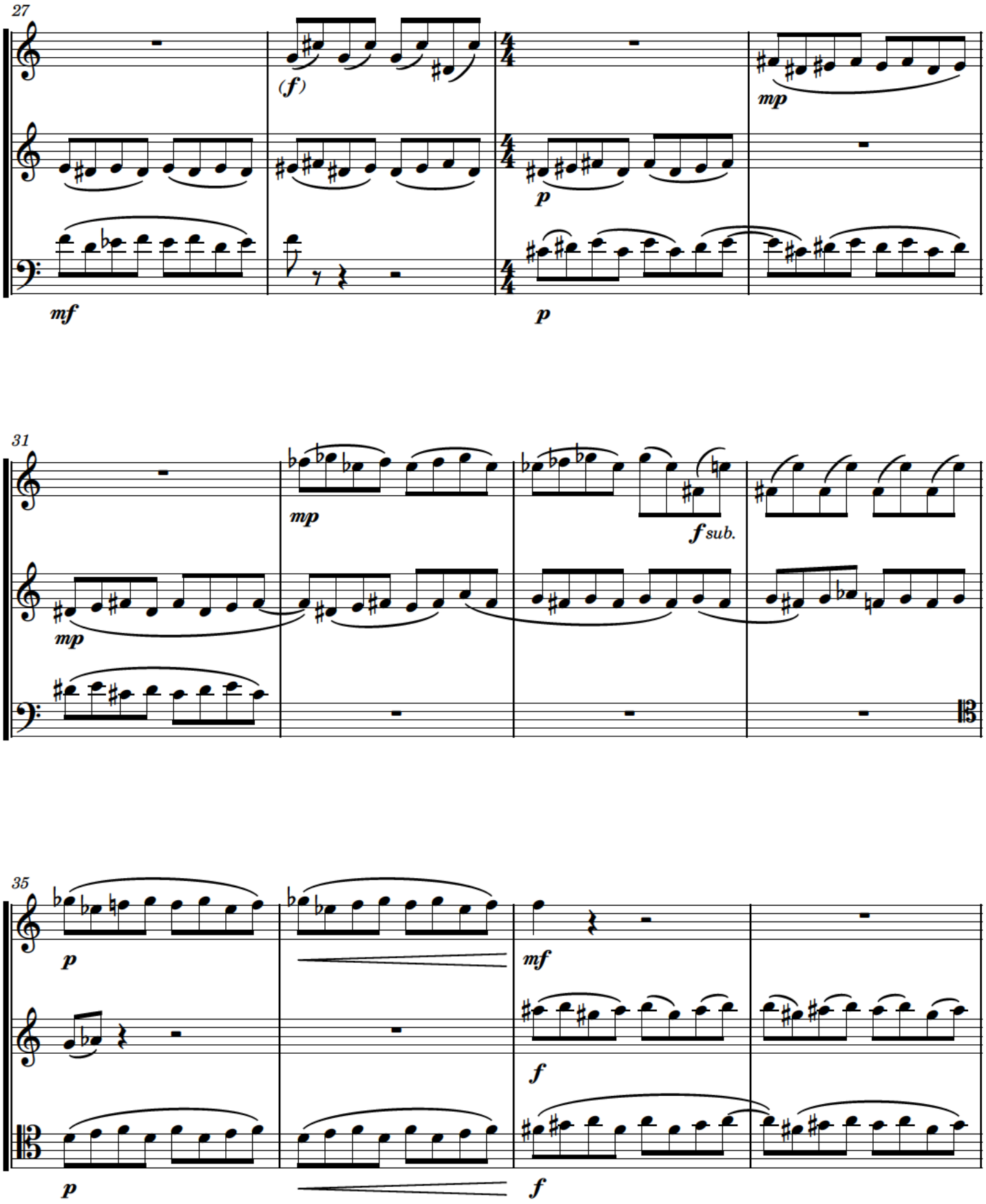
19

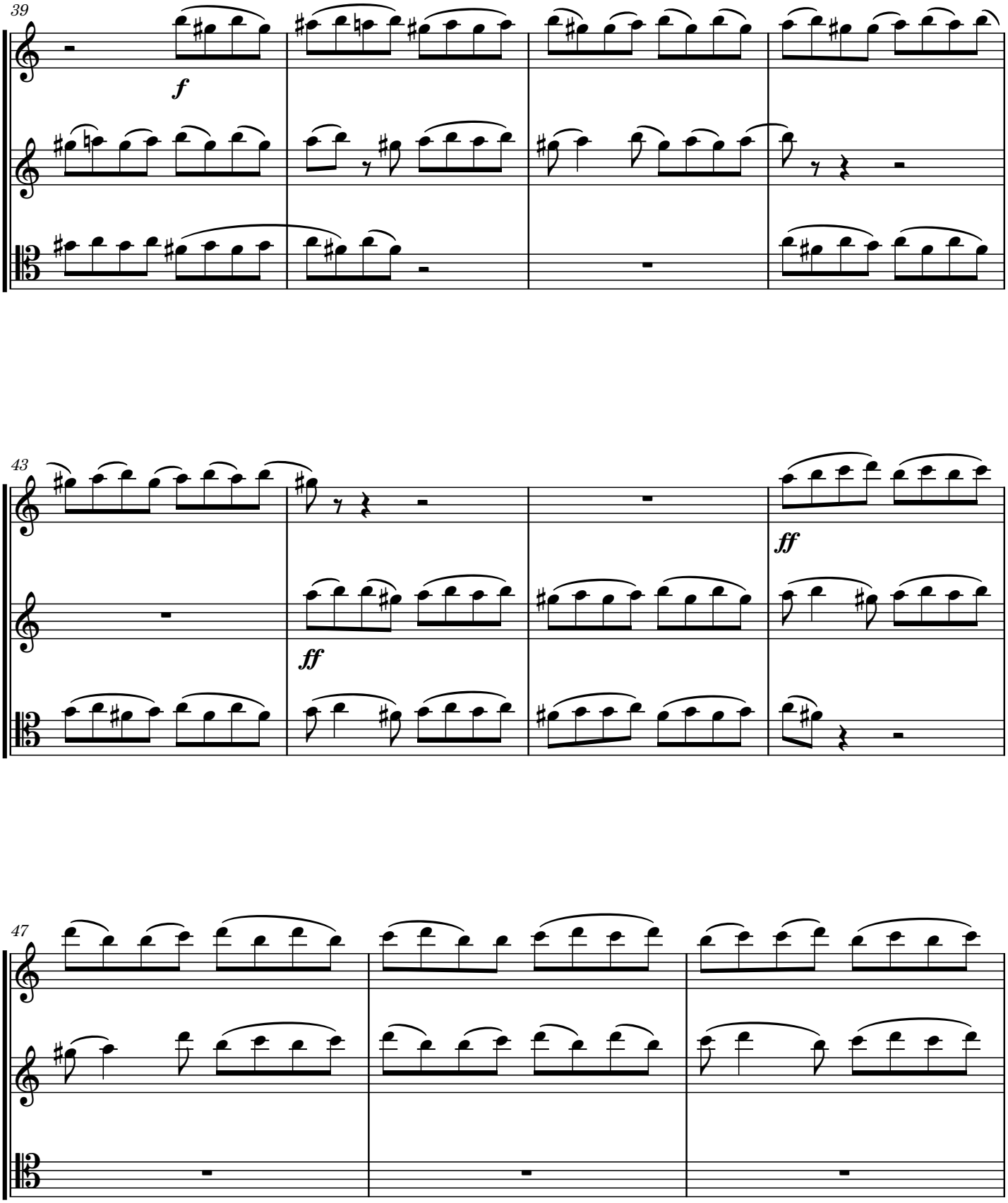
Faster; agitated ♩ = 84

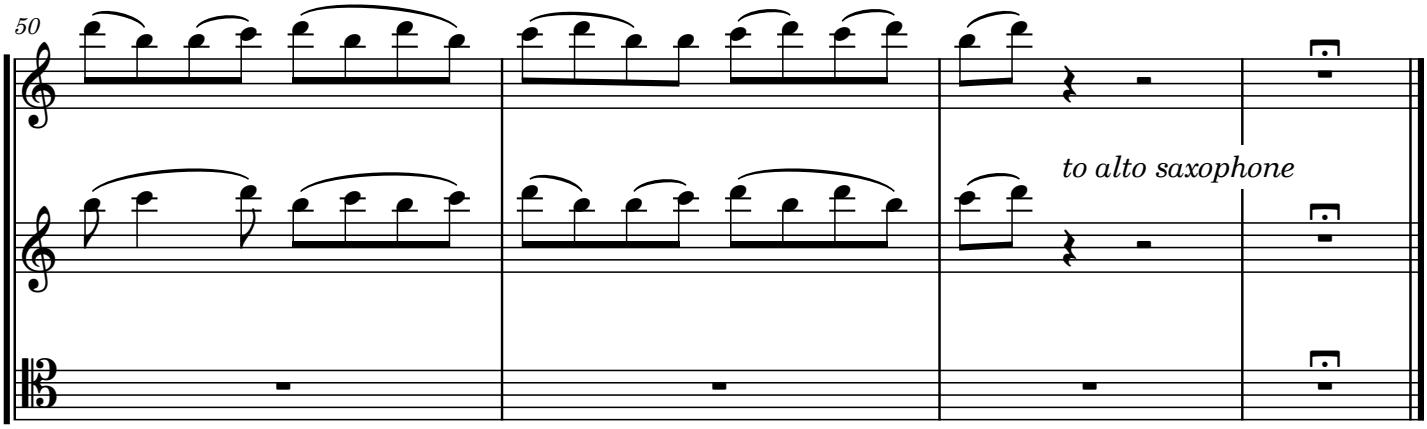


23

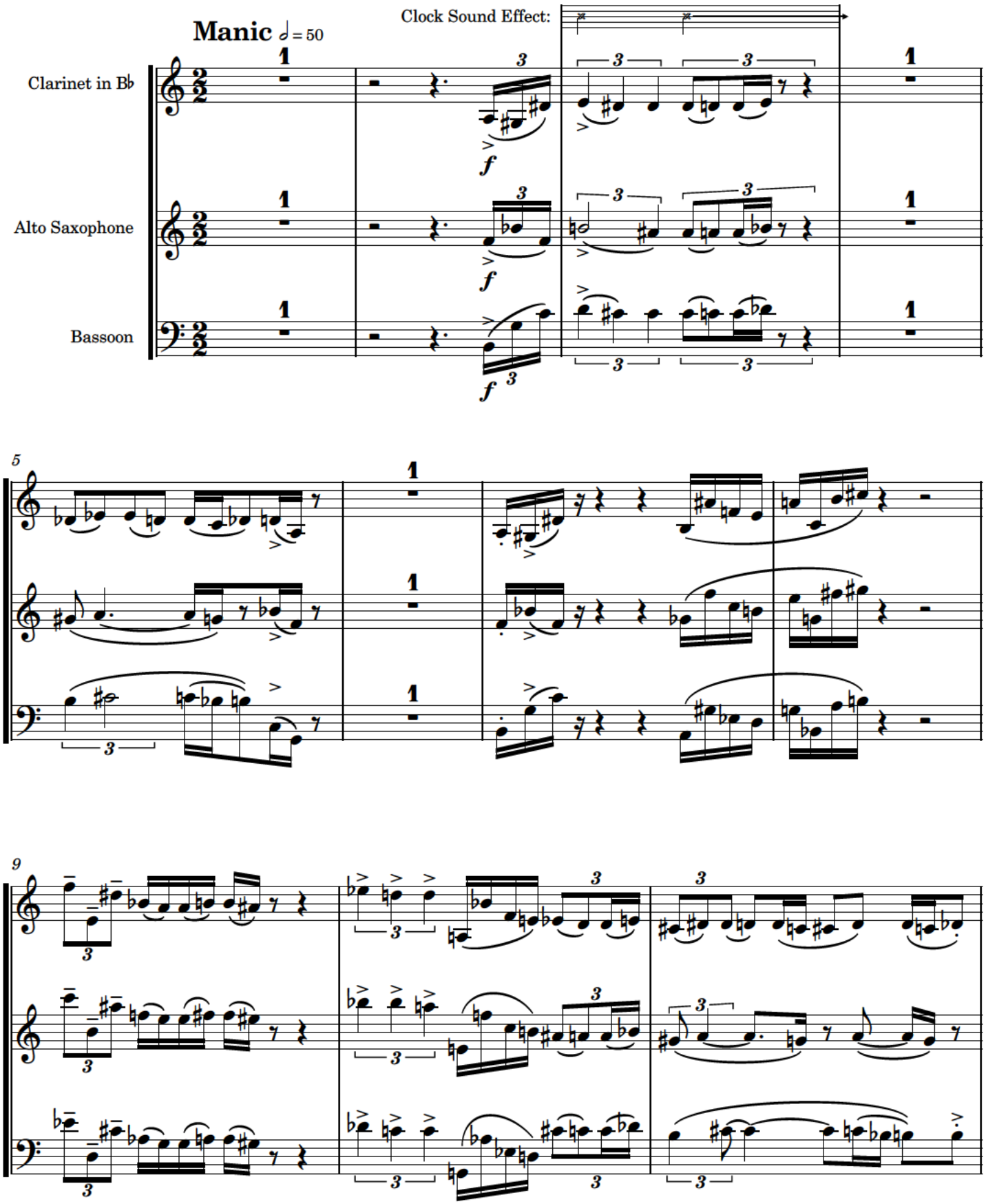


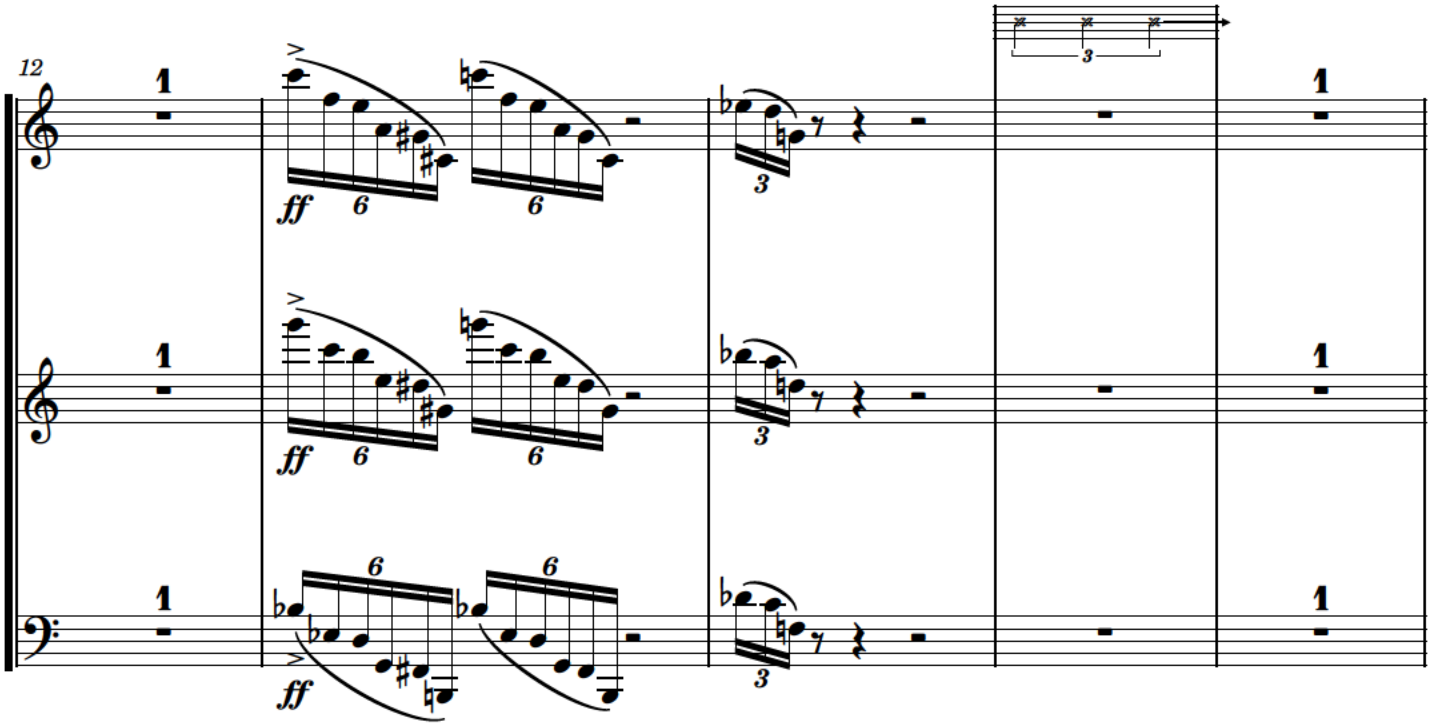

27
(f)
mp
mf
p
p
31
mp
mp
f sub.
35
p
mf
f
p
f

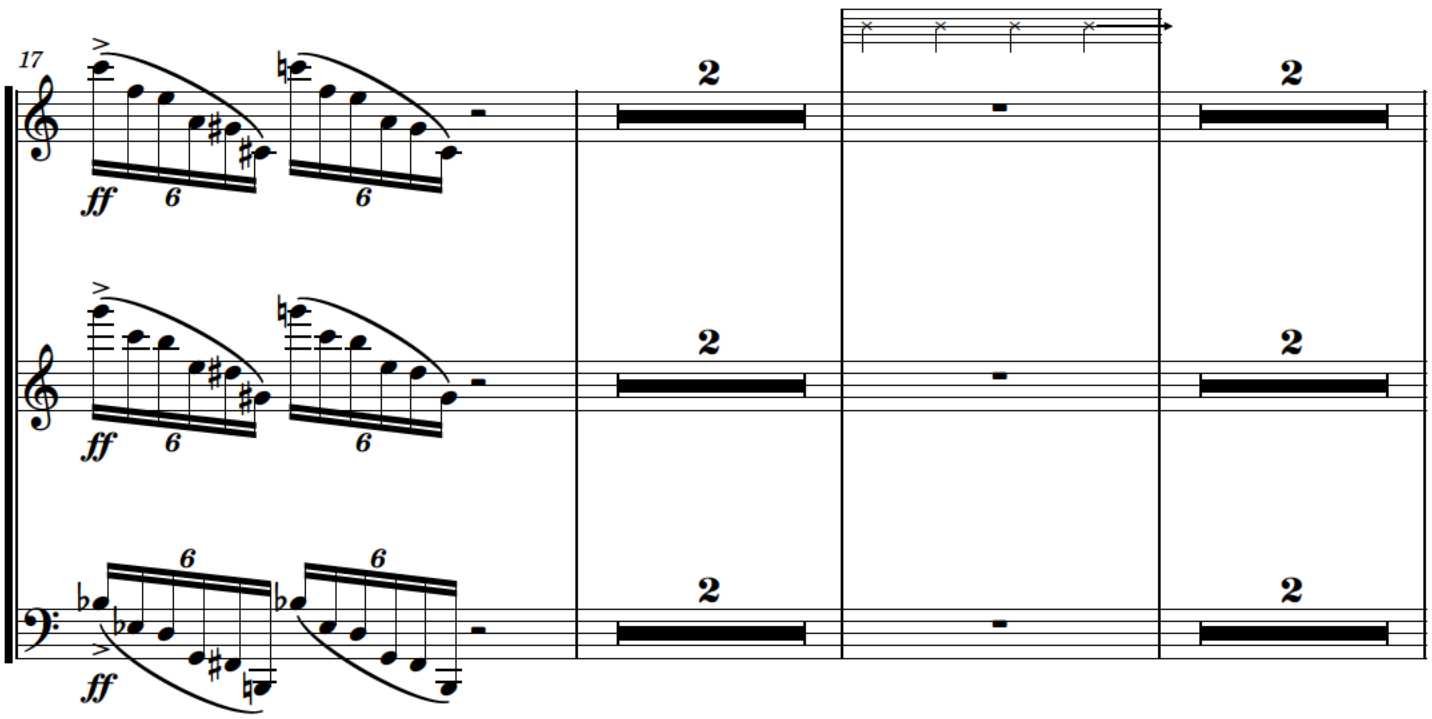

39
f
43
ff
ff
47

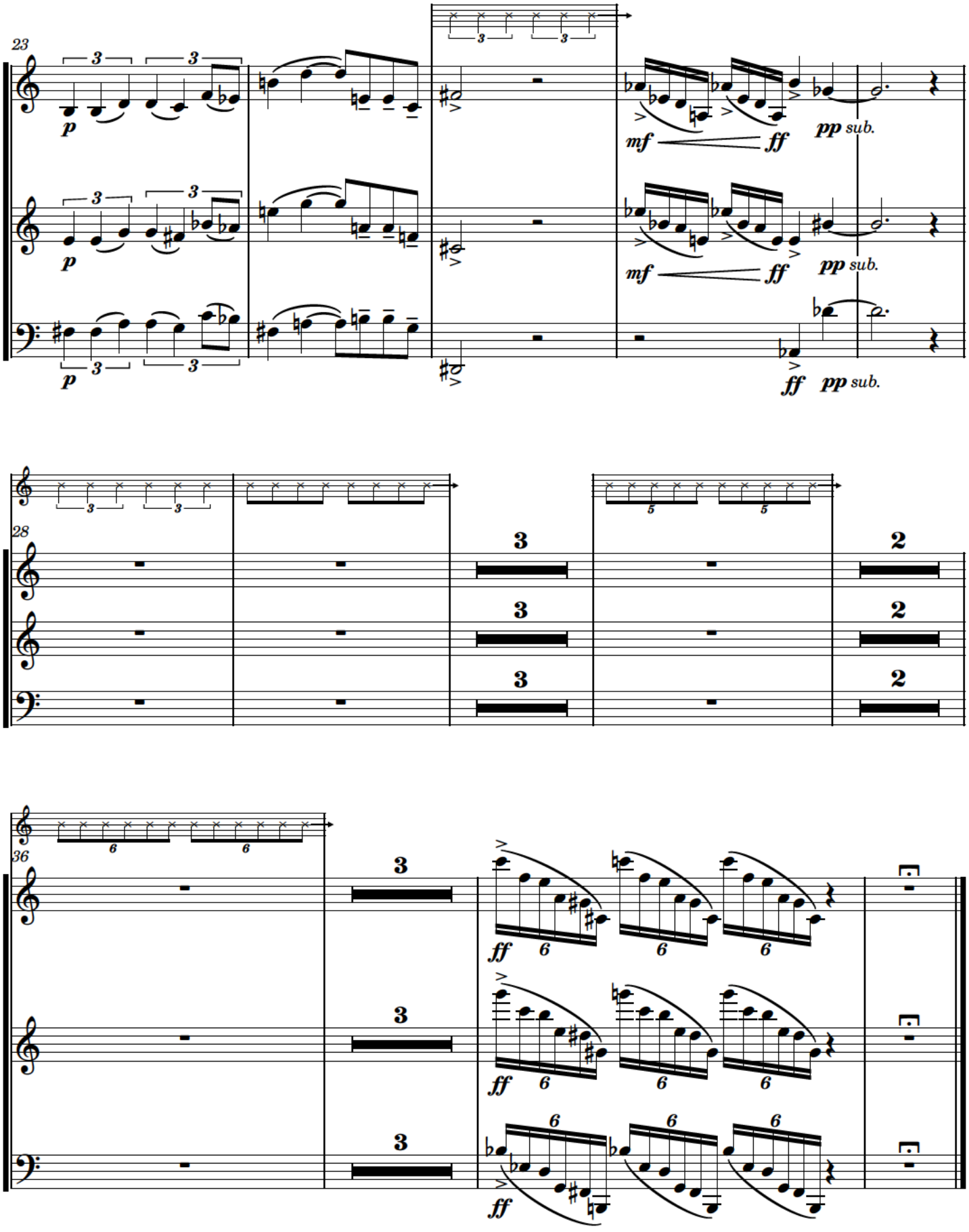

50
to alto saxophone

3. The Fever

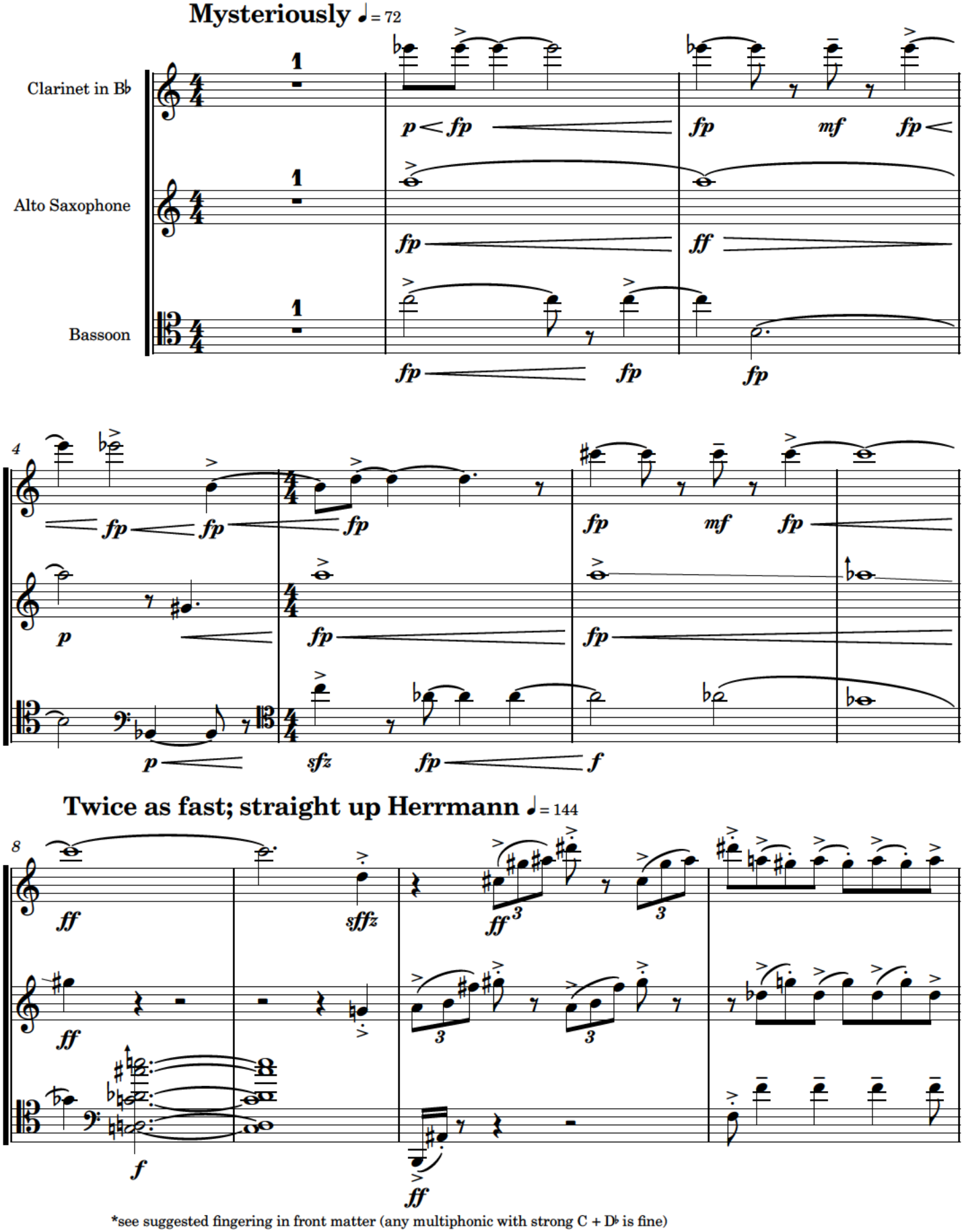

Manic ♩ = 50
Clock Sound Effect:
Clarinet in B♭
Alto Saxophone
Bassoon
f
5
9


12
1
ff
6
3

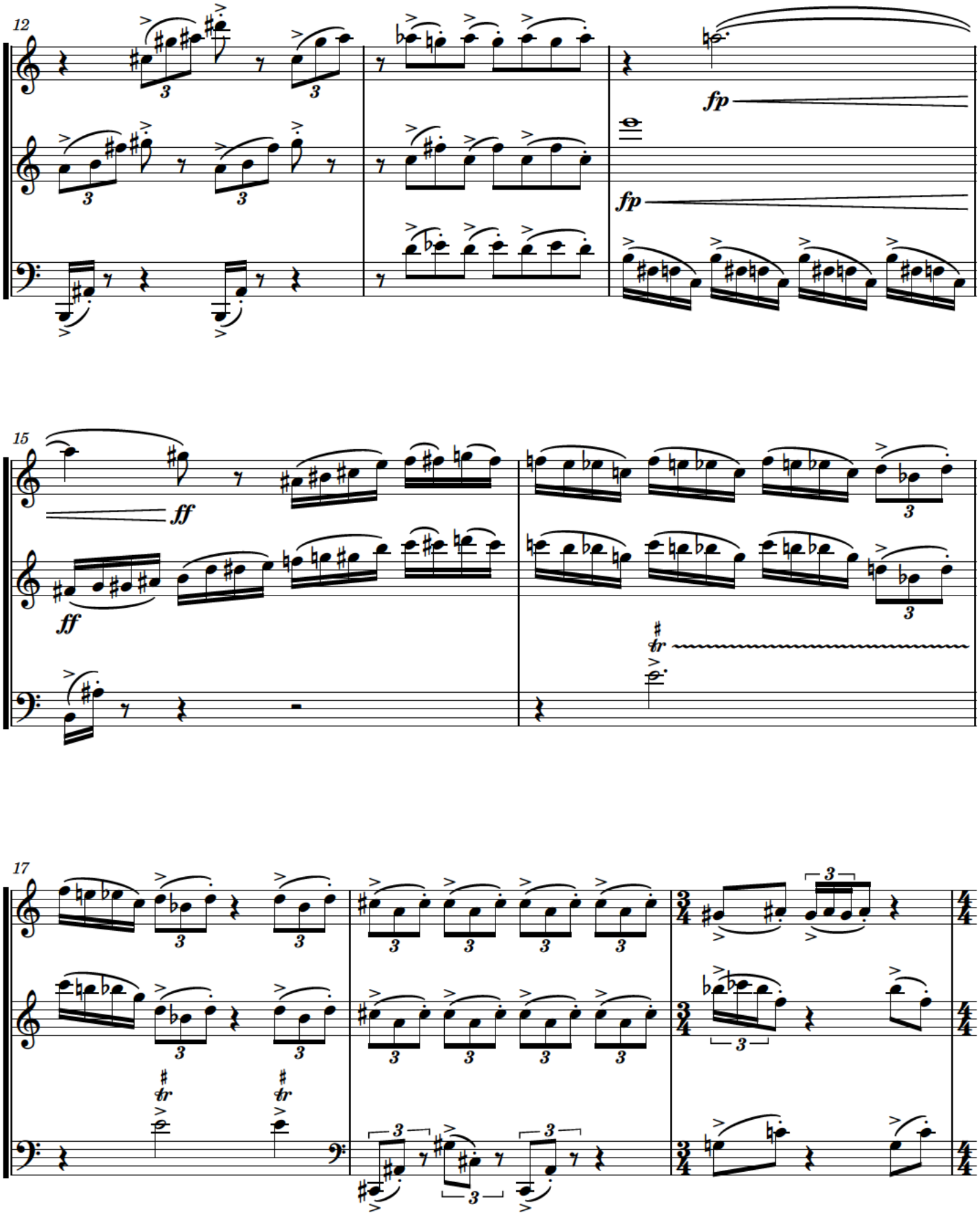

17
2
ff
6

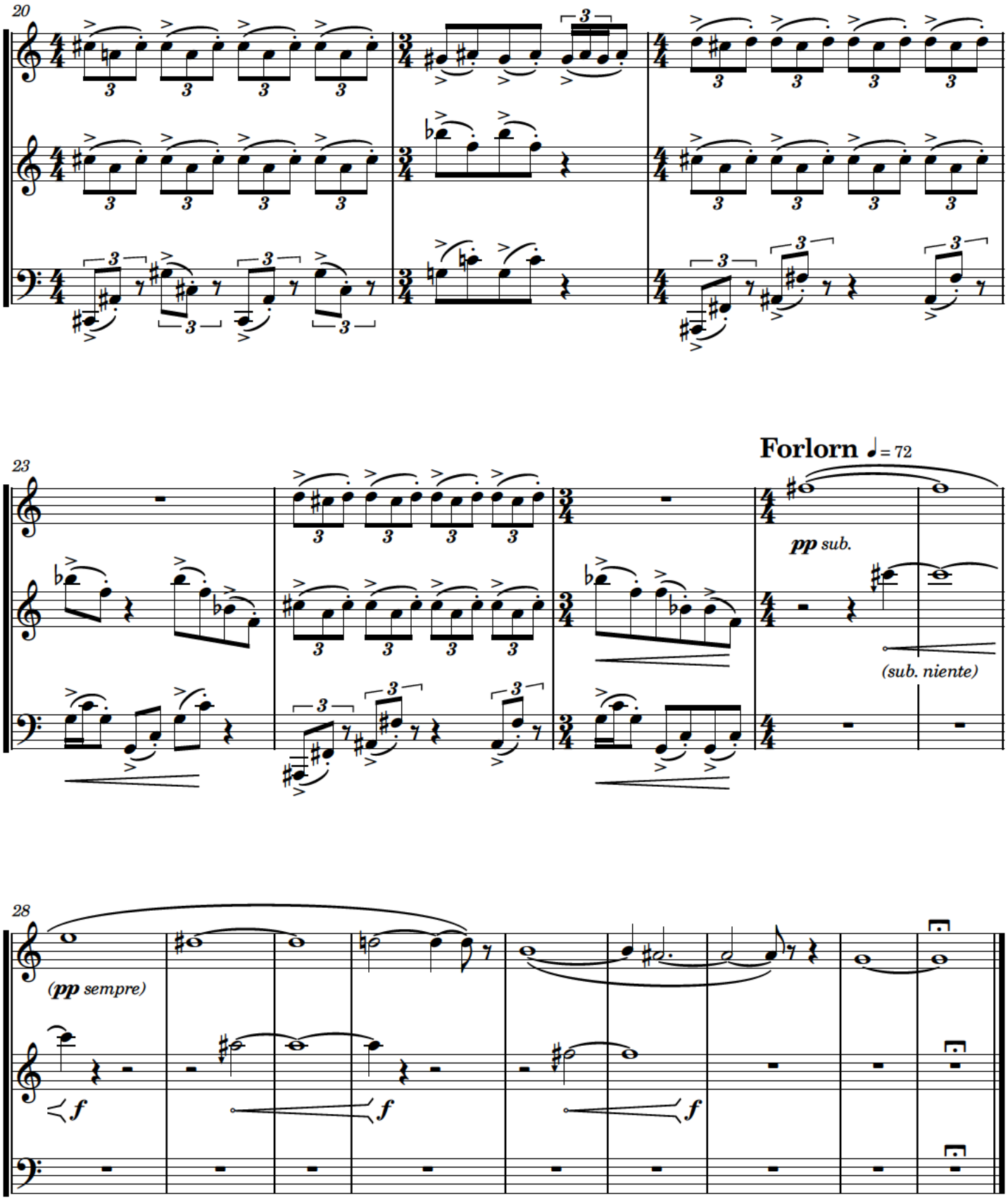

23
p
mf
ff
pp sub.
28
36

4. You Drive

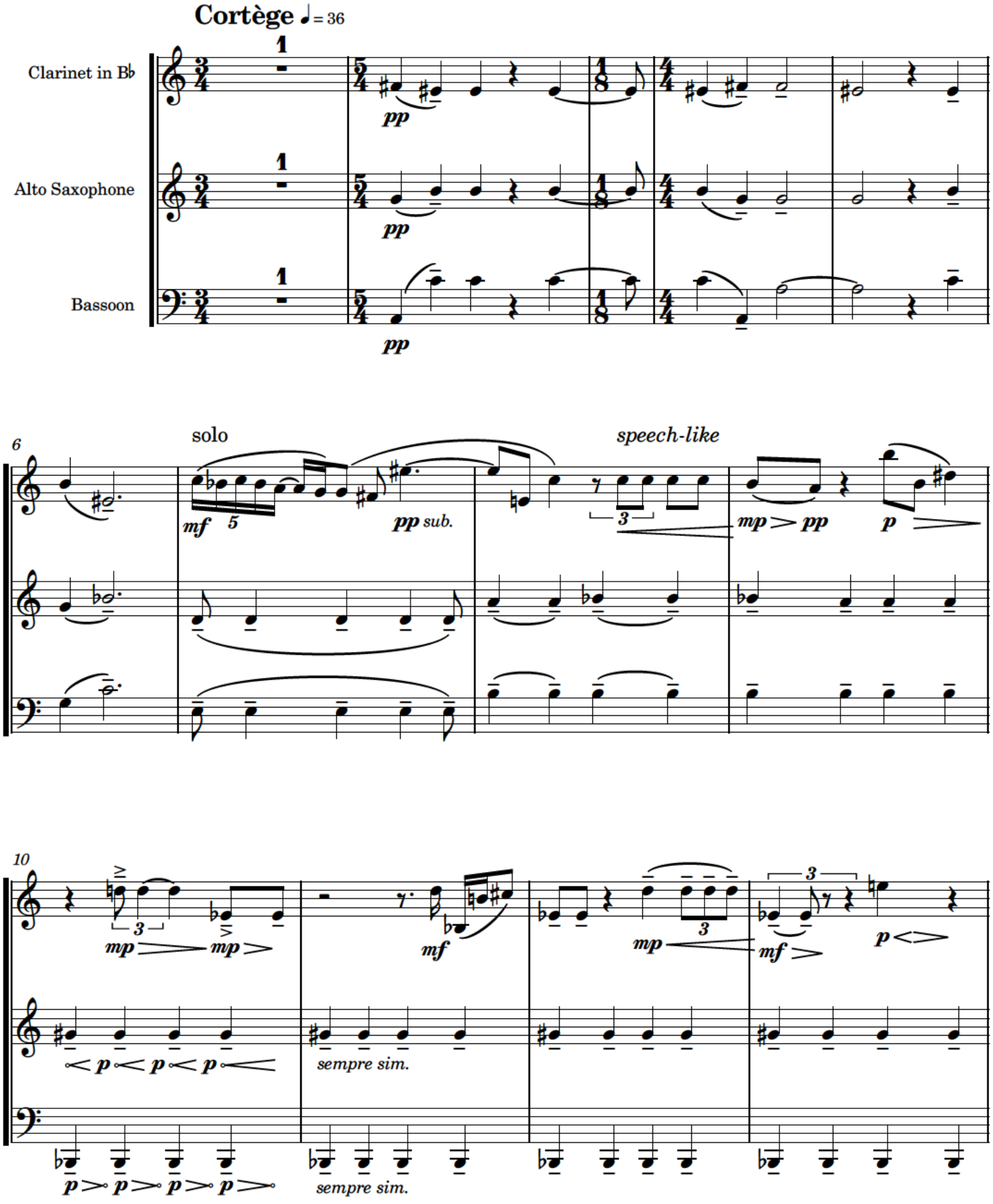


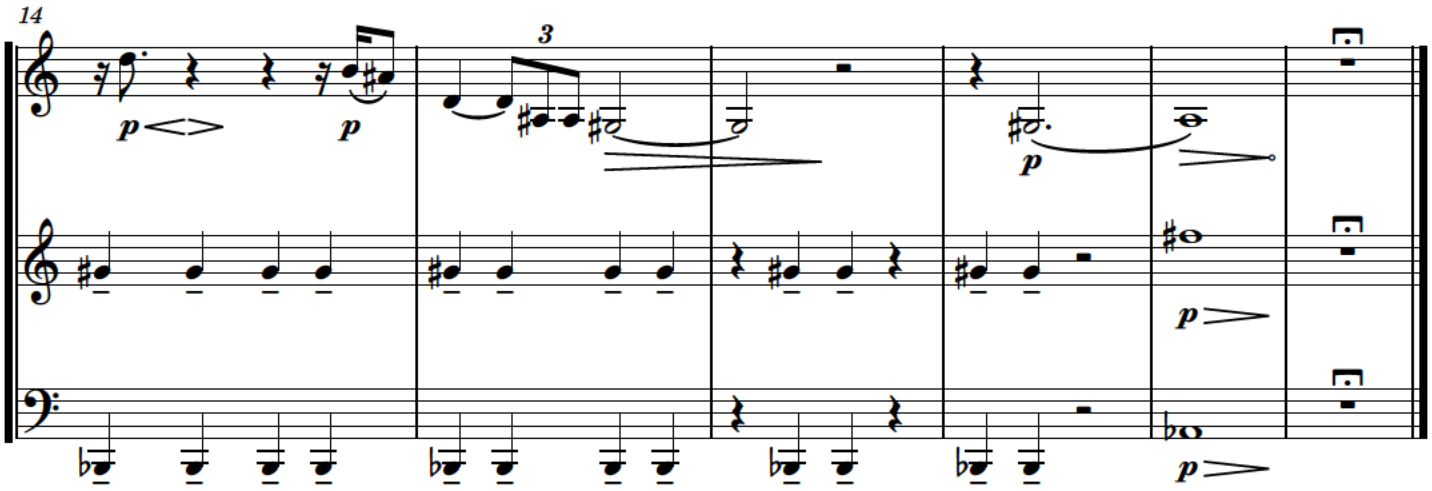
*see suggested fingering in front matter (any multiphonic with strong C + D♭ is fine)


12
fp
fp
15
ff
ff
tr
17
tr
tr


20
23
Forlorn ♩= 72
pp sub.
(sub. niente)
28
(pp sempre)
f
f
f

5. Walking Distance




14
3
p
p
p
p
p

Into Gold

for multiple percussion solo + fixed video

Daniel Godsil

PROGRAM NOTE:
The video for this work was assembled from mid-twentieth century public domain films produced by General Motors, Kodak, and the United States military.

INTRUMENTATION:
—four suspended crash cymbals
—one tam-tam
—five metal pipes or metal plates (specific pitches not required)
—crotales (one or two octaves)
—vibraphone

ELECTRONIC REQUIREMENTS
—computer for playback of video file (with appropriate audio interface)
—two-channel audio system
—video projection system

DURATION:
approximately 9 minutes

Daniel Godsil | composer
www.danielgodsil.com

Into Gold

for multiple percussion solo + fixed audio | video

Daniel Godsil (2020)

Fanfare ♩ = 60

Medium yarn mallets

l.v. sempre

Suspended cymbals (4) + tam

Metal pipes/plates (5)

Crotales

Vibraphone

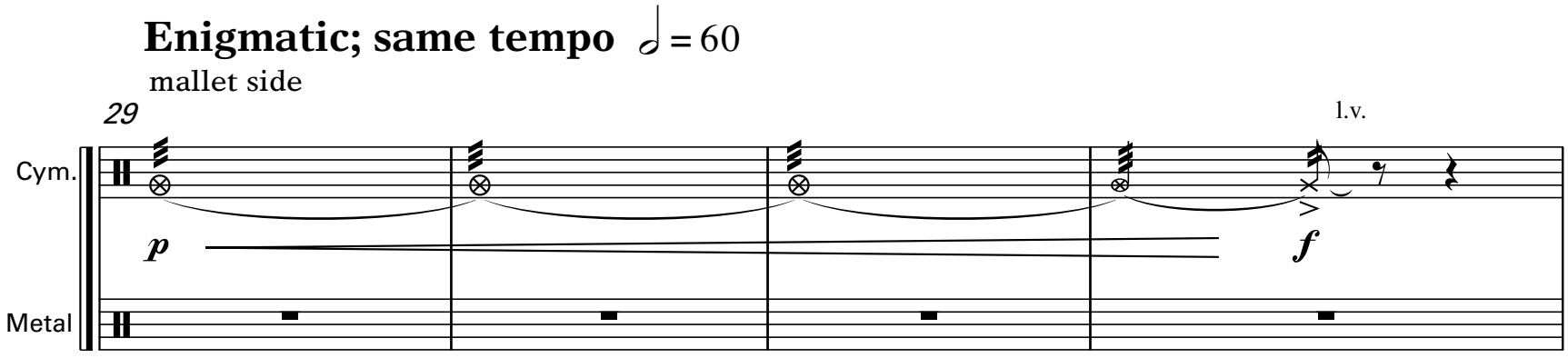
(tam)

Cym.

(non trem.)

stick side

A



remainder of this page left blank to facilitate page turn

B

Metal

Vib.

f

37

crossfade these two tremolos...

Motor on slow *sempre*

mf

Pedal heavily *sempre* (harmonically where appropriate)

C (♩=♩)

p *poco* *p* *sim.*

mix with pipe/metal tremolos *ad libitum*

46

mfp

p

50

sim.

vibes only from here...

54

cresc . poco a poco

58

Vib.

fffp *cresc . poco a poco*

62

Vib.

f

D **Mysteriously** ♩ = 60 (𝅗𝅥=𝅗𝅥)

66

Cym.

Metal

Crot.

Vib.

p

3

l.v. sempre

mf *interruptive*

*

p

l.v.

ff

(Ped.)

*connect mallet notes to create larger gesture

70

Metal

Crot.

Vib.

3

mf

3

p

73

Crot.

Vib.

77

Vib.

3

3

p semplice

83

Crot.

*

p

*8vb if only one octave

E **Mechanical** ♩ = 120

Cym.

Metal

Vib.

f

f

92

Cym.

Metal

Vib.

96

Cym.

Metal

Vib.

100

F

Cym.

Metal

Vib.

104

Cym.

Metal

Crot.

Vib.

mf (this or some other dissonant, hazy pattern)

111 stick side

Cym.

mp

V.S.

Crot.

G **Quasi-rubato** ♩ = 72

Cym.

Metal

Vib.

f

f

3

f *con bravura*

118 **faster...** ♩ = 84

Metal

Vib.

3

120

Metal

Vib.

124

Cym.

Metal

Vib.

H **Fanfare, but frantic, twisted** ♩ = 120

Medium yarn mallets

l.v. sempre

Cym.

Metal

Vib.

f

133

Cym.

Metal

p *molto* *fp* *sim.* *p* *p* *p* *p* *p* *p*

139 stick side

Cym.

Metal

f *p* *f*

mallet side

144

Cym.

Metal

p *p* *p* *p* *p* *f* *p* *p* *p* *p* *p* *p* *p* *p*

148

Cym.

Metal

p

V.S.

149

Cym.

Metal

Vib.

p *molto* *f p* *sim.* *p* *p* *p* *p* *p* *p*

I **Half as fast** ♩ = 60

Cym.

Metal

Vib.

mf

J

Vib.

mp decresc. al fine

161

Vib.

2 3 4

164

Vib.

5 6 7

167

Vib.

(*ppp*)

de rerum natura I “el leñador”

for amplified string quartet + fixed video

Daniel Godsil

> But it always happens that we hear the sound of the thunder some time after we perceive it lighten, because objects, which affect the hearing, always come more slowly to the ears, than those, which affect the sight, arrive at the eye. This you may easily understand from the following instance. If you observe a man at a distance cutting down the trunk of a tree with an axe, you will see the stroke itself before the noise of the stroke makes any sound in the air.
>
> *Lucretius, De Rerum Natura e. vi. 160-184*

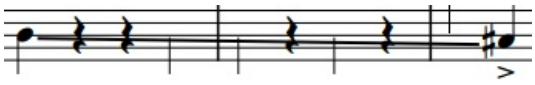
PERFORMANCE NOTES

—use very little to no vibrato throughout, except in passages marked "molto vibrato"

—free bowing throughout; use as much bow as required to acheive notated dynamic levels

—all glissandi refer to sempre glissandi, indicated with a solid line

—in gliss. passages interspersed with rests, left hand maintains a continuous gliss:



—air noise (suppresion of pitch with left hand) is indicated with X noteheads

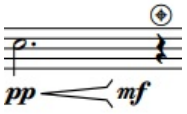
—abbreviations used for bowing positions:

ST = sul tasto
SP = sul ponticello
pSP = poco sul ponticello

*continuous change between bowing positions indicated with arrows

—gradation in bow pressure is indicated with wedges: 

—whip crescendo (slow-to-fast crescendo with sudden stop at end):
[the mute symbol over rest indicates sudden stop]



—quarter tone alterations are indicated with arrow accidentals

—ALL tremolos in the piece are <u>unmeasured</u>

ELECTRONIC REQUIREMENTS

—this piece was written to accompany a video (provided by composer)
—exact coordination with video (i.e. specific "hit points") is NOT required, EXCEPT for the opening 18" silence
—all instruments should be amplified

DURATION 10 minutes

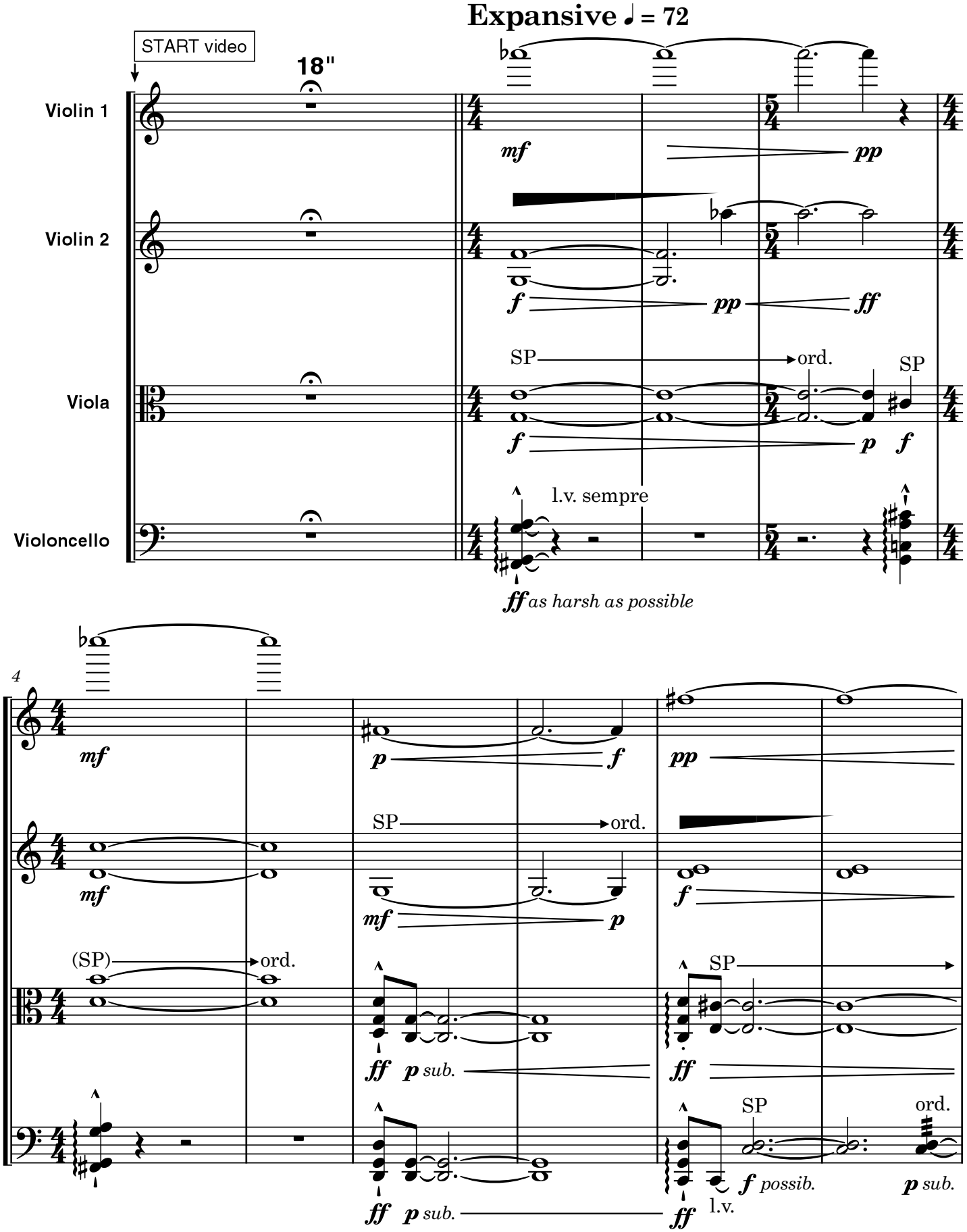
Daniel Godsil | composer
godsildaniel@gmail.com

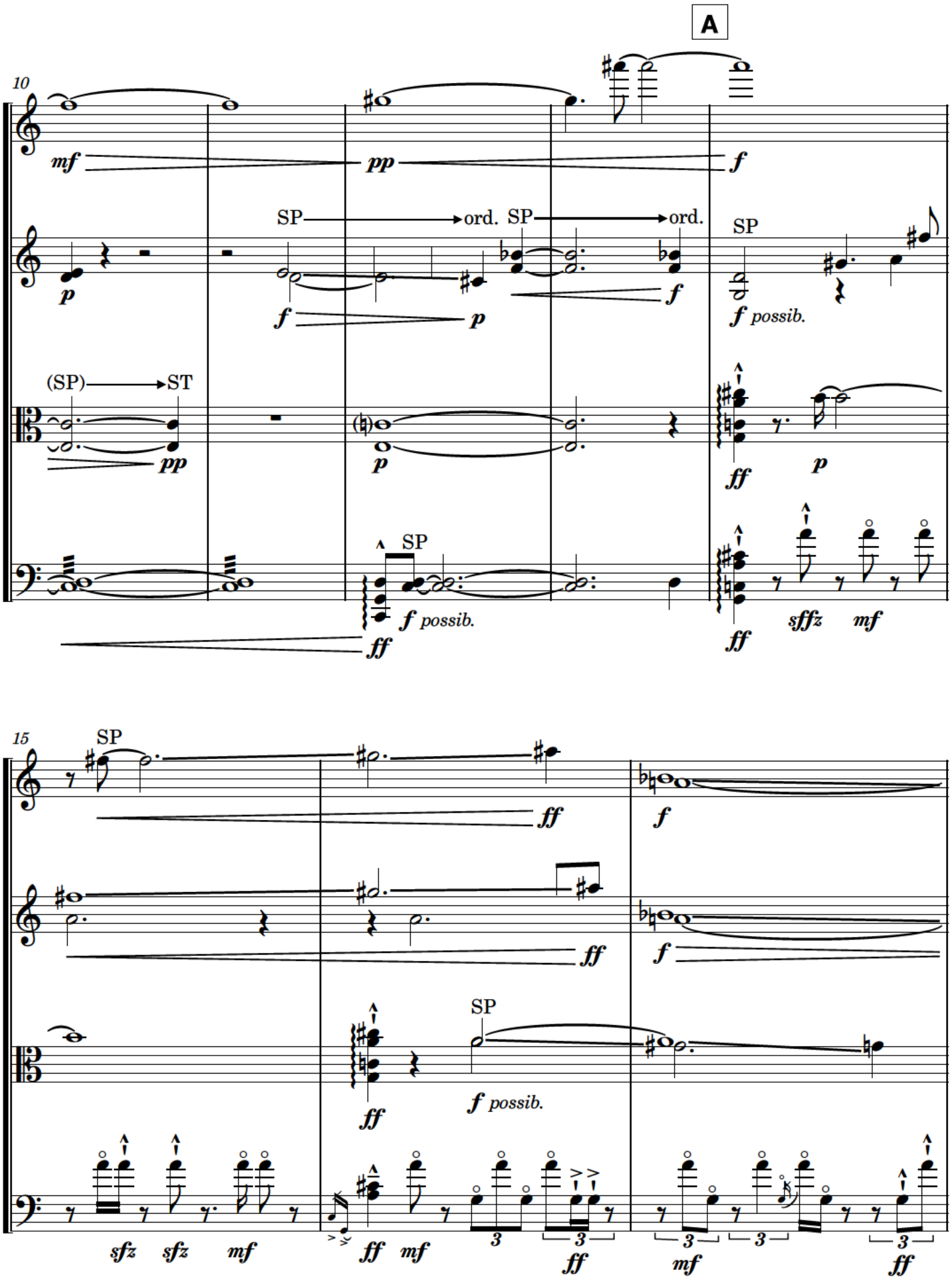
for the Spektral Quartet

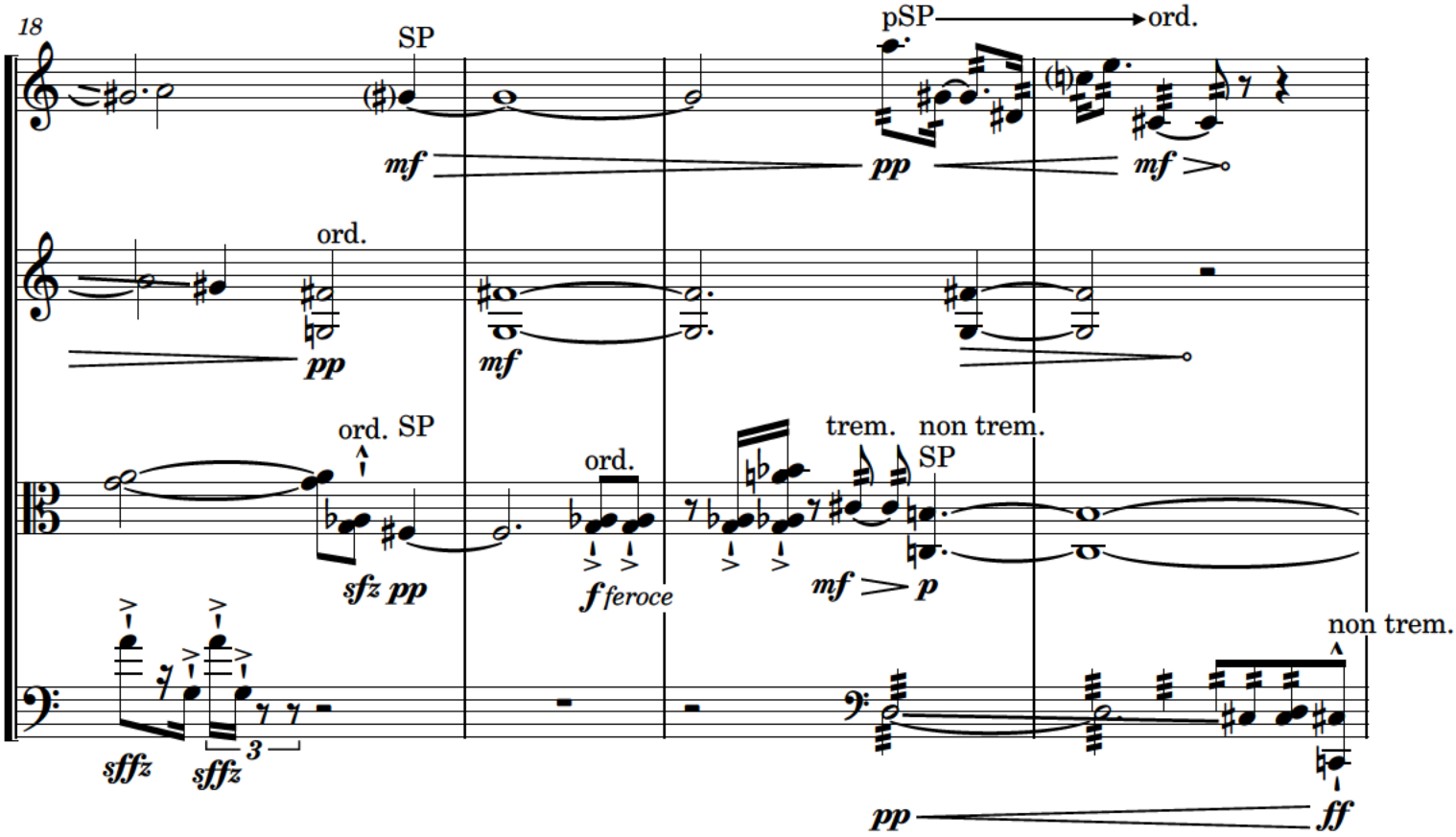
de rerum natura I ("el leñador")

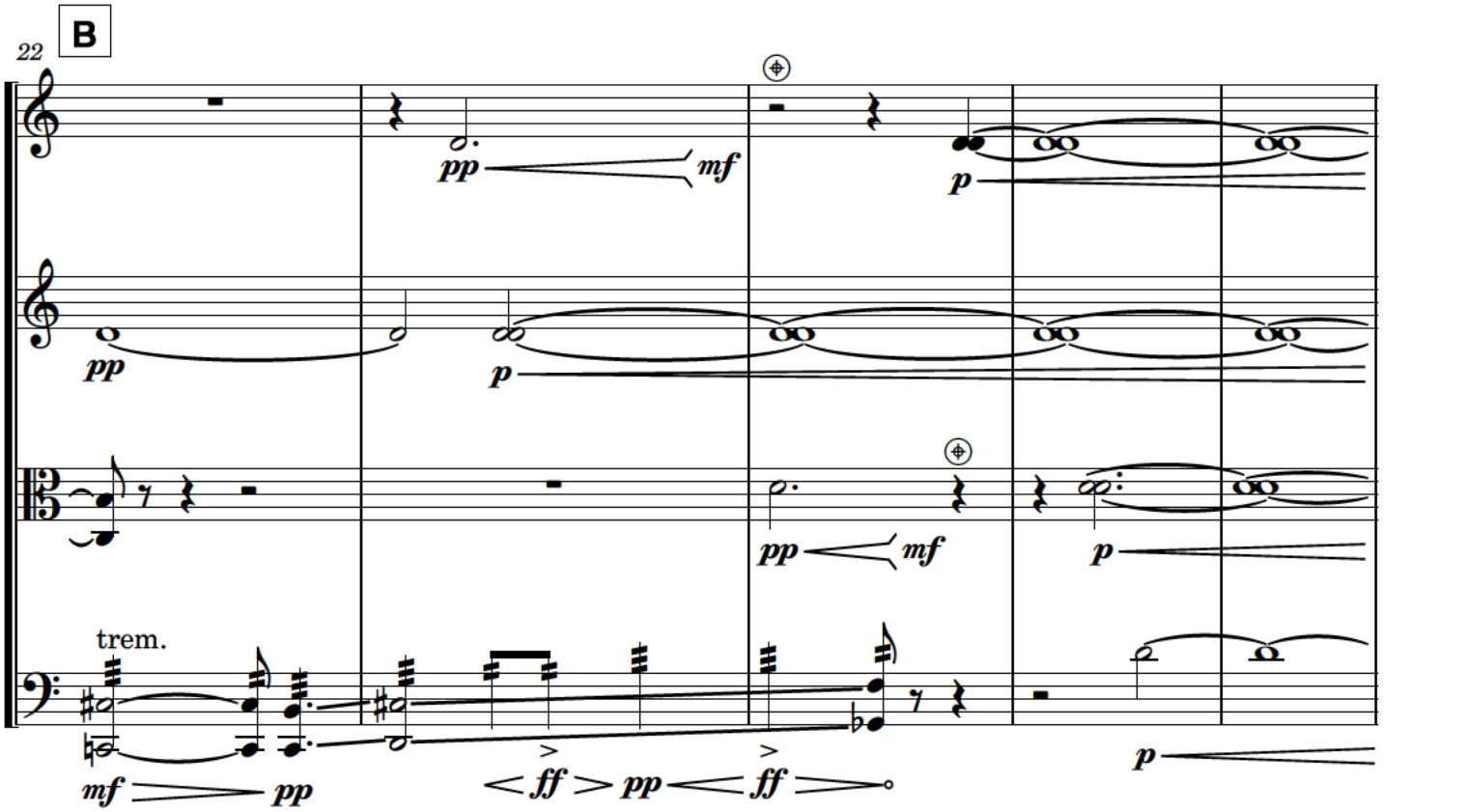
for amplified string quartet + video projection

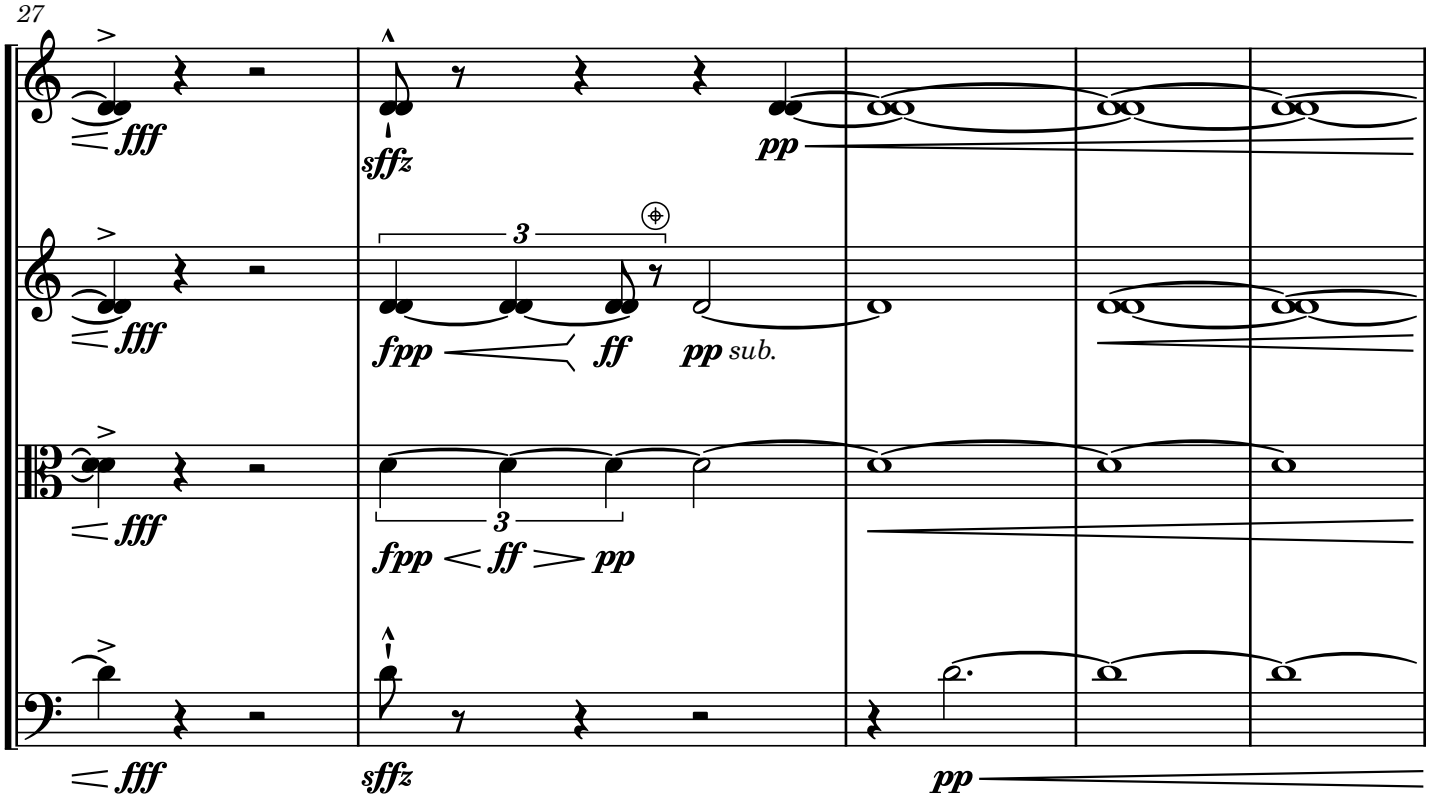
Daniel Godsil (2019)

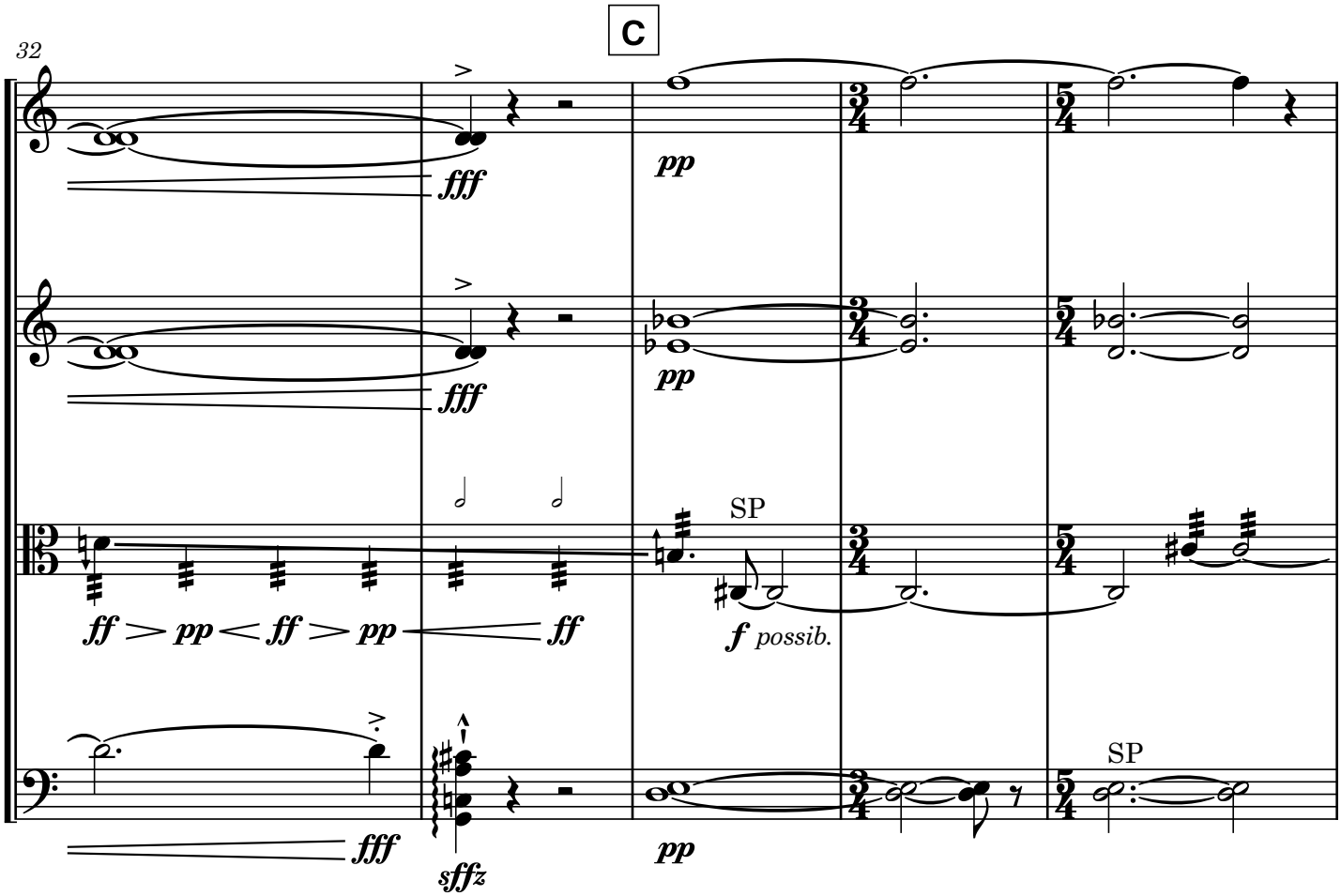


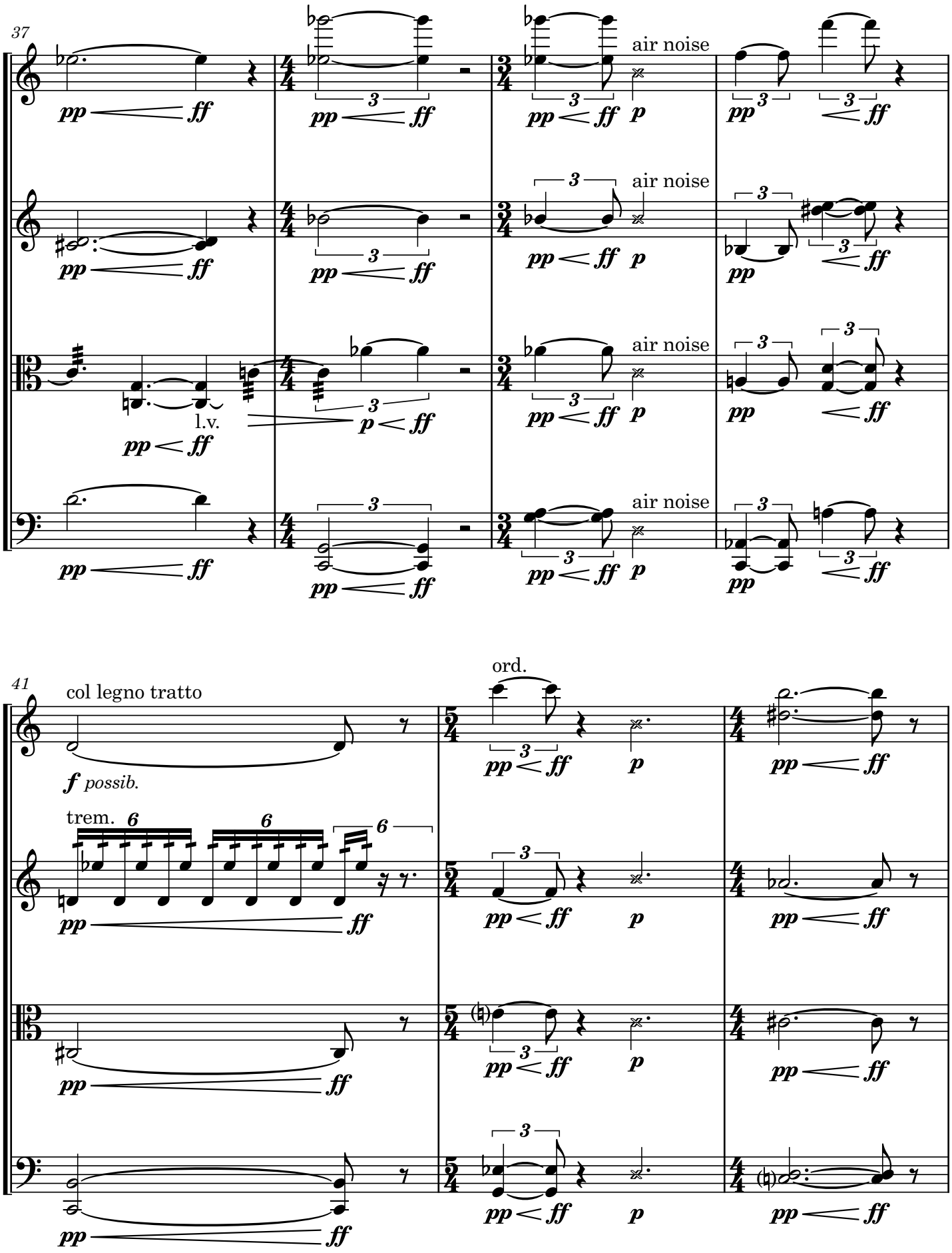

A
10
mf
pp
f
SP
ord.
SP
ord.
SP
p
f
p
f
f possib.
(SP)
ST
pp
p
ff
p
SP
f possib.
ff
ff
sffz
mf
15
SP
ff
f
ff
f
SP
ff
f possib.
sfz
sfz
mf
ff
mf
3
3
ff
mf
3
3
3
ff

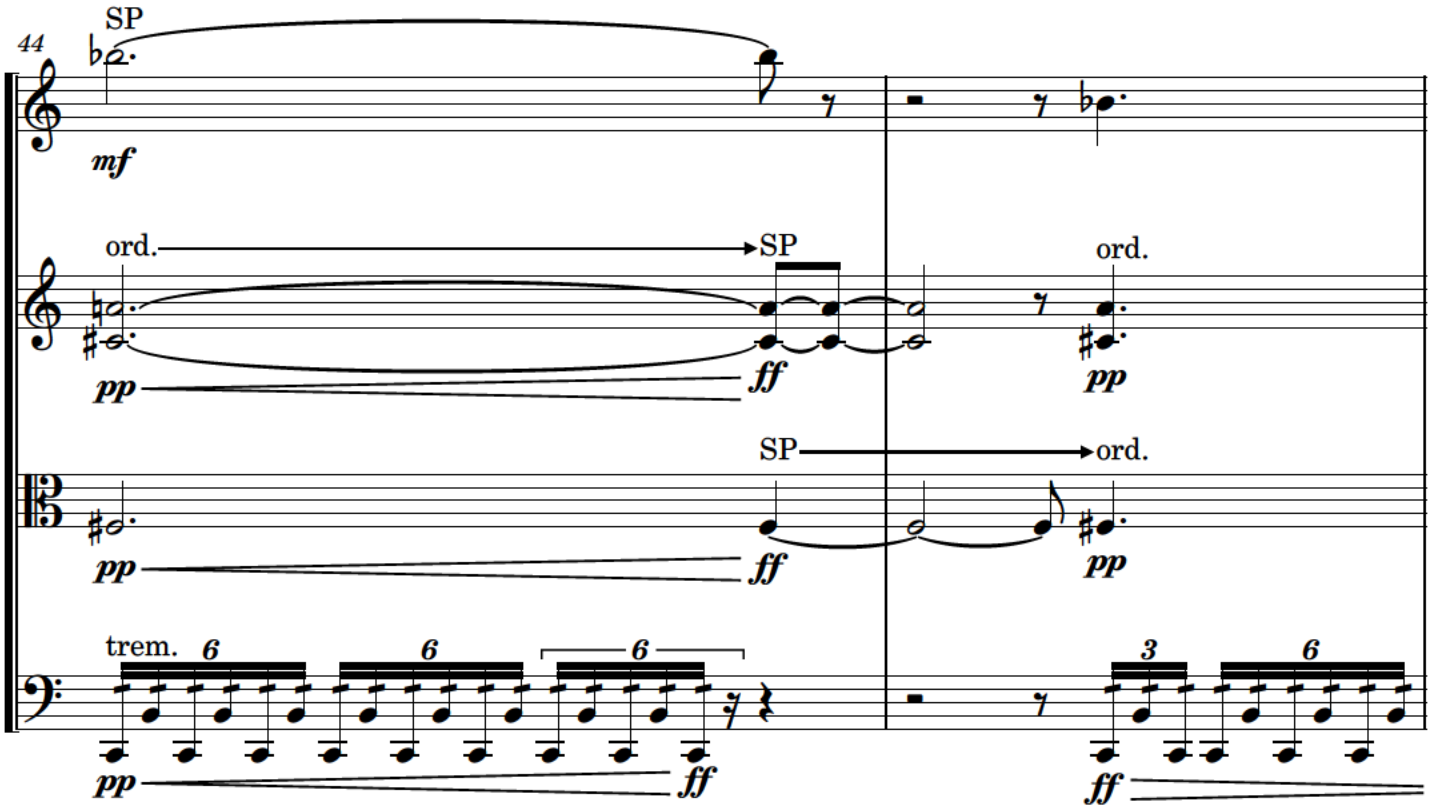

18
SP
pSP
ord.
mf
pp
mf
ord.
pp
mf
ord. SP
ord.
trem.
non trem.
SP
sfz pp
f feroce
mf p
non trem.
sffz
sffz
3
pp
ff

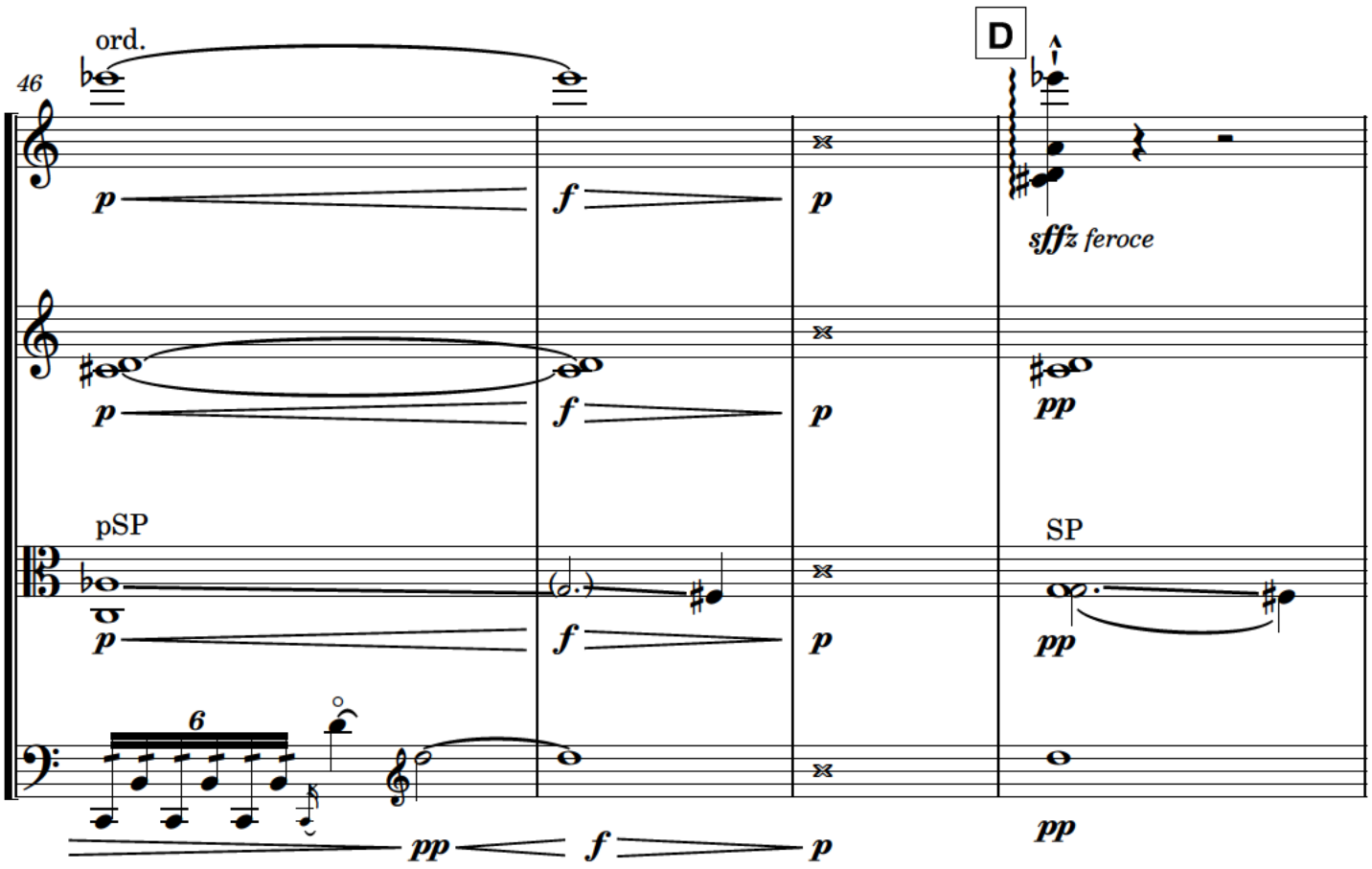

22
B
pp
mf
p
pp
p
pp
mf
p
trem.
mf
pp
ff
pp
ff
p

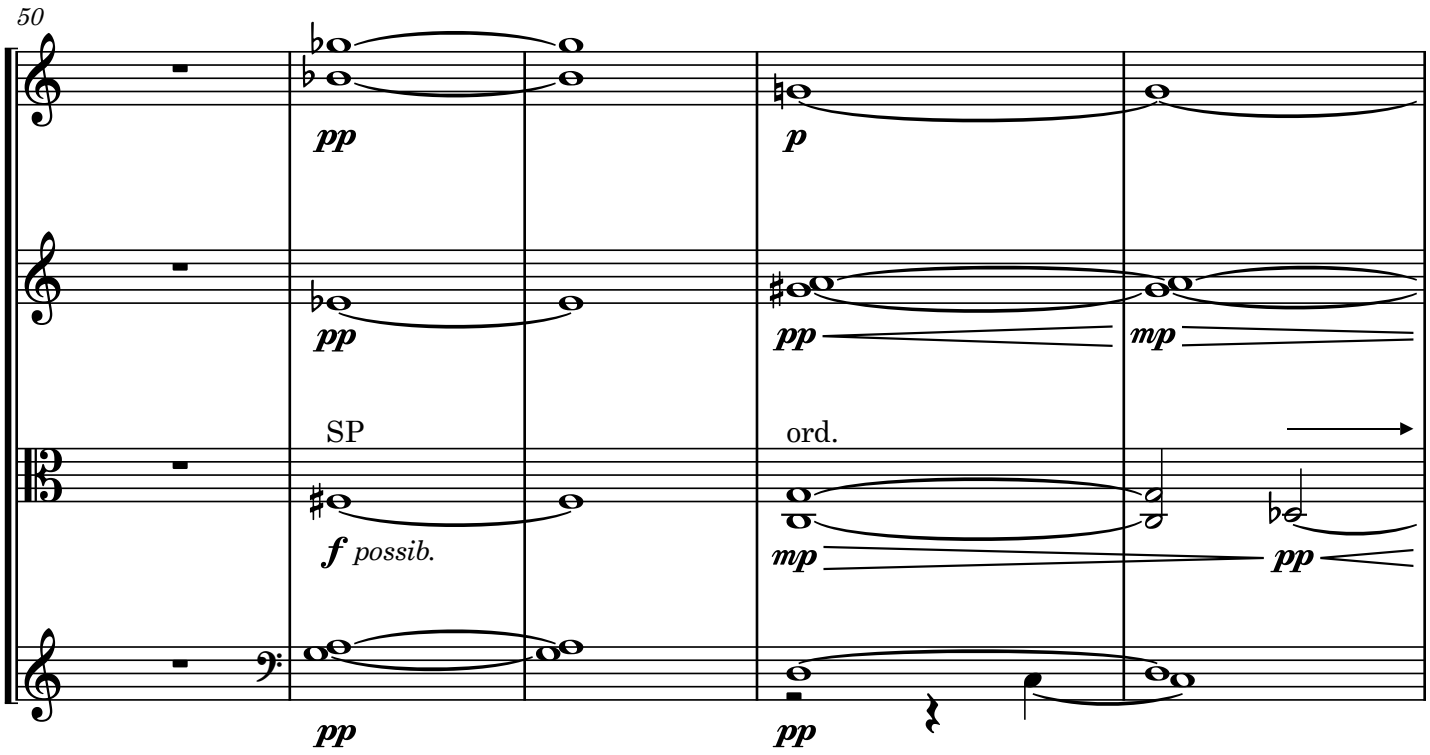

27
fff
sffz
pp
3
fpp
ff
pp sub.
fpp < ff > pp

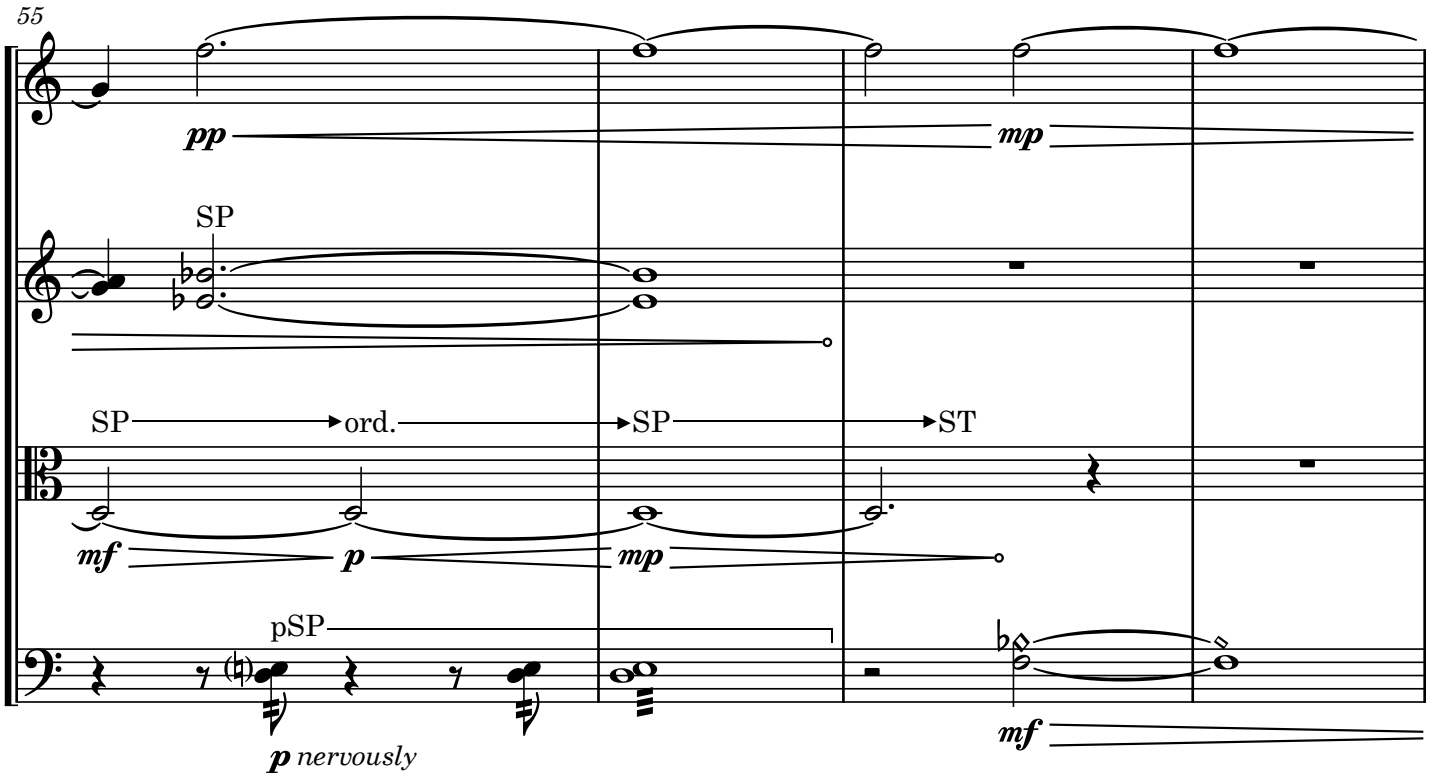

C
32
fff
pp
ff > pp < ff > pp
ff
SP
f possib.
sffz


37
air noise
l.v.
41
col legno tratto
ord.
trem.

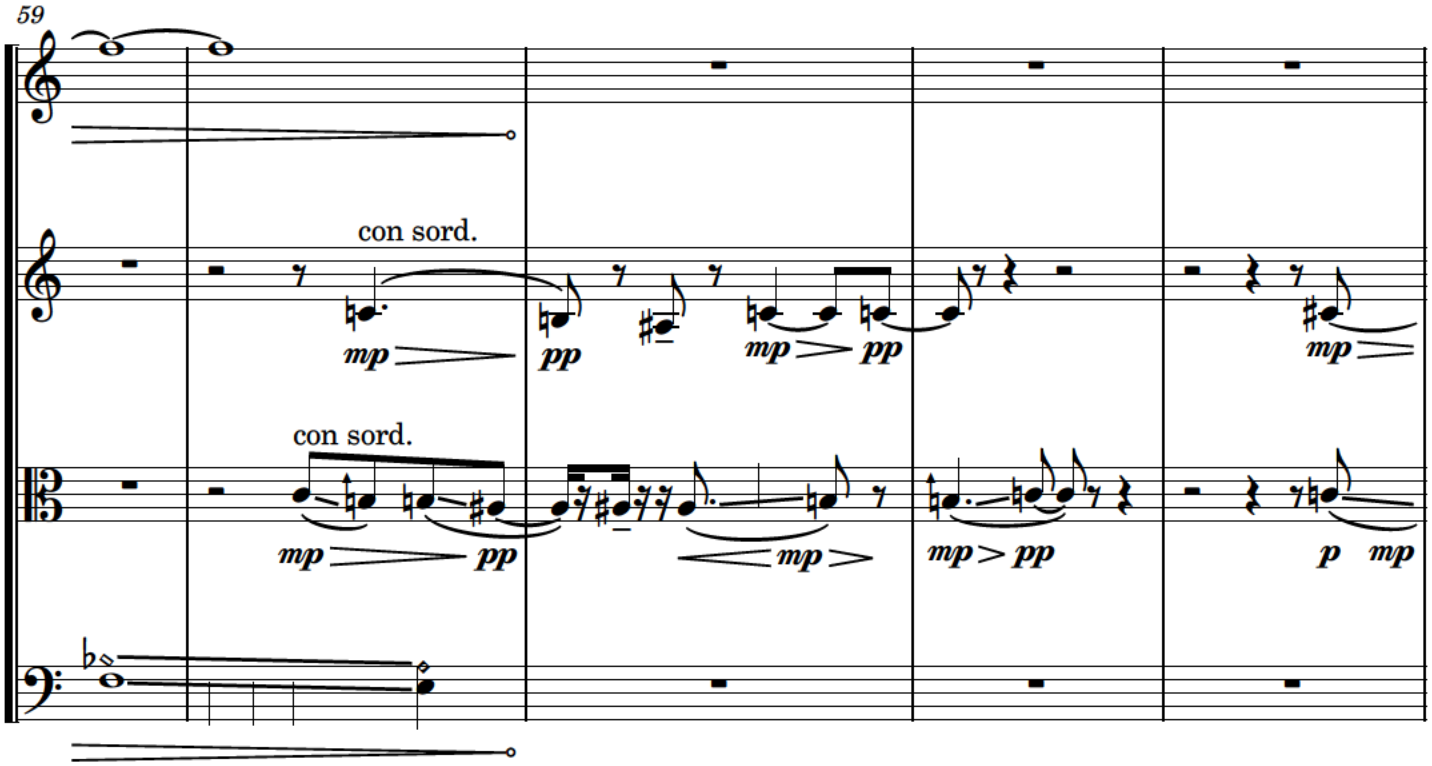

44
SP
mf
ord.
SP
ord.
pp
ff
pp
SP
ord.
pp
ff
pp
trem.
6
6
6
3
6
pp
ff
ff

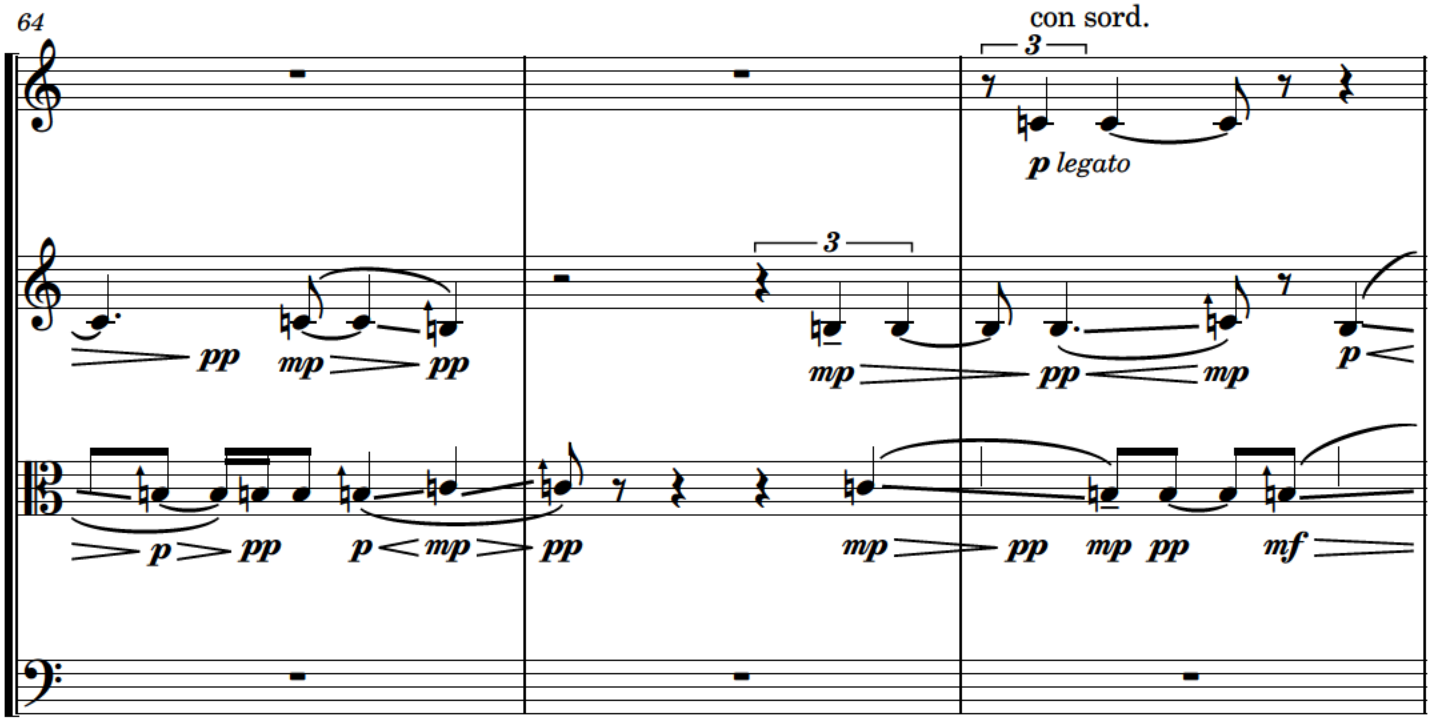

46
ord.
D
p
f
p
sffz feroce
p
f
p
pp
pSP
SP
p
f
p
pp
6
pp
f
p
pp

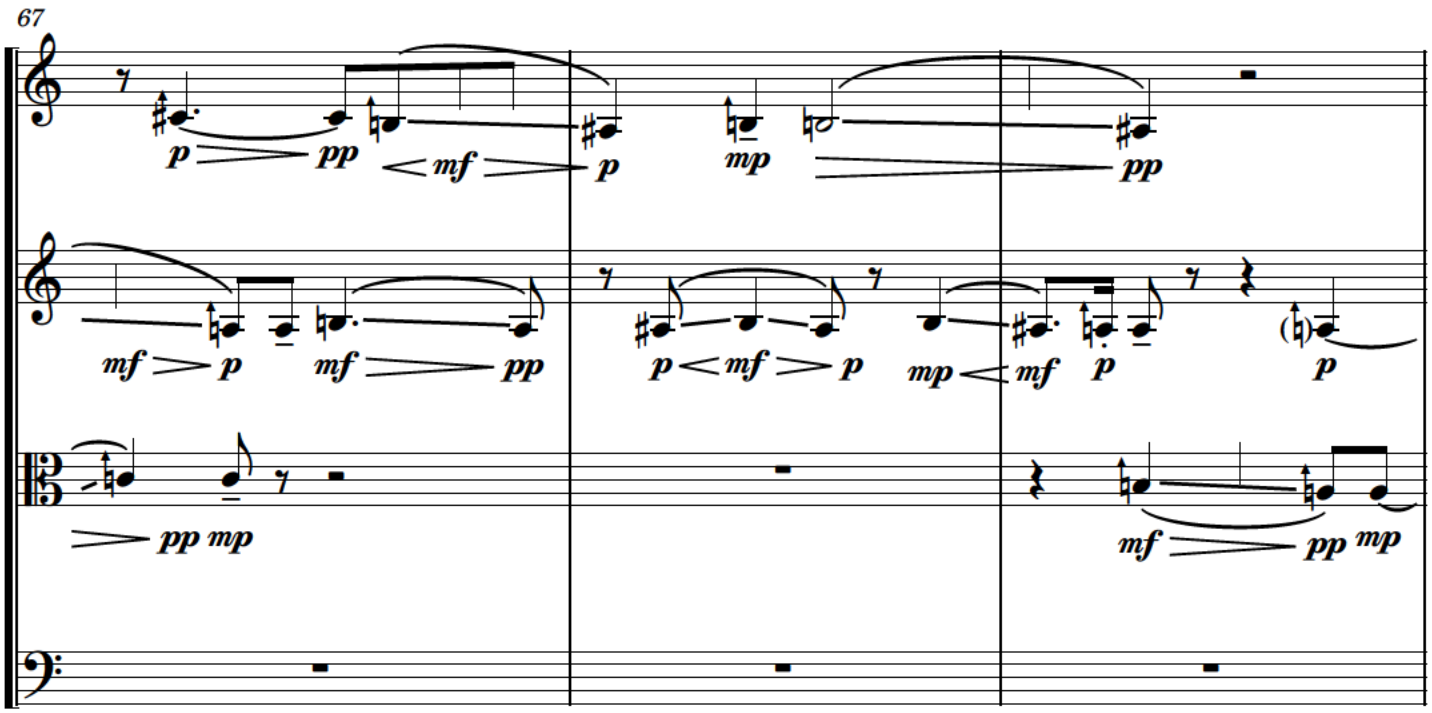

50
pp
p
pp
mp
SP
ord.
f possib.
mp
pp
pp
pp

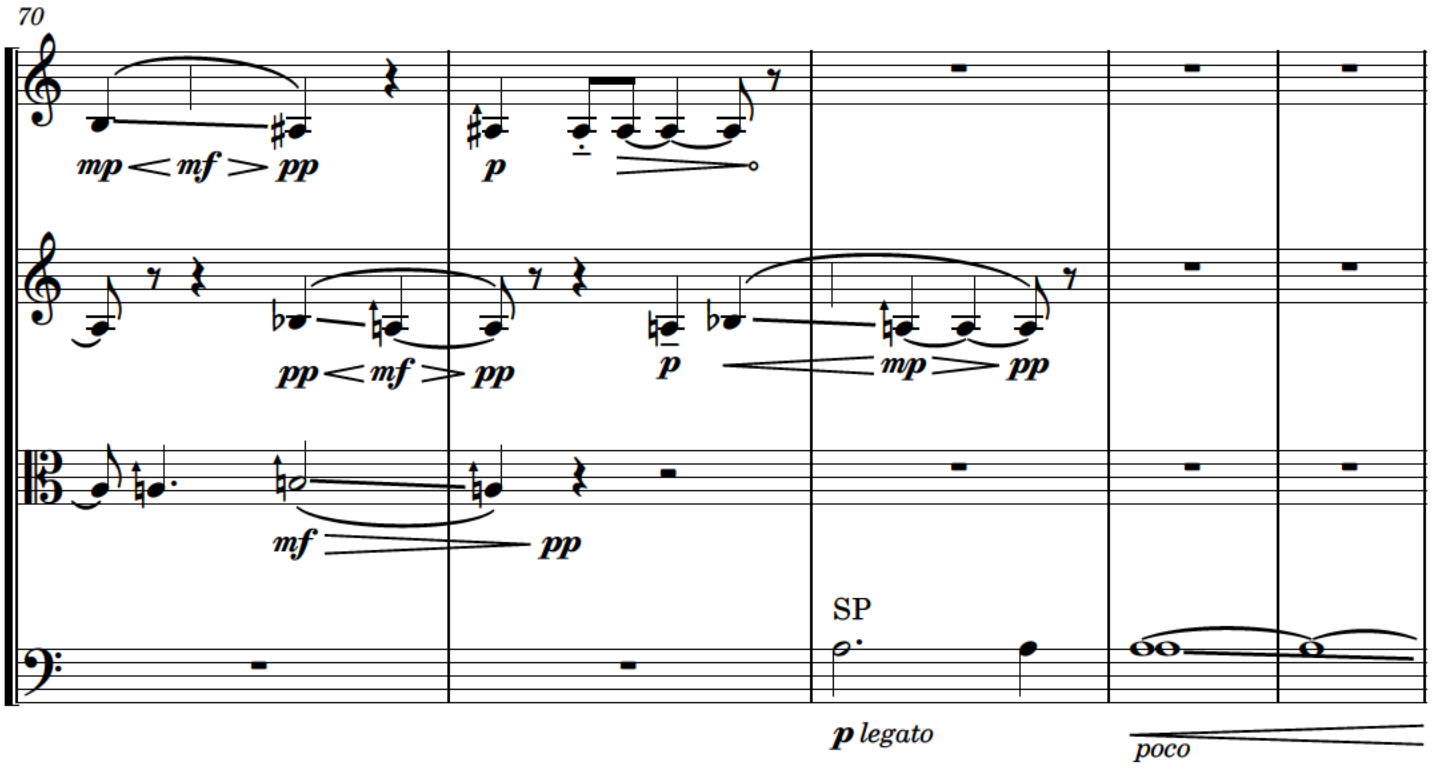

55
pp
mp
SP
SP
ord.
SP
ST
mf
p
mp
pSP
p nervously
mf

E Mumbled; as if hearing speech through glass

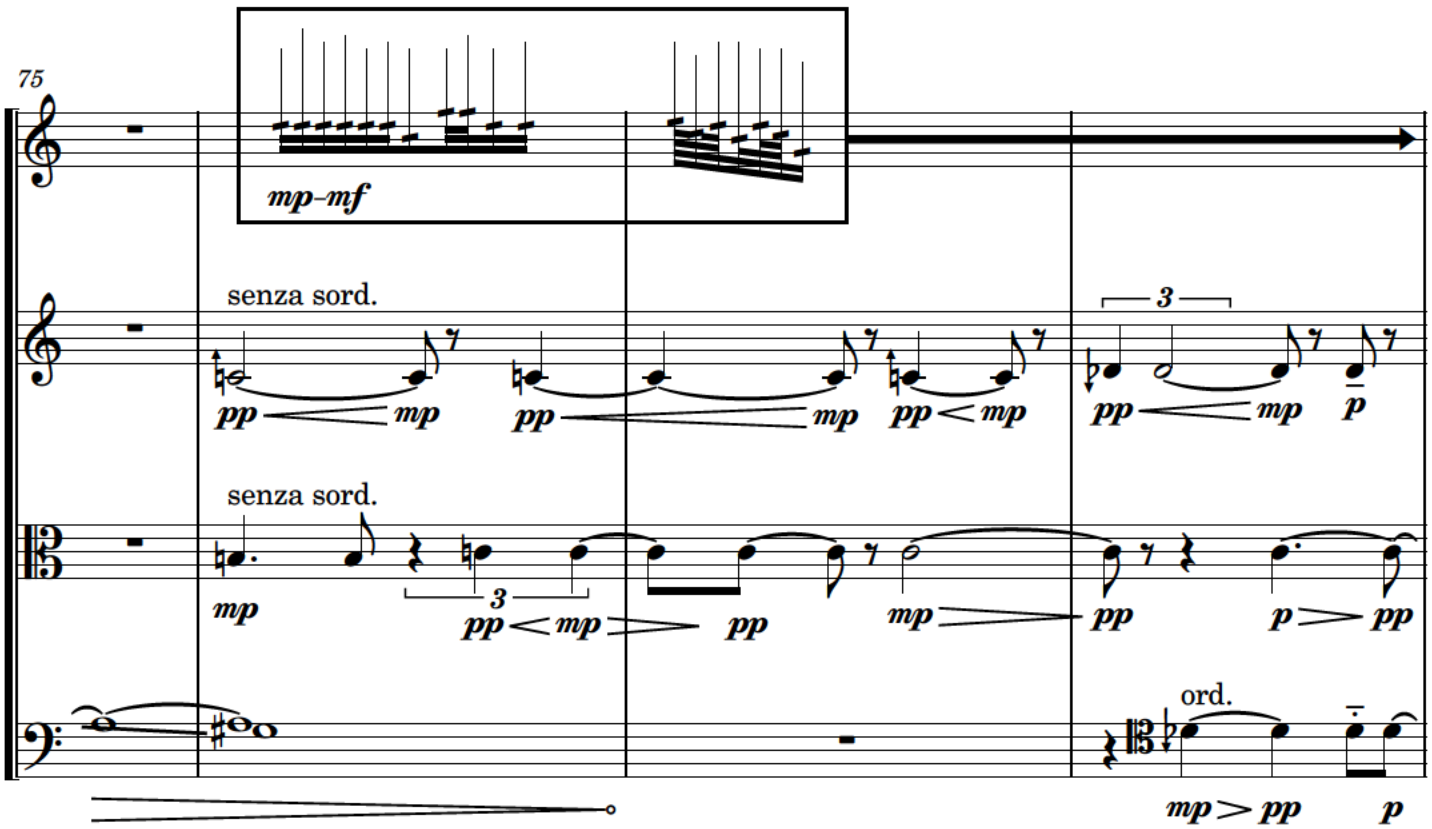


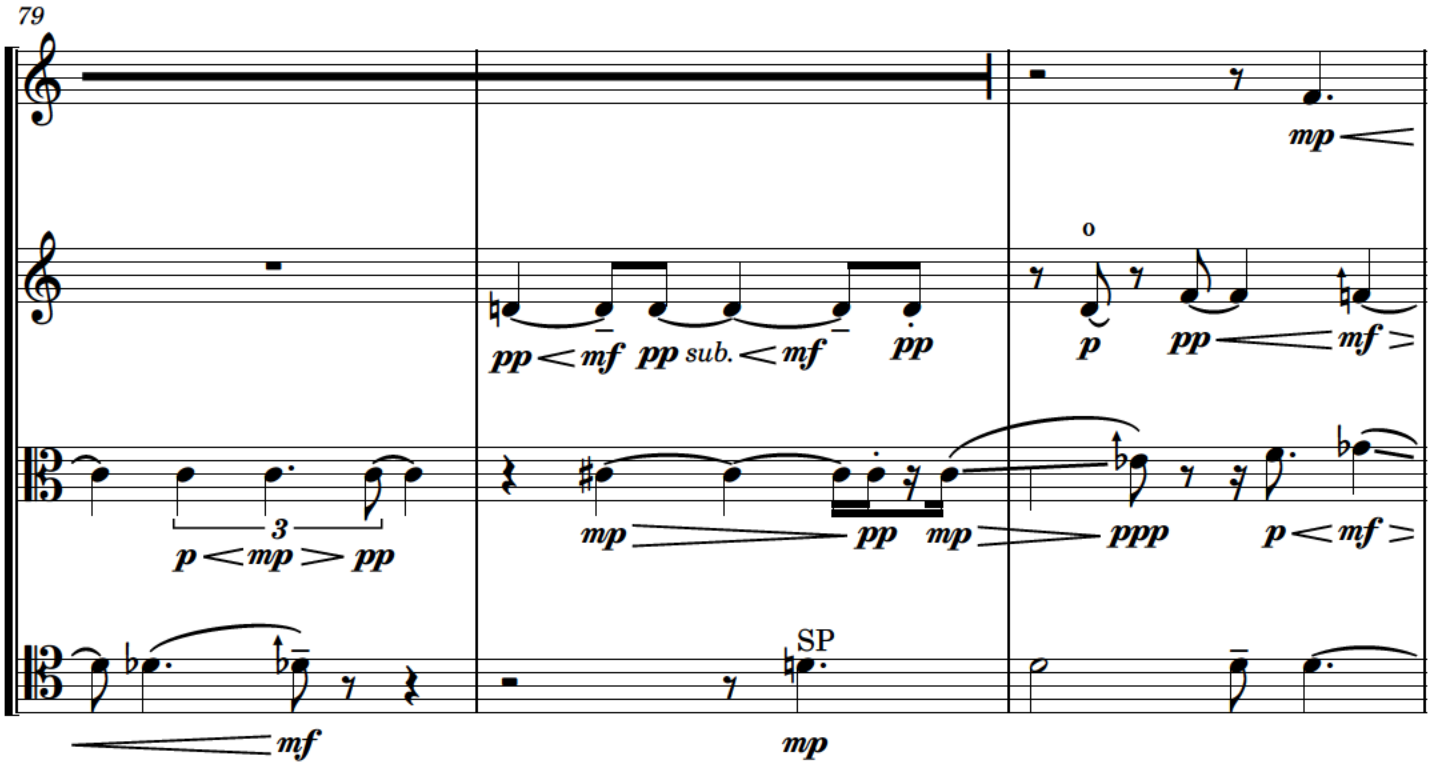


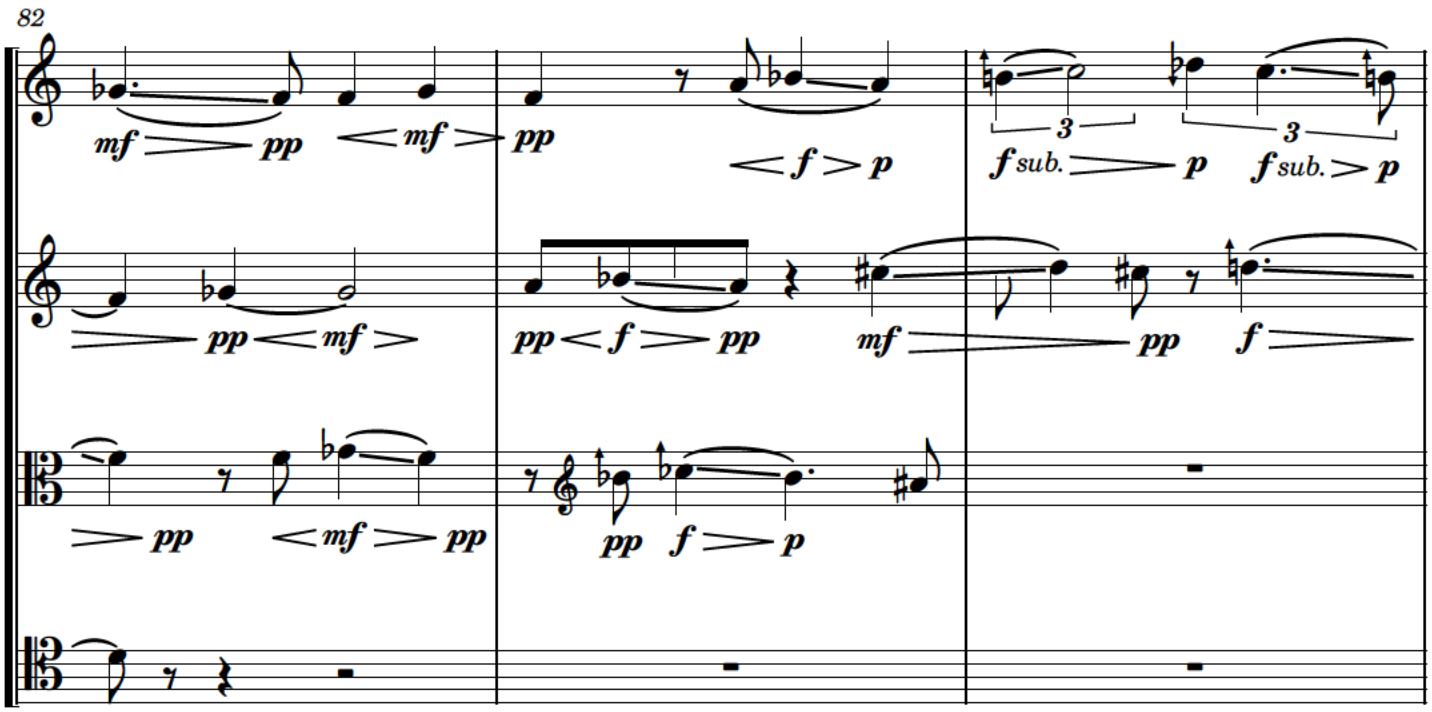

67
p pp mf p
mp pp
mf p mf pp
p mf p
mp mf p
p
pp mp
mf pp mp


70
mp mf pp
p
pp mf pp
p
mp pp
mf pp
SP
p legato
poco

Fast, faint, very high register pattering;
Indeterminate pitch and rhythm, with periodic silences;
Sempre tremolo; add open E string 2 3 times

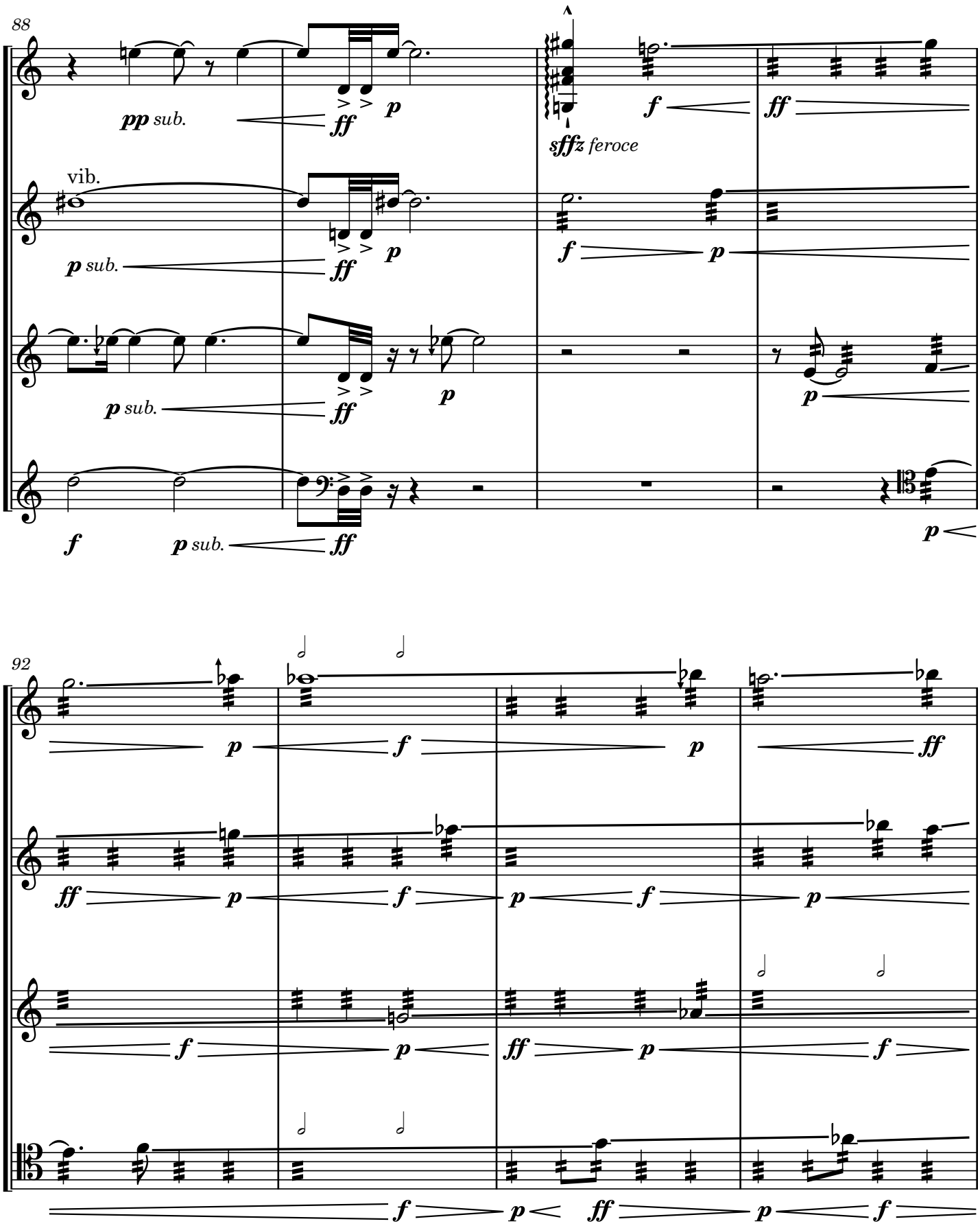




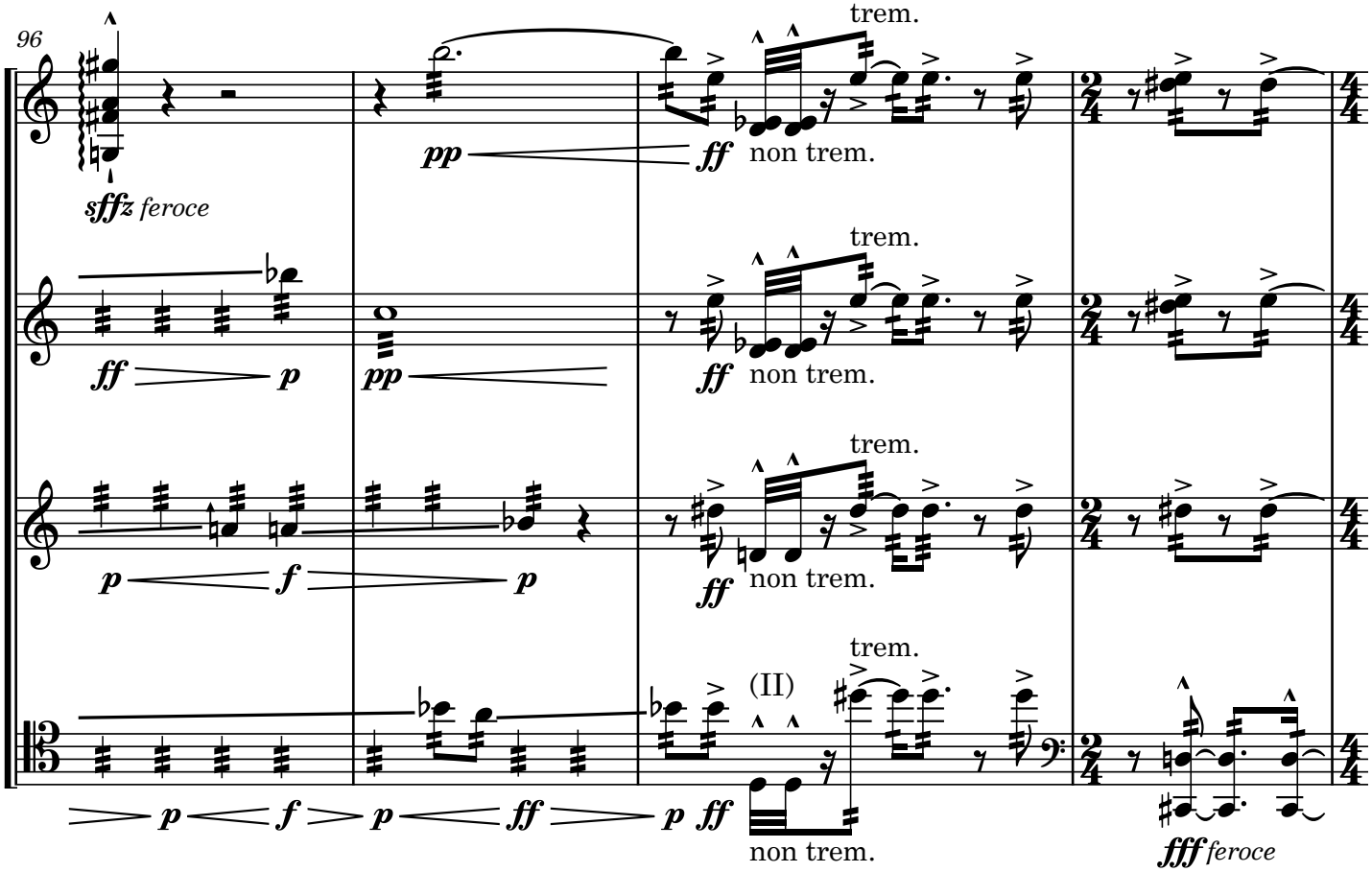

82
mf pp mf pp
f p
3 3
f sub. p f sub. p
pp mf
pp f pp
mf pp
f
pp mf pp
pp f p


like morse code...
85
mp cresc. poco a poco
f
p mf p cresc. poco a poco
f
p cresc. poco a poco
f
p cresc.

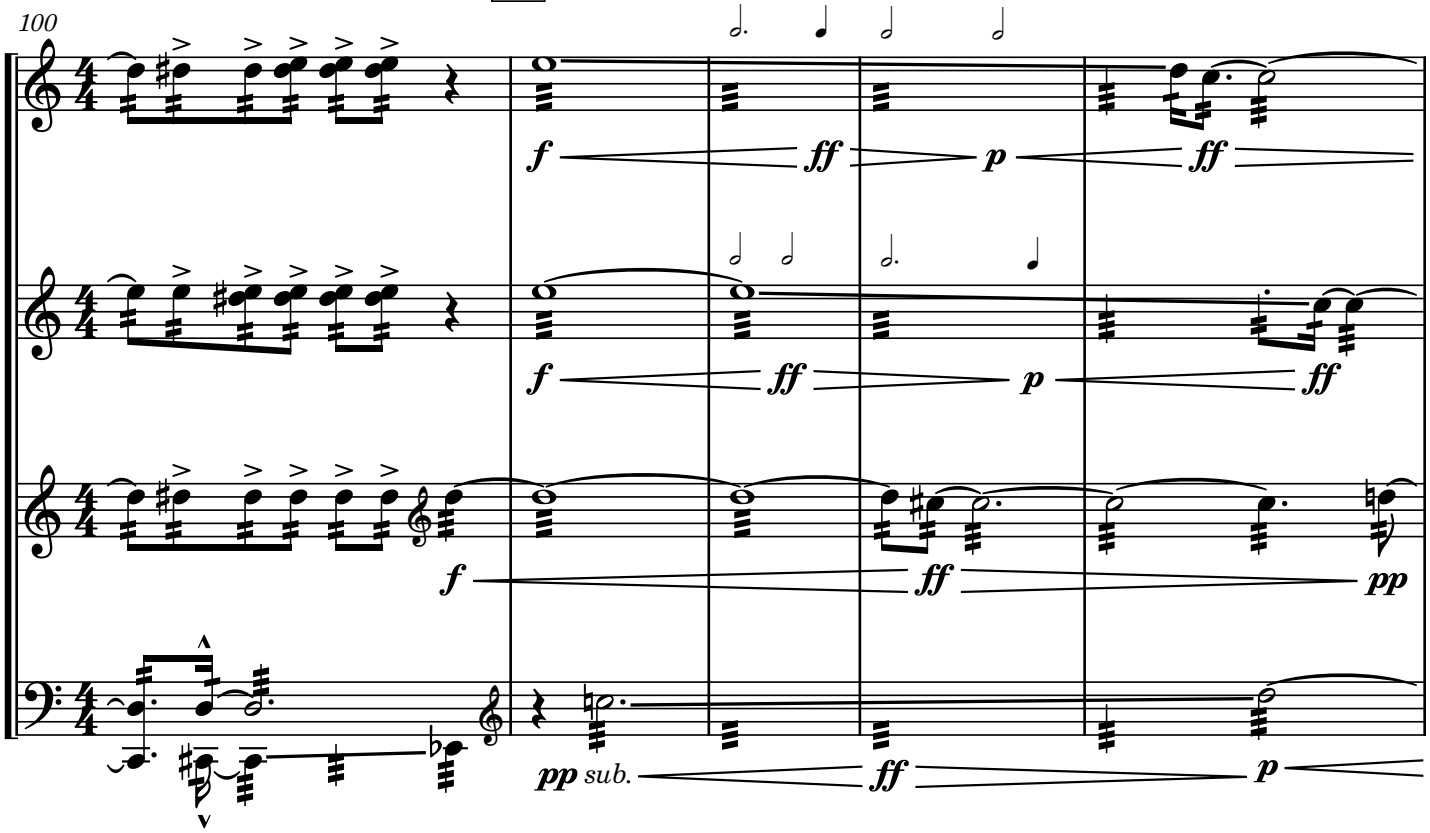
F Sudden outburst; intense

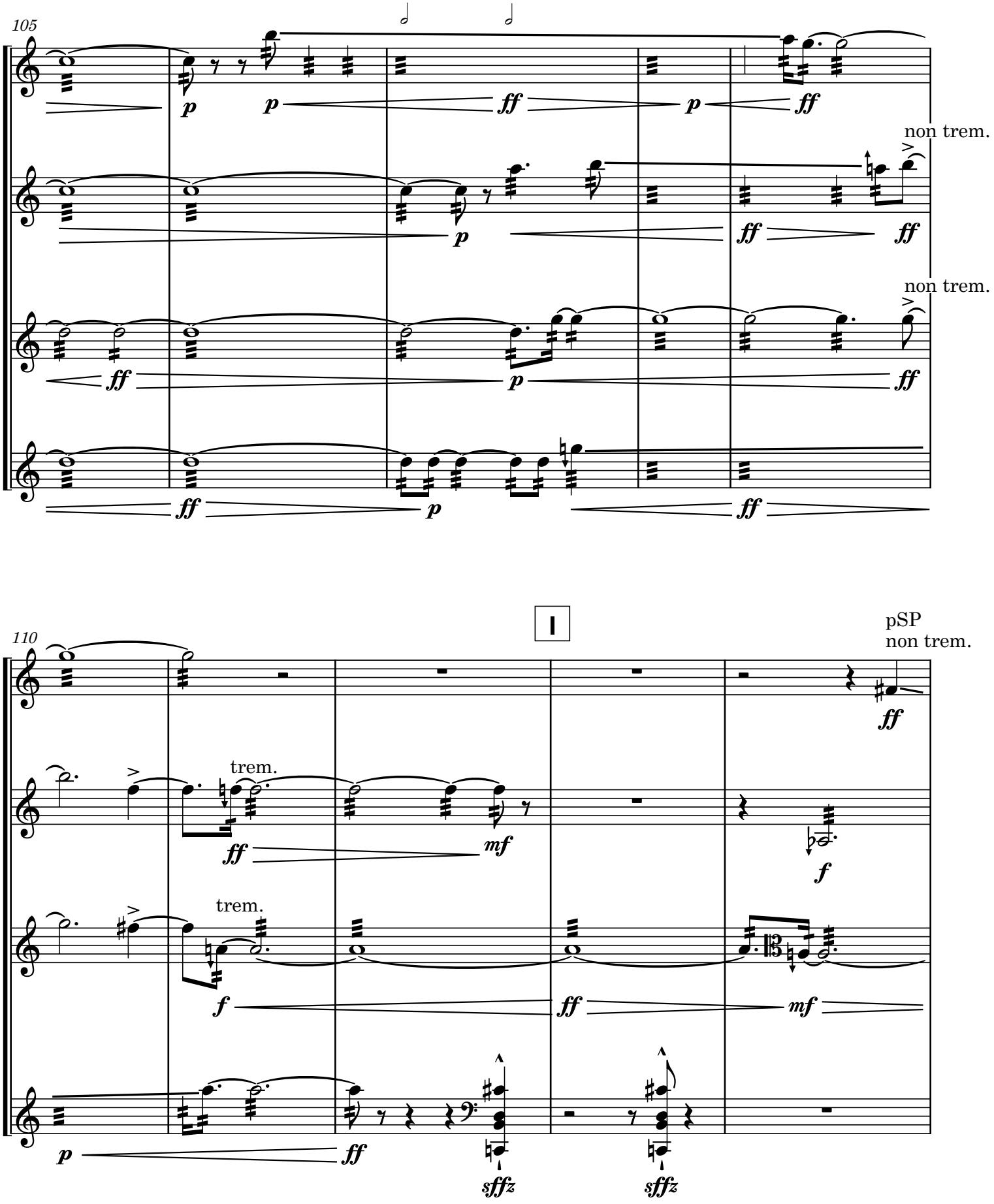


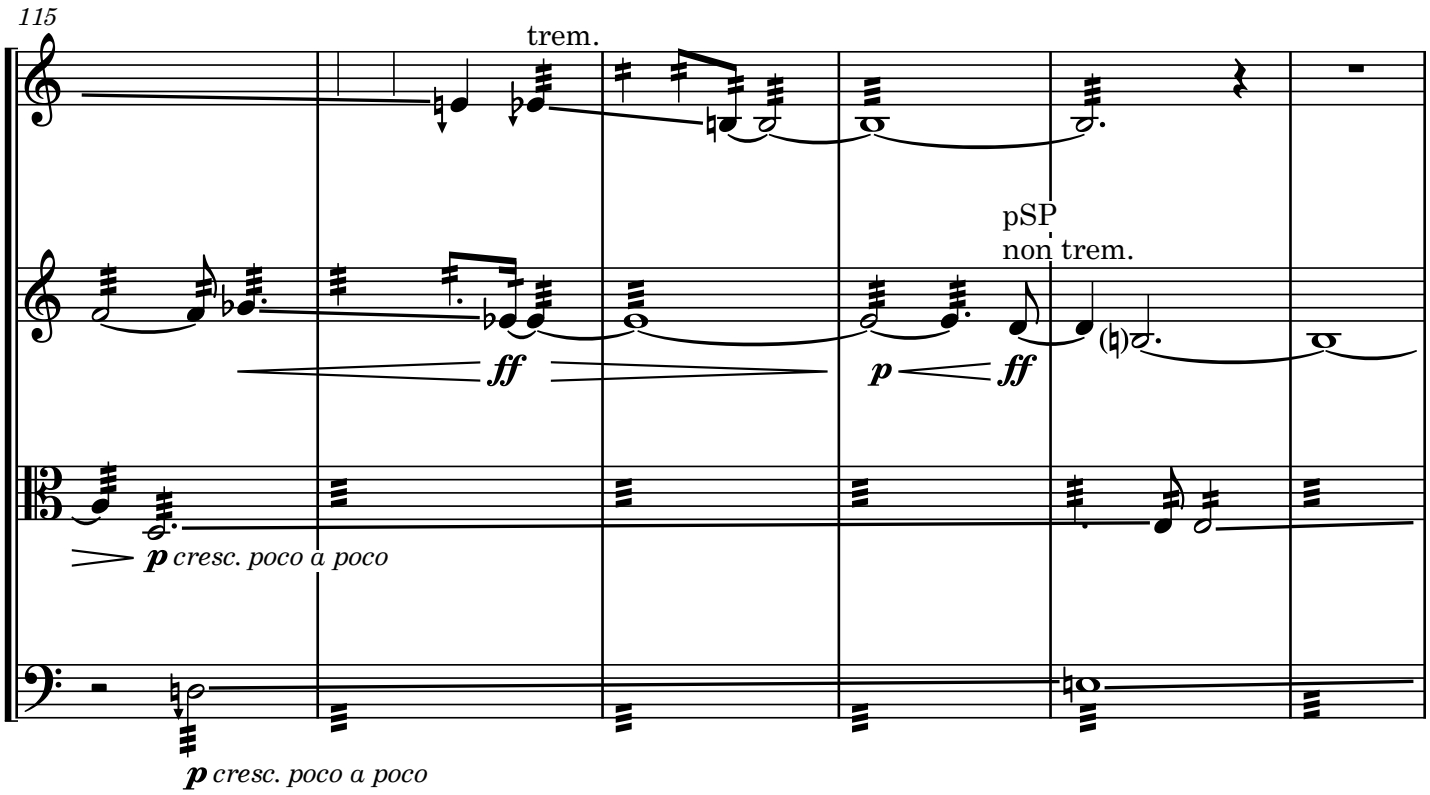
G Bellicose

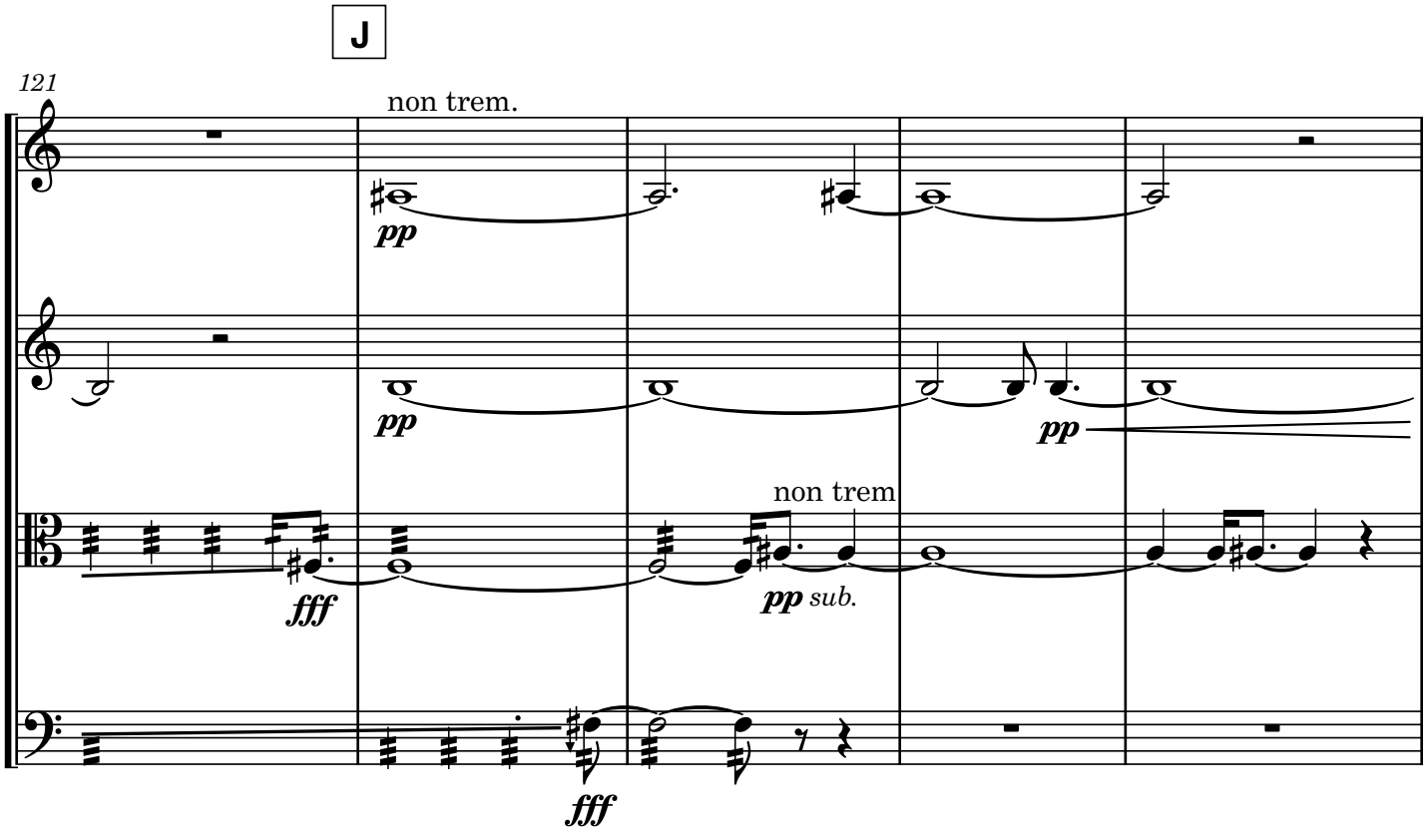


H Vertiginous



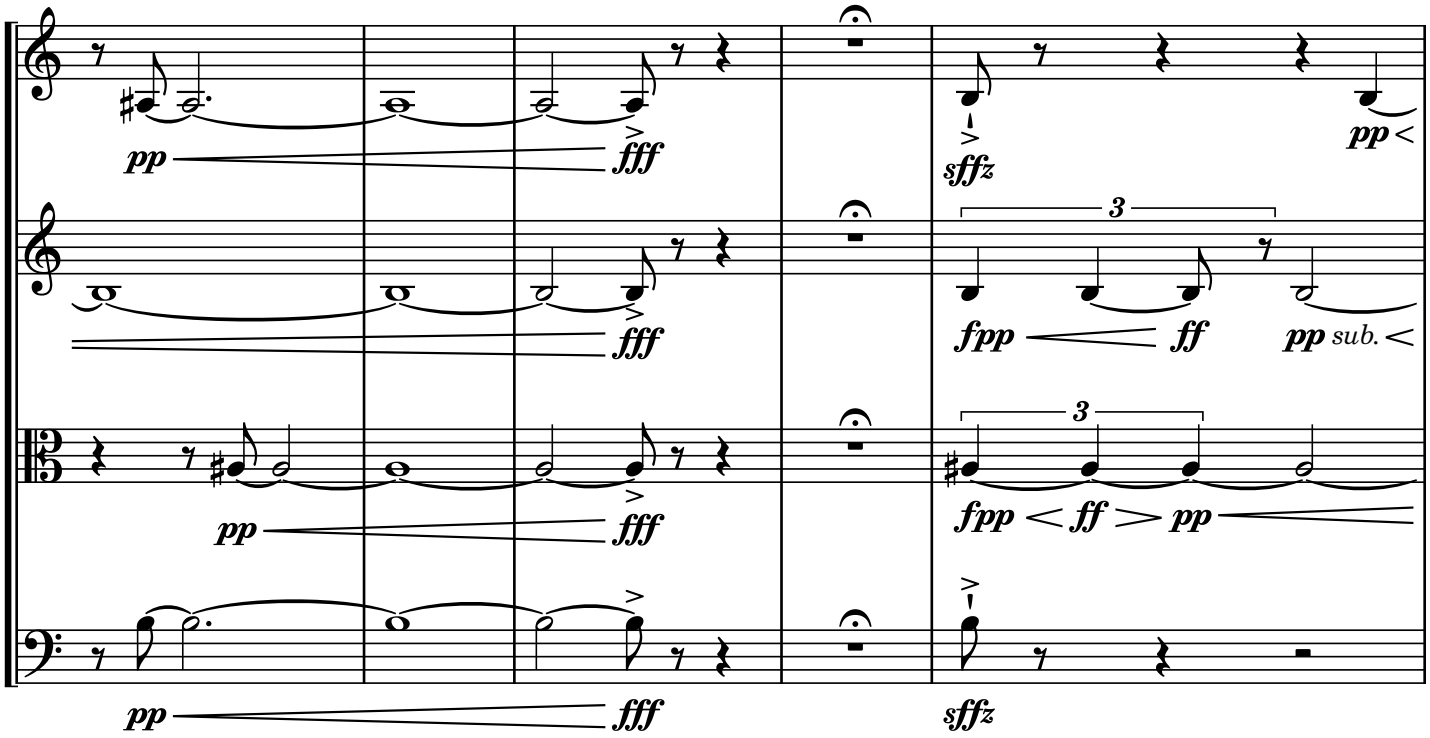

105
non trem.
non trem.
110
I
pSP
non trem.
trem.
trem.


115
trem.
pSP
non trem.
ff
p
ff
p cresc. poco a poco
p cresc. poco a poco


J
121
non trem.
pp
pp
pp
non trem
fff
pp sub.
fff

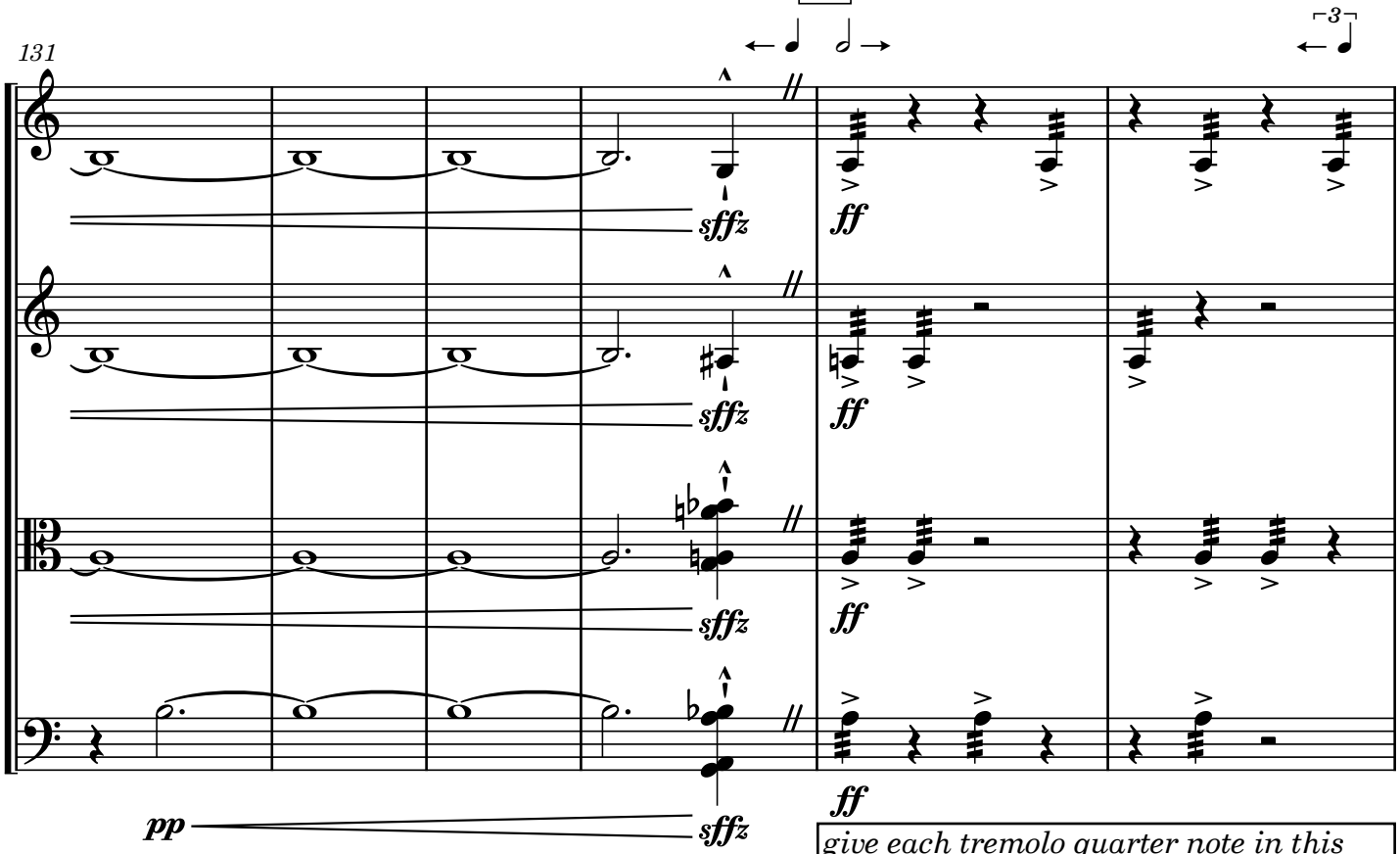
VUOTA

126



K **Machine-like** ♩ = 144

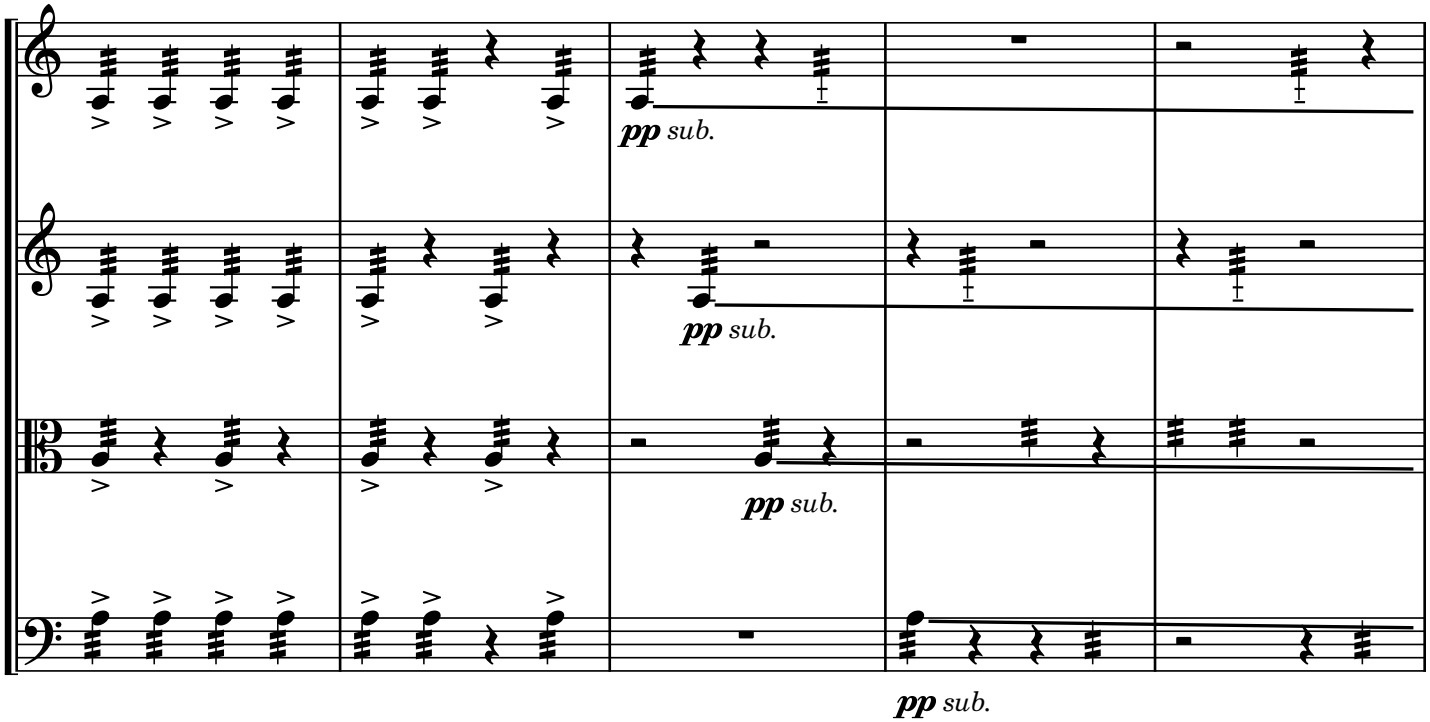
131



give each tremolo quarter note in this section a distinct attack, holding notes for full value; the result should be an articulated stream of tremolo sound

♩ = 216

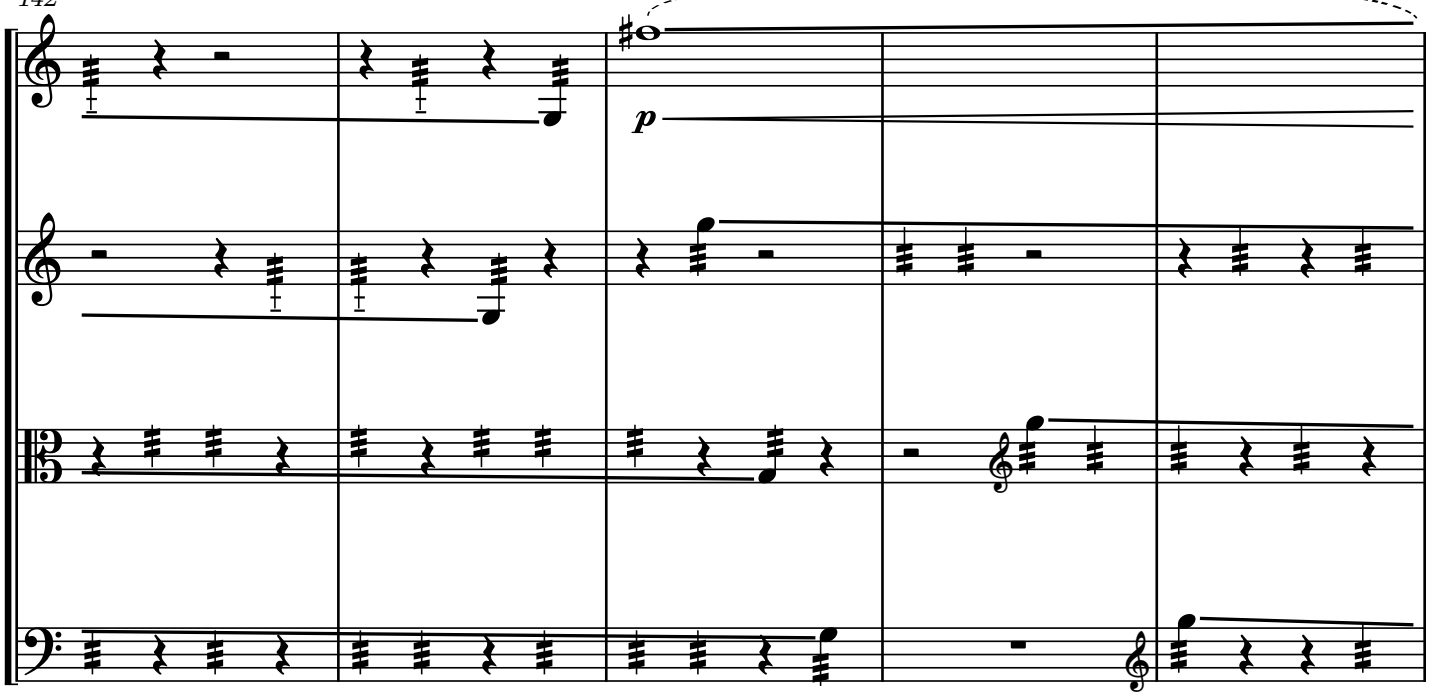
137

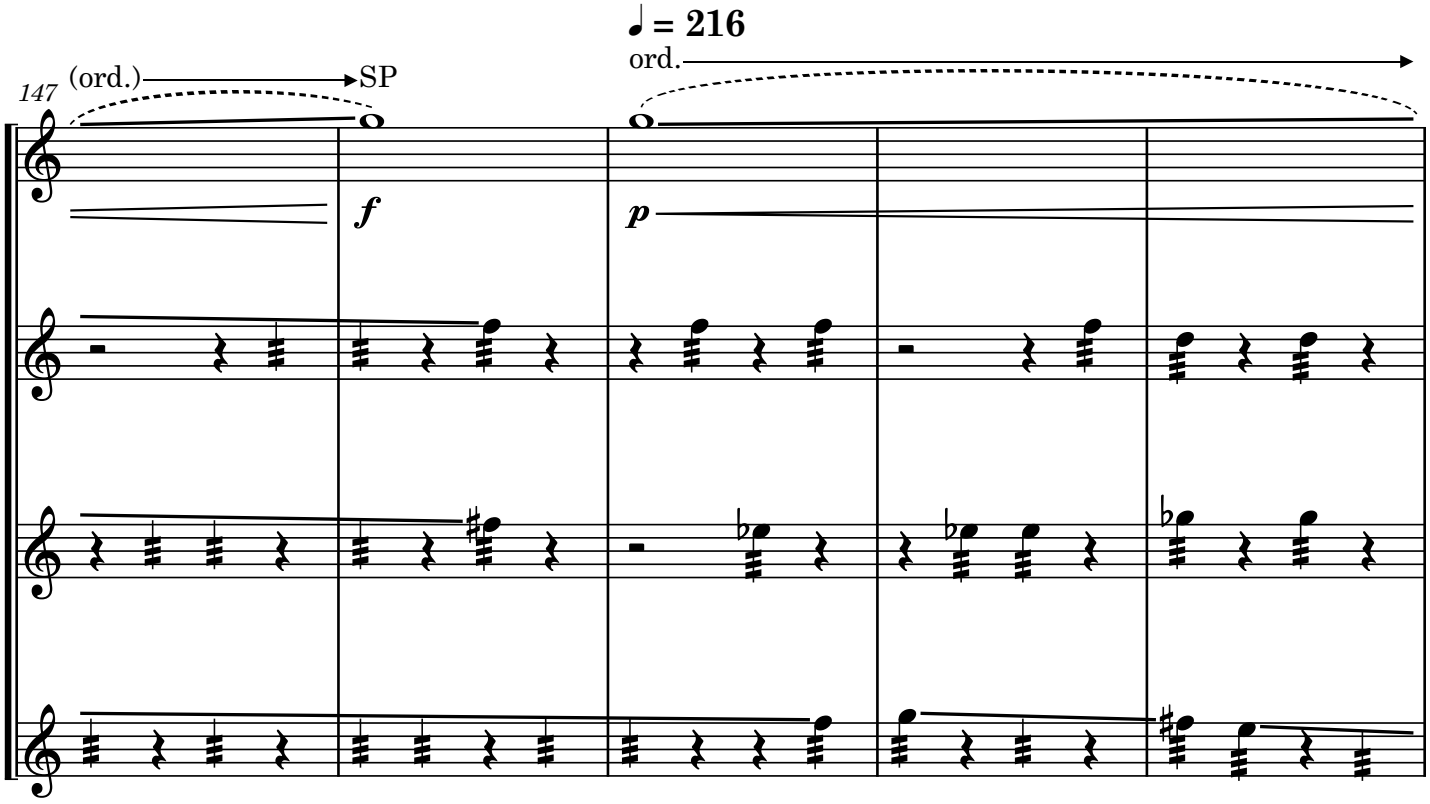


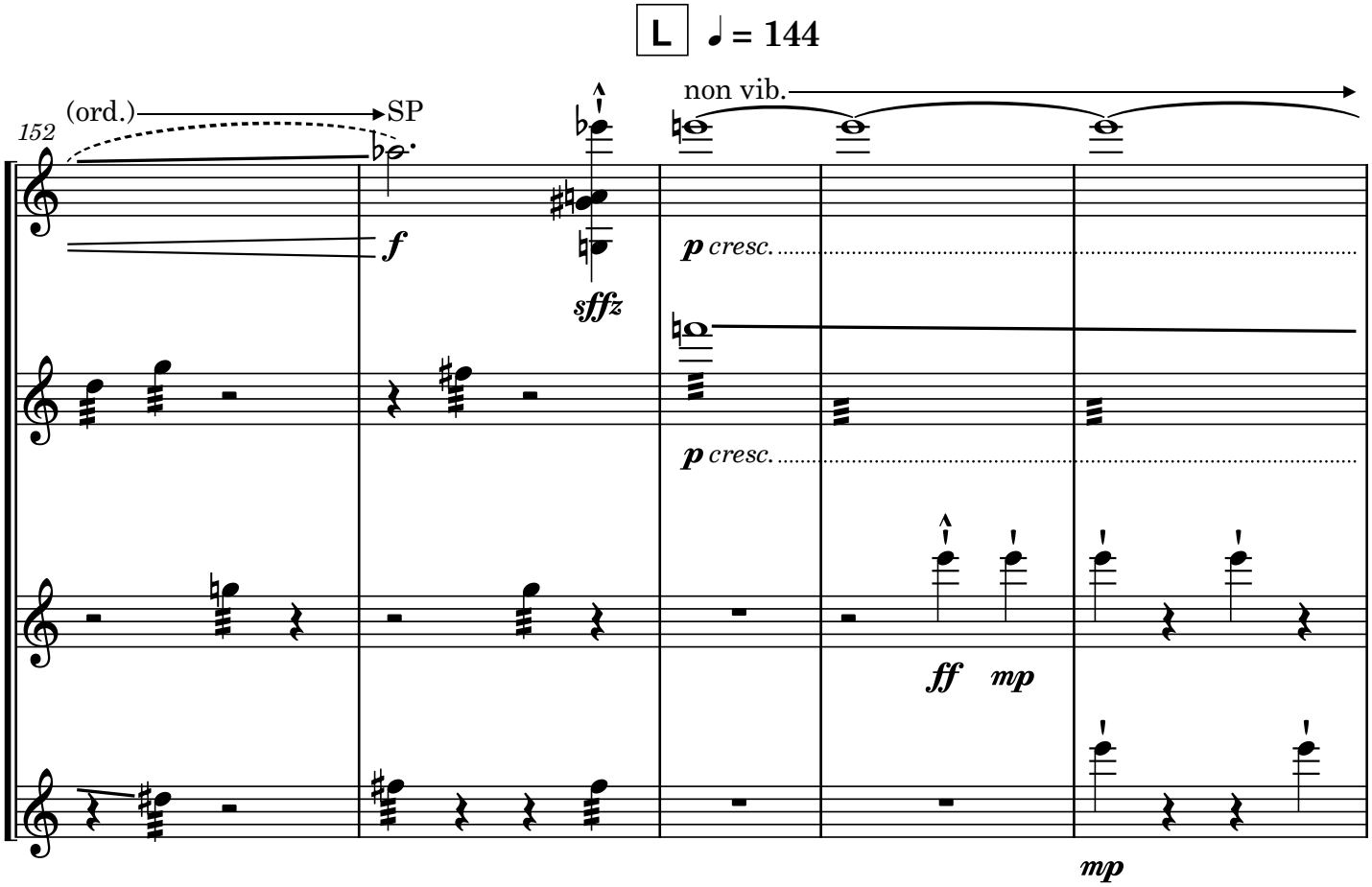
♩ = 144

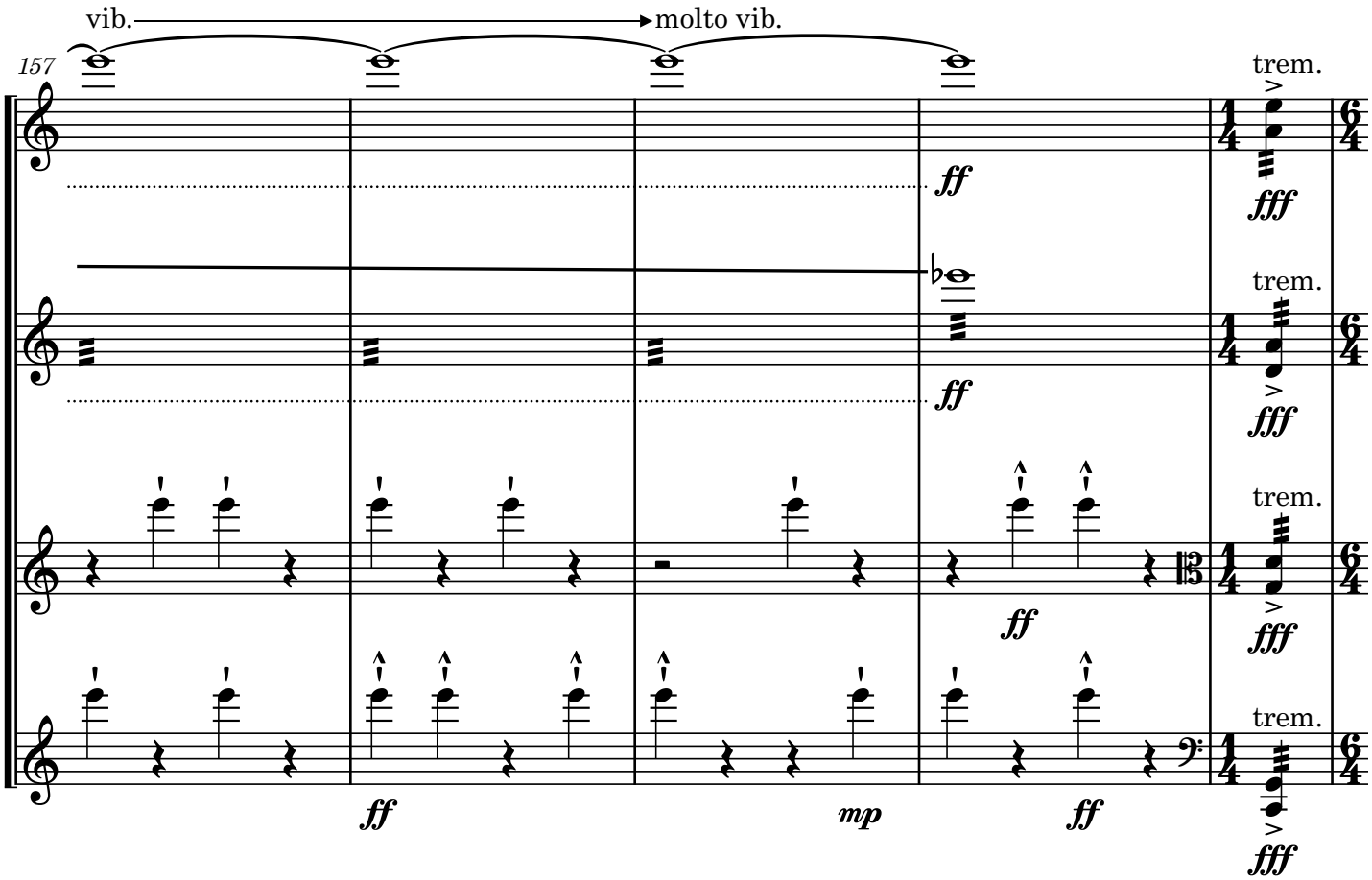
ord.
non trem.

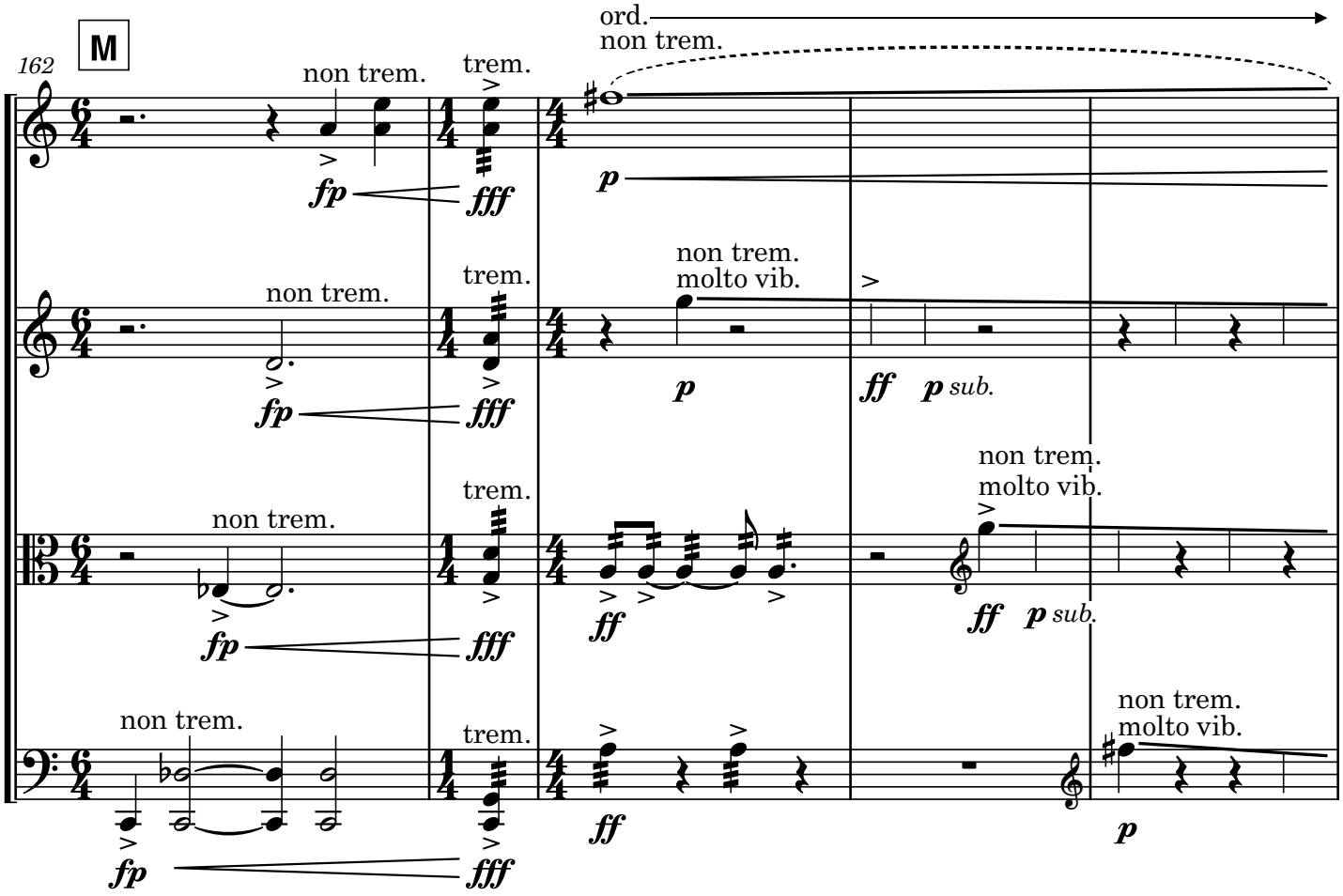
142

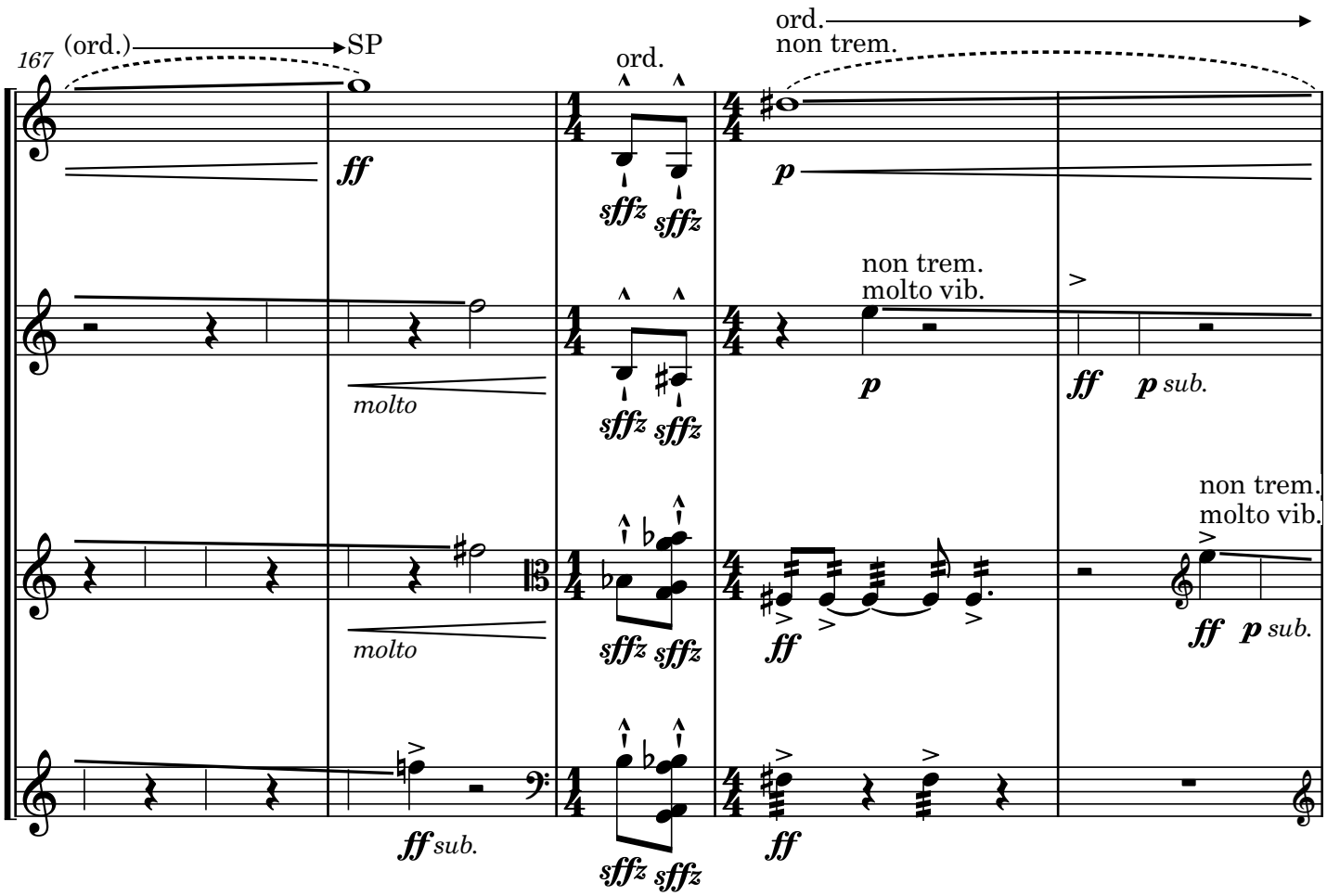


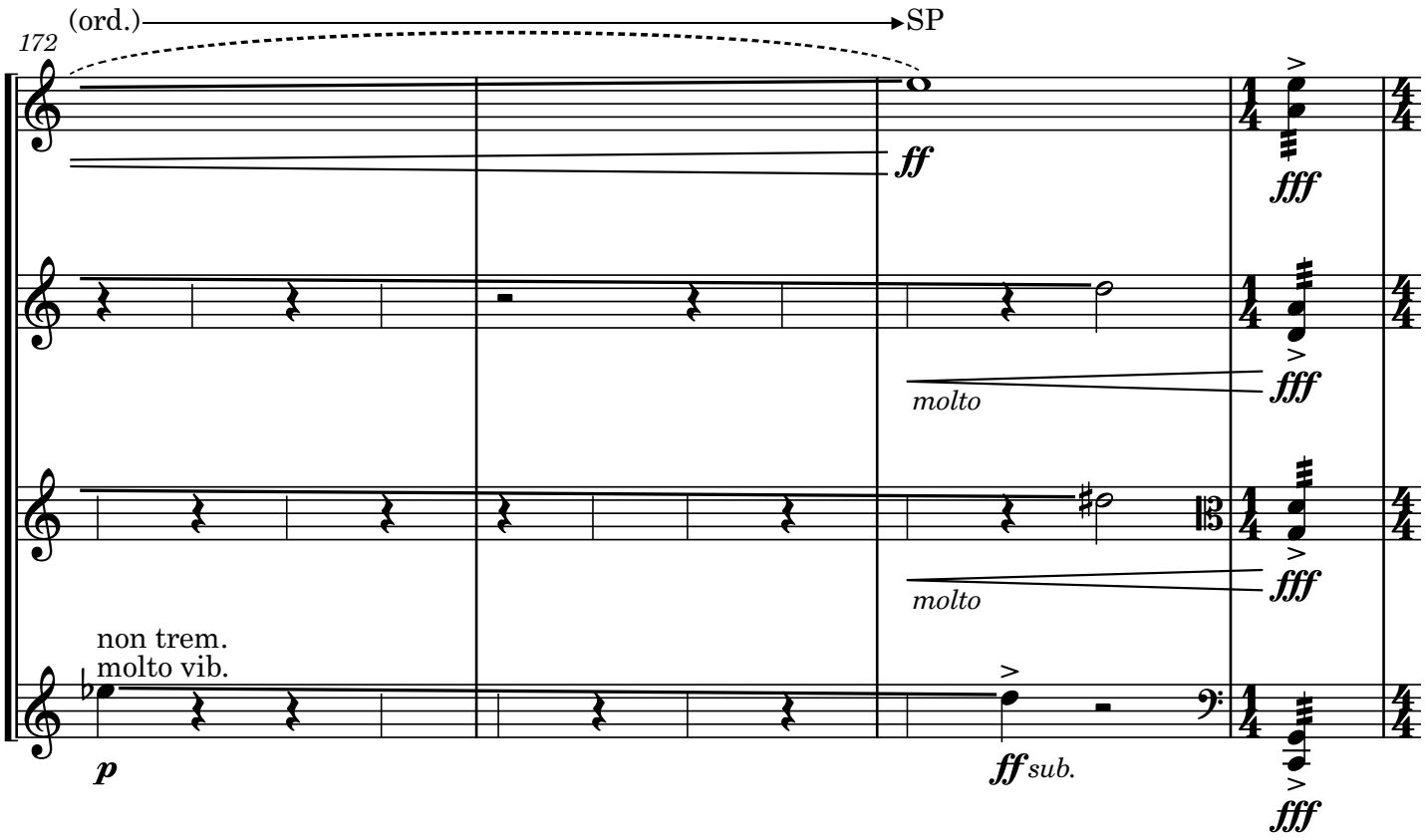

♩ = 216
147
(ord.)
SP
ord.
f
p

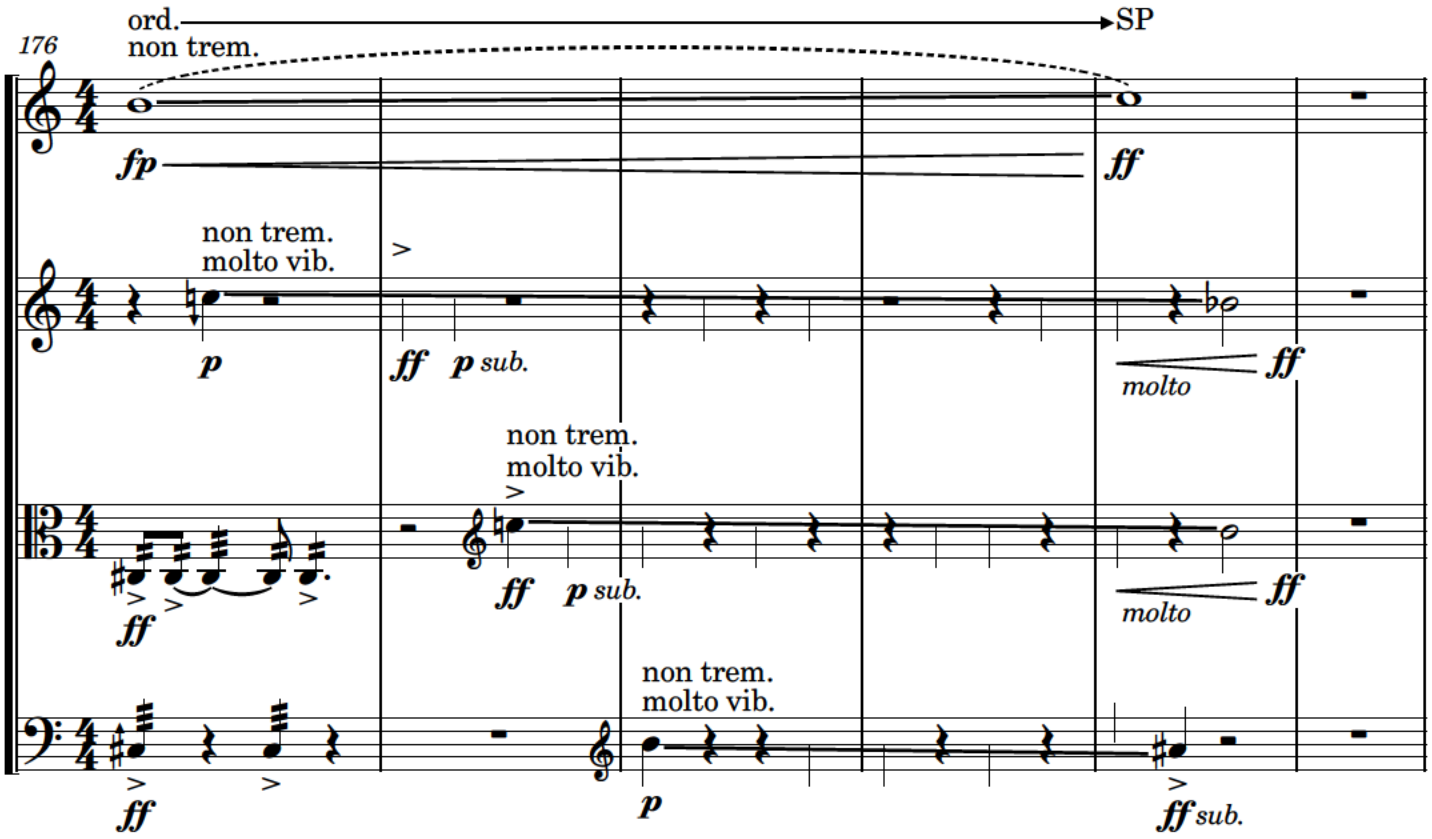

L
♩ = 144
152
(ord.)
SP
non vib.
f
sffz
p cresc.
p cresc.
ff
mp
mp

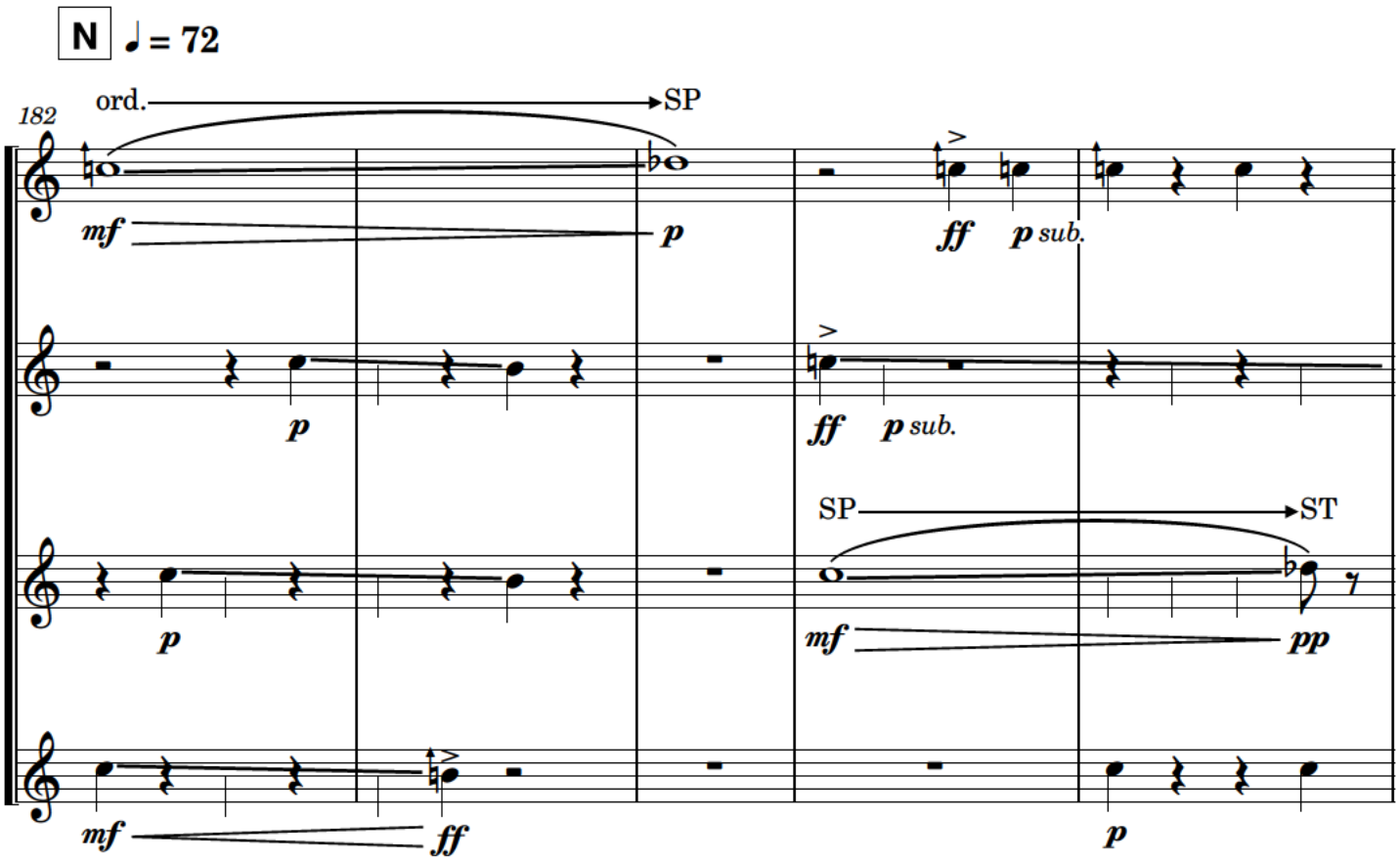

vib.
molto vib.
157
trem.
ff
fff
mp

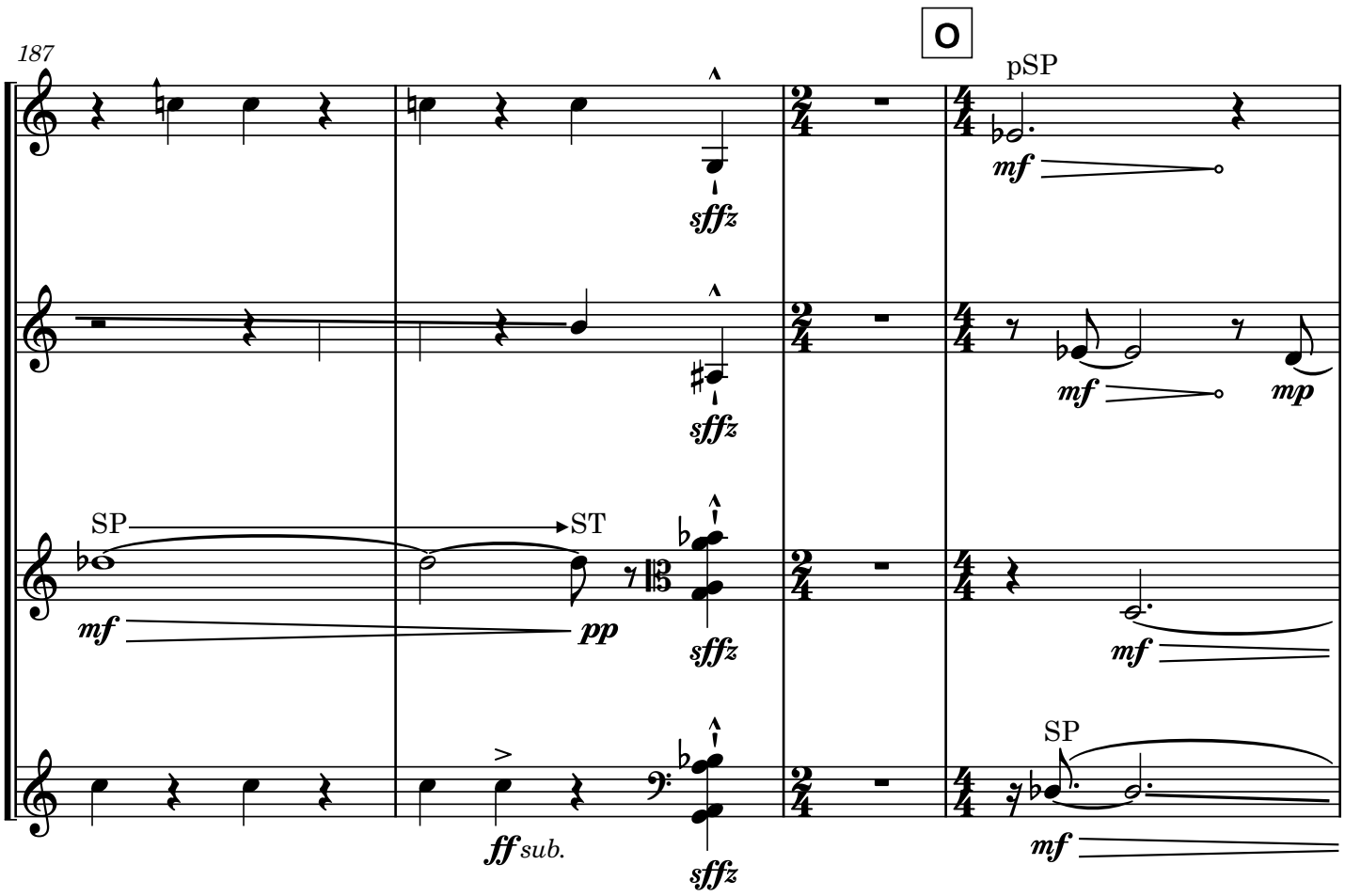

M
162
ord.
non trem.
non trem.
trem.
fp
fff
p
non trem.
molto vib.
ff
p sub.

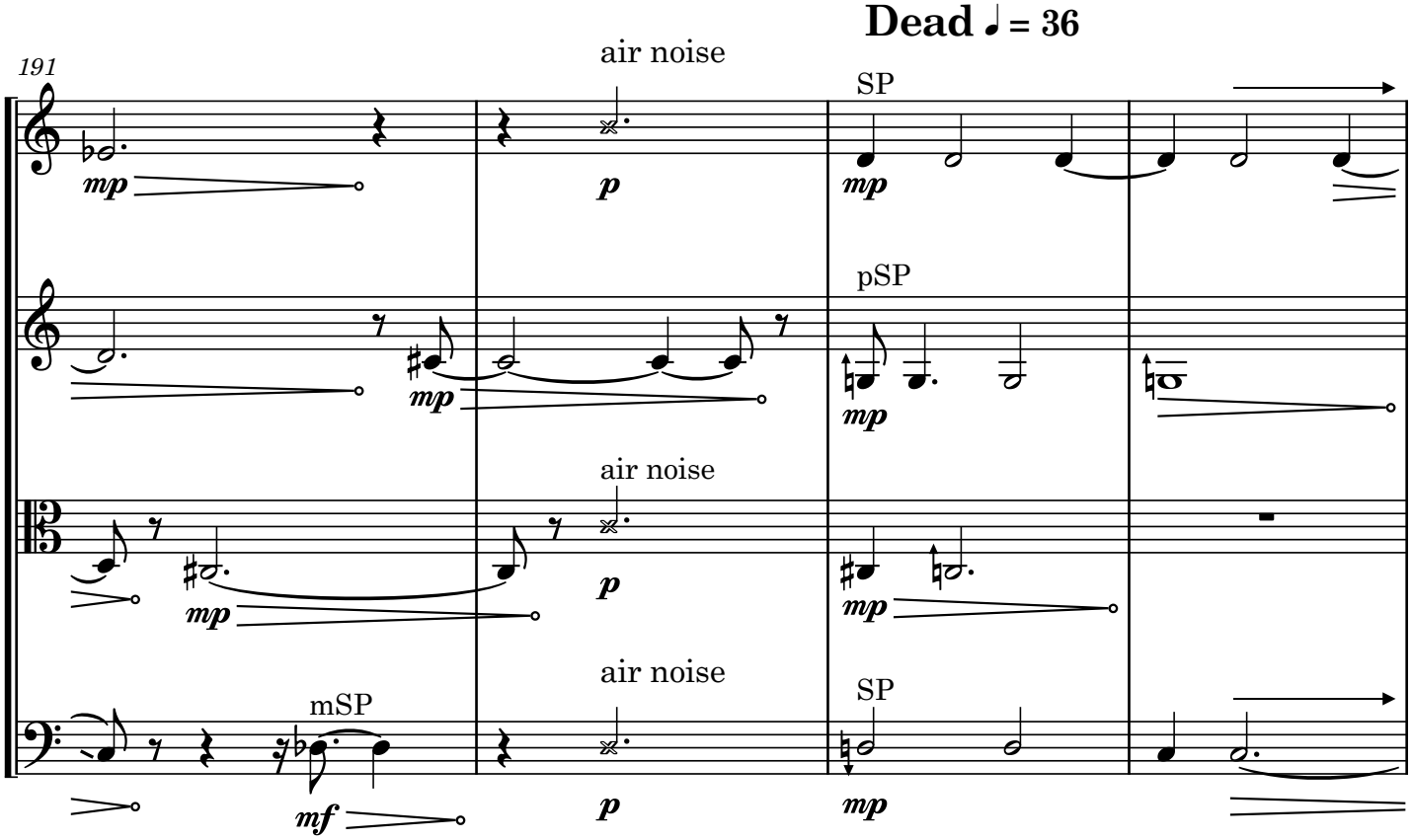

167
(ord.)
SP
ord.
ord.
non trem.
non trem.
molto vib.
non trem.
molto vib.
molto
molto
ff
sffz
p
ff
p sub.
ff sub.

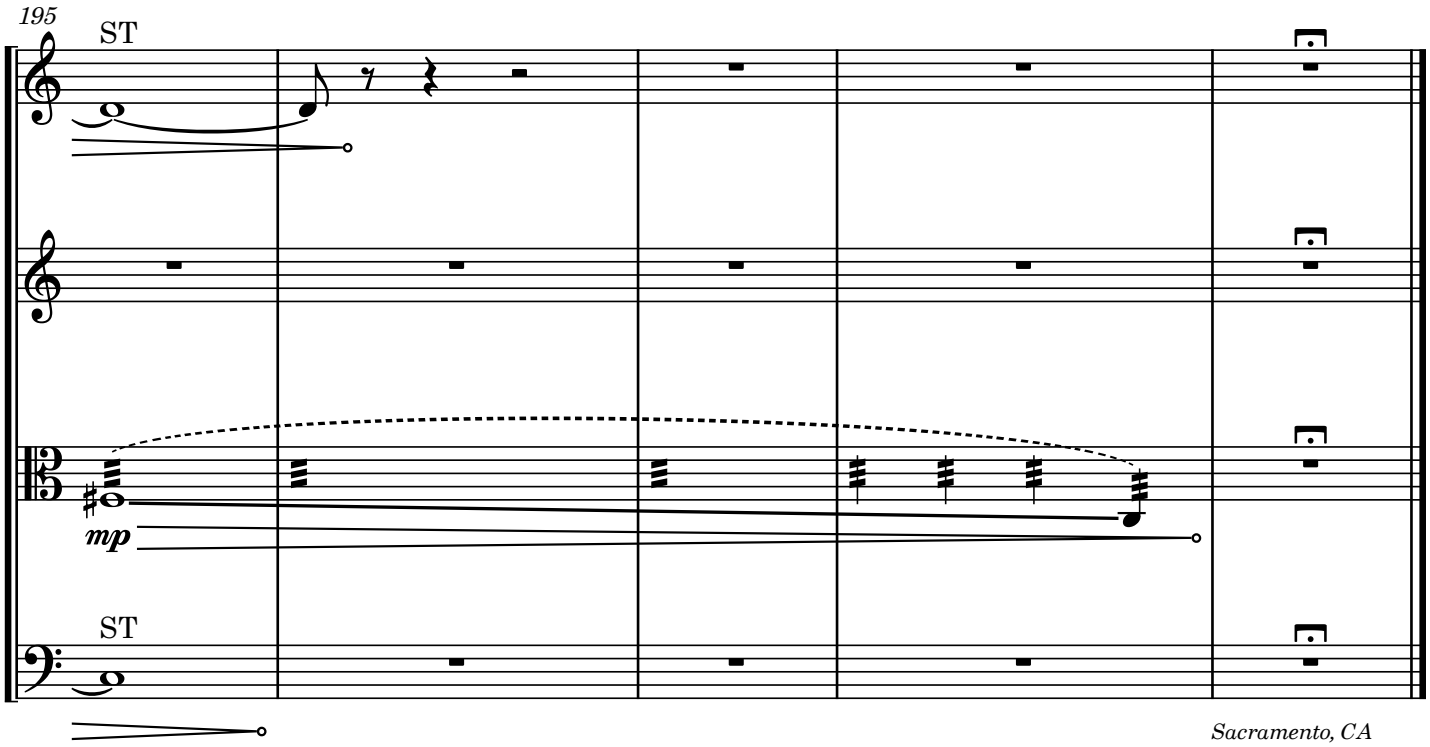

172
(ord.)
SP
non trem.
molto vib.
molto
molto
ff
fff
p
ff sub.


176
ord.
non trem.
SP
fp
ff
non trem.
molto vib.
p
ff p sub.
molto
ff
non trem.
molto vib.
ff p sub.
molto
ff
ff
non trem.
molto vib.
p
ff sub.


N
♩ = 72
182
ord.
SP
mf
p
ff p sub.
p
ff p sub.
p
SP
ST
mf
pp
mf
ff
p


187
O
pSP
sffz
mf
mp
SP
ST
pp
ff sub.


Dead ♩ = 36
191
air noise
SP
pSP
mSP
mp
p
mf



Sacramento, CA
July October 2019