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Literal Imagery in Music: A Thesis to Accompany Constellation Suite

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To the Graduate Council:

I am submitting herewith a thesis written by Evelyn Marie Pursley-Kopitzke entitled "Literal Imagery in Music: A Thesis to Accompany Constellation Suite." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Music, with a major in Music.

Kenneth A. Jacobs, Major Professor

We have read this thesis and recommend its acceptance:

Barbara A. Murphy, Donald Pederson

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Literal Imagery in Music:

A Thesis to Accompany *Constellation Suite*

A Thesis Presented for

The Master of Music

Degree

The University of Tennessee, Knoxville

Evelyn Marie Pursley-Kopitzke

December 2011

Abstract

The relationship between music and its sources of inspiration probably has been debated for as long as people have created instrumental music. Baroque tone painting is a documented early correlation of musical theme to subject. Subsequent musical imagery and mood creation for the later programmatic music could be an outgrowth from this Baroque practice. Composers used several approaches to create each music-to-subject connection.

One compositional device was using music that had become a cliché for its most common use to evoke a reference to that setting. Another device created music that "sounds like" its meaning—musical onomatopoeia—instrumental mimicry of extra-musical sounds. Stories are suggested by the mood of the music; sometimes the only connection between music and subject is a theme that evokes the mood. Musical moods that change with the story can produce musical forms. Pictorial literal imagery may be found by study of the score with imagination. One can find correlation between the contours of notation passages and shapes in a visual representation of the subject. Pictorial correlation can be found in shapes created by paths of movement. Size and spatial relationships can be described by corresponding motifs and harmonies.

Constellation Suite is a symphony in four movements that uses all of the aforementioned pre-compositional constructs and subject relationships. The symphony's four movements derive titles and thematic material from the star groupings Andromeda, Crux, Pleiades, and Orion. Superimposing a star chart on a staff created a primary motif in each movement, and Greek legends star-related stories inspired their moods, order of themes, and shapes. However, the symphony uses traditional or almost traditional forms—a modified sonata, an extended modified rondo, a modified da capo form, and an arch form. The movements also capitalize on interrelated thematic material that creates a cyclical effect. Because of these techniques, *Constellation Suite*

would not require any non-musical interpretations or stories to be musically valid. This thesis will demonstrate that, regardless of this symphony's tone poems' intended meanings, it joins the work of other composers who have turned stories and literal imagery into music.

Preface

According to Olivier Messiaen, "it is always dangerous to speak of oneself."[1] However, if one conceives music somewhere outside his or her own soul, that music risks becoming as soul-less as the place of its inception. Therefore, having made every effort to breathe life into music, I cannot write about the origins of this music without writing about myself.

When I was very young, my grandmother often played H. Weber's programmatic parlor piece, "The Storm,"[2] and told me its accompanying story. I was delighted—and fascinated. Thus began a journey into programmatic music. From then on, even if the music didn't have a documented story or image, I often created my own. In my undergraduate study in the 1970s, the "prevailing wisdom" was that tone poems had become déclassé: that they somehow weren't "real" music and were dismissed as naïve by proponents of abstract music.[3]

Subsequently, I concealed the programs for my music from my composition professor until it was complete, despite their marked creative influence. This practice ensured that those compositions were evaluated solely for musical validity, and derived no interpretive advantage from extra-musical sources. Now, it appears that the preeminence of abstract music in academic circles may have receded somewhat.[4] In addition, many audiences and performers seem to love musical stories and images. Because of this, I now narrate often and openly. This brings us to the origin of *Constellation Suite*.

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1. Olivier Messiaen, *The Technique of My Musical Language*, trans. John Satterfield (Paris: Alphonse Leduc, 1966). 7.

2. H. Weber, "The Storm," (New York: DeLuxe Music, 1908).

3. David Schulenberg, "'Musical Allegory' Reconsidered: Representation and Imagination in the Baroque," *The Journal of Musicology,* 13, no. 2 (Spring, 1995): 203.

4. Anthony Newcomb, "Those Images that Yet Fresh Images Beget," *The Journal of Musicology* 2, no. No. 3 (Summer, 1983): 227-45.

The beginnings of *Constellation Suite* were the direct outgrowth of a commission for an unusual combination of instruments, clarinet and euphonium. In December, 2010, Eugene Jones and Jimmie Self, fellow cancer-survivors and faculty at East Tennessee State University asked me to write a piece for their upcoming American Cancer Society benefit concert, which was scheduled for April 10, 2011. Since there wasn't time to complete a separate commission in addition to the thesis symphony and classwork, I asked Dr. Jacobs if this commission could be the reduced version of a symphony movement. He graciously agreed. At that point, I had not decided on a unifying theme for the symphony, or even a title for the commission. However, as I thought about the cancer connection, the family-type relationships among cancer survivors came to mind. It was a short step from "sisterhood" to the stars of "Seven Sisters" and then to "Pleiades." After further study, I was pleased to discover that the Pleiades legends were not just about the seven sisters, but were in fact about family solidarity—which applies to everyone, not just sisters. I completed "Pleiades" first so Eugene and Jimmie would have time to practice. Then I realized constellations—with their legends and shapes—would also be wonderful subjects for the remaining three movements, and the perfect unifying theme for the entire symphony.

The broad purpose of this thesis is to reveal the historical and musical place of my symphony. For the composer, demonstrating either the historical or analytical relationships is as unwieldy as "describing the forest while still *in* the trees." Both can reduce the "soul" of the music to mere rhetoric. At risk of killing, to quote Debussy, "in cold blood, all the mystery or even the emotion of [the music]," [5] this thesis will attempt to explain the background, sources, stories, moods and compositional techniques involved with creating, and created by, this symphonic work, *Constellation Suite*.

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5. Claude Debussy and quoted by Simon Trezise, in *La Mer* (New York: Cambridge University Press, 1994), ix.

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Introduction

Throughout the history of music, there have been repeated attempts to discover the sources of composers' inspiration. While some composers may have encouraged the idea that some supernatural muse directly dictated each and every note in perfect form—thus excluding the non-genius musicians from the composers' circle—there is considerable evidence that many composers derived ideas from extra-musical sources. Dušan Plavša summarized descriptive and extra-musical sources in the following quotation.

> There are, in principle, two methods of musical description. The first is used in so-called tone painting (Tonmalerei) or descriptive music. We shall refer to it as the onomatopoetic method of musical description. The stimulus to visual association in listening (which is obligatory only if the listener agrees to respect the composer's will, as - in principle - programme or descriptive music can be listened to without regard for the programme or title) can come from the following sources: (1) acoustic phenomena which can be musically stylized, that is, imitated in the form of rhythmic-melodic wholes (e. g., whistling of steam locomotives, bugle signals in military camps, singing of birds, etc.); (2) acoustically reproduced rhythmic sounds (clattering of train wheels, sound of machines in a factory, trotting of horses, etc.); (3) noiseless rhythm of movement which can be acoustically stylized in specific ways in musical imagery (e. g., fluttering of butterflies in the form of a melody made up of trills, antelopes running in the distance represented by quick passages on an instrument, etc.) The presence of one or more such stylizations in the function of a theme, or just as a conspicuous element of form, is sufficient to give a musical and imaginative listener an experience of the composer's

> programmatic intention. The aesthetic value will depend, of course, on the author's inventiveness in the shaping of the overall structure into which the symbolic musical motif is incorporated.[6]

Some of the early documented uses of extra-musical sources took the form of tone or text-painting in the Renaissance and Baroque periods. Other early compositional resources were mostly the product of invention—the use of small amounts of music in many permutations and with great skill.

Instrumental music in the nineteenth and twentieth centuries often took the form of tone poems. These tone poems were written in a way that was intended to tell stories, create moods and evoke or mimic the sounds of subjects in the title or story line. Overtures and incidental music in operas also dramatized the librettos. Composers of tone poems used several generalized approaches to create each music-to-subject connection.

The first technique incorporated music that had usually been used in specific contexts. It used compositional devices that had become clichés for each of their intended meanings. For example, the trumpet fanfares similar to those that usually announced royalty or signaled battle movements were incorporated into music “about” royalty or battles. A cappella choral music had become synonymous with its ecclesiastical setting; therefore a cappella choral music was employed to musically designate a church or other sacred venue. Dance forms and rhythms were used to denote celebrations.

A second type of compositional device created music that “sounds like” its meaning—

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6. Dušan Plavša, "Intentionality in Music," in *International Review of the Aesthetics and Sociology of Music* (Croatian Musicological Society, 1981), 68,9.

musical onomatopoeia.[7] Among others, this music mimics sounds of water gurgling, splashing or rushing; storms—wind howling, thunder rumbling, rain pounding; battle noises—guns shooting, canons roaring, bullets whistling by; animals and birds—calls and songs, hoof-beats and other animal sounds; horns and whistles from automobiles, trains, engine noises, and roaring from other machinery.

A third correlation between subject and music can be found in shapes created by paths of movement. The shape created by movement of ocean waves can be mirrored by the shape of a musical line on the score. The pattern created by a bird's flight can be mimicked by a melody on a staff. Walking, marching, prancing, stumbling, playing, flying, fluttering, gliding and swimming can all be outlined by shapes of musical movement that seems similar to the designated pattern of movement.

Another subject to music correlation method utilizes pitch register to denote spatial locations. When the subject of the music recalls a place that is usually underground, one can hear themes played in low registers. Flight and other types of high altitude are often described musically by high pitched tessituras.

The indication of size is yet another aspect of the tone poem. Large animals are suggested by low, slow themes or thick chord patterns. Large mountains, canyons, buildings are evoked by chord progressions that often encompass the entire possible pitch range of the orchestra.

Often, the stories are only suggested by the mood of the music, and the only real connection between music and subject will be some type of theme that somehow evokes that mood. Should the story be intended to convey fear, a dissonant theme or agitation-producing rhythm will be employed. If the composer wants to communicate joy, the melody can be

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7. Luiz E. Casteloes, "Musical Onomatopoeia," *Artefilosofia, Ouro Preto*, no. 3: 111.

expected to be lighthearted or brilliant in texture, and harmonies will be more consonant.

The use of pictorial and literal imagery as a compositional device may often be the least noticeable by listeners. However, those who study the score itself with an imaginative eye might observe frequent correlation between the physical contours created by notation passages and the shapes one would expect to find in a visual representation of the music's subject. Graphic correlation of musical score with physical subjects—pictorial representation—may seem an unlikely source of inspiration at first. However, when one observes the shapes of objects from the natural world, one notices unparalleled beauty and balance. Nature has a near-symmetry that is more aesthetically pleasing than exact symmetry—even in Nature's objects that have been broken or otherwise deformed. Transferring these natural shapes to the contours of musical passages is not only possible, but can create highly satisfactory music. In addition to the music that is created, providing legends and pictures to accompany the music creates an easy point of connection for the casual listener and music-lover. Graphic shapes and legends also provided this composer with motivic material and mood inspiration.

The primary rationale of all of these techniques is that composers do not mimic anything exactly. That is the function of sound-recorders. Extra-musical sources only provide inspiration, a point of beginning, a source for shape, a theme to develop, a suggestion of what to do next.

This thesis will demonstrate that, regardless of this symphony's tone poems' intended meanings, it joins the work of other composers who have turned their musical renditions of stories and literal imagery into affective—and effective—music.

Chapter One: Pre-compositional Constructs

Pictorial and Literal Imagery

Historical Use of Pictorial and Literal Imagery

Pictorial representation began much earlier than the romantic period. Paul L. Frank asserts "it is known that Handel was a visualist; his musical setting of words was largely influenced by the visual connotations found in them."[8] Frank cites Calvin S. Brown as demonstrating Handel's picture-to-score correlation by showing that vocal lines in the first aria of *Messiah* matched the text. It was shaped like a mountain, a hill, and then the pitch dropped when the text included the word low. Handel's uses of pictorialism are among the more obvious manifestations of text-painting and tone-painting; the contour of a mountainous landscape can be found in the following musical example (Figure 1).

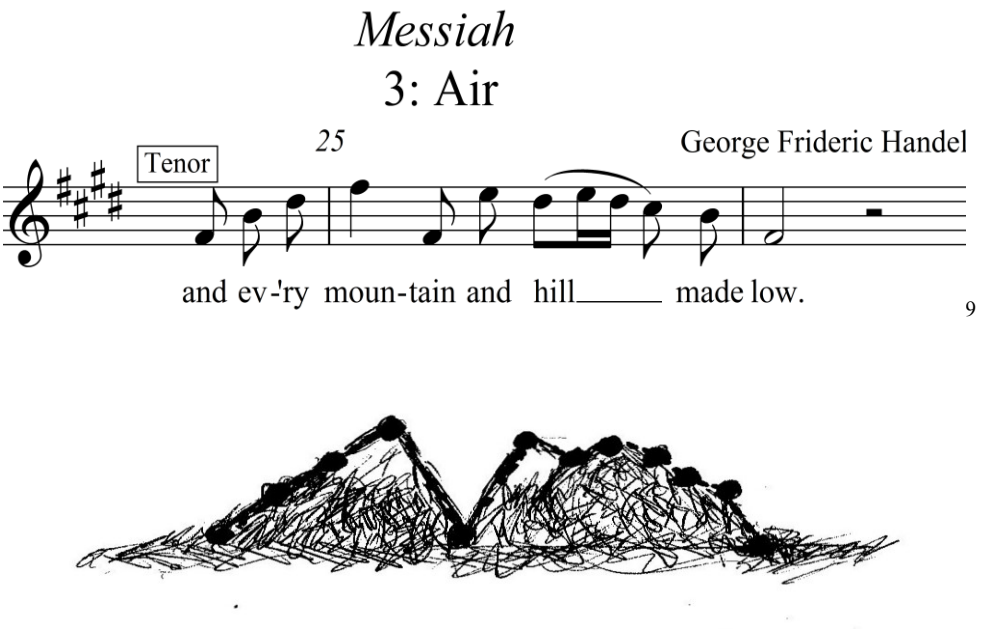

Figure 1: Handel's Messiah *Picture to Score Comparison*

8. Paul L. Frank, "Realism and Naturalism in Music," *The Journal of Aesthetics and Art Criticism* 11, no. 1 (September, 1952): 56-7.

9. George Frideric Handel, *Messiah*, ed. J. M. Coopersmith (New York: Carl Fischer, 1947). 9, Mm. 25.

A horizontally compressed image of the cello theme in Camile Saint-Seans' “The Swan” creates the upper outline of a swan with wings up ready to fly. Even more tellingly, the piano accompaniment score outlines stylized waves—as if in a child's drawing—below the swan.[10] However, the wave shape of the supporting piano line could well have been an accidental resemblance, since a popular source[11] has suggested that the movement in the piano part resembled the swan’s paddling feet (Figure 2).

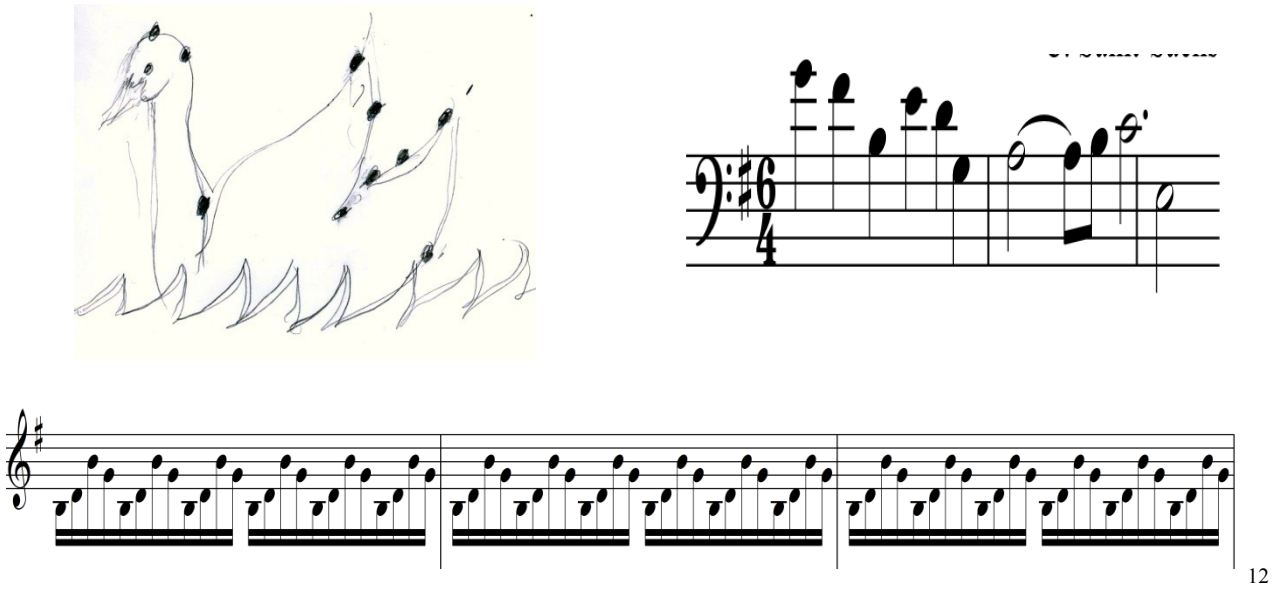

Figure 2: " The Swan" Music to Picture Comparison

10. Camille Saint-Saëns, "The Swan," in *Suzuki Cello School Piano Accompaniments*, ed. Shinichi Suzuki (Miami: Summy-Birchard, 1905), 20.

11. http://en.wikipedia.org/wiki/The_Carnival_of_the_Animals, accessed 9/24/2011.

12. Saint-Saëns, "The Swan," 20.

"Nuages," from *Nocturnes*, by Claude Debussy, can easily be related to the shape of the clouds referenced by the tone poem. This is just one of the cloud-like shapes that can be found in "Nuages." One can observe that the line created by the lower violin part is almost flat, while the violin I part correlates with the upper outline of a cumulous cloud (Figure 3). Perhaps it is also significant that the music creates a calm and restful mood—a mood that would not be present in more storm-like clouds.

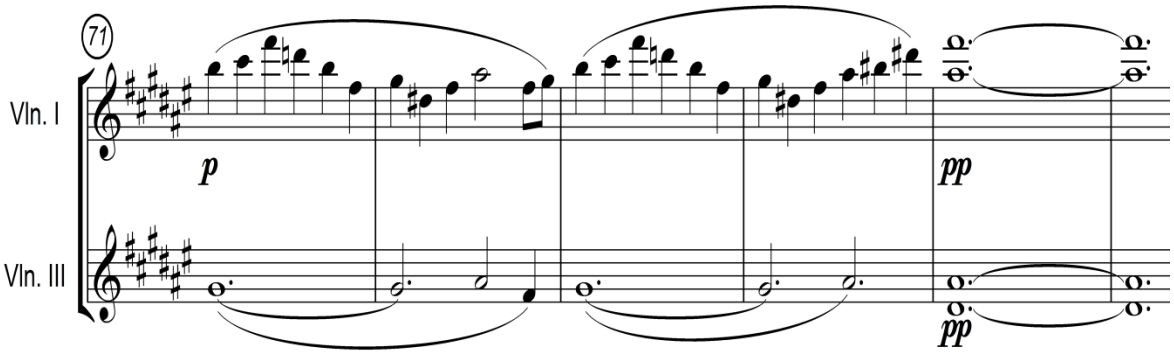

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Figure 3: Debussy's " Nuages," Picture to Score Comparison

13. Claude Debussy, "Nuages," in *Nocturnes* (New York: Kalmus, 1946), mm. 71-76.

Another work by Debussy seems to embody the physical shapes of its title, *La Mer*. The pictorial nature of the score itself (Figure 4) suggests that the subtitle of this work, *Symphonic* ***Sketches****,* was intentionally descriptive. The second and fourth staves of this score fragment from *La Mer*, Movement One, "De l'aube à midi sur la mer" are part of many passages in this score that outline the physical shapes of waves.

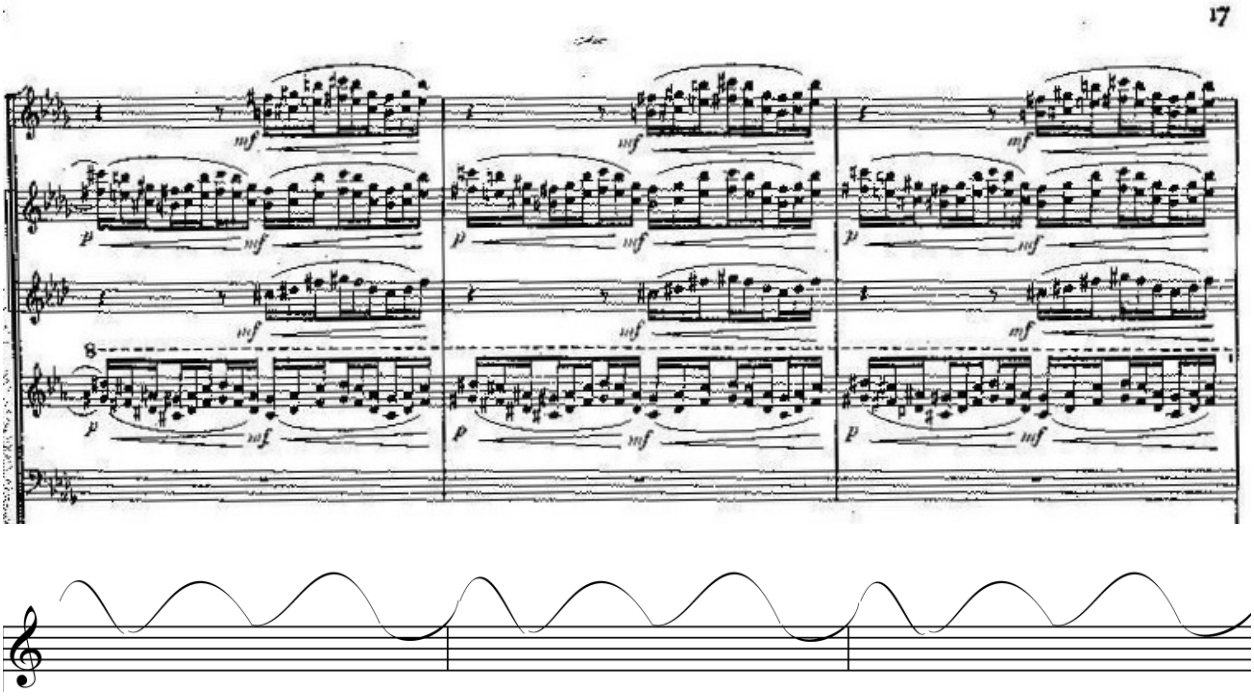

Figure 4: Debussy's La Mer, *Score Excerpt and Wave Motion*

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The size of an image can also be described musically. In the piano score of *Pictures at an Exhibition*, Moussorgsky indicated the size of "The Great Gate of Kiev" by incorporating large, thick chords encompassing up to four and a half octaves overall, and two octaves per hand.[15]

14. Claude Debussy, *La Mer* (New York: Kalmus, 1905). 17.

Literal Imagery in *Constellation Suite*

Constellation Suite deliberately utilizes the same type of literal imagery that can be perceived in the above examples by Handel, Saint-Saens and Debussy. I intentionally incorporated patterns created by the stars into the score, and found them to be useful as pre-compositional constructs. One of the more vague images is the use of glockenspiel in each of the star themes that are in all movements. These points of high-pitched silvery sound are not really a literal visual image—nor are they aural onomatopoeia, but they can evoke the feeling created by gazing at twinkling stars overhead.

Movement One, "Andromeda"

The celestial designation, Andromeda, refers to both a constellation and a galaxy; and both are depicted by the "Andromeda" movement of *Constellation Suite*. The Andromeda galaxy (Figure 5) is a spiral type galaxy, [16] so I attempted to represent a spiral shape in the score.

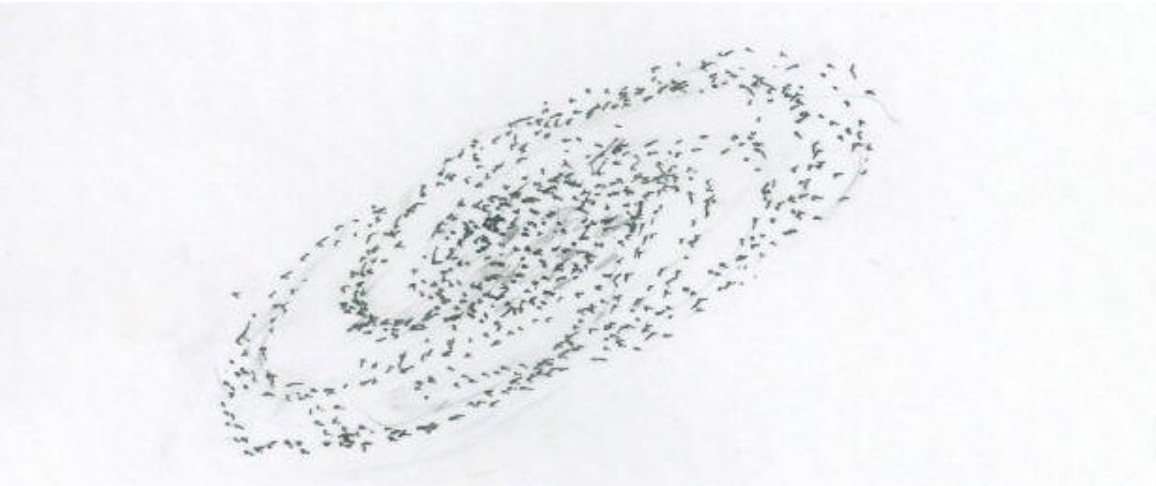

Figure 5: Andromeda Galaxy

15. Modeste Moussorgsky, *Pictures at an Exhibition* (New York: London, 1980). 46, mm 22-29.
16. Mark R. Chartrand and Wil Tirion, *National Audubon Society Field Guide to the Night Sky* (New York: Knopf, 1998). plate 231.

Since a direct transcription of a complete spiral shape onto a staff would likely result in total chaos rather than graphic representation, I chose to depict separate “arms” (Figure 6) of the spiral consecutively. I showed these galaxy “arms” by creating two related motifs. The first is created from a synthetic scale (“Andromeda Scale” Figure 8) that I have labeled the “Andromeda Theme” (Figure 7).

Figure 6: Spiral " Arm" Shape

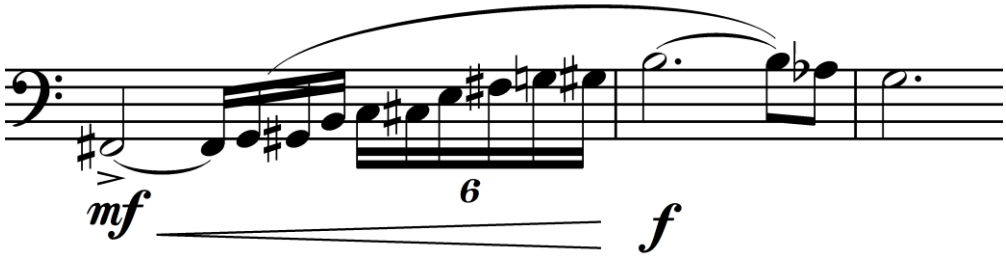

Figure 7: " Andromeda Theme"

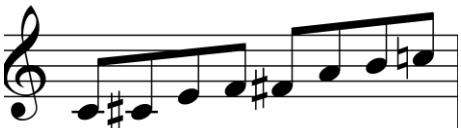

Figure 8: “Andromeda Scale,” C - C Transposition.

The second motif is an altered portion of the "Andromeda Theme" that I call the "Galaxy Motif." The composite effect of several spiral "arms" is created by "turning" variations of the "Galaxy Motif" on the galaxy's "axis" via transposition. Thus, a graphic representation of the spiral galaxy is created by the cumulative effect of all statements of the "Galaxy Motif." The variations of the "Galaxy Motif" appear in two basic formations. The first is the prime form, which begins at the lowest pitch of the motif and only appears in the bass line. The second is an inversion of the "Galaxy Motif" that is a syncopated answering theme in the treble instruments. The inversions become progressively more complex as additional triad notes are added to the treble voices, and rhythmic variations are added to each motivic statement, as shown in the piano reduction example (Figure 9).

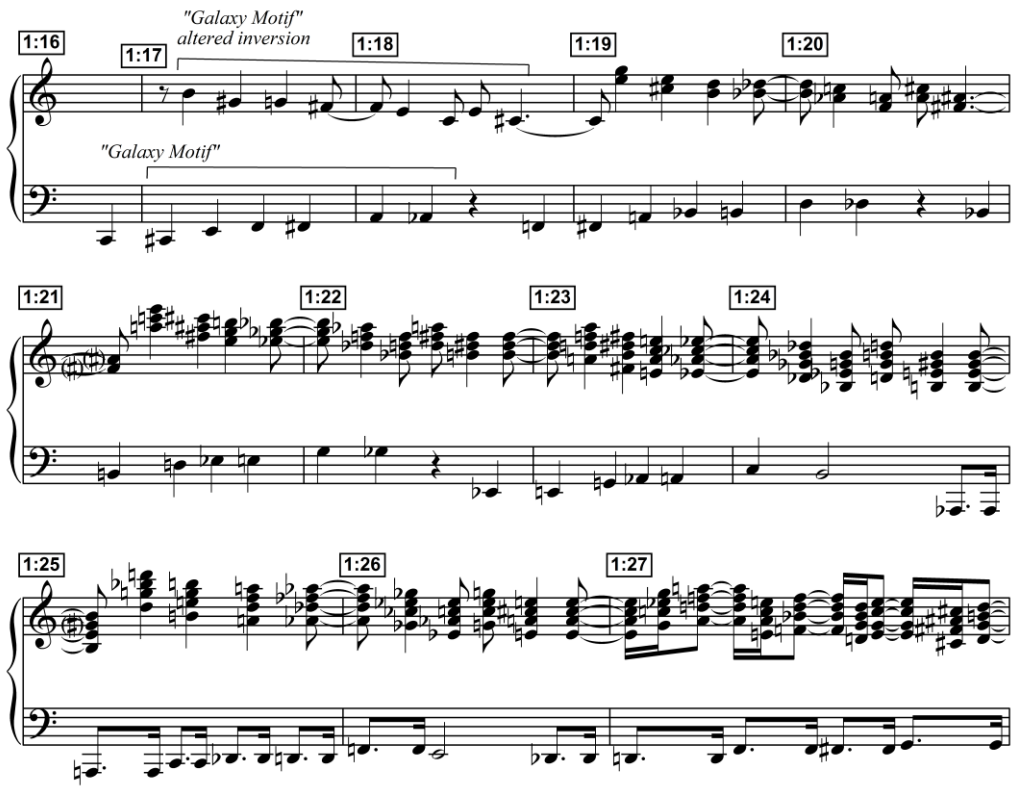

Figure 9: " Galaxy Motif " Prime Forms, Inversions, and Variations

Another pictorial reference in the "Andromeda" movement of *Constellation Suite* is the superimposition of the Andromeda Constellation[17] (Figure 10) on a staff, which gave the approximate pitch sequence and relationships for the thematic material that I have labeled the "Andromeda Constellation Theme" (Figure 11). As one can see in the musical example, the pitches have some rhythmic additions to the generalized shape of the constellation. However, if one adds the background stars and accounts for the "twinkle" that earth-bound astronomers see, these additions are visually similar enough to be related. The star theme is played by the glockenspiel and pizzicato viola. The oval in the center above the star chart (Figure 10) shows the placement of the Andromeda galaxy.

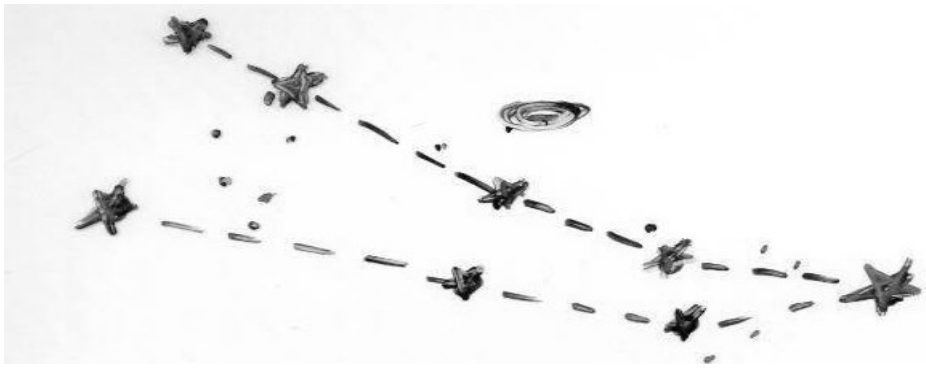

Figure 10: Andromeda Constellation

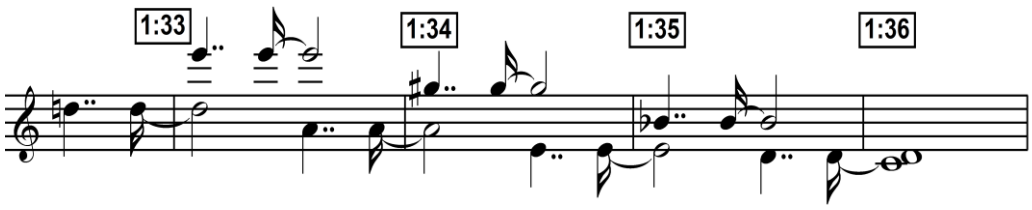

Figure 11: " Andromeda Constellation Theme"

17. Ibid., plate 69.

Movement Two, "Crux"

"Crux" is created from several literal images. The first sections are based on the images that might have been seen by Magellan in his voyage circumnavigating the world in 1519 - 1522.[18] The connection of the constellation Crux to Magellan's voyage came from Crux's other name, the Southern Cross. The Southern Cross was one of the primary navigational constellations in the southern seas, similar in function and importance to the North Star in the northern hemisphere. [19] The first of these images recalls a stormy sea, which can be seen in the piano reduction example (Figure 12). I have labeled this melodic material the "Currents Theme."

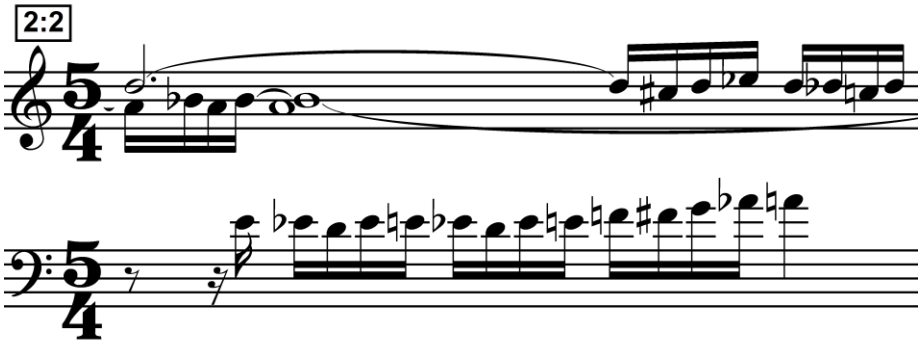

Figure 12: " Currents Theme"

18. Lawrence Bergreen, *Over the Edge of the World* (New York: Morrow, 2003). 1.

19. Chartrand and Tirion, *National Audubon Society Field Guide to the Night Sky*: 499.

The shape of the score notation of the woodwind and string parts in Figure 13 suggests the many rising storms that plagued Magellan's voyage. The shape of storm-lashed waves and wind-driven rain can be imagined in this string orchestration of arpeggiated chords and rising woodwind chromatic line above them. I call this the "Rising Storm Theme."

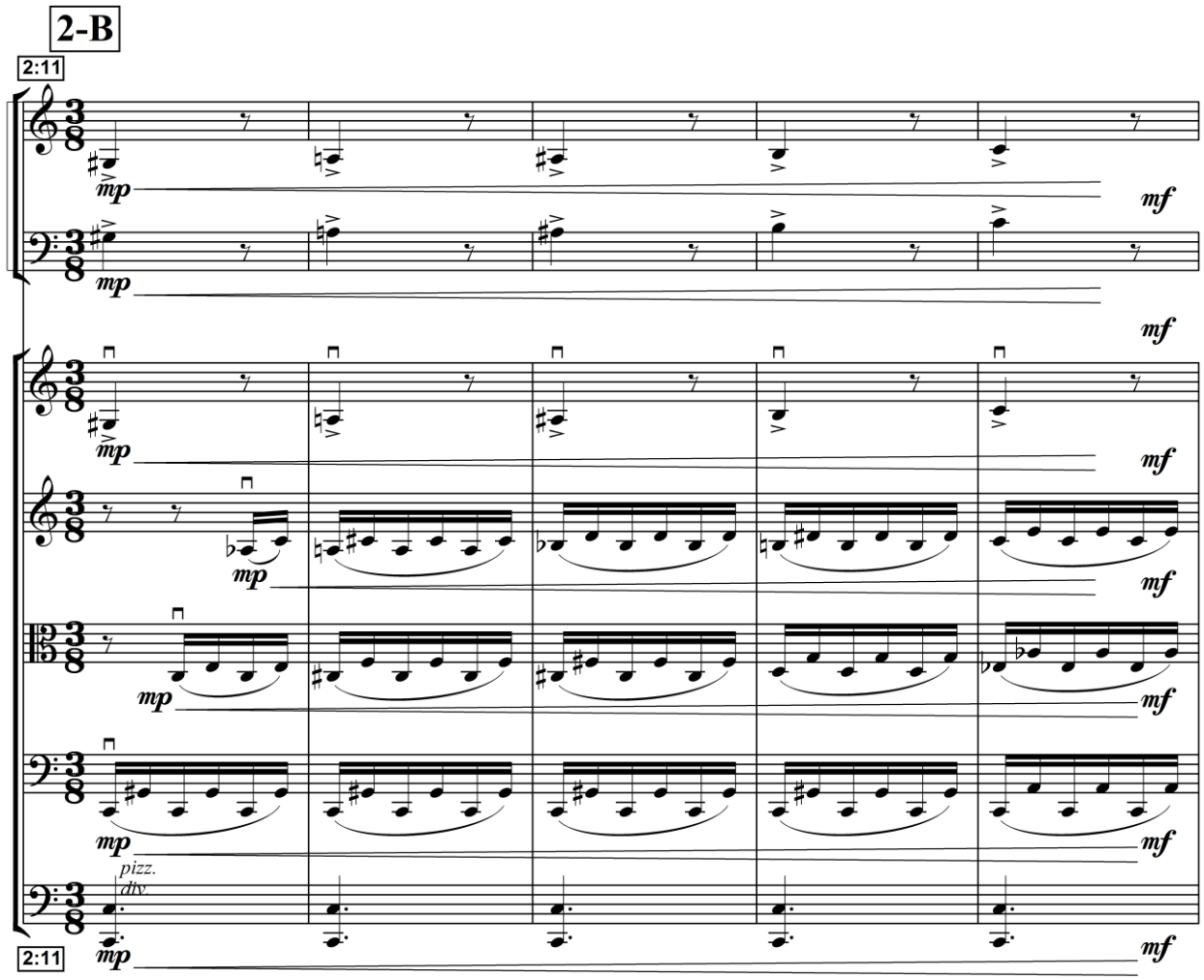

Figure 13: " Rising Storm Theme"

The third sea voyage-related section is built of a series of syncopated chords that parallel another wave-shaped melodic motif. The piano reduction of these parallel chords shows the shape and depths of these moving waves. I have named this passage the “Surging Sea Motif,” (Figure 14).

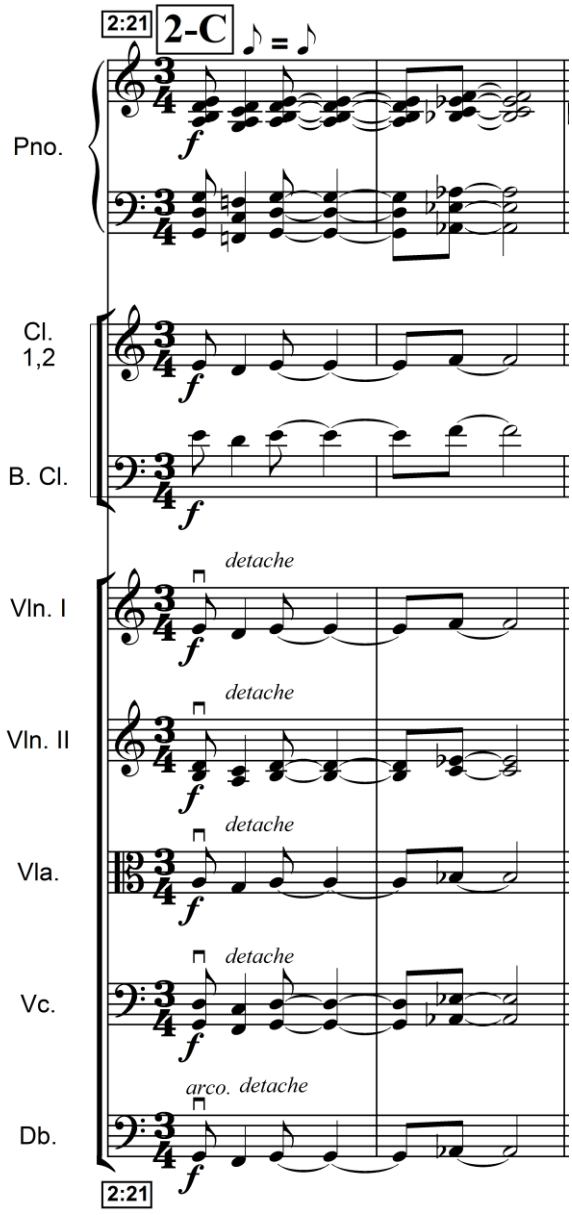

Figure 14: " Surging Sea Motif "

A star chart of the constellation Crux is shown in the following example. The five primary stars of the Southern Cross (Figure 15, left) are easily related to the notes on the musical example from Movement Two, “Crux,” measure 2:92 below (Figure 15, right). A horizontal compression of the note alignment creates an almost exact replica of the star chart in Figure 15. This motif is labeled the “Crux Constellation Motif” and becomes the basis for the “C Theme” in this rondo.

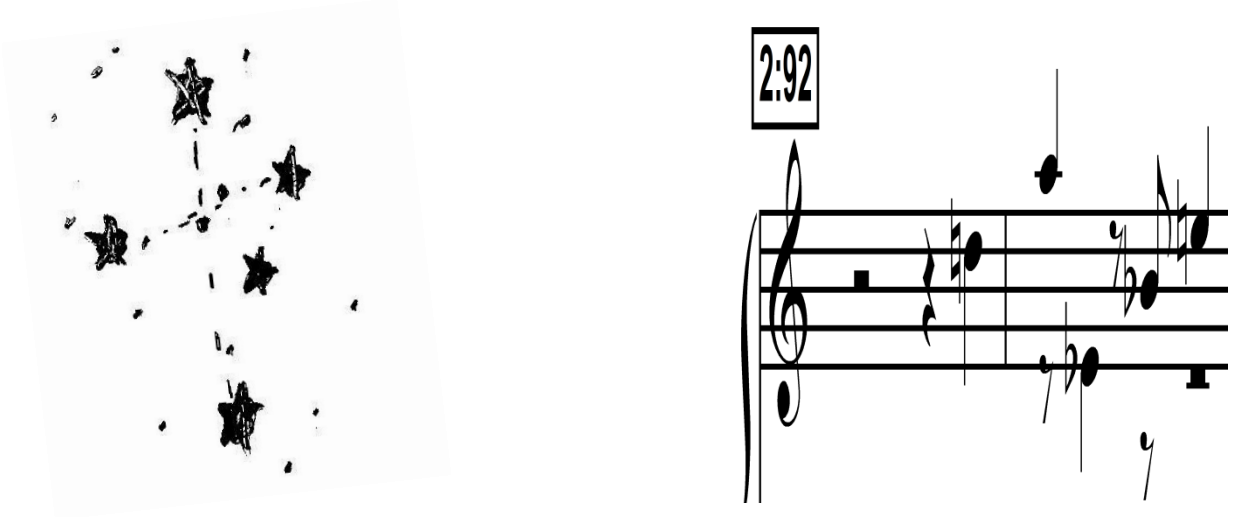

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Figure 15: Crux Constellation to " Crux Constellation Motif" Comparison

20.Ibid., plate 98.

Movement Three, "Pleiades"

The origin of the star chart imagery for "Pleiades" is a little more problematic than the star charts of the other three movements. For instance, I originally found the images of the star configuration in an actual photograph of the Pleiades.[21] The Pleiades, despite being known as one of the most beautiful and recognizable star groupings, are not actually considered a constellation, but instead are called a star *cluster*. Therefore, star charts with the usual lines connecting all the stars that are considered part of the group are much less common, and the *National Audubon Society Field Guide to the Night Sky* only includes a photograph for Pleiades. But lack of proper astronomical nomenclature and star mapping didn't hamper creativity, and this composer wrote music that approximates the shape of the dotted line-connected stars (Figure 16) out of the Pleiades photograph. The stars in this configuration *are* included in the star cluster, but are not the Seven Sisters considered to be the ancient Pleiades. The correct Seven Sisters stars can be identified in the star map in Figure 18 and by the circles in Figure 19.[22]

This composer's original perception of the configuration of the Seven Sister stars in Pleiades translated into the first seven notes of the musical example in Figure 17. The two bass notes following the "Pleiades Star Motif" refer to the two stars at the far left of the star chart but do not reflect their relative position, and introduce the next statement of the motif. This motif became the basis for several themes both in the "Pleiades" movement and in the final movement, "Orion," and will be addressed more fully under the heading Cyclical Use of Motifs and Themes in *Constellation Suite*.

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21. Ibid., plate 242.

22. David Richards, "M45-Open Cluster (Pleiades)," http://www.richweb.f9.co.uk/astro/messier_objects.htm#M45.

Figure 16: Pleiades Star Cluster, Originally Perceived Configuration

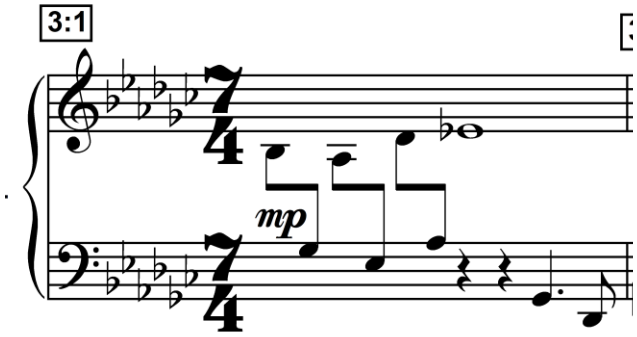

Figure 17: " Pleiades Star Motif"

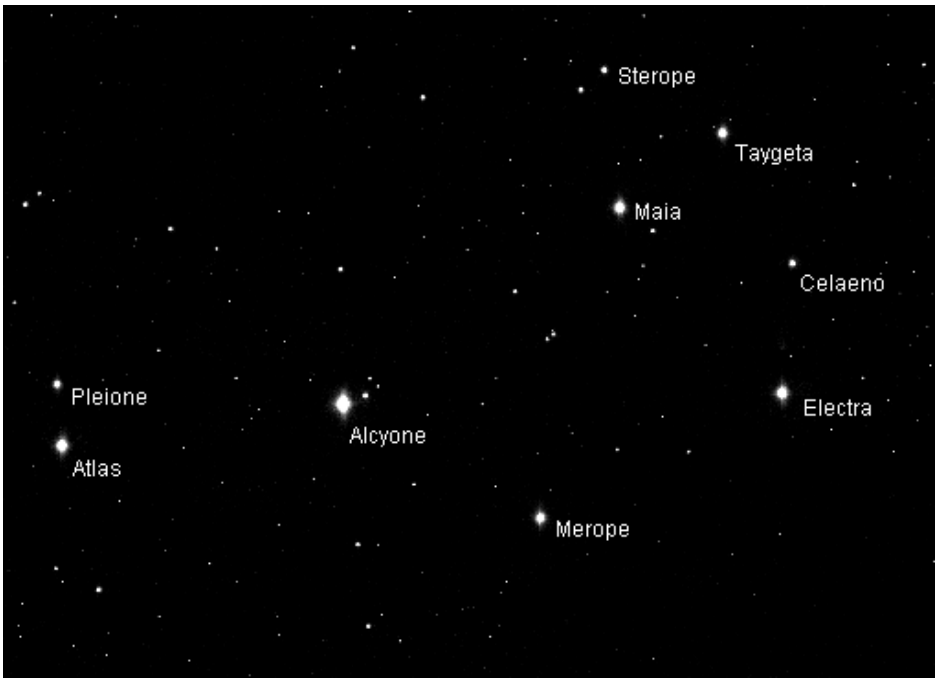

Figure 18: Correctly Labeled Mapped Seven Sisters of the Pleiades Star Cluster

23

Figure 19: Pleiades Star Cluster, Circled Seven Sisters Stars

23. Ibid.

Movement Four, "Orion"

The final movement of *Constellation Suite* derives much of its thematic material from the shapes of motifs used in previous movements. However, these shapes do not illustrate either the story or title of "Orion" and will be discussed in the Cyclical Composition section.

One may find many possible motifs in the Orion star chart, as illustrated in Figure 20. The primary stars that are used in the "Orion" *Constellation Suite* movement are created from the configuration of Orion's two shoulders, two feet, his belt, the sword that hangs from the belt and the nebula. The nebula is not properly placed in the score since it is suggested after the "Orion Star Motif" (Figure 21) itself by a series of muffled marimba, xylophone, and flute passages that attempt to show "nebulousness" rather than an actual shape in the correct area of the score—below Orion's belt. Orion's right arm (top left of star map), head (upper center apex of pentangle), right arm (imaginary line from shoulder star to prey), and prey (some call it Orion's bow) are not specifically outlined in the score representation of Orion.

The musical motifs in Figure 21 are not shown in their exact rhythm, since the actual note values continue across bar lines, and the tied notes disguise the star chart to score relationship. This composer has also taken artistic license with the sword's representation. In the star chart, the sword is only one star, but the musical sword is shown as being a very dissonant chord. This is also a type of mood-creating tone-painting, and will be discussed in the Mood-Creating Techniques in "Orion" section.

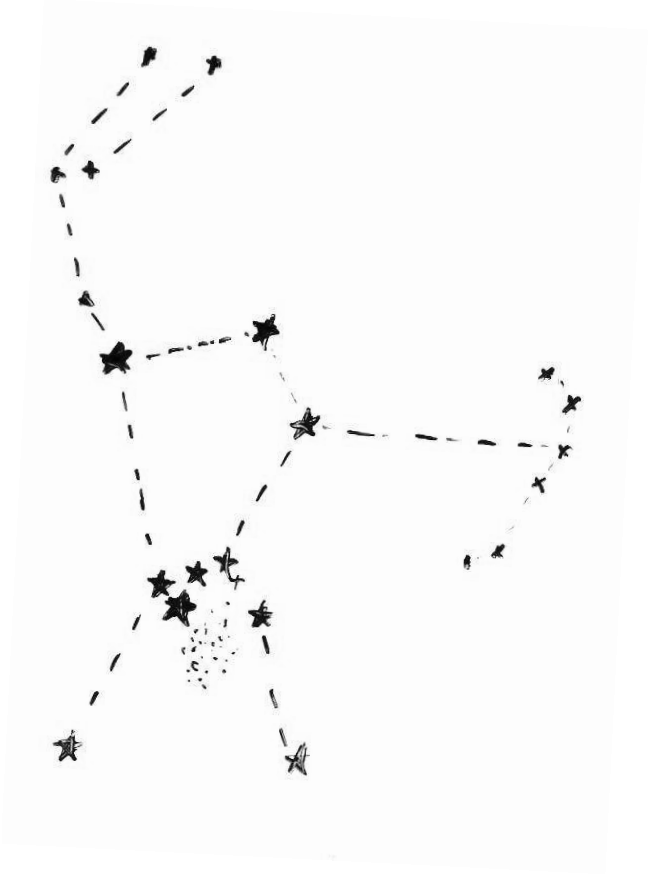

Figure 20: Orion Constellation

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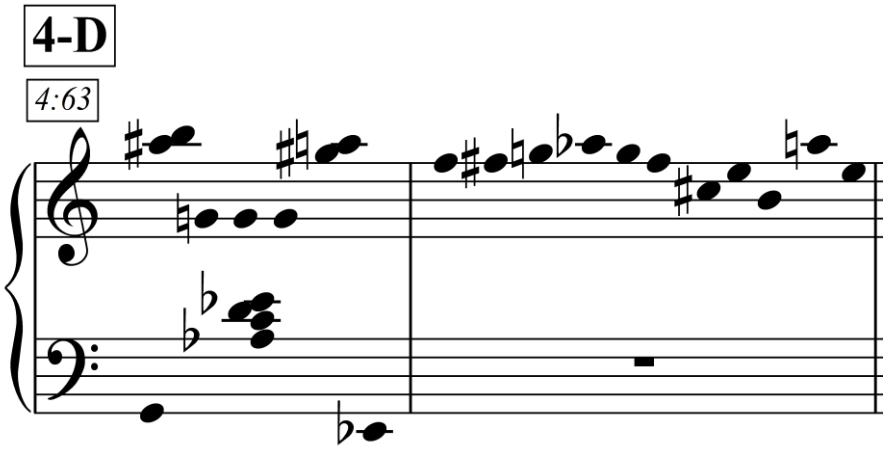

Figure 21: " Orion Star Motif" and " Orion Nebula Motif"

24. Donna Young, "Donna Young.org, Printables and Resources," http://donnayoung.org/science/constellation-orion.htm.

Imagery Created by Paths of Movement

Historical Use of Imagery Created by Paths of Movement

When one describes the musical shapes created by paths of movement, several pieces immediately suggest themselves. Some have suggested that Schubert's "Gretchen am Spinnrade" (d118; 19 October 1814), was about the sound of the spinning wheel. However, the repetitive circular figure of the accompaniment suggests the circular motion of the spinning wheel. Motivic changes mimic the alternating path of the spinner shuttle itself.[25]

One of the most obvious movement-path references is contained in Ralph Vaughan Williams' "The Lark Ascending." The violin's cadenza outlines the lark's flight pattern while also suggesting the song of the lark. Vaughan Williams specifically documents that he found his inspiration in George Meredith's poem and intentionally transcribed his own observations to create this flight-path imagery. [26] Douglas A. Lee writes "Meredith's lines find musical realization in the solo violin as it characterizes both the bird's song and its flight."[27]

Another work that derives melodic material from a path of movement is Rimsky-Korsakov's "Flight of the Bumblebee." This short work from the 1900 opera*, The Tale of Tsar Saltan,* mimics the sudden directional changes and presto tempos achieved by a bumblebee in

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25. Robert Winter, "Franz Schubert," in *Oxford Music Online*.

26. Ralph Vaughan Williams, "Introduction," in *The Lark Ascending: Romance for Violin and Orchestra* (London: Oxford University Press, 1926), 1.

27. Douglas A. Lee, *Masterworks of 20th-Century Music: the Modern Repertory of the Symphony* (New York: Routledge, 2002). 440.

flight.[28]

Another path of movement correlation can be found in the "Promenade" from Mussorgsky's *Pictures at an Exhibition*. This stately promenade, according to Moussorgsky himself, intentionally interrupts its 6/4 meter with measures of 5/4 and 7/4 meters[29] as a way to describe his own physique and less-than-graceful gait while touring his late friend's art exhibition.[30] He wrote to a friend, "My physiognomy can be seen in the intermezzi."[31]

Imagery Created by Paths of Movement in *Constellation Suite*

Paths of Movement in "Andromeda"

Several melodic motifs and themes in *Constellation Suite* can be referenced to paths of movement. In the first movement, one of the most prominent motifs is the "Perseus Transition"—an extended inversion of the "Andromeda scale." This rapidly-falling passage relates to the legend's Perseus flying down to rescue the chained Andromeda from the sea monster (Figure 22).

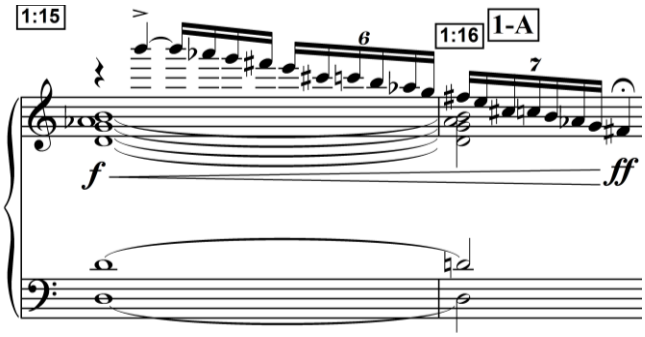

Figure 22: " Perseus Transition"

28. Richard Taruskin, "The Tale of Tsar Saltan," in *Oxford Music Online*.

29. Nancy Bricard, ed. *Moussorgsky: Pictures at an Exhibition* (Van Nuys: Alfred, 2002), 11.

30. Moussorgsky, *Pictures at an Exhibition*: 5.

31. Modeste Moussorgsky, as quoted by Nancy Bricard, *Moussorgsky: Pictures at an Exhibition*, 9.

In the rest of "Andromeda," the fact that the "Galaxy Motif's" shape corresponds with the spiral (See Figure 5 and Figure 6.) of the Andromeda galaxy could be considered a path of movement, since all astronomical objects *are* in constant motion. However, from human perspective, this comparison stretches the connection. Very little visual change has been perceived over the time frames that humans have documented. Therefore, the "movement" in the Andromeda galaxy as described by the "Galaxy Motif" is only a technical correlation of movement on a vast astronomical scale.

Paths of Movement in "Crux"

The second movement, "Crux," is much more movement-oriented. Since the program impelling the music is based on Magellan's circumnavigation of the earth,[32] the music describes the movement of the ocean during this voyage. Many historical accounts document the storms that plagued Magellan's navigational feat. Motion of wind and waves is an obvious visual reference. Even though waves have an actual physical shape, the outline of the waves is created by the force of the wind, the ebb and flow of the tides, and the currents of the oceanic rivers, all of which shape the water. These wave outlines are in constant motion, and "Crux" reinforces this impression with nearly perpetual motion throughout all but the rondo's C Theme. (See Figure 12, Figure 13, Figure 14, and Table 3.) The changes in types of movements are also emphasized by the radical changes of macro-rhythm from section to section. The path of movement reference that is not self-evident is in the C Theme, bracketed by "Crux Constellation Motifs." This movement relates to the probability that storm-tossed sailors would devoutly cross themselves at the first sight of the Southern Cross. The motion only partially resembles the "Crux Constellation

32. Bergreen, *Over the Edge of the World*.

Motif;" instead the xylophone inscribes the "head-heart-left-right" motion of the sign of the Cross (Figure 23). The right's note is higher than the left because a person's hand always is higher on the right shoulder than the left, due to reaching across the chest to touch the left shoulder.

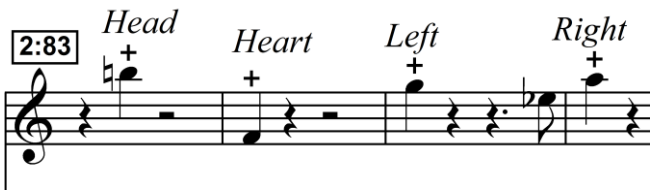

Figure 23:" Sign of the Cross"
(Xylophone)

Paths of Movement in "Pleiades"

"Pleiades" utilizes a path-of-movement reference that only becomes evident after the section's programmatic subtitle is known. This subtitle refers to part of the legend of the Pleiades in which Zeus turns the Pleiades into doves. The sisters-turned-doves then travel to the sky to console their father, Atlas, for his being sentenced to support the world forever. The melody of the clarinet (treble clef, Figure 24) outlines an erratic upward flight path that could be related to the flight of a dove. The horn melody (euphonium in the chamber version, bass clef, Figure 24),

in the staff below it, creates the more static and constant support of Atlas, a description of *non-*motion. These contrasting themes weave together both constancy and flight. The beginning of this section is shown in Figure 24.

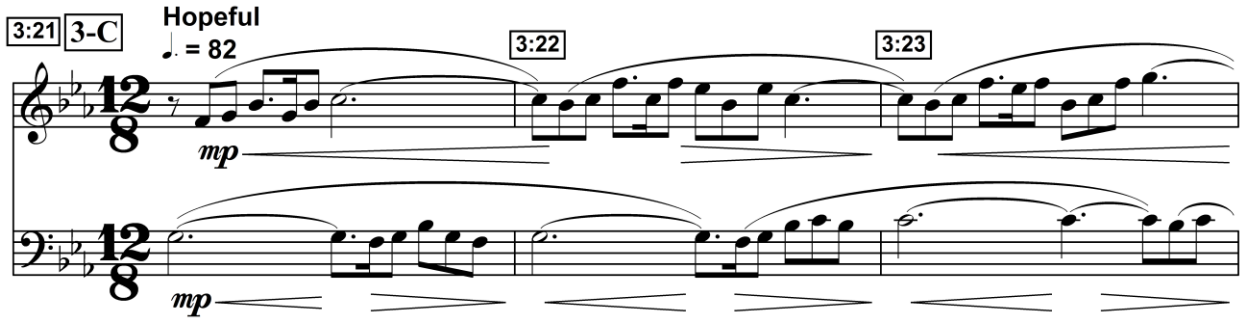

Figure 24: " Doves' Flight Theme" and " Atlas Theme"
(Concert pitch)

These themes continue in the same manner and relationship until the clarinet-dove (treble clef, Figure 25) flies even higher in its theme and both voices move on to a different section of "Pleiades."

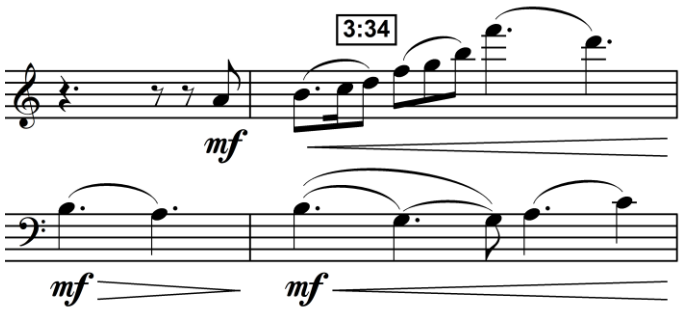

Figure 25

Figure 25: " Dove" and " Atlas" Themes, ending

Paths of Movement in “Orion”

The majority of the motion-related thematic material in “Orion” is also related to motifs in “Pleiades.” However, the motion of Theme Two (Table 6) is merely referenced, not physically outlined. This movement is described by its mood and will be addressed in “Orion” Star Music To listen, go to supplemental file:

Constellation Onomatopoeia 3 Orion.mp3

Non-Pictorial Mood-Creating Techniques.

Chapter Two, Programmatic References

Context and Use-Specific Idioms

Historical Use of Context-Specific Idioms

Composers, when attempting to tell a story through music often use idioms that had always been used in each of the settings. Horn calls, which had been used for fox hunting, were used in the music to announce a hunt. Trumpet battle signals—the charge, types of battle formations, or retreat—were now describe battles in an opera or tone poem. Fanfares that announced royalty in court or parades, announce royal characters in stories about royalty. A cappella choral music suggested a church or other sacred setting. Dance forms and rhythms told the stories that included celebrations and dance. Luigi Boccherini's Quintet op. 11, no. 6 is an example of music that imitated shepherds' pipes and hunters' horn calls.[33]

Another type of context-specific idiom is music that is irrevocably bound to the place of its origin. In his Quintet op. 30 no. 6, Boccherini imitated the street sounds of Madrid. According to Christian Speck and Stanley Sadie, he opposed the publication of the subtitle "La musica notturna della strade di Madrid," because he felt the connection wouldn't be understood unless one knew Madrid. [34] George Gershwin and Aaron Copland also created feelings of place in many of their works. Gershwin's symphonic *An American in Paris* and *Cuban Overture* both gives the impression of place. *An American in Paris* includes American jazz elements juxtaposed with instrumental suggestions of idiomatic Parisian sounds and music to create the sensations exactly described by the title.[35] *Cuban Overture* incorporated the rhumba and Latin

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33. Christian Speck and Stanley Sadie, "(Ridolfo) Luigi Boccherini," in *Oxford Music Online*.
34. Ibid.

35. Wayne Schneider, *The Gershwin Style: New Looks at the Music of George Gershwin* (New York: Oxford University Press, 1999). 8, 33.

American rhythms to give his audience the impression of visiting Cuba—just from the music. Aaron Copland also created musical descriptions of place. He incorporated American folksongs and cowboy tunes into his ballets, *Appalachian Spring* and *Billy the Kidd* to create the feeling of two distinct places in rural America. Copland's El *Salón México* also provided a musical vacation in Mexico.[36]

36. Marta Robertson and Robin Armstrong, *Aaron Copland: A Guide to Research* (New York: Routledge, 2001). 46, 150.

Context-Specific References in *Constellation Suite*

There are only a few context-specific references *Constellation Suite.* The first is the opening gesture of "Andromeda," the three chord tutti orchestra fanfare. This introductory material anticipates the hunting calls of Orion, and the drum rolls evoke the battles of Perseus to free and then to win the beautiful Andromeda.[37] A piano reduction of this orchestral fanfare is shown in Figure 26.

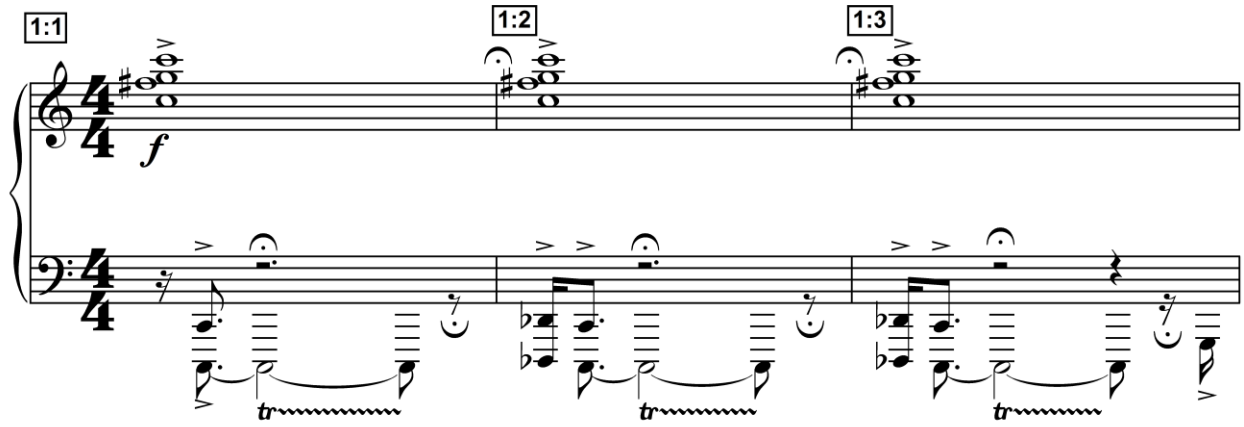

Figure 26: Opening Gesture, Tutti Orchestra Fanfare

37. Kenneth C. Davis, *Mythology: Everything You Need to Know about the Greatest Stories in Human History But Never Learned.*, ? Don't Know Much about (New York: Harper Collins, 2005). 221.

Another context-specific reference is a theme found in “Orion.” This theme recalls hunting-related horn calls. Since the legend[38] describes Orion as “the hunter,” this choice of thematic material and instruments could certainly be considered a cliché. This theme also includes percussion accompaniment and the usual percussion battle reference. Figure 27 shows the complete “Orion’s Hunting Fanfare.”

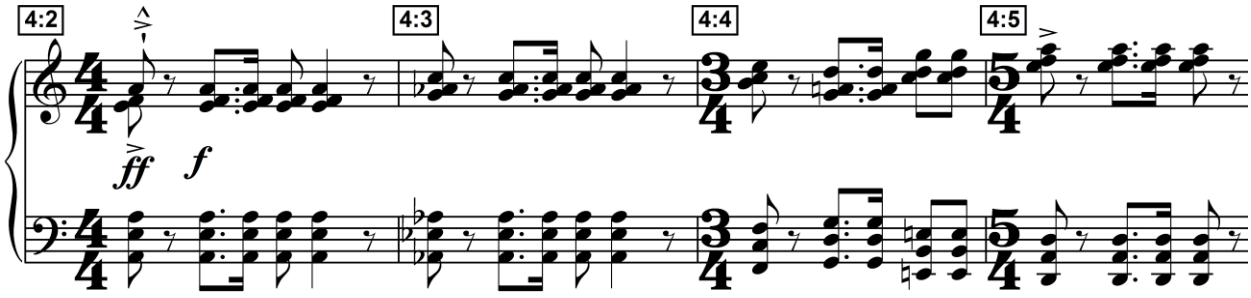

Figure 27: " Hunter's Fanfare" Theme

38... Edith Hamilton, *Mythology*, (Boston: Back Bay Publishing, 1969). Location 1244.

The second theme in “Orion” takes the form of a march, which references the ominous tread of the hunter, Orion, who pursues the Pleiades sisters.[39] This march is a modified compressed inversion of the “Pleiades Star Motif.” (See also Cyclical Use of Motifs and Themes in *Constellation Suite* heading and Figure 38: Relationship to " Pleiades Star *Motif*" for comparison.) The basis of the march theme is shown in *Figure 28*.

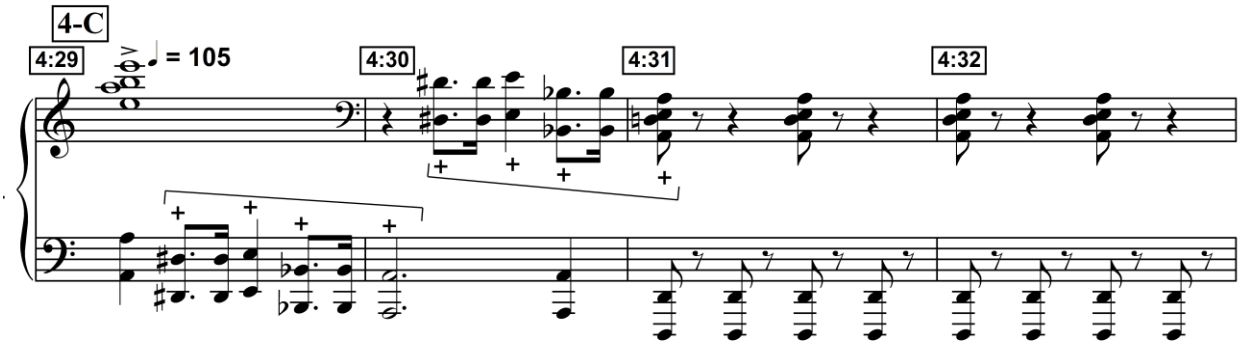

Figure 28: " Ominous Stalker March"

Onomatopoeia

In music, onomatopoeia usually takes the form of instrumental or vocal imitation of sounds that are from sources other than common musical performance. These sources are often from nature, but also include man-made sounds. Composers’ inspiration has always begun, at some point, with the sounds that they hear. Varying among composers, different types of sounds resonate with and affect composers in different ways. This extra-musical influence has also changed according to ideas that happen to be in fashion at that time. The composer must then decide whether to adhere to the current trends—like Mozart, or blaze one’s own path—like Harry Partch.

39. Ibid., Location 1244.

Historical Use of Onomatopoeia

There are documented examples of nature-imitation as early as there was written music. Some of this relatively early use was by the French Renaissance composer, Clement Janequin (c. 1485-c. 1560) who is known for his musical onomatopoeia. Howard Mayer Brown and Richard Freedman's article discusses this effect in Janequin's chansons.

> The best known of all [Janequin's] chansons are those very long ones that imitate natural and man-made sounds: among them *Le chant des oiseaux*, *L'alouette*, *La chasse*, *Les cris de Paris* and the perennial favourite of singers, lutenists, guitarists, keyboard players and other instrumentalists throughout the entire 16th century, *La bataille*, possibly written to celebrate the Battle of Marignano, which had taken place in 1515. All of these chansons are filled with onomatopoeic effects, such as fanfares, bird songs, street cries and the like.[40]

Imitation of Bird Calls

Bird calls are among the most common sources of onomatopoetic inspiration among composers. The two-note falling third of the cuckoo's call was the motivic inspiration for several well-known works. Among them are "The Cuckoo" by Louis Claude Daquin, Beethoven's "Pastoral" Sixth Symphony, "The Cuckoo in the Deep Woods" from The *Carnival of the Animals* by Camille Saint-Saens, and "On Hearing the first Cuckoo in Spring" by Frederick Delius. Beethoven also identified representations of other birds in his "Pastoral Symphony," namely, the quail and the nightingale. [41]

Ralph Vaughan Williams, in his "The Lark Ascending," derives inspiration from the song

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40. Howard Mayer Brown and Richard Freedman, "Clément Janequin," in *Oxford Music Online* (2010).

41. Joseph Kerman, et al, "Ludwig van Beethoven," *Oxford Music Online*

of the lark. In the following quotation, Douglas A. Lee describes this musical imitation of a lark.

> The shorter cadenza introducing the midsection serves as a point of reference, reinforcing the suggestion of the lark and its cries. All three cadenzas expand upon a warbling motive that takes flight, ascending to a point three octaves higher than the initial pitch, where, in one manner or another, then conclude with a series of descending thirds.[42]

Béla Bartók used many obvious nature-inspired references, and created one of the most species-specific musical imitations of birds. The middle section of his Third Piano Concerto, the "Night Music," notes Malcome Gillies, "makes explicit reference to the call of the rufous-sided towhee bird, which Bartók had noted down while in North Carolina."[43]

When one thinks of Olivier Messiaen, one almost always thinks of some form of compositional bird song. Messiaen's use of bird song goes beyond simply imitating and expanding upon it. He explains, "[Birds'] melodic contours, those of merles especially, surpass the human imagination in fantasy. . . Some examples of the bird genre . . . [are] transcription, transformation, and interpretation of the volleys and trills of our little servants of immaterial joy."[44] Throughout his life, Messiaen followed his own advice by using bird song in *Réveil des oiseaux, Quatour pour la fin du Temps*, *Catalogue d'oiseaux,* and *Amen des anges, des saints, du chant des oiseaux*, among many others.

Imitation of Other Animal Sounds

Other animal sound onomatopoeia can be heard in many sources. Camille Saint-Saens

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42. Lee, *Masterworks of 20th-Century Music: the Modern Repertory of the Symphony*: 440.

43. Malcome Gillies, "Béla Bartók," in *Oxford Music Online*.

44. Messiaen, *The Technique of My Musical Language*: 38.

mimicked the roar of the Lion in "The Lion's Royale March" from *Carnival of the Animals*.[45] Ottorino Respighi, in his prefatory remarks, writes that he incorporated the sound of droves of cattle passing through his peaceful landscape in the first part of his *Fountains of Rome*.[46] Richard Strauss used the "bleating" of brass and woodwind instruments to imitate the "baa-ing" of sheep in *Don Quixote*.[47] Ferde Grofé graphically recalls the sounds of hoof beats and the braying of burros in his "On the Trail" from *Grand Canyon Suite*.[48]

Imitation of Non-Living Sounds from Nature

Musical impressions of weather are common throughout history. During the Baroque period, Antonio Vivaldi used programmatic weather references in his *Four Seasons*.[49] John-Philippe Rameau's opera, *Les Boréades,* which has a plot built around the god of the North Wind, incorporates musical storms, whirlwinds, and other inclement weather.[50] Classical era composers created storm scenes for their operas. Mozart insisted on keeping a storm—against the librettist's wishes—during an aria in *Idomeneo*.[51] Beethoven created a "passage of fury" describing a storm in the last movement of his "Pastoral" Sixth Symphony.[52] Grofé's *Grand*

45. Camille Saint-Saëns, *The Carnival of the Animals: Grand Zoological Fantasy for Eleven Players* (Mineola, New York: Dover, 1886). 4.

46. Ottorino Respighi, "Composer's Note," in *Fountains of Rome* (Mineola, New York: Dover, 1999), v.

47. Brian Gilliam and Charles Youmans, "Richard Strauss," in *Oxford Music Online*.

48. Ferde Grofé, *Grand Canyon Suite* (New York: Robbins, 1932). 2, 58, 61.

49. Michael Talbot, "Vivaldi," in *Oxford Music Online*.

50. Graham Sadler and Thomas Christensen, "Jean-Philippe Rameau," in *Oxford Music Online*.

51. Laurel Elizabeth Zeiss, "Permeable Boundaries in Mozart's "Don Giovanni"," *Cambridge Opera Journal* 13, no. 2 (2001): 120.

52. Joseph Kerman and others, "Ludwig van Beethoven," in *Oxford Music Online*.

Canyon Suite includes a highly descriptive storm in the movement titled "Cloudburst."[53] Benjamin Britten incorporated a storm movement in his *Four Sea Interludes* from the opera, *Peter Grimes*.[54]

Sunrise and sunset are also common programmatic inclusions. Respighi begins his Fountains of Rome with a movement titled "At Dawn."[55] Claude Debussy titles a movement in La Mer, "From Dawn to Noon on the Sea."[56] Ferde Grofé, in "Sunrise,"[57] and Sibelius, in "Night Ride and Sunrise," make use of additive themes and orchestration when creating the effect of a sunrise.[58]

Water in all its forms—streams, oceans, seas, rain—also lends itself to extensive onomatopoetic use. Many of these examples are already listed in conjunction with other programmatic use sections.

Imitation of Non-Living Sounds Created by Humans

Sounds from nature were only the beginning; composers of tone poems, operas, or ballets, included anything that might help tell the story. Moussorgsky used the sound of bells from a country church to dispel the spirits of darkness in *Night on Bald Mountain*[59] and the

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53. Grofé, *Grand Canyon Suite*: 2.

54. Benjamin Britten, "Four Sea Interlude," (London: Boosey and Hawkes, 1945), 52-84.

55. Respighi, "Composer's Note," v.

56. Debussy, *La Mer*: 1.

57. Grofé, *Grand Canyon Suite*: 2.

58. James Hepokosky, *Sibelius: Symphony No. 5* (New York: Cambridge University Press, 1993). 24.

59. Modeste Moussorgsky, "Score Notes to Autograph," in *Night on Bald Mountain* (Mineola, New York: Dover, 1999), iii.

sound of large wagon wheels in “Bydlo” (The Oxcart) in Pictures at an Exhibition. Prokofiev incorporates the sound of machinery into his ballet, *The Age of Steel*. Arthur Honegger clearly mimics the sounds of a locomotive starting, speeding up, slowing down, and arriving at its destination, during a train excursion in *Mouvement Symphonique, "Pacific 231*."[60] In short, whatever it was, if it made a sound, those sounds could have their onomatopoetic counterpart in music; and each reference could contribute to the programmatic content of the work.

Onomatopoeia in *Constellation Suite*

There is very little variety of aural onomatopoeia in *Constellation Suite*. However, this symphony contains the most subject-appropriate onomatopoeia of all. It has sections that resemble sounds created by waves of actual astronomical radiation. Some of the accompaniments in the constellation theme-based sections (
Figure 29: " Andromeda Legend Motif ” Accompaniment Excerpt and Figure 30: " Crux Constellation Motif" Accompaniment Excerpt) create overall sound combinations that are similar in effect to the NASA Voyager Recordings of planet radiation.[61] These are more musical than simple white noise, or pops and clicks; and each planet has its own recognizable sound pattern. [62] Emissions from deep space objects, such as quasars and pulsars also have their own distinctive music. Space radiation sounds can be heard in real time via several scientific web

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60. Arthur Honegger, *Mouvement Symphonique “Pacific 231”* (London: E. Eulenburg, 1986).

61. The most easily-accessed way to listen to these space recordings is found on the popular website, YouTube. NASA, "Voyager Recordings: 'Symphonies of the Planets'," http://www.youtube.com/watch?v=-MmWeZHsQzs . Accessed 9/24/2011.
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62. NASA, "Symphonies of the Planets, 1," in *NASA Voyager Recordings* (LASAR Light Digital, 1992).

pages.[63] None of the following examples was intended to match the space music exactly; it was only supposed to evoke the impression of space-like "sounds." [64]

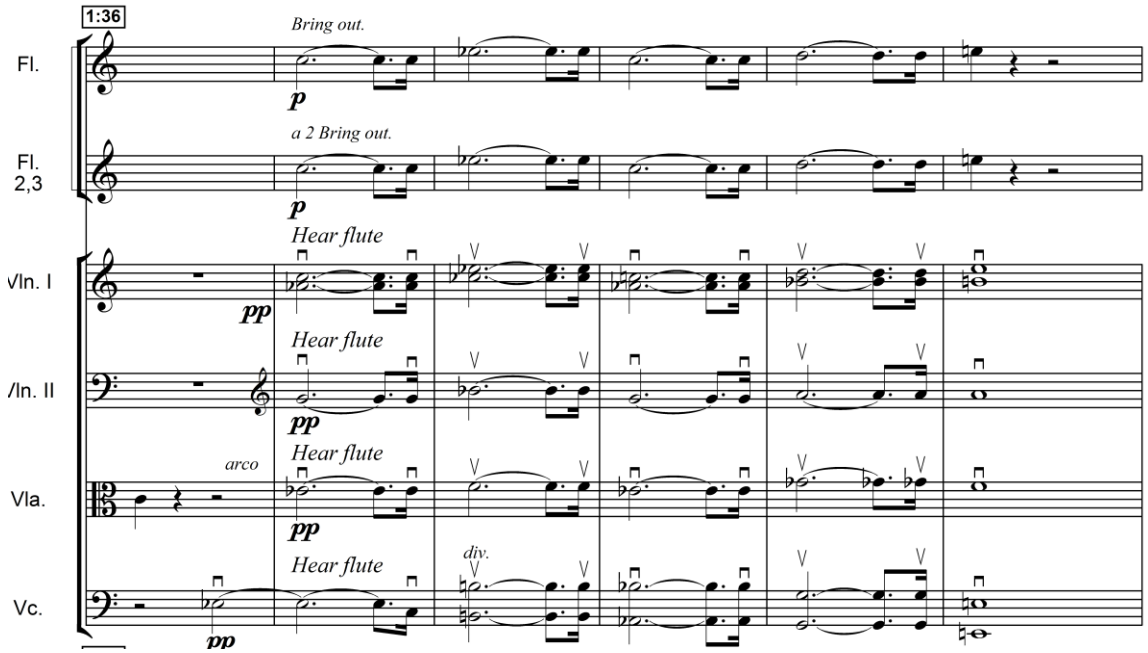

Figure 29: " Andromeda Legend Motif " Accompaniment Excerpt

"Andromeda" Star Music
To listen, go to supplemental file:
Constellation Onomatopoeia 1, Andromeda.mp3

63. "Radio Astronomy," NTT Inter Communications Center [ICC], http://www.radio-astronomy.net/. Accessed 9/25/2011

64. Recordings of the music corresponding to Star Music score excerpts can be accessed as supplemental MP3 files in Trace.

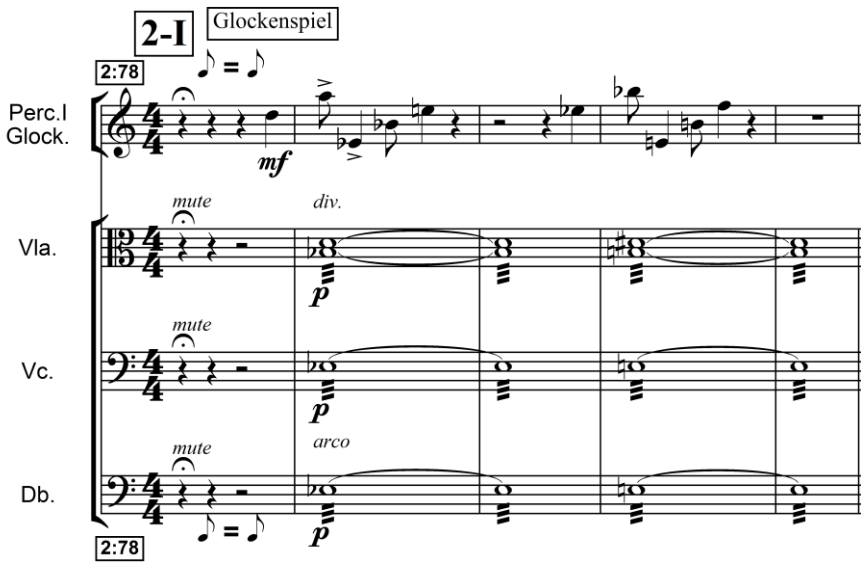

Figure 30: " Crux Constellation Motif" Accompaniment Excerpt

"Crux" Star Music
To listen, go to supplemental file:
Constellation Onomatopoeia 2, Crux.mp3

The star themes in "Pleiades" do not particularly resemble any actual space sounds, neither is there any intentional or perceived sound imitation.

The "Orion Nebula Theme" has a marked resemblance to one of the more active space emissions. In addition to creating the mostly "nebulous" visual relationship, the theme in Figure 31 sounds quite similar to the radio wave and other emissions' sounds[65] produced by the pulsar[66] located in the Crab Nebula.[67]These similarities include the texture, rhythm, a somewhat more indeterminate lower melodic line (See clarinet part, Figure 31.), and tempo. Unfortunately, from the "compose-from-the-universe" point of view, the Orion Nebula is not the source of this

65.. ganimenez, "The Crab Pulsar (PSR B0531+21)," http://www.youtube.com/watch?v=wJAuQVhoNkY&feature=feedrec_grec_index.Accessed 9/25/2011

66. NASA, "Crab Nebula," Hubble Site, http://hubblesite.org/newscenter/archive/releases/2002/24/text/. Accessed 9/25/2011.

67. The easiest way to listen to the recording of the real space emissions is to click on the following link: http://www.youtube.com/watch?v=wJAuQVhoNkY&feature=feedrec_grec_index.

remarkable space music.

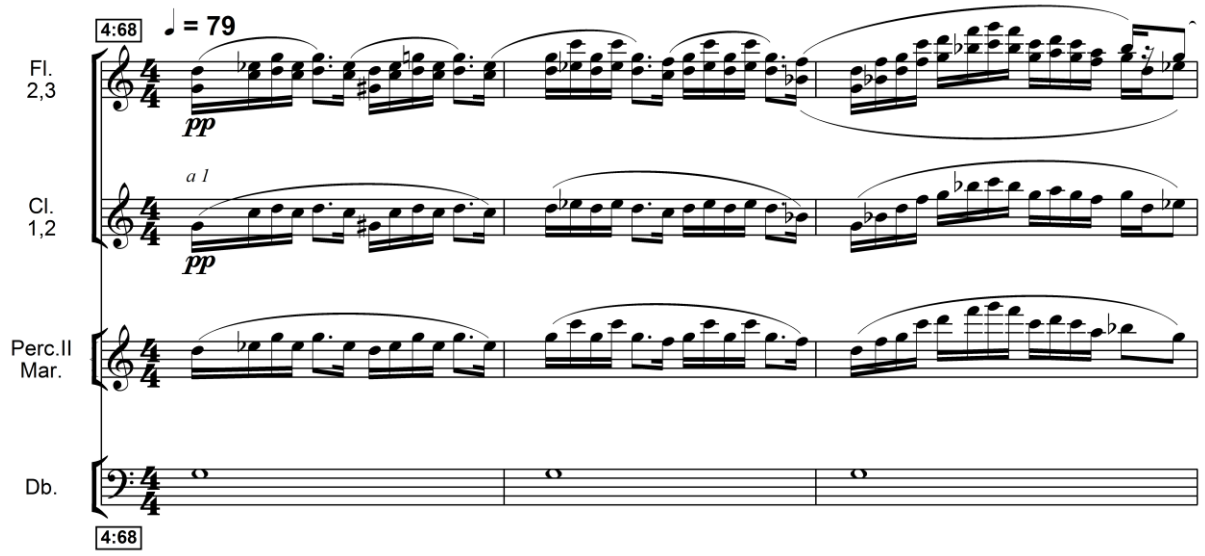

Figure 31: " Orion Nebula Theme" Excerpt (concert pitch)

"Orion" Star Music
To listen, go to supplemental file:
Constellation Onomatopoeia 3 Orion.mp3

Non-Pictorial Mood-Creating Techniques

Historical Use of Non-Pictorial Mood-Creating Techniques

The simple explanation for mood-creation technique is the one that is given to children in their music classes. Music in major modes sounds "happy;" minor modes sound "sad." The expanded lexicon of techniques is much richer. Harmony, melody, texture, tessitura, rhythm, and form, have all been used to create moods. The music of Bach is an example of harmonic mood creation. When one considers the music of Johann Sebastian Bach, the first thoughts are usually about the tempered scale, counterpoint, invention, and mathematical precision. The use of tone-painting and text-painting to describe and evoke the emotions suggested by his lyrics would tend to be a secondary consideration. However, David Schulenberg points out that Bach often uses harmonic changes to create mood and possibly theological allegory, even though he contends

that some of those instances may be vague or superficial. [68] He continues:

> Less equivocal are the changes of tonal direction that occur, for example, at the centers of Cantatas 121 and 91. That in Cantata 91 remains a local turn to the minor mode, elicited by the word Jammerthal ("vale of tears"). But Cantata 121 is built around a pair of arias in B minor and C major, respectively, mediated by a recitative that ends with a striking enharmonic modulation on the word kehren (to turn). Here a distinctive element in the tonal plan of the composition is surely guided by textual considerations—although it remains to be seen whether these can properly be termed 'theological.'[69]

Mood can also be created by texture. Debussy used dramatic changes in orchestral texture, along with tempo and rhythm, to create his description of the "Dialogue between the Wind and the Sea" from *La Mer*.[70] Similar types of textural change can be found in "Samuel Goldenberg and Schmuyle" from Pictures at an Exhibition.[71] Even in the piano version, the extent of texture change is obvious.

Tessitura is another mood-creating technique. The idea of depths and ominous surroundings—such as catacombs—can be conveyed by low pitch groupings. This common practice is demonstrated by Ottorino Respighi's "Pine Trees Near a Catacomb" from *The Pines of Rome*.[72] Jean Sibelius also suggested a subterranean Tuonela (Finnish for "Hades) for *The*

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68. Schulenberg, "'Musical Allegory' Reconsidered: Representation and Imagination in the Baroque," 219-20.

69. Ibid.

70. Debussy, *La Mer*: 81, 89, 97.

71. Moussorgsky, *Pictures at an Exhibition*: 28-30.

72 . Ottorino Respighi, *Pini di Roma* (Milano: Ricordi, 1925). vi, 30.

Swan of Tuonela with low-pitched introductions and themes.[73] Moussorgsky also suggested low altitude with low pitches in "The Catacombs" from Pictures at an Exhibition.[74] Several techniques were used to create the ominous effects in Moussorgsky's *Night on Bald Mountain*. This fright evoking combination can be heard in both low and high tessitura melodies, jagged rhythms, dissonant harmonies, and harsh, jarring orchestrations.[75]

Mood-Creating Techniques in *Constellation Suite*

Mood-Creating Techniques in Andromeda

In Movement One of *Constellation Suite* there are several basic techniques employed to create the moods and describe the galaxy and tell the legend of Andromeda. The beginning of the movement and of the symphony uses fortissisimo tutti orchestration with a very large pitch range and significant dissonance[76] to create the impression of great size. This use of range, dynamic level, and harmony, along with the additive extensions of the introduction are intended to create the impression of awe and fear—awe at the size of the galaxy and universe, and fear that would have been felt by the Andromeda of legend before she was rescued by Perseus. The calm pianissimo of the "Andromeda Constellation Theme" suggests the relief created by the rescue of Andromeda.[77] These programmatic motifs and themes do not follow the sequence of

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73 . Jean Sibelius, "The Swan of Tuonela," in *Famous Symphonic Poems in Score*, ed. Albert E. Weir (New York: Bonanza Books, 1938).

74. Moussorgsky, *Pictures at an Exhibition*.

75 . Modeste Moussorgsky and orchestrated by Nicolay Rimsky-Korsakov, *A Night on Bald Mountain* (Mineola, New York: Dover, 1999). iii.

76. Paul Hindemith, *The Craft of Musical Composition, Book I*, trans. Arthur Mendel, 4 ed. (Mainz: Schott, 1970). 224-5.

77. Davis, *Mythology: Everything You Need to Know about the Greatest Stories in Human History But Never Learned.*: 221.

the legend; instead, the music acquires its mood from elements of the story. It then proceeds in a manner more consistent with abstract classical form.

Mood-Creating Techniques in Crux

The *Audubon Society Field Guide to the Night Sky* claims Crux (the Southern Cross) is the smallest constellation in the sky. It does not, however, list any legend—Greek, ancient, or any other description— for this constellation like it does for all the rest of the constellations in this star-gazer's manual. Rather than ancient myths, the description of Crux alludes to real events in southern oceans.

> [Crux's] very name conjures up images of exotic locales, and the phrase 'under the Southern Cross' brings to mind the romance of the tropics. . . Several hundred years ago Crux helped guide early European explorers of the Southern Hemisphere, for the upright of the cross points to the south celestial pole.[78]

In this instance, the moods created by the second movement, "Crux," are intended to coincide with moods of Magellan's stormy voyage. Chromaticism and Hindemith class III and IV dissonances[79] coupled with a fast tempo create an almost frantic sense of constant fear, in "Crux's" Theme A. The dissonance level and rising chords, coupled with rapid texture changes evoke a rising tension that suddenly changes type but doesn't decrease. Again, this section suggests more fear—this fear is due to changeable weather and currents. At the rondo's C Theme, the mood changes drastically. This mood is created by changes in tempo, pitch, orchestration, and texture. The tempo slows almost to a static state; the texture thins dramatically and is orchestrated with muted strings and glockenspiel, the harmony tends to stay dissonant but

78. Chartrand and Tirion, *National Audubon Society Field Guide to the Night Sky*: 499.

79. Hindemith, *The Craft of Musical Composition, Book I*: 224-5.

the rhythm is calm instead of agitated. The mood change depicts the sailors' relief at being able to see the Southern Cross—a relief that could be considered as both navigational and religious in origin. After the Crux Constellation Theme, the movement's program actually coincides with the musical form. After all, even after one reaches the Cape of Good Hope or the Magellan Straits, the voyage still continues to the home port.

Mood-Creating Techniques in "Pleiades"

The beginning of Pleiades uses consonant harmonies and spare but overlapping syncopated marimba and glockenspiel textures to evoke a wistful longing among the Seven Sisters. These themes are used in several sets of similar-instrument duets that are created from alternating notes of the "Pleiades Star Motif," and the harmonic relationships are mostly based on thirds and sixths. At the second section, measure 3:13, the downward trajectory of a melodic duet creates a sense of the Pleiades sisters' grief. (Figure 32)

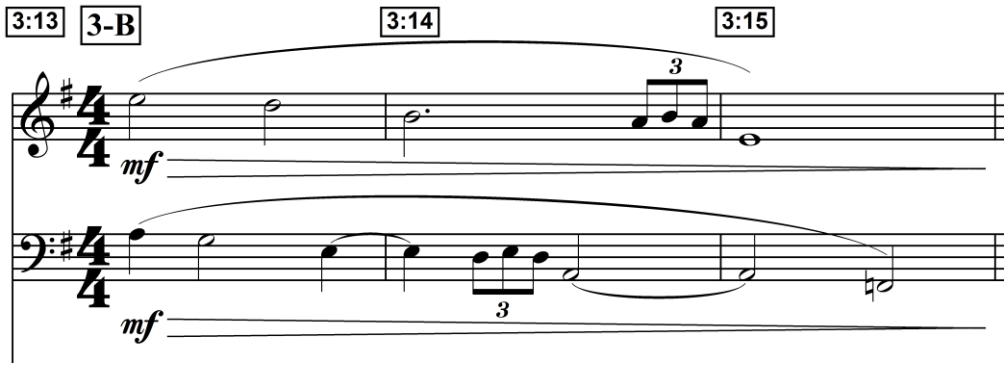

Figure 32: " Pleiades' Grief Theme"

This mood of grief changes to hope at measure 3:21, where the legend program describes sisters becoming doves and giving wings to their hope. The tempo is faster, and the melody wings ever upward over the constant support of the Pleiades' father, Atlas. (Figure 33)

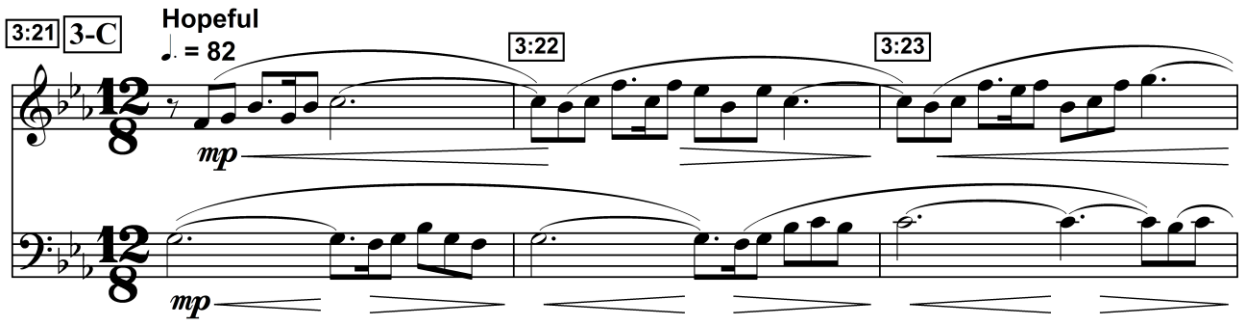

Figure 33: " Doves' Flight Theme" and " Atlas Theme"

At measure 3:28, the motif with downward movement returns, and the mood of grief returns with it, but it doesn't stay long. The grief morphs into the resolute determination mood which begins at measure 3:41. By measure 3:57, (Figure 34) a mood of determination is created by a homophonous texture that has changed out of the 7/4 meter into a 3/4 meter (measure 3:52) chordal section underscored by block chords that include both tertian and quartal harmonies.

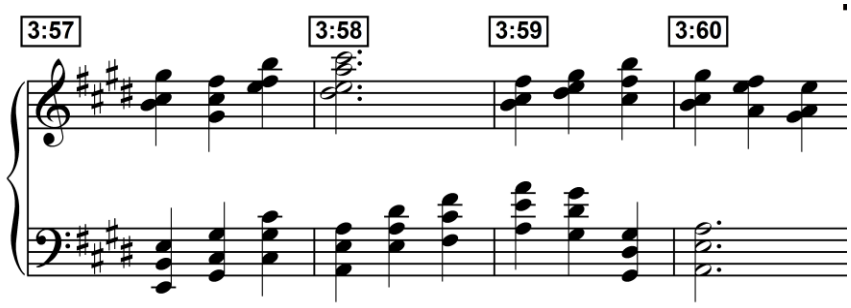

Figure 34: " Resolute Theme"

The mood of tears returns at measures 3:61-64 with more consonant duets in downward trajectory, and then it moves toward more dovelike movement flying upward at measure 3:65. The moment of hope leading into the final cadence (Mm. 3:65.7- end), however, is incomplete. An incomplete I-IV cadence in E major (Mm. 3:65.7-3:66 to end) projects the sense that fulfilled hopes remain an element of the future.

Mood-Creating Techniques in “Orion”

A heraldic motif sets the stage for “Orion.” The hunter’s horn calls—evoking the Pleiades theme—are created in dissonant quartal chords with added minor seconds. This dissonance contributes to the sense of grandeur and the announcement that the legendary Orion is a person to be feared. The grandiose mood is conveyed by the theme’s fanfare-like rhythm, the harmony, and the sections of full brass orchestration (Figure 35).

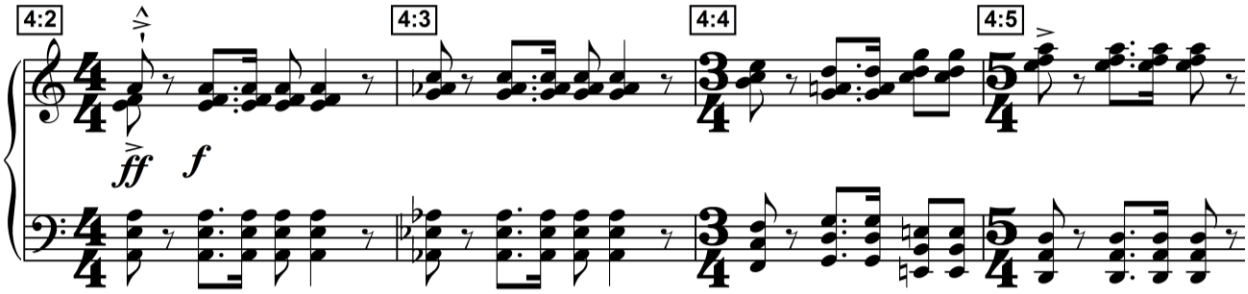

Figure 35: " Hunter's Fanfare"

At measure 4:29, the mood changes from grandiose hunter to ominous stalker and is suggested by a bass line melody created from tritones and minor seconds, followed by the ominous tread of Orion the stalker of Pleiades sisters. The ominous harmonic effect continues until the "Orion Constellation Motif" at measure 4:63 and the Orion Nebula theme in measure 4:65. Beginning at measure 4:63 the rhythm is calm, but the section still has its dissonance. Orion's shoulders, played by the glockenspiel, are both sharp dissonances—denoting enough strength to create fear. "Orion's Sword Chord," played by the horns in measure 4:64 (Figure 36) is an even sharper dissonance (Hindemith class IV chord with both a tritone and a minor second).[80]

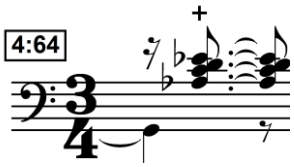

Figure 36: "Orion's Sword Chord"

Again, this dissonance creates a feeling of something to be feared. The "Nebula Motif" in measure 4:68 also creates a sense of calm suggested by the pianissimo dynamic, muffled harmonies. and reverberation of the marimba. The sixteenth-notes, considered on their own, would seem fast and agitated. However, when these sixteenth notes are analyzed as an aggregate harmony, they projects the mood of strength at rest. Like "Andromeda," the sequence of "Orion's" programmatic motifs does not coincide with the sequence of Orion's legend. "Orion's" themes and motifs are instead used according to a musical arch form.

80. Ibid.

Chapter Three, Non-Programmatic Compositional Techniques

Inter-Movement Cyclical Use of Motifs and Themes

Historical Use of Cyclical Relationships

Mozart, in the final movement of his Symphony No. 41 ("The Jupiter"), created *the* definitive example of cyclical composition. [81] The "Jupiter Symphony" has been the subject analyses that demonstrate Mozart still ranks in the superlative master-of-synthesis category.[82] Donald Tovey's analysis demonstrates just a few of the themes and motifs that are synthesized in the finale.[83]

Franz Liszt is considered to have made significant contributions to cyclical composition, even though, in light of Mozart's celebrated use of cyclical composition in the Jupiter Symphony, Liszt's innovations were not really completely new. However, his symphonic poems take themes and rearrange them into new orders and make considerable use of "thematic metamorphosis."[84]

In more recent history, Roy Harris in his Symphony No. 3[85] used cyclical compositional relationships. Dan Stehman observes, "[The symphony contains] recurring melodic ideas that help create unity. . . The fundamental formal principle in Harris's music is autogenesis, by which a melody is generated by a seed motif out of which the first phrase grows, each succeeding phrase either germinating in like fashion or launching itself from a figure in the last bars of the

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81. Simon P. Keefe, "The 'Jupiter' Symphony in C, K. 551: New Perspectives on the Dramatic Finale and Its Stylistic Significance in Mozart's Orchestral Oeuvre," in *Acta Musicologica* (2003), 17-43.

82. Hugo Leichtentritt, "Wolfgang Amadeus Mozart," in *Symphony in C Major*, *(Jupiter)* (London: Oxford University Press, 1939), xvii.

83. Donald Francis Tovey, "*Symphony in C Major*, (Jupiter), K. 551," in *Essays in Musical Analysis* (London: Oxford University Press, 1968), 195-98.

84.Alan Walker and others, "Franz Liszt," in *Oxford Music Online*.

85. Roy Harris, *Third Symphony* (New York: Schirmer, 1940).

preceding phrase. ” [86]

Cyclical Use of Motifs and Themes in *Constellation Suite*

There are several cyclical uses of theme and motif in *Constellation Suite*. These themes and motifs are found in some capacity in the symphony's finale. The first double-use motif is "Orion's Belt Motif" from "Orion." This motif actually appears first as the introductory repetition of three chords in "Andromeda." These three chords are repeated several times in conjunction with the transitional "Andromeda Theme" and their significance as "Orion's Belt Motif" is not apparent until the "Orion Constellation Motif" appears in its original, unembellished form in the final movement, "Orion." Even though the modified statement of the motif appears first in the performance sequence of movements, this reference was planned as a means to create an obvious relationship between the first and final movements. The chromatic movement in measures 1:8-1:11 of "Andromeda" is a cyclical anticipation of chromaticism in measures 4:1 and 4:5 of "Orion" (Figure 37). Related chromaticism also appears in the contrapuntal "Currents Theme" in Crux (Figure 42).

The remaining cyclical reiterations of motifs and themes appear in their more natural, consecutive orders. Original themes are created in the first three movements and are then restated in modified forms in the final movement, "Orion."

A drum roll (See Appendix C, M. 1:1-3.) accompanies the introductory "Orion's Belt Motif" chords in "Andromeda;" another drum roll creates the very first notes in "Orion" (See Appendix C, M. 4:1.), thus creating an obvious similarity between the first and last movements. In the same first measure of Orion, the quintuplet sixteenth chromatic introductory gesture, played by the woodwinds, resembles part of the "Currents Theme" used in "Crux" (Figure 37).

86. Dan Stehman, "Roy Harris," in *Oxford Music Online*.

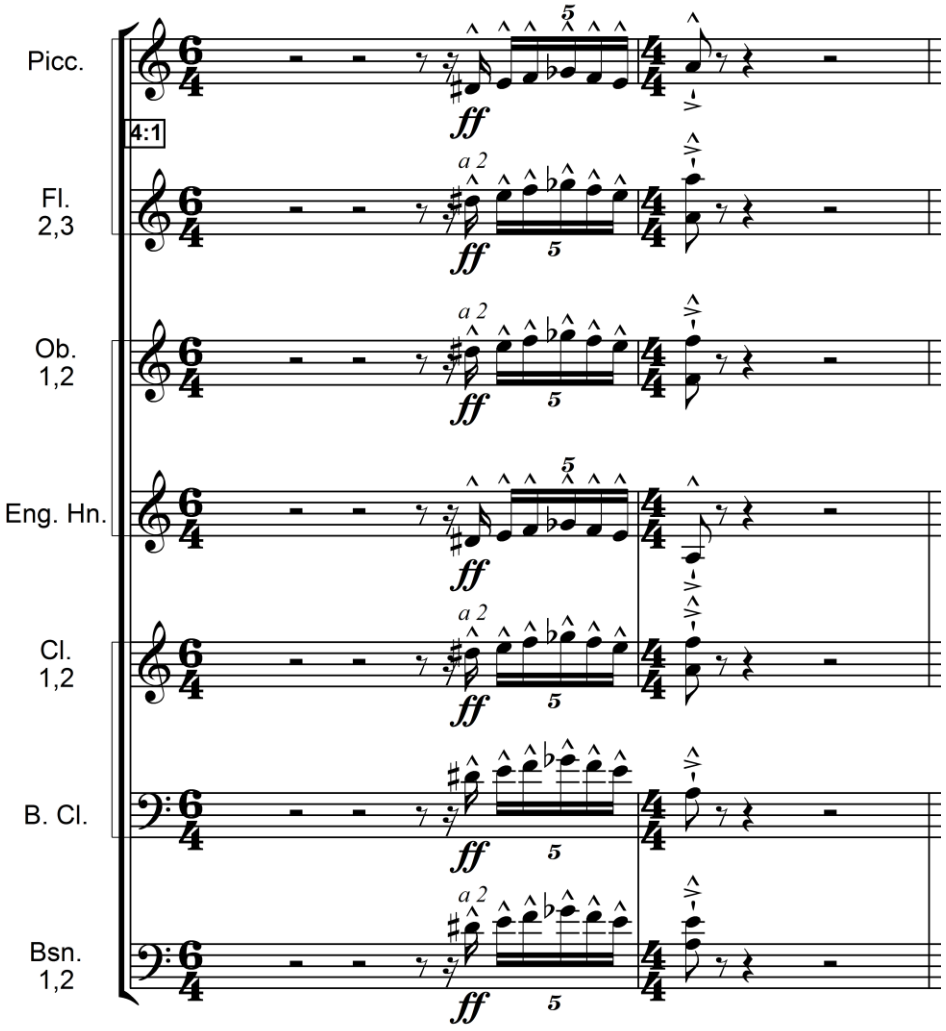


Figure 37: " Currents Theme" Recall in " Orion," measure 1

"Orion's" first theme gathers part of its melody and harmony from a compression of the "Pleiades Star Motif" (Figure 38, Figure 39). Instead of playing the seven notes of this motif in order, all odd-numbered notes become the melody, and each even-numbered note creates harmony with the "Pleiades Star Motif" note that had preceded it. Thus, with added harmonies

and rhythmic variation, the ending of the “Hunter’s Fanfare Theme” in “Orion” is a variation of the “Pleiades Star Motif.”

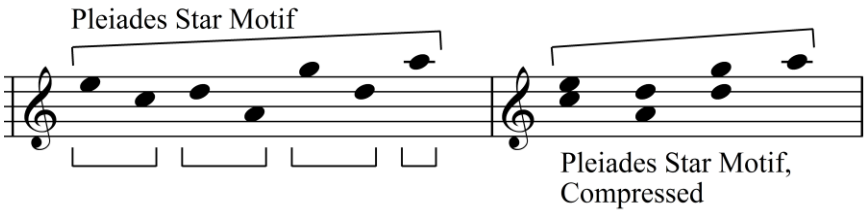


Figure 38: Relationship to " Pleiades Star Motif"

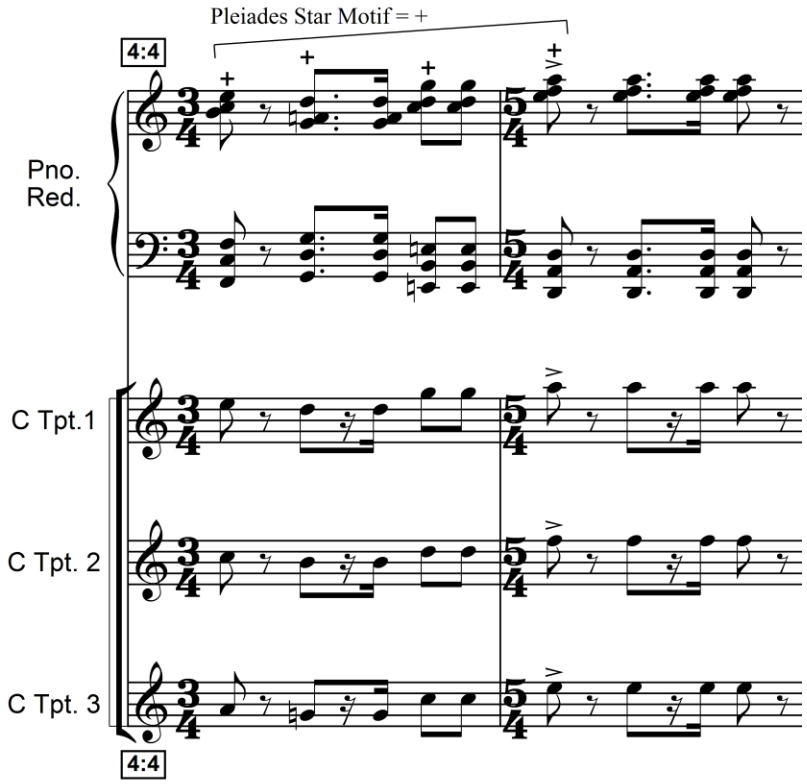


Figure 39: “Hunter's Fanfare Theme” (ending)

Several of the transitional phrases used within “Orion’s” first theme are direct references to the “Andromeda Theme.” They are used in both the ascending passage in the bass clef and a descending modified inversion in Figure 40. While these are not exact copies of the synthetic scale passage in “Andromeda” (Figure 41), they are similar enough to evoke aural memory, and reinforce the relationship of the symphony’s first and last movements.

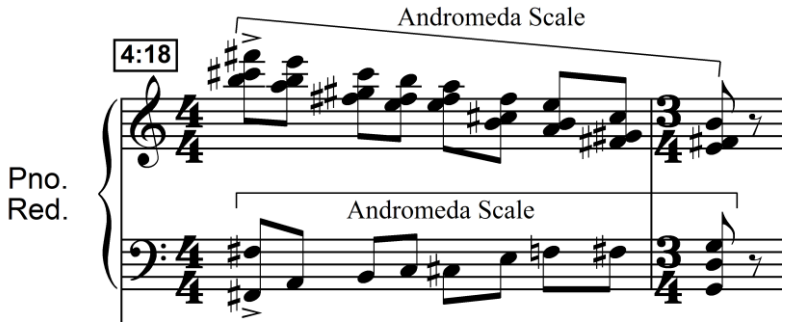


Figure 40: Altered " Andromeda Scales" used in " Orion."

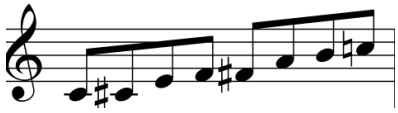


Figure 41: " Andromeda Scale" (original form)

A reiteration of the “Currents Theme” melody from “Crux” (Figure 42) appears in an expanded scale form (whole steps instead of half steps) [87] with added chords (Figure 43). This harmony evokes both its original appearance in the second movement and the opening gesture of “Orion.” This fragment also shows harmonic similarity to the “Surging Sea Motif” (Figure 44), also from “Crux.” Both passages use quartal chords with major seconds included.

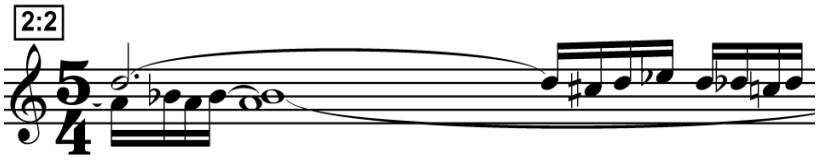


Figure 42: " Currents Theme" (beats 4 and 5)

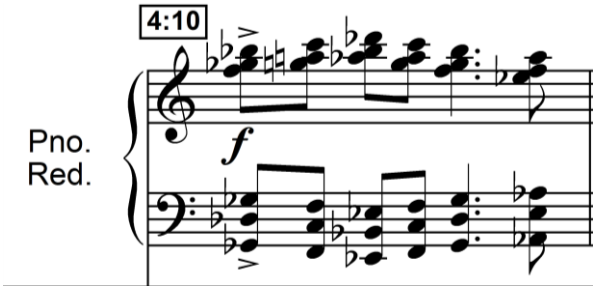


Figure 43: Variation of " Currents Theme"

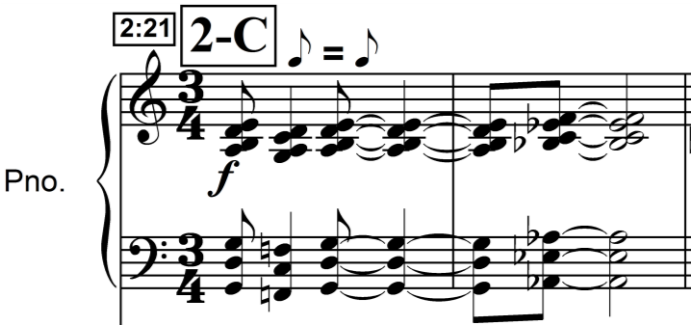


Figure 44: " Surging Sea Motif " from " Crux"

87. Joseph Schillinger, *The Schillinger System of Composition*, 2 vols., vol. 1 (New York: Carl Fischer, 1946). 139.

The second theme in “Orion,” which I have labeled the “Ominous Stalker Theme,” is (Figure 45) partially derived from a permutation of the “Pleiades Star Motif.” It appears as an altered inversion of the ending to the “Hunter’s Fanfare Theme” that is shown in Figure 39. The notes that are inverted from the compression of “Pleiades Star Motif” are marked with a “+” and are bracketed in Figure 45. In this variation, the intervals do not exactly coincide. The fourths become tritones, and the major seconds are now minor seconds, but the contour remains.

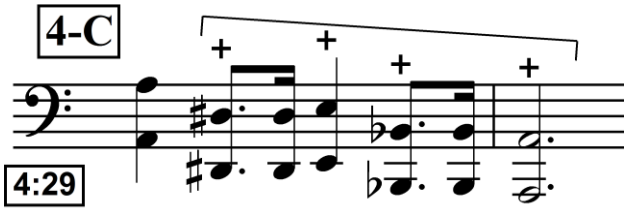


Figure 45: " Ominous Stalker Motif"

The “Galaxy Motif” (Figure 47) from “Andromeda” repeats with only minor rhythmic variation in “Orion’s” second theme (Figure 46, first appearance, measure 4:35-6), and becomes part of the ominous sound of Orion stalking the Seven Sisters of the Pleiades.

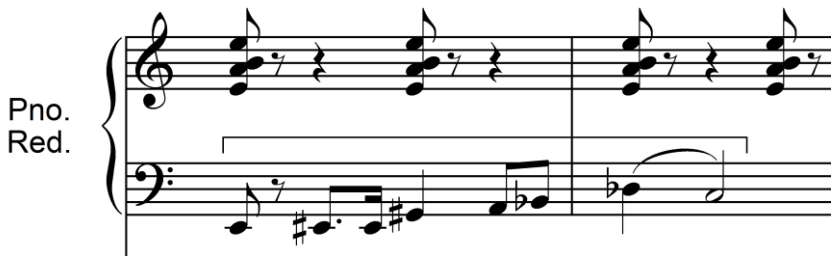


Figure 46: Use of “ Galaxy Motif ” in " Ominous Stalker Theme," (measures 4:35-6)

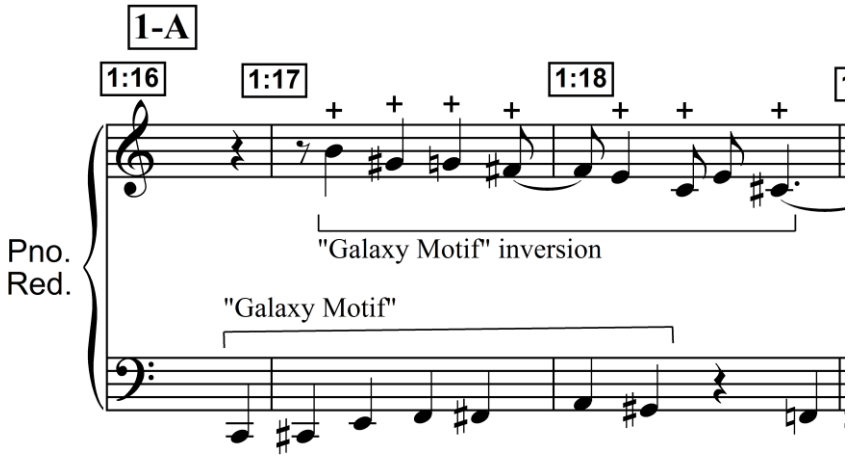


Figure 47: " Galaxy Motif" from “Andromeda” (Comparison)

Formal Analysis of *Constellation Suite*

Form of Movement One, "Andromeda"

As in many symphonies, the first movement "Andromeda" is a sonata. It is, however, a somewhat modified sonata. The following tables outline two possible analyses of the movement. The first form is most like a modified sonata (Table 1). The form of "Andromeda" could also be analyzed as an arch form as graphed in the second form (Table 2). I have chosen to call "Andromeda" a modified sonata rather than a sonata-rondo because the A theme does not repeat either before or after the development. It is less arch form than sonata form because it does contain a central development section, and implies half cadence harmonic relationships with each of the sections' transitions. However, the harmonic relationships could be argued otherwise, since the introduction could be considered a separate theme, and measures 1:17 – 1:29 are derived from successive and cyclically[88] modulating repetitions of the primary motif.

Table 1: Graph of " Andromeda" as Sonata Form

Movement One: "Andromeda" as Sonata Form					
Introduction	**Exposition**		**Development**	**Recapitulation**	**Coda**
	Theme 1	Theme 2	(Themes 1 & 2)	(mostly Theme 1)	(Introduction)
Mm. 1:1-1:16	Mm. 1:17-1:29	Mm. 1:30-1:50	Mm. 1:51-1:65	Mm. 1:66-1:83	Mm.1:84-end
Tonal Center: C – D	Tonal Center, (bass): C – F – Bb – Eb – Ab – Db – G/D	Tonal Center: F/Bb – Eb Transitional	Tonal Center: B – X – G	Tonal Center,(bass): F – Bb – Eb – Ab – C# (Db) – F# – transition X – D	Tonal Center: D – D
Orion Belt Andromeda Scale, Perseus Tr.	Galaxy Motifs	Andromeda Legend M. Andromeda Constellation	Legend, Galaxy, Star Perseus Transition	Galaxy Motifs	Orion Belt

88. Ibid., 363.

Table 2: Graph of " Andromeda" as Sonata-Rondo or Arch Form

Movement One: "Andromeda" as Sonata-Rondo or Arch Form					
A Theme	B Theme	C Theme	Development	B_1 Theme	A_1 Theme
Mm. 1:1-1:16	Mm. 1:17-1:29	Mm. 1:30-1:50	Mm. 1:51-1:65	Mm. 1:66-1:83	Mm.1:84-End
Orion Belt Andromeda Scale, Perseus Tr.	Galaxy Motifs	Andromeda Legend M. Andromeda Constellation	Legend, Galaxy, Star Perseus Transition	Galaxy Motifs	Orion Belt

The introduction to "Andromeda" (Mm 1:1-1:16) begins with a series of dissonant chords and the first statement of a synthetic scale passage that is also extended, modified, or inverted to signal transitions between sonata sections.

Theme One (Mm. 1:17-1:29) is created by modification of the scalar motifs in the introduction. The relationship between the introduction scale passage and the primary motifs is a reason that measures 1:1 – 1:16 can be analyzed as an introduction, rather than a separate theme. The ends of both the introduction and Theme One are signaled by a synthetic scale passage that implies a half cadence relationship. The first scale transition rises, the second transitional scale appears in its inverted form.

Theme Two differs radically from the introduction and Theme One. The rhythm of Theme Two slows, the harmony becomes almost static and the orchestration changes drastically. (See *Constellation Suite* score, measures 1:30, and harmony, melody and rhythm chapters.) Again, the transitional scale signals the end of Theme Two.

The development (Measure 1:51) begins a dialogue between theme one and theme two excerpts. Theme Two's motif appears, rhythmically altered and compressed, and is immediately followed by the Theme One motif. This arrangement of themes is repeated in a transposed form and then leads into the motif played by the glockenspiel over the beginning of the transition.

The downward transitional scale from measures 15 and 16 are repeated a fourth higher and the recapitulation begins on F rather than on C (Measure 1:66, Rehearsal Letter 1:D). Since the recapitulation only includes material from Theme One, the recapitulation must be considered incomplete, and this renders ambiguity to the final decision of what form one should call this movement. However, the subsequent transition into a short coda (Measure 1:84), which partially echoes the introduction but doesn't lengthen into a full theme, suggests that "Andromeda" is probably more sonata than any other traditional form.

Form of Movement Two: "Crux"

The form of "Crux" most closely resembles an extended classical rondo form. Again, this classical form has been modified. The repeated return of the A section is the primary reason for calling this movement a rondo. The most radical divergence from the rondo form is the repetition of Section B, which moves directly into Section C without repeating Section A. The B section also differs from the usual rondo by incorporating a small a-b-a_1 rather than a mono-theme construction. The other modifications of the rondo form are in the third appearance of the B section, which is only a partial statement of the full section. The final section of the rondo is also a divergence from the classical form, in that it restates theme b while combining it with motifs from Section A. Regardless of the apparent inequality of A and B sections on the graph, these sections are approximately equal in time. Section C almost doubles the other sections in time, but only appears once, so the total use of sections is a little more balanced than it appears. "Crux," as a modified rondo, is graphed in the following table (Table 3).

Table 3: Graph of " Crux" as Extended Rondo Form

Movement Two: "Crux" as Extended Rondo Form							
Section A	**Section B**			**Section A $_1$**	**Section B $_1$**		
	Theme a	Theme b	Theme a_1		Theme a_2	Theme b_1	Theme a_3
Rehearsal A 2:1 – 2:10	Rehearsal B 2:11 – 2:20	Rehearsal C 2:21 – 2:28	Rehearsal D 2:29 – 2:38	Rehearsal E 2:39 – 2:49	Rehearsal F 2:50 – 2:59	Rehearsal G 2:60 – 2:67	Rehearsal H 2:68 – 2:77
Tonality: D – E	Tonality: C	Tonality: G – C	Tonality: Eb	Tonality: G – A – transition	Tonality: A	Tonality: E – A	Tonality: C
Currents	Rising Storm	Surging Sea	Rising Storm	Currents	Rising Storm	Surging Sea	Rising Storm
0:24 min.	0:29 min.			0:25 min.	0:30 min.		

Movement Two: "Crux" as Extended Rondo Form (continued)							
Section C	**Section A $_2$**	**Section B $_2$**			**Section A_3**	**Section B $_3$**	**Comb. AB**
		Theme a_4	Theme b_2	Theme a_5		Theme a_6	Theme b_3+A
Rehearsal I 2:78 – 2:99	Rehearsal J 2:100–2:109	Rehearsal K 2:110-2:115	Rehearsal L 2:116 –2:119	Rehearsal M 2:120–2:125	Rehearsal N 2:126–2:133	Rehearsal O 2:134–2:139	Rehearsal P 2:140 – End
Tonality: Eb – D – G – A	Tonality: F – G	Tonality: Eb	Tonality: Bb – Eb	Tonality: Gb	Tonality: Bb – C	Tonality: C- G# – D	Tonality: Bb – D
Crux Constellation	Currents	Rising Storm	Surging Sea	Rising Storm	Currents	Rising Storm	Currents Surging Sea
0:47 min.	0:21 min.	0:16 min.			0:17 min.	0:05 min.	0:18 min.

All "A" sections are based on layered fugal chromatic passages supported by dissonant chords. These chords are created by cadences of each of the melodic phrases. Short anticipations of "Theme b" type chords are incorporated at measures 2:4 and 2:9, but these phrases seem too brief to be considered separate themes. "Section B" is created by a short set of themes in a-b-a_1 form that almost balances "Section A" in time. Tonal center relationships between sections remain mostly constant. All the "Section A" key structures begin with one tonality and modulate

up a major second, D-E, G-A, F-G, Bb-C. The two “Section B” tonalities start in tonic, move to dominant and back to tonic in “Theme b,” and then end a minor third up in “Theme a_1.” Section B_3, and Combined “Section AB” vary from the other sections' tonal foundations.

Form of Movement Three: "Pleiades:"

Movement Three, "Pleiades" is the "slow movement" in *Constellation Suite*, and is in a modified da capo form (Table 4). Similar to many other symphonies' slow movements, "Pleiades" utilizes a more consonant harmonic and more lyrical melodic vocabulary than the other three movements. It also differs from the rest of *Constellation Suite* in using the slow theme at the beginning of the movement and the beginning of the da capo rather than as a basis for one of the center sections. "Pleiades" could also be analyzed as an arch form (Table 5) with a second "A" section at the end. However, the phrase that might have been a Section B restatement is only three measures long. Therefore, "Pleiades" is more like a da capo form than an arch form.

Table 4: Graph of " Pleiades" as Da Capo Form

Movement Two: "Pleiades" as Da Capo Form						
A	**B**	**C**		**A-1**	**A-2**	**Coda (B)**
3-A 3:1 – 3:12	3-B 3:13 – 3:20	3-C 3:21-3:37	3-D **or** 3:38 – 3:40 B-1 motif	3-E 3:41 – 3:52	3-F 3:53 – 3:60	Lacrimoso 3:61 – End
Tonality: Gb, A pentatonic mixolydian	Tonality: G (minor?) mixolydian	Tonality: Bb & B mixolydian? – D/G min.	Tonality: A mixolydian?	Tonality: Db, B	Tonality: E	Tonality: E (ending on IV)
Pleiades Star Motif	Pleiades Grief	Doves' Flight Atlas	Pleiades' Grief transition	Pleiades Star Motif (Resolute)	Resolute	Grief, Doves' Flight

Table 5: Graph of " Pleiades" as Arch Form

Movement Two: "Pleiades" as Arch Form						
A	**B**	**C**	**B-1**	**A-1**	**A-2**	**Coda (B)**
3-A 3:1 – 3:12	3-B 3:13 – 3:20	3-C 3:21	3-D **or** 3:38 – 3:40	3-E 3:41 – 3:52	3-F 3:53 – 3:60	Lacrimoso 3:61 – End
Tonality: Gb, A	Tonality: E (minor?)	Tonality: Bb & B mixolydian? – D/G min.	Tonality: A mixolydian?	Tonality: Db, B	Tonality: E	Tonality: E (ending on IV)
Pleiades Star Motif	Pleiades Grief	Doves' Flight Atlas	Pleiades' Grief transition	Pleiades Star Motif (Resolute)	Resolute	Grief, Doves' Flight

Form of Movement Four: "Orion"

Movement Four, "Orion," is clearly an arch form with well-defined sections and themes. The introduction, both A themes, and both B themes share a similar heraldic character and mildly dissonant harmonies. (Hindemith class III and V harmonies) [89] Theme C is dramatically different from the other themes in that it creates the impression of being slow and consonant even though it incorporates a significant amount of sixteenth note arpeggiation and sharper dissonances (Hindemith class III and IV harmonies) than in the other sections.

Table 6: Graph of " Orion," Arch Form

Movement Four: "Orion"					
Theme A		**Theme B**	**Theme C**	**Theme B-1**	**Theme A-1**
Introduction	**Main Theme**				
4-A 4:1 – 4:9	4-B 4:10 – 4:28	4-C 4:29 – 4:62	4-D 4:63 – 4:84	4-E 4:85 – 4:108	4-F 4:109 – 133 (End)
Suggested Tonal Center: A – X – Gb	Suggested Tonal Center: Gb – X – Bb	Suggested Tonal Center: A – D – E – >	Suggested Tonal Center: G – Ab	Suggested Tonal Center: Bb – X – B	Suggested Tonal Center: C – X – Ab
Hunter's Fanfare (Crux Currents) Pleiades Star Andromeda Scale	Hunter's Fanfare	Ominous Stalker Pleiades Inv. Galaxy Motif	Orion Star Motif Sword Chord Orion Nebula	Ominous Stalker Pleiades Inv. Galaxy Motif	Hunter's Fanfare

89. Paul Hindemith, *The Craft of Musical Composition, book 1*, 4th ed. trans. Arthur Mendel (Mainz: Schott, 1970), 224-5.

Conclusion

In light of the historically frequent occurrence of onomatopoeia—the imitation of sounds both natural and human-constructed—as a compositional inclusion, it is evident that onomatopoetic works are not even slightly innovative. Throughout history, the pre-compositional constructs of tone-painting, text-painting, and literal use of pictorial and literal imagery were accepted compositional practices. In addition, paths, types and sounds of movement were used pictorially, rhythmically and onomatopoetically. Finally, the forms, harmonies, motivic development, macro-rhythms, and cyclical relationships that are found in this symphony are all within historically conventional compositional practice. However, pictorial and onomatopoetic use of astronomical imagery and the sounds of radiation as sources of inspiration for *Constellation Suite* are clearly an innovation or an unusual use or extension of current practice. Despite some apparent conventionality, concurring with the sentiment of Harry Partch, "originality . . . is simply inevitable,"[90] *Constellation Suite* remains unique in compositional inspiration, application and effect.

90. Harry Partch, *Genesis of a Music: An Account of a Creative Work, Its Roots and Fulfillments*, 2nd ed. (New York: Da Capo, 1974). xi.

Bibliography

Bibliography

Bergreen, Lawrence. *Over the Edge of the World*. New York: Morrow, 2003.

Bricard, Nancy, ed. *Moussorgsky: Pictures at an Exhibition*. Van Nuys: Alfred, 2002.

Britten, Benjamin. "Four Sea Interlude." London: Boosey and Hawkes, 1945.

Brown, Howard Mayer, and Richard Freedman. "Clément Janequin." In *Oxford Music Online*, 2010.

Casteloes, Luiz E. "Musical Onomatopoeia." *Artefilosofia, Ouro Preto*, no. 3 (July, 2007.

Chartrand, Mark R., and Wil Tirion. *National Audubon Society Field Guide to the Night Sky*. New York: Knopf, 1998.

Davis, Kenneth C. *Mythology: Everything You Need to Know About the Greatest Stories in Human History but Never Learned.*? Don't Know Much About. New York: Harper Collins, 2005.

Debussy, Claude. *La Mer*. New York: Kalmus, 1905.

———. "Nuages." In *Nocturnes*. New York: Kalmus, 1946.

Debussy, Claude, and quoted by Simon Trezise. In *La Mer*. iv-x. New York: Cambridge University Press, 1994.

Frank, Paul L. "Realism and Naturalism in Music." *The Journal of Aesthetics and Art Criticism* 11, no. 1 (September, 1952): 55-60.

ganimenez. "The Crab Pulsar (Psr B0531+21)." http://www.youtube.com/watch?v=wJAuQVhoNkY&feature=feedrec_grec_index.

Gilliam, Brian, and Charles Youmans. "Richard Strauss." In *Oxford Music Online*.

Gillies, Malcome. "Béla Bartók." In *Oxford Music Online*.

Grofé, Ferde. *Grand Canyon Suite*. New York: Robbins, 1932.

Hamilton, Edith. *Mythology*. Boston: Back Bay Publishing, 1969.

Handel, George Frideric. *Messiah*. edited by J. M. Coopersmith New York: Carl Fischer, 1947.

Harris, Roy. *Third Symphony*. New York: Schirmer, 1940.

Hepokosky, James. *Sibelius: Symphony No. 5* New York: Cambridge University Press, 1993.

Hindemith, Paul. *The Craft of Musical Composition, Book I*. Translated by Arthur Mendel. 4 ed. Mainz: Schott, 1970.

Honegger, Arthur. *Mouvement Symphonique "Pacific 231"*. London: E. Eulenburg, 1986.

Keefe, Simon P. "The 'Jupiter' Symphony in C, K. 551: New Perspectives on the Dramatic Finale and Its Stylistic Significance in Mozart's Orchestral Oeuvre." In *Acta Musicologica* 17-43, 2003.

Kerman, Joseph, and others. "Ludwig Van Beethoven." In *Oxford Music Online*.

Lee, Douglas A. *Masterworks of 20th-Century Music: The Modern Repertory of the Symphony*. New York: Routledge, 2002.

Leichtentritt, Hugo. "Wolfgang Amadeus Mozart." In *Symphony in C Major*. (Jupiter), iv-xix. London: Oxford University Press, 1939.

Messiaen, Olivier. *The Technique of My Musical Language*. Translated by John Satterfield. Paris: Alphonse Leduc, 1966.

Moussorgsky, Modeste. *Pictures at an Exhibition*. New York: London, 1980.

———. "Score Notes to Autograph." In *Night on Bald Mountain* Mineola, New York: Dover, 1999.

Moussorgsky, Modeste, and orchestrated by Nicolay Rimsky-Korsakov. *A Night on Bald Mountain*. Mineola, New York: Dover, 1999.

NASA. "Crab Nebula." Hubble Site, http://hubblesite.org/newscenter/archive/releases/2002/24/text/.

———. "Symphonies of the Planets, 1." In *NASA Voyager Recordings*: LASAR Light Digital, 1992.

———. "Voyager Recordings: 'Symphonies of the Planets'." http://www.youtube.com/watch?v=-MmWeZHsQzs.

Newcomb, Anthony. "Those Images That yet Fresh Images Beget." *The Journal of Musicology* 2, no. No. 3 (Summer, 1983): 227-45.

Partch, Harry. *Genesis of a Music: An Account of a Creative Work, Its Roots and Fulfillments*. 2 ed. New York: Da Capo, 1974.

Plavša, Dušan. "Intentionality in Music." In *International Review of the Aesthetics and Sociology of Music*, 65-74: Croatian Musicological Society, 1981.

"Radio Astronomy." NTT Inter Communications Center [ICC], http://www.radio-astronomy.net/.

Respighi, Ottorino. "Composer's Note." In *Fountains of Rome*. Mineola, New York: Dover, 1999.

———. *Pini Di Roma*. Milano: Ricordi, 1925.

Richards, David. "M45-Open Cluster (Pleiades)." http://www.richweb.f9.co.uk/astro/messier_objects.htm#M45.

Robertson, Marta, and Robin Armstrong. *Aaron Copland: A Guide to Research*. New York: Routledge, 2001.

Sadler, Graham, and Thomas Christensen. "Jean-Philippe Rameau." In *Oxford Music Online*.

Saint-Saëns, Camille. *The Carnival of the Animals: Grand Zoological Fantasy for Eleven Players*. Mineola, New York: Dover, 1886.

———. "The Swan." In *Suzuki Cello School Piano Accompaniments*, edited by Shinichi Suzuki, 20-22. Miami: Summy-Birchard, 1905.

Schillinger, Joseph. *The Schillinger System of Composition*. 2 vols. Vol. 1, New York: Carl Fischer, 1946.

Schneider, Wayne. *The Gershwin Style: New Looks at the Music of George Gershwin*. New York: Oxford University Press, 1999.

Schulenberg, David. "'Musical Allegory' Reconsidered: Representation and Imagination in the Baroque." *The Journal of Musicology,* 13, no. 2 (Spring, 1995 Spring, 1995): 203-39.

Sibelius, Jean. "The Swan of Tuonela." In *Famous Symphonic Poems in Score*, edited by Albert E. Weir. New York: Bonanza Books, 1938.

Speck, Christian, and Stanley Sadie. "(Ridolfo) Luigi Boccherini." In *Oxford Music Online*.

Stehman, Dan. "Roy Harris." In *Oxford Music Online*.

Talbot, Michael. "Vivaldi." In *Oxford Music Online*.

Taruskin, Richard. "The Tale of Tsar Saltan." In *Oxford Music Online*.

Tovey, Donald Francis. "*Symphony in C Major*, (Jupiter), K. 551." In *Essays in Musical Analysis*. 195-98. London: Oxford University Press, 1968.

Walker, Alan, and others. "Franz Liszt." In *Oxford Music Online*.

Weber, H. "The Storm." New York: DeLuxe Music, 1908.

Williams, Ralph Vaughan. "Introduction." In *The Lark Ascending: Romance for Violin and Orchestra*. London: Oxford University Press, 1926.

Winter, Robert. "Franz Schubert." In *Oxford Music Online*.

Young, Donna. "Donna Young.Org, Printables and Resources." http://donnayoung.org/science/constellation-orion.htm.

Zeiss, Laurel Elizabeth. "Permeable Boundaries in Mozart's "Don Giovanni"." *Cambridge Opera Journal* 13, no. 2 (2001): 115-39.

Appendix A

Appendix A

Audio Files of Onomatopoeia in *Constellation Suite*

(To listen, go to supplemental files in Trace.)

"Andromeda" Star Music

See Supplemental File:
Constellation Onomatopoeia 1, Andromeda.mp3

"Crux" Star Music

See Supplemental File:
Constellation Onomatopoeia 2, Crux.mp3

"Orion" Star Music

See Supplemental File:
Constellation Onomatopoeia 3 Orion.mp3

Appendix B

Appendix B

Audio Files of *Constellation Suite*

MIDI Rendition, Sibelius Sounds

(To listen, go to supplemental files in Trace.)

Movement 1, "Andromeda"

See Supplemental File:
Constellation 1, Andromeda.mp3

Movement 2, "Crux"

See Supplemental File:
Constellation 2, Crux.mp3

Movement 3, "Pleiades"

See Supplemental File:
Constellation 3, Pleiades.mp3

Movement 4, "Orion"

See Supplemental File:
Constellation 4, Orion.mp3

Appendix C

Appendix C

Constellation Suite, Orchestral Score

Dedicated with love to my family,
**** the stars in my life. ****

Evelyn Pursley-Kopitzke

Constellation Suite

Orchestra

1 Piccolo/Flute
2 Flutes
2 Oboes
1 English Horn
2 Clarinets
1 Bass Clarinet
2 Bassoons
1 Contrabassoon
4 Horns in F
3 Trumpets in C
2 Trombone
1 Bass Trombone
1 Tuba
3 Percussionists
- Timpani (4)
- Snare Drum
- Bass Drum
- Glockenspiel
- Xylophone
- Marimba (5 Octave preferred.)

Violin 1 (Div.)
Violin 2 (Div.)
Viola (Div.)
Cello (Div.)
Double Bass- (C Extension preferred.) (Div.)

Constellation Suite

Andromeda

Evelyn Pursley-Kopitzke

1:1 ♩=70

Piccolo
Piccolo or Flute
Flute 2,3
Oboe
English Horn
Clarinet in B♭
Bass Clarinet in B♭
Bassoon
Contrabassoon
Horn in F I, II
Horn in F III, IV
Trumpet 1, 2 in C
Trumpet 3 in C
Trombone 1, 2
Bass Trombone Tuba
Timpani (4)
Percussion I Snare Drum
Percussion II Bass Drum

All String chords are DIVISI unless otherwise marked.

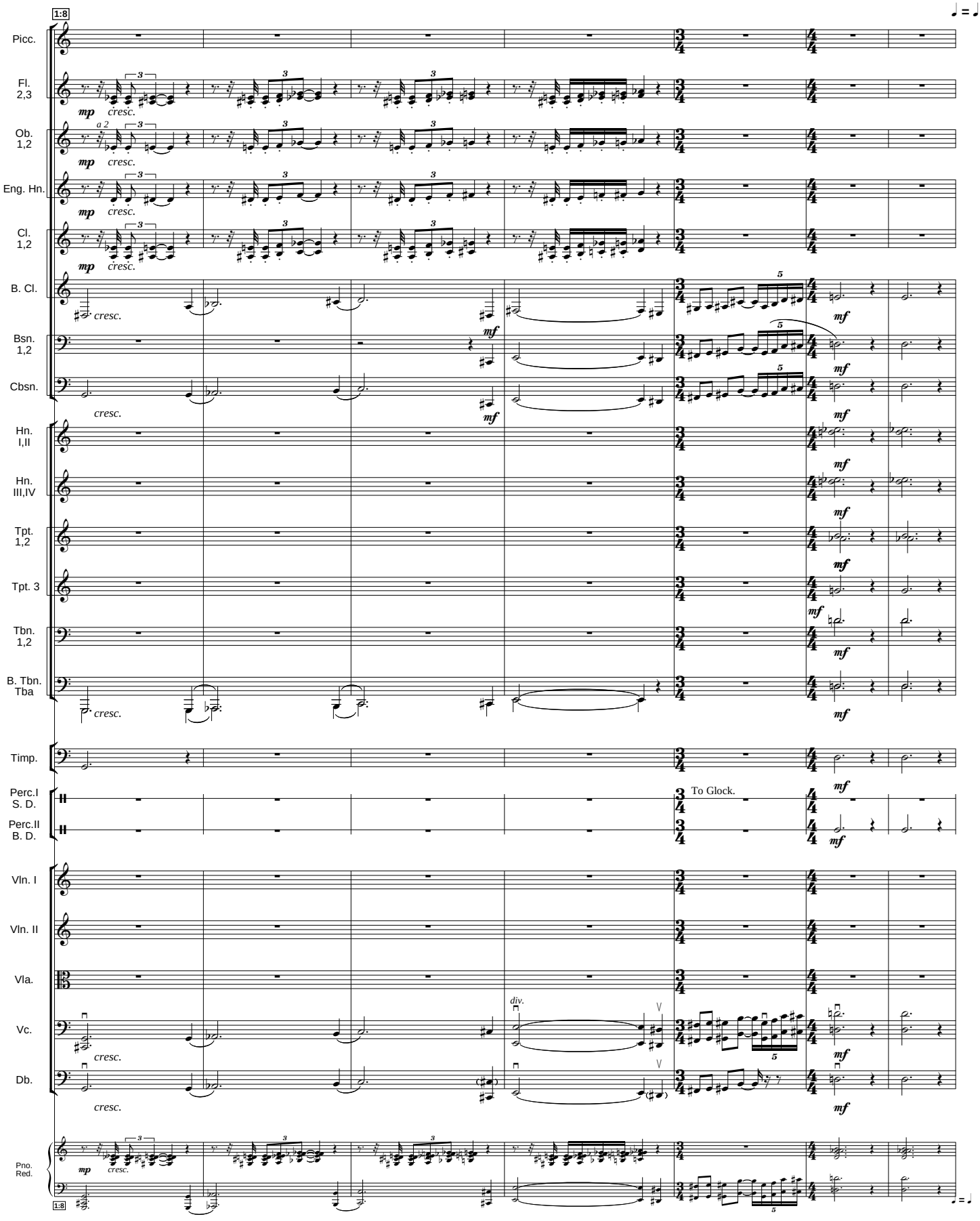
Violin I
Violin II
Viola
Violoncello
Double Bass

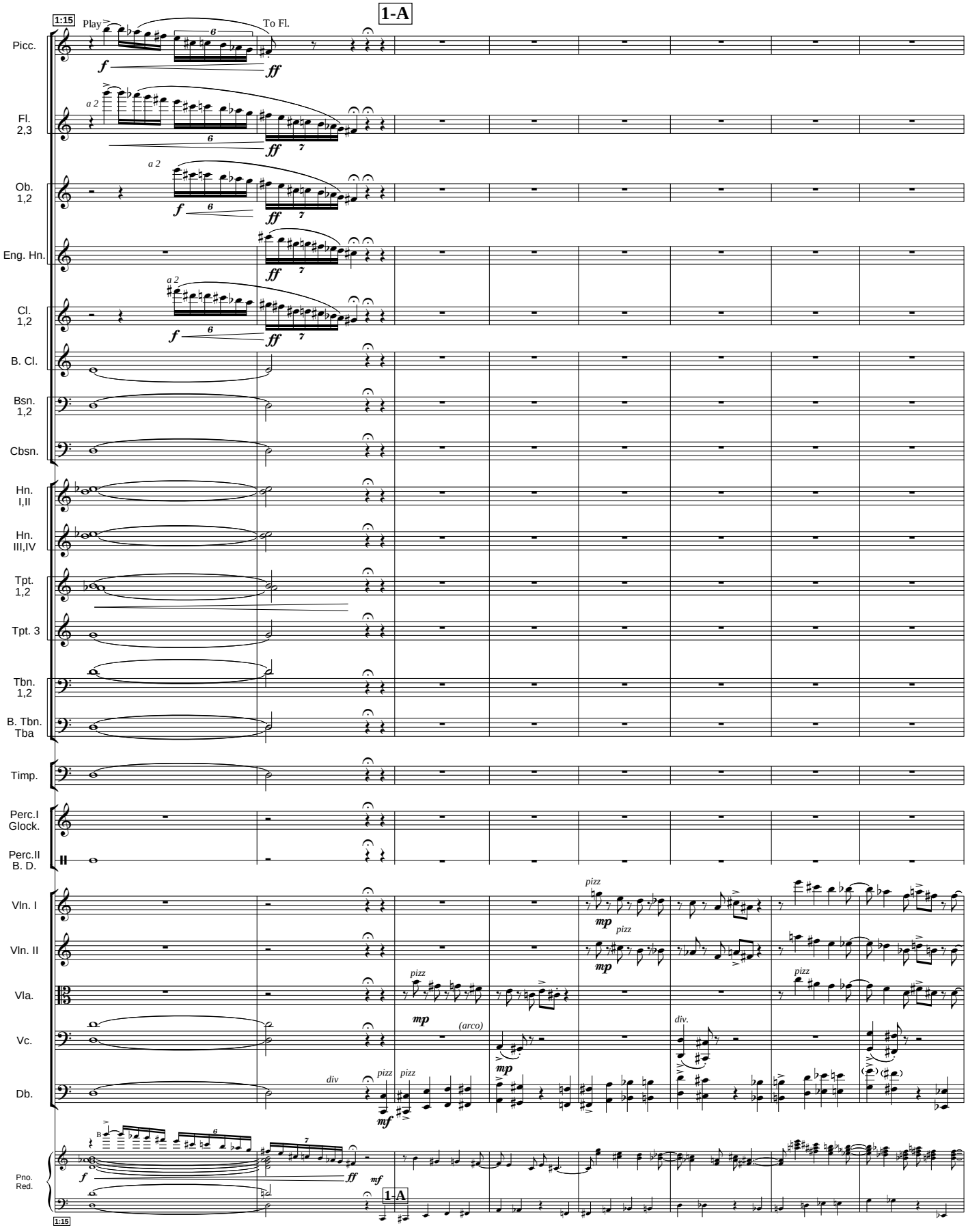
div.

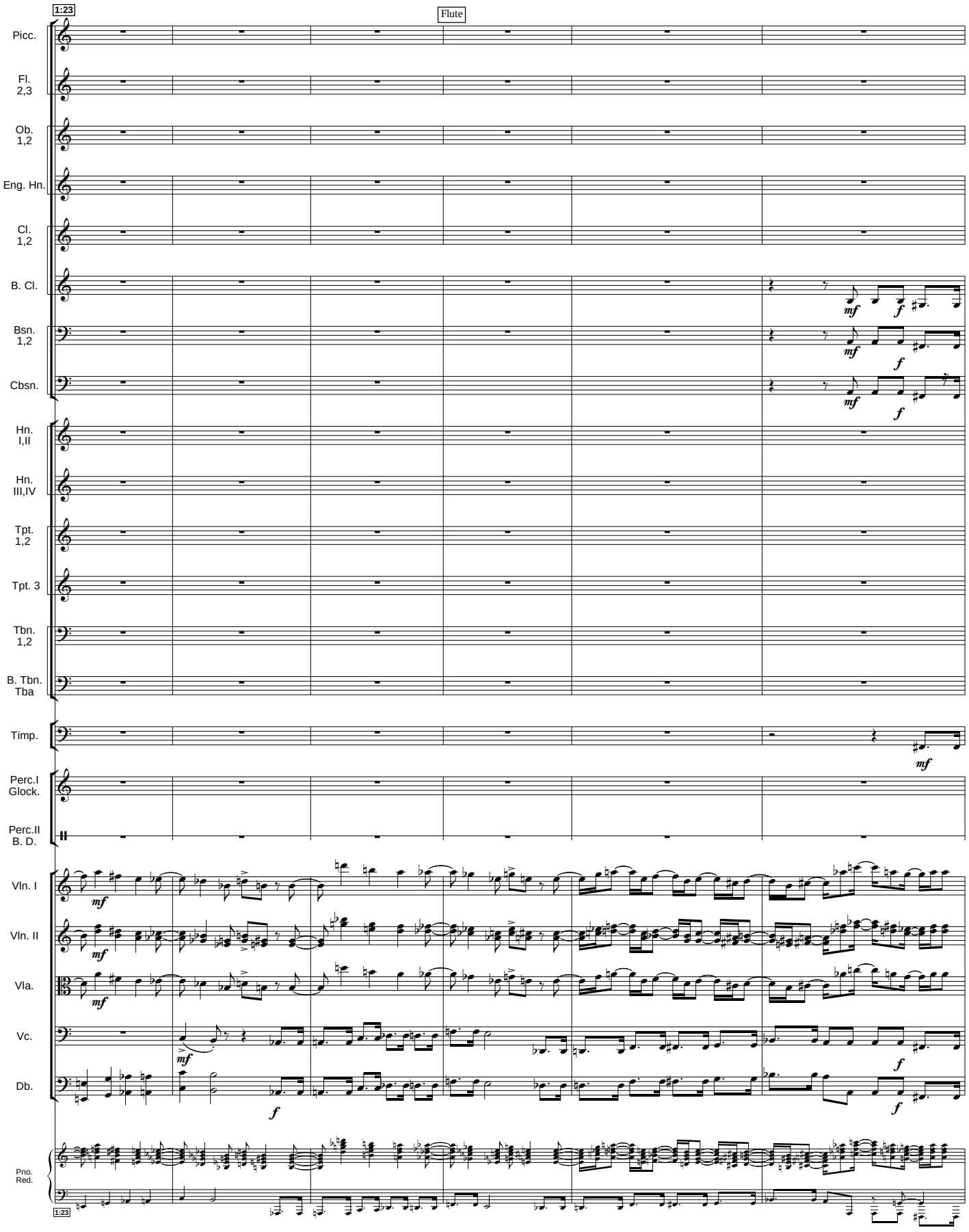
Piano Reduction

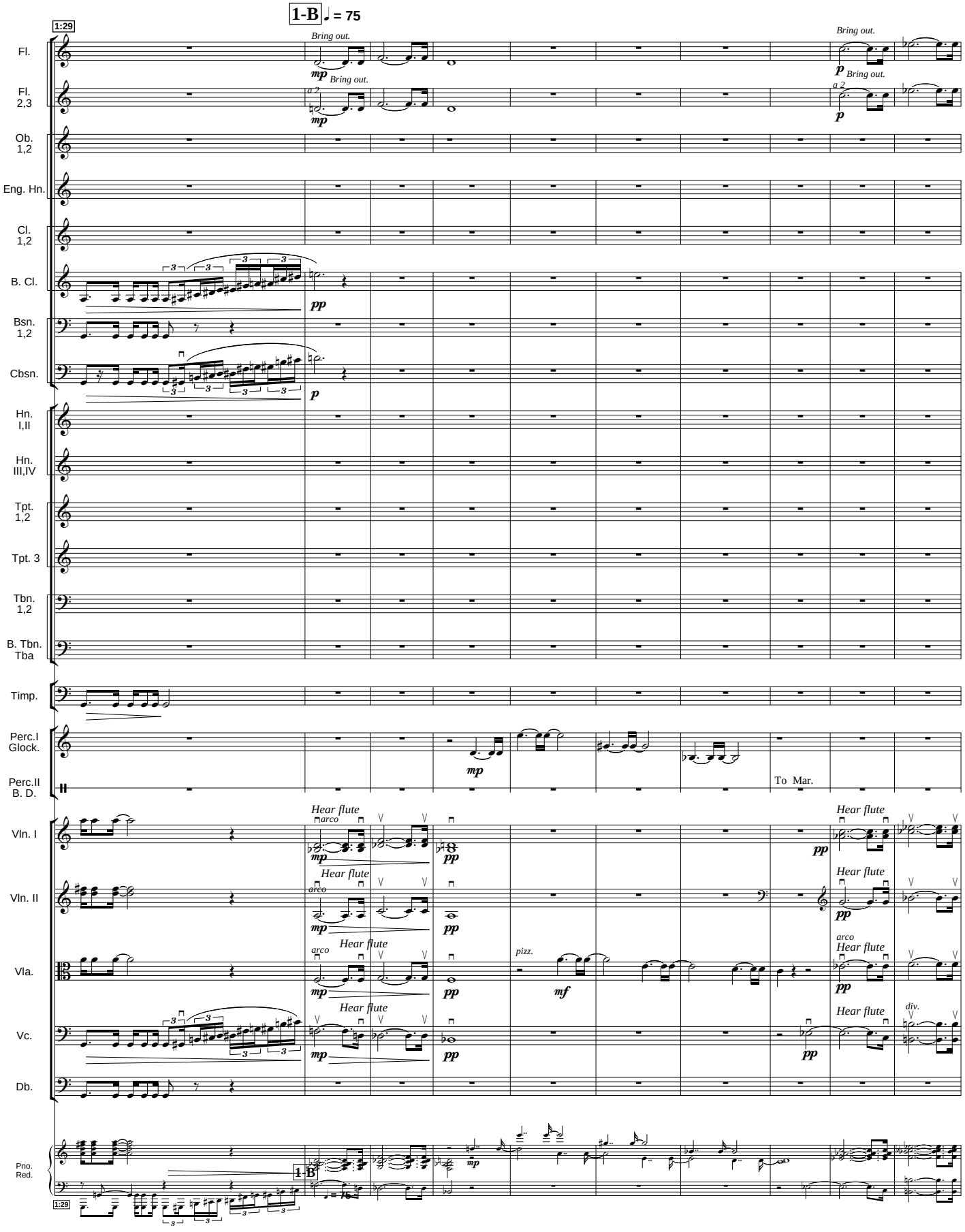
1:1 ♩=70

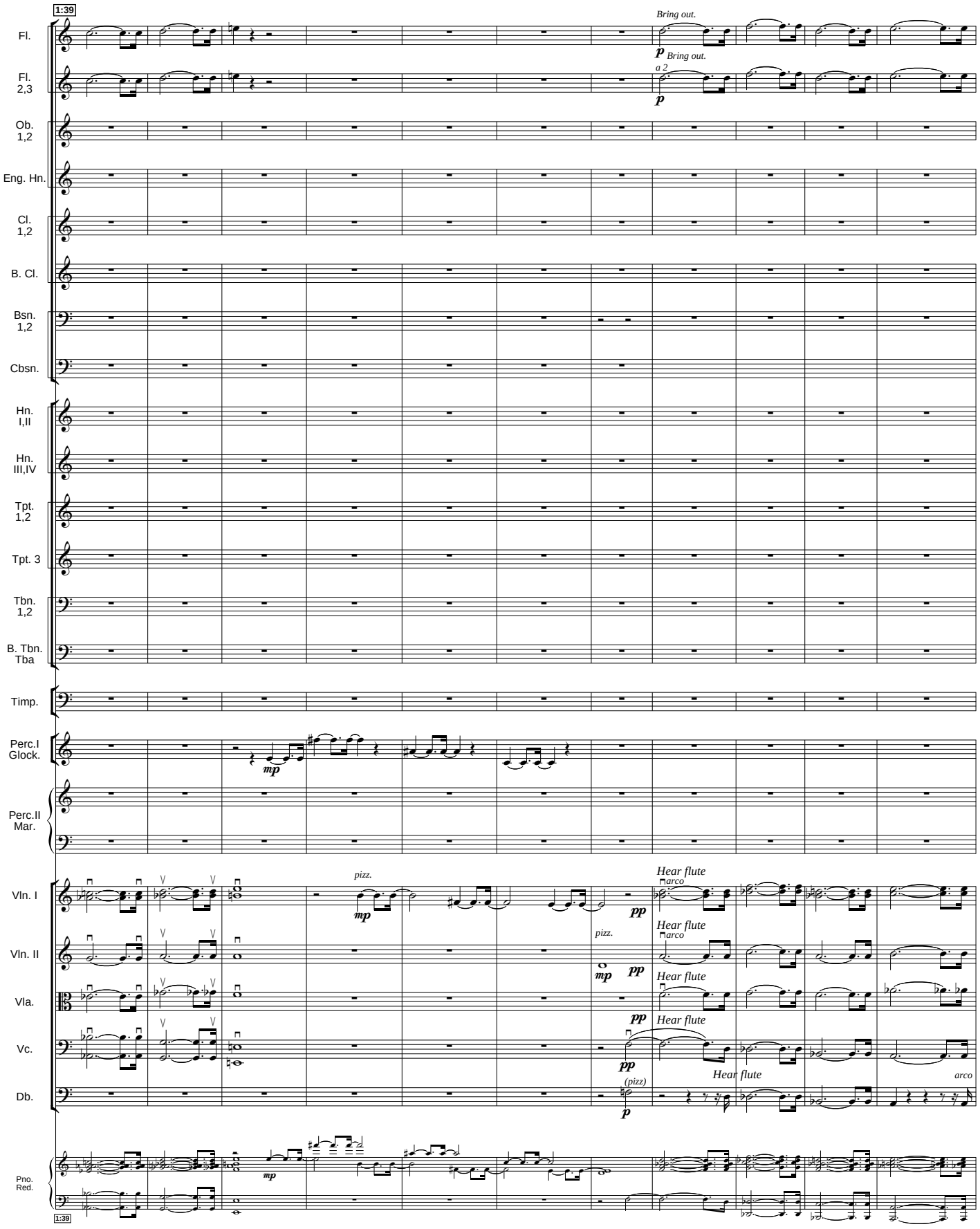
**Cue notes in parentheses are alternate notes if the preferred size/type instrument is unavailable. Full size notes in parentheses are doubled in other instruments and may be omited if necessary.*


1:8
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
To Glock.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
mp
cresc.
mf
a 2
div.


1-A
1:15
Play
To Fl.
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
a 2
pizz
(arco)
div.
div


1:23
Flute
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
mf
f
1:23


1-B ♩ = 75
1:29
Fl.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
Bring out.
a 2
Hear flute
arco
pizz.
To Mar.
div.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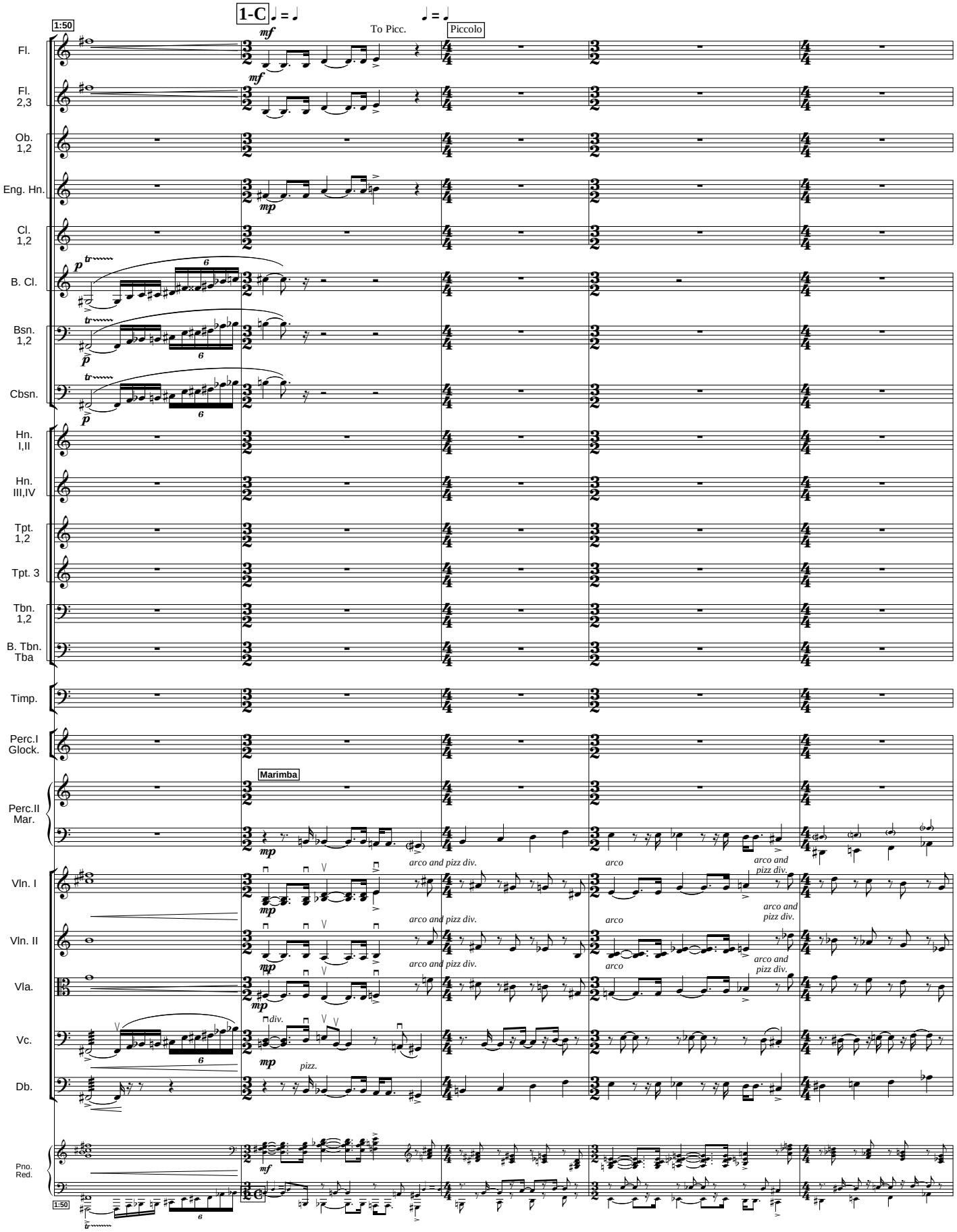
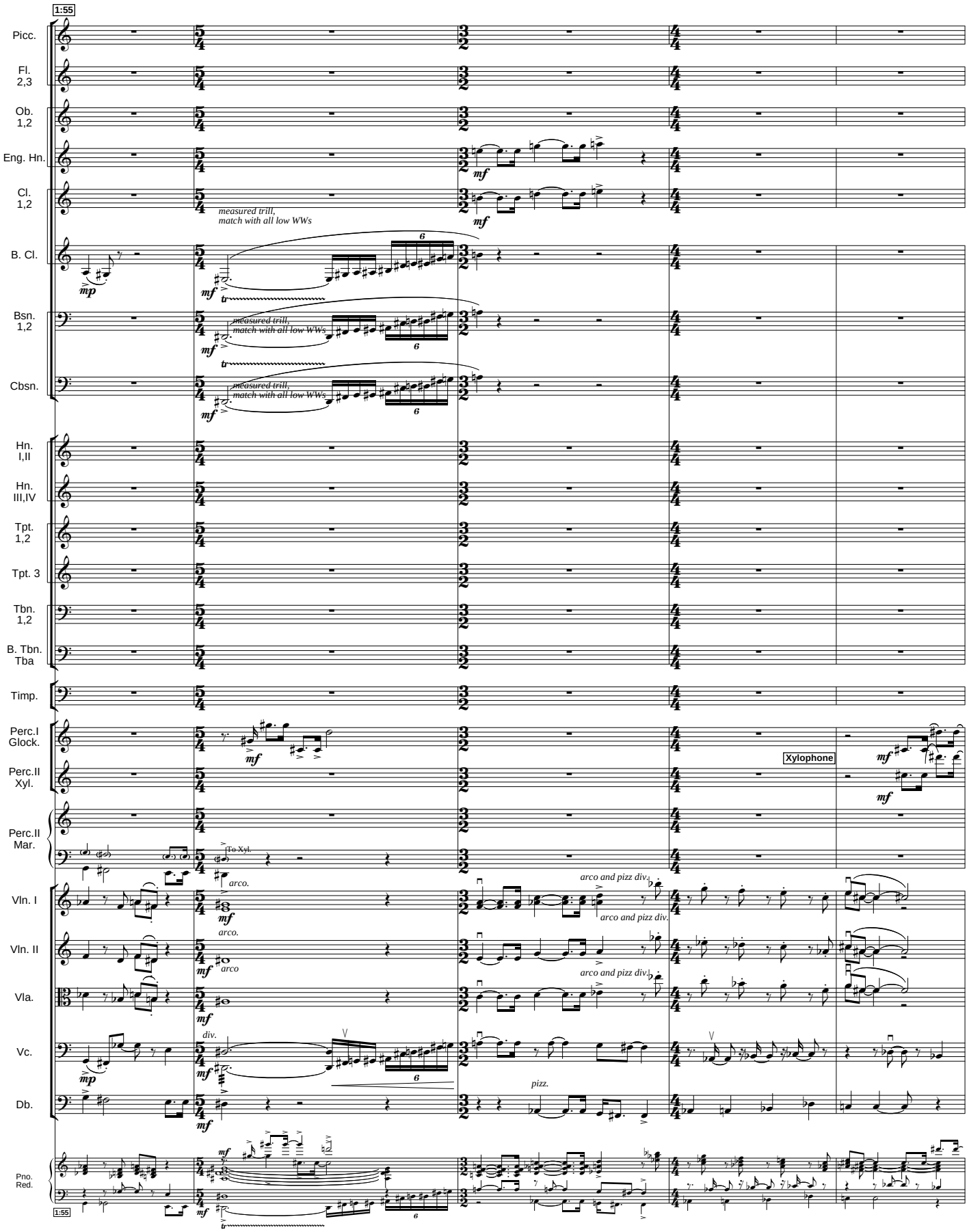
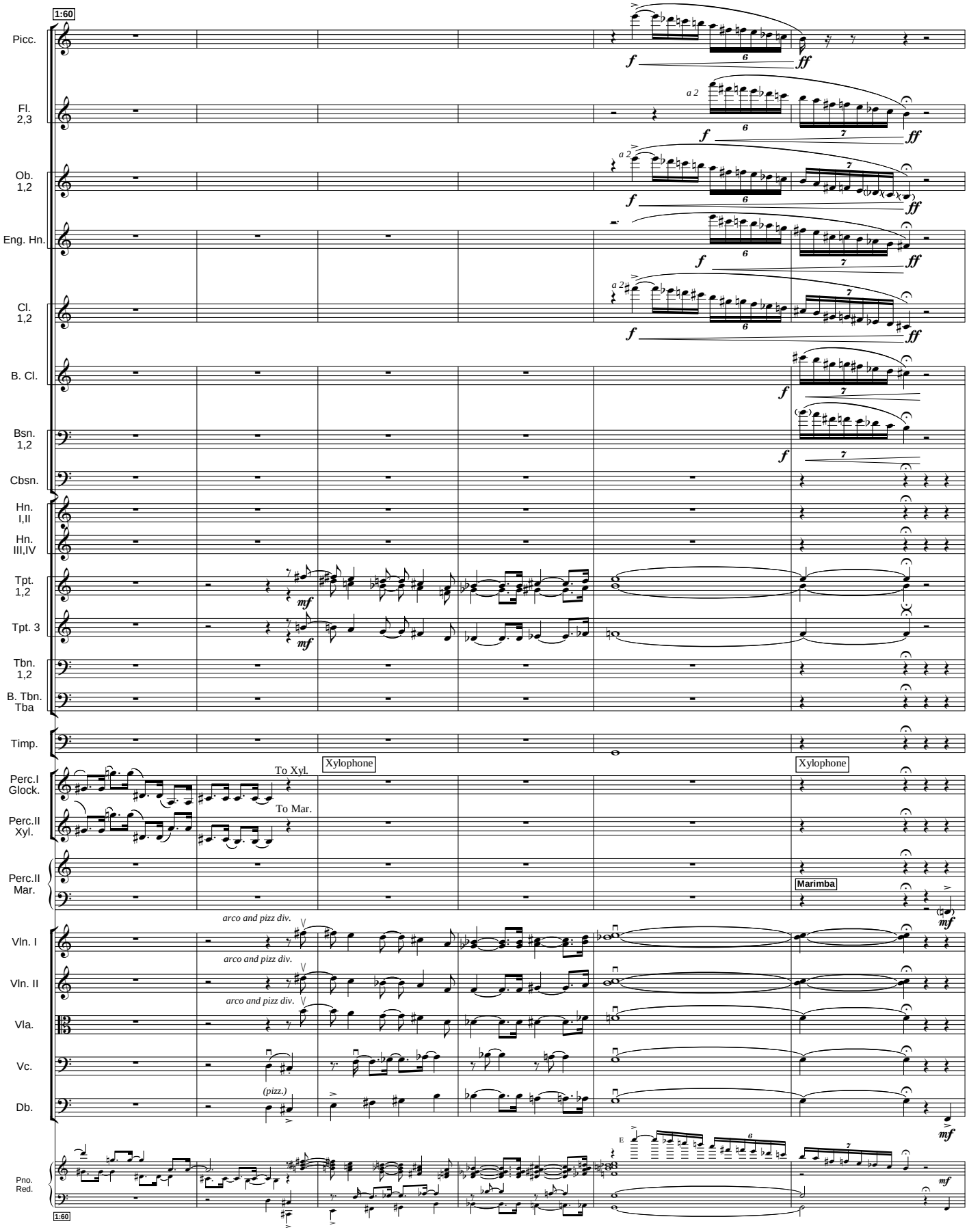
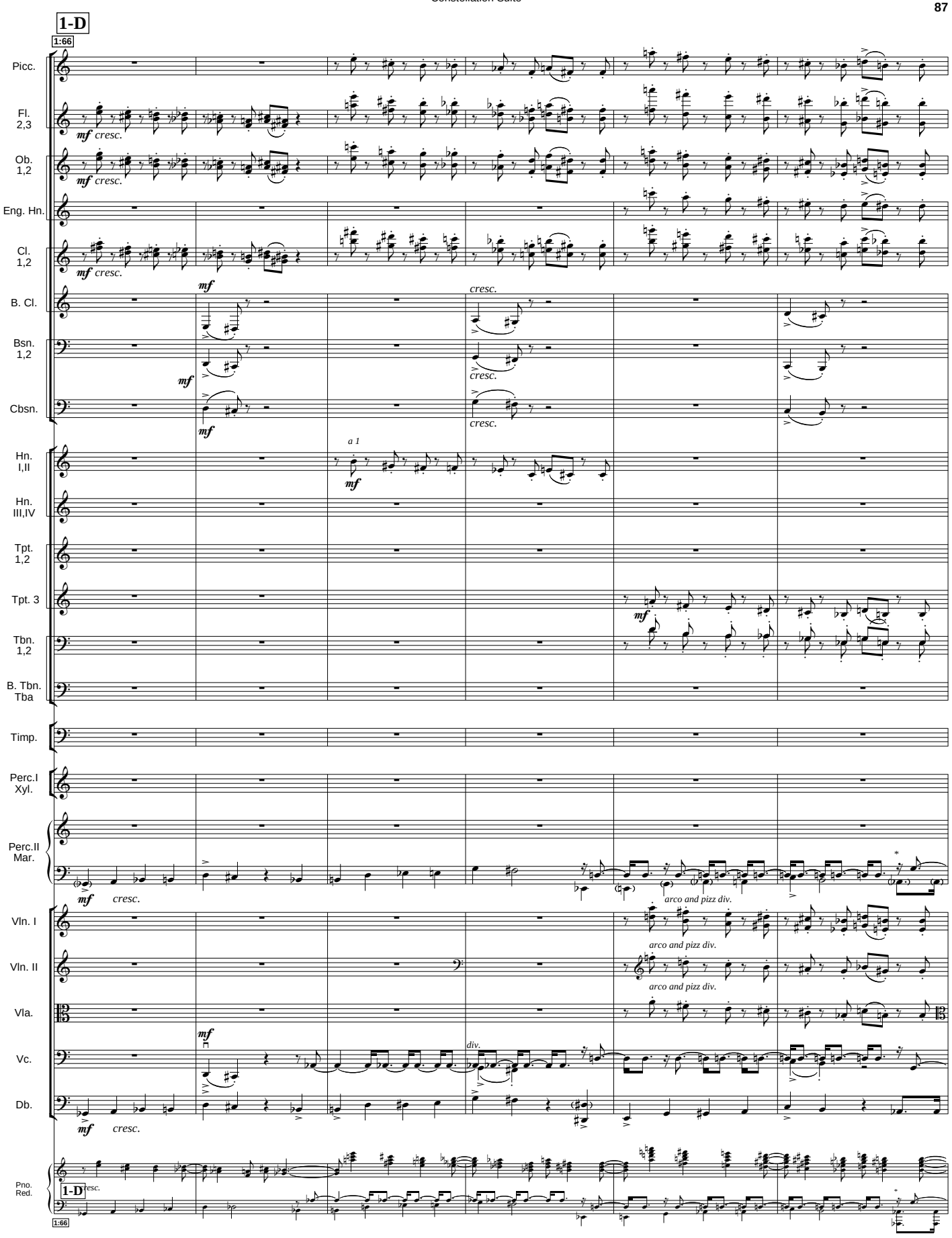
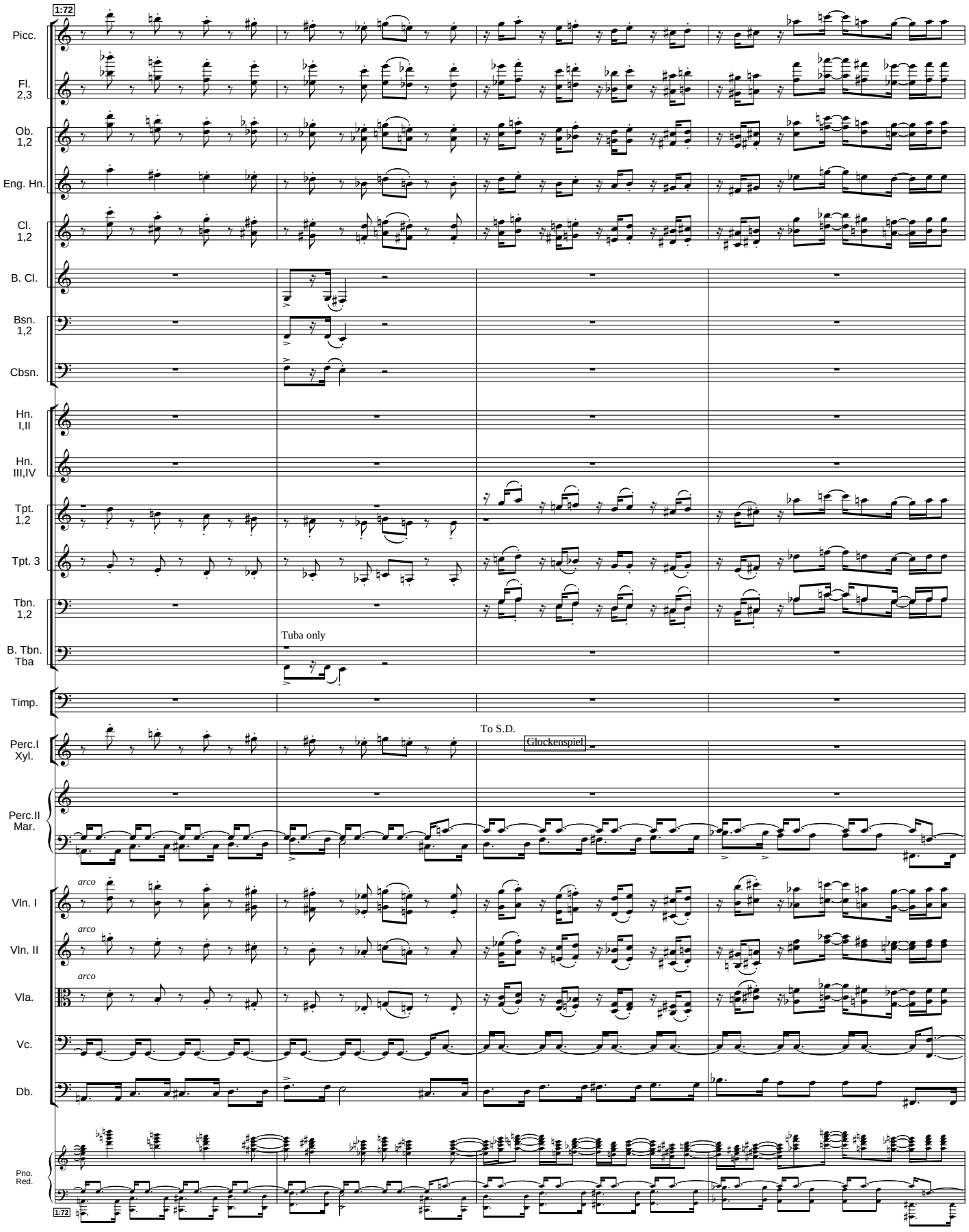
Fl.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
Bring out.
p
Bring out.
a 2
p
mp
pizz.
mp
Hear flute
arco
pp
pizz.
mp
pp
Hear flute
arco
Hear flute
pp
Hear flute
pp
pp
Hear flute
(pizz)
p
Hear flute
arco
mp
1:39

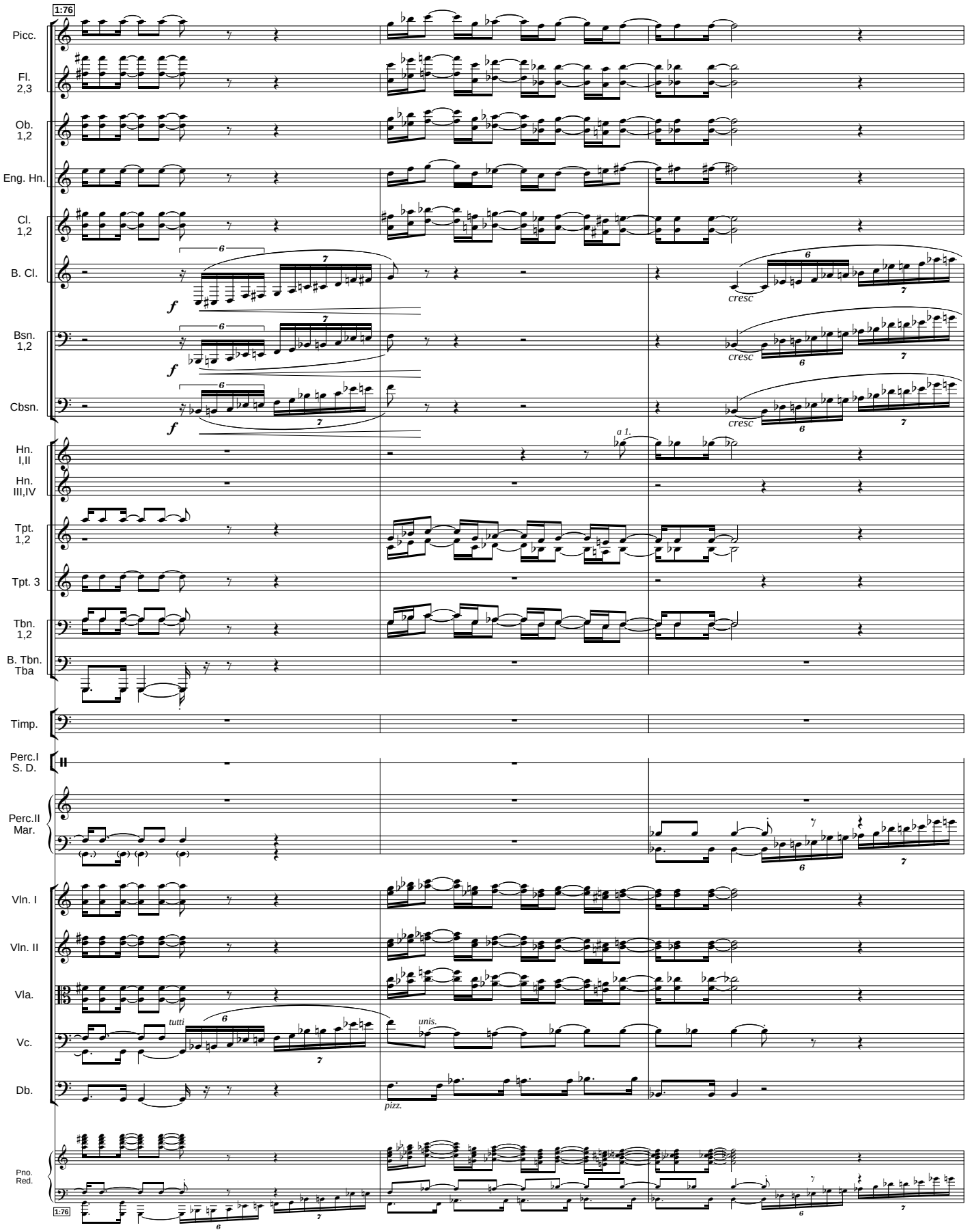

1-C
To Picc.
Piccolo
Marimba
Fl.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
arco and pizz div.
arco
pizz.

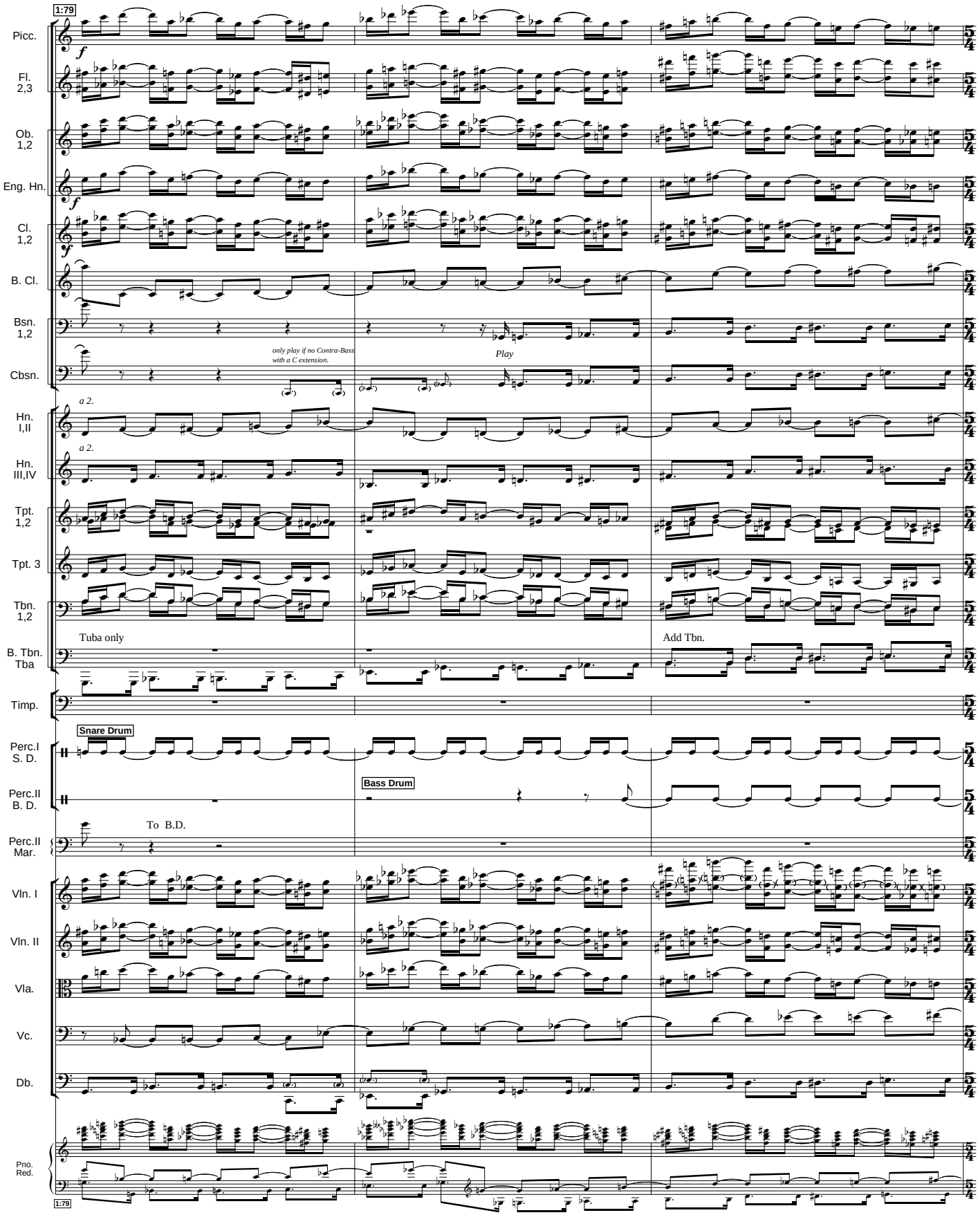

1:55
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
measured trill, match with all low WWs
Xylophone
To Xyl.
arco.
arco and pizz div.
pizz.
div.

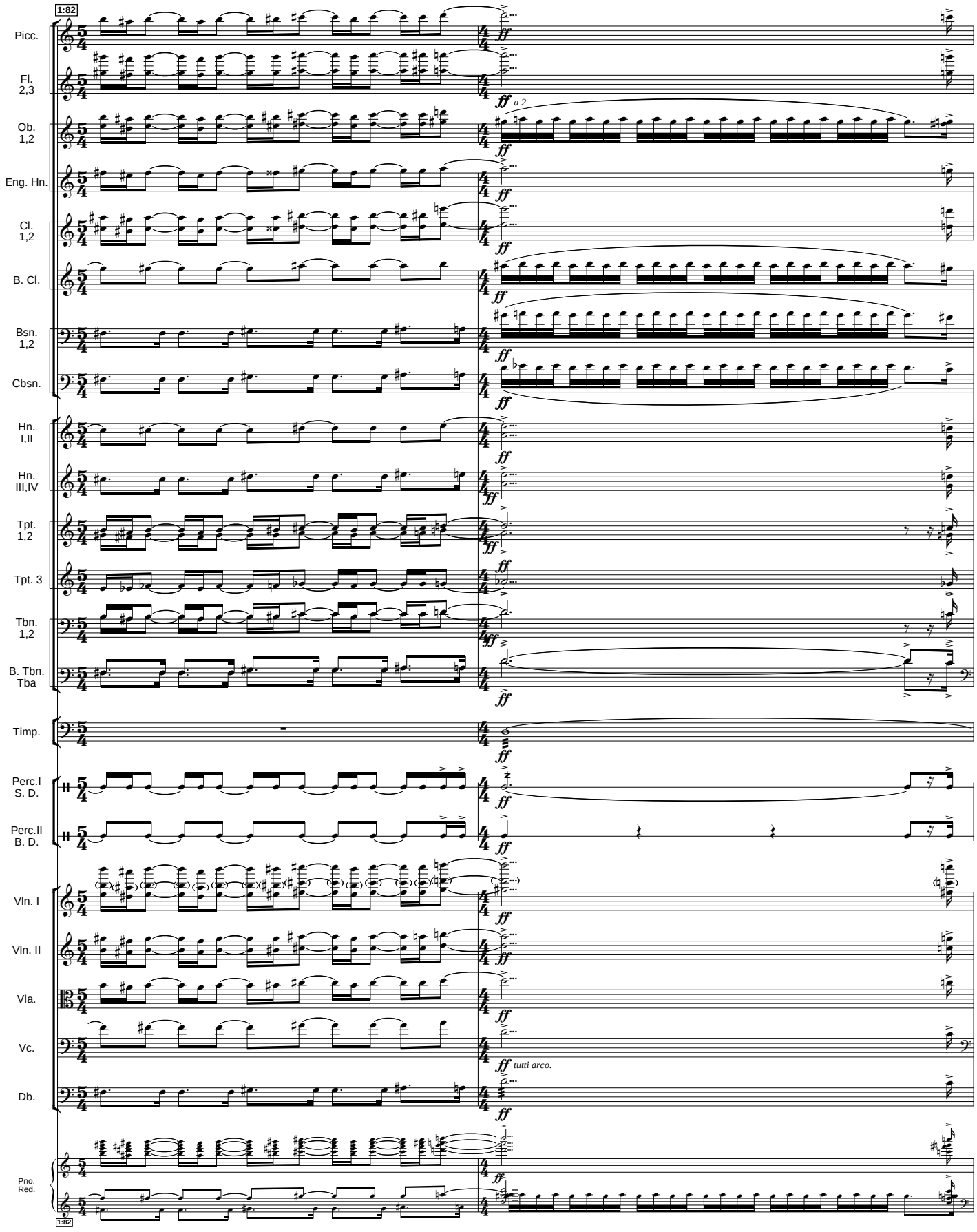

1:60
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
a 2
f
ff
mf
To Xyl.
To Mar.
Xylophone
Xylophone
Marimba
arco and pizz div.
arco and pizz div.
arco and pizz div.
(pizz.)
E
1:60

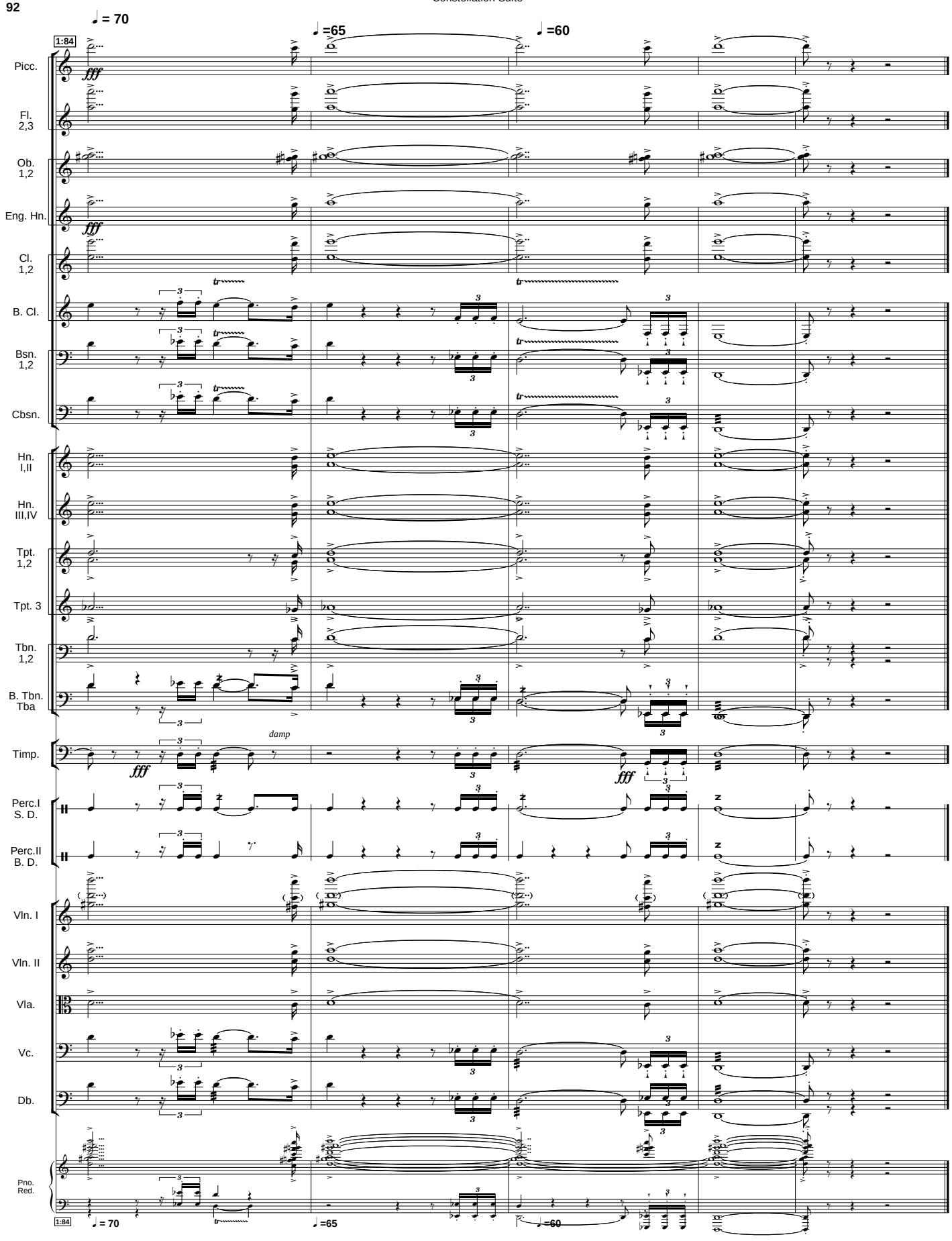

1-D
1:66
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Xyl.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
mf
cresc.
a 1
arco and pizz div.
div.


1:72
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Tuba only
Timp.
To S.D.
Perc.I Xyl.
Glockenspiel
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco
Pno. Red.
1:72


1:76
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
f
cresc
a 1.
tutti
unis.
pizz.


1:79
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
only play if no Contra-Bass with a C extension.
Play
a 2.
Hn. I,II
a 2.
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
Tuba only
Add Tbn.
B. Tbn. Tba
Timp.
Snare Drum
Perc.I S. D.
Bass Drum
Perc.II B. D.
To B.D.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
1:79


1:82
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
ff
a 2
tutti arco.


♩ = 70
♩ =65
♩ =60
1:84
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
fff
damp
tr

Crux

Evelyn Pursley-Kopitzke

Allegretto ♩ = *110*

2-A

Picc.

Fl. 2,3

Ob. 1,2

a 2.

mf

Eng. Hn.

Cl. 1,2

a 2.

mf

a 2.

B. Cl.

mf

Bsn. 1,2

Cbsn.

Hn. I,II

Hn. III,IV

Tpt. 1,2

Tpt. 3

Tbn. 1,2

B. Tbn. Tba

Timp.

Perc.I Glock.

Glockenspiel

Perc.II Xyl.

Xylophone

Vln. I

spiccato

mf

bowing simile

detache

Vln. II

spiccato

mf

detache

Vla.

mf

detache

Vc.

mf

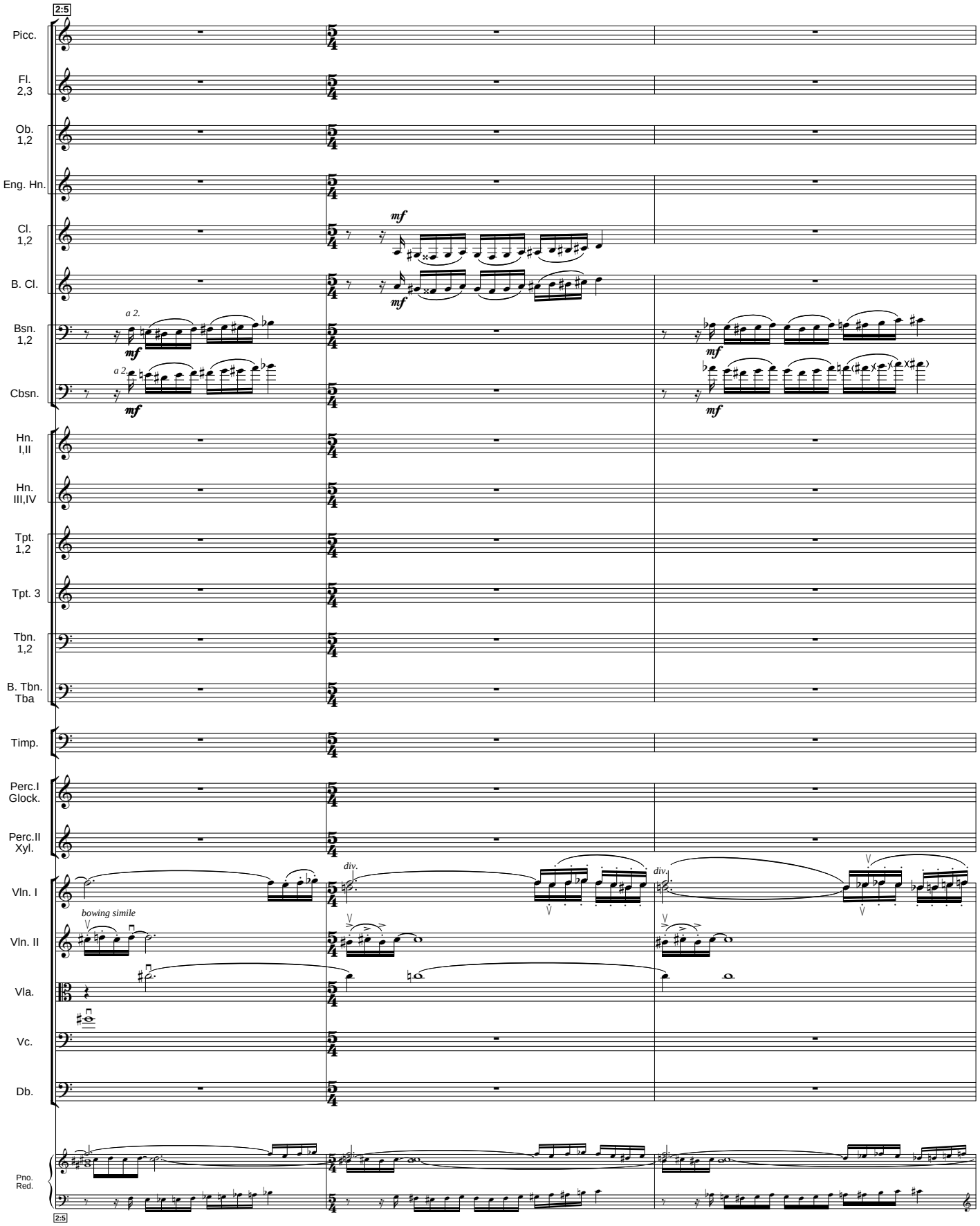
detache

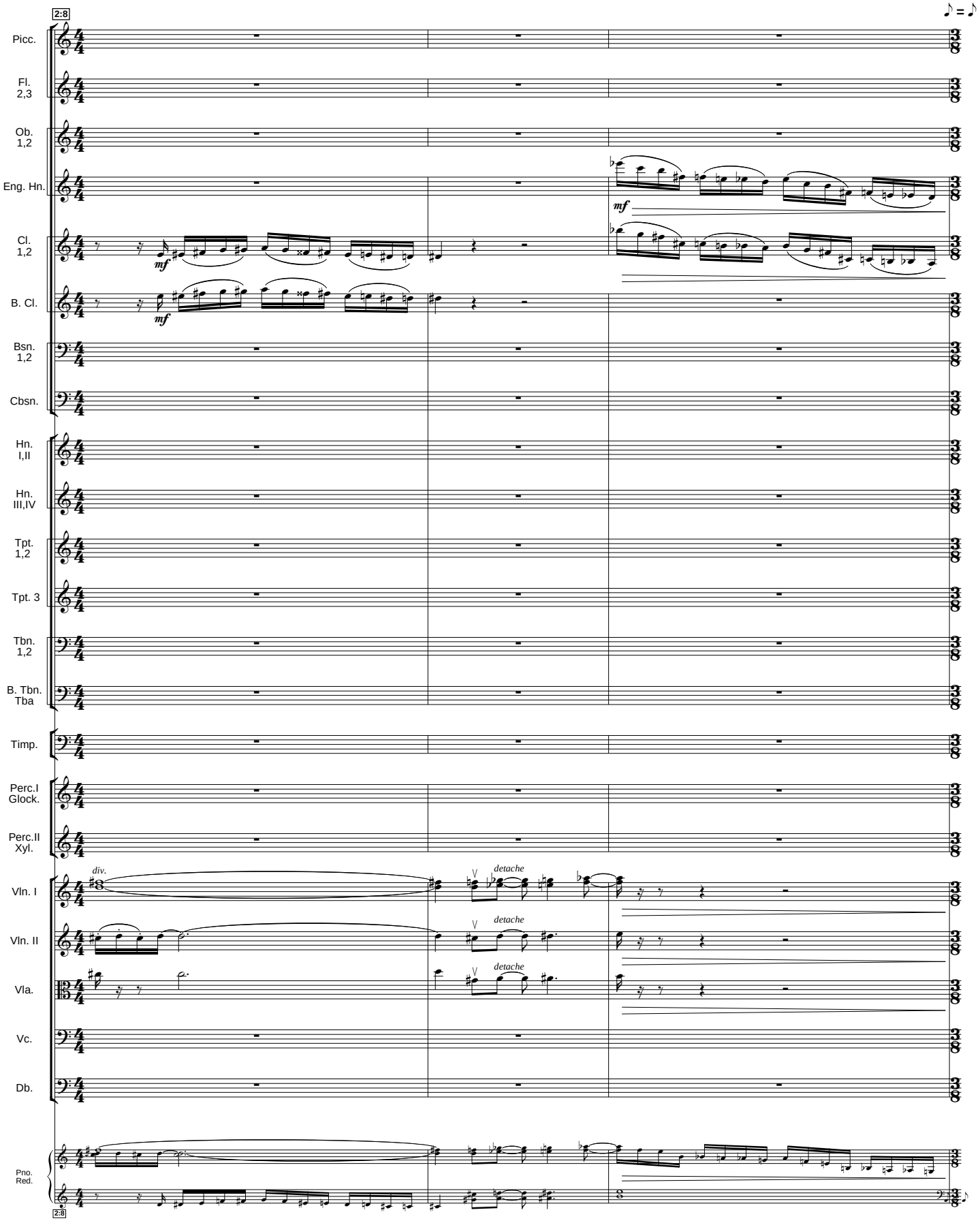
Db.

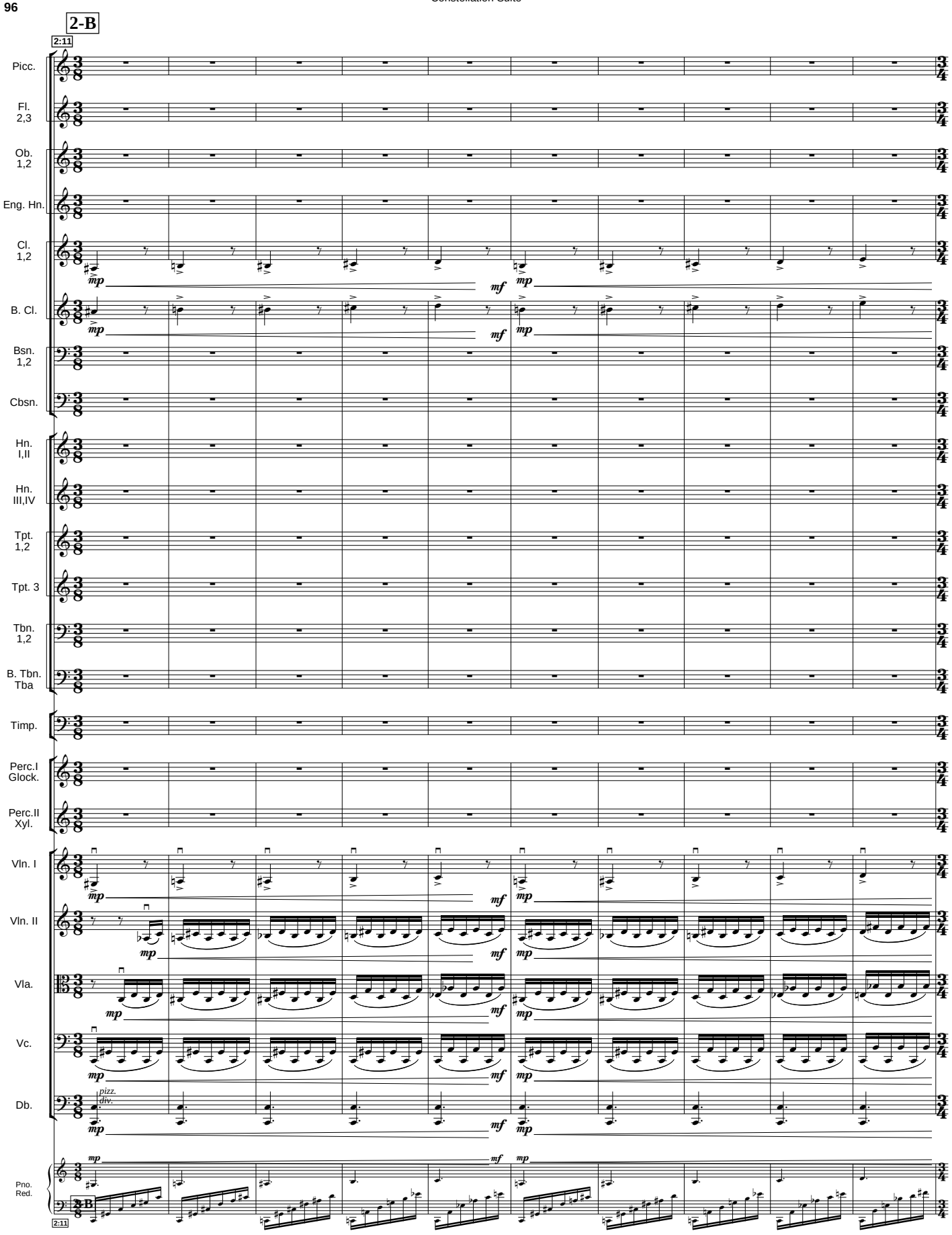
Pno. Red.

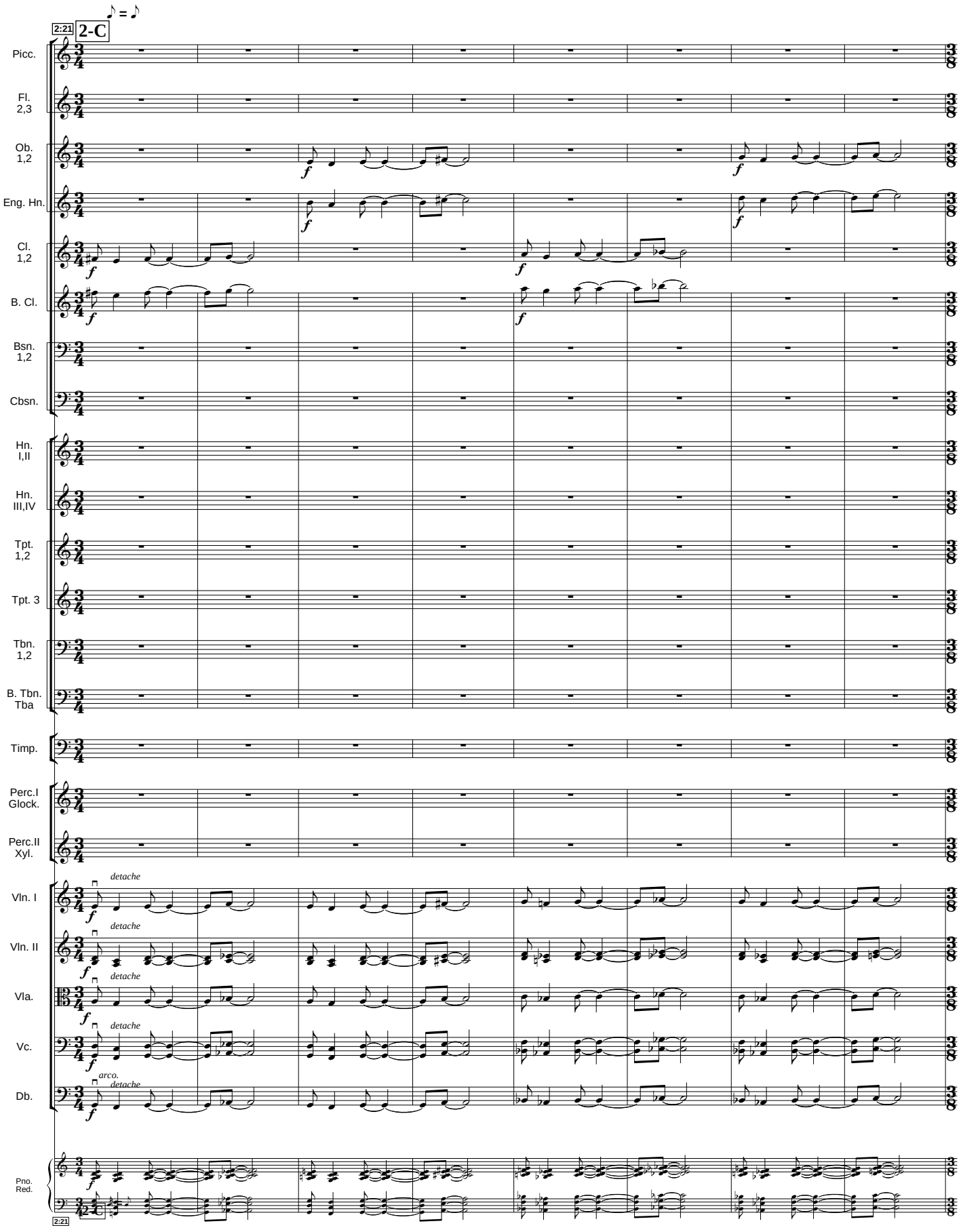
mf

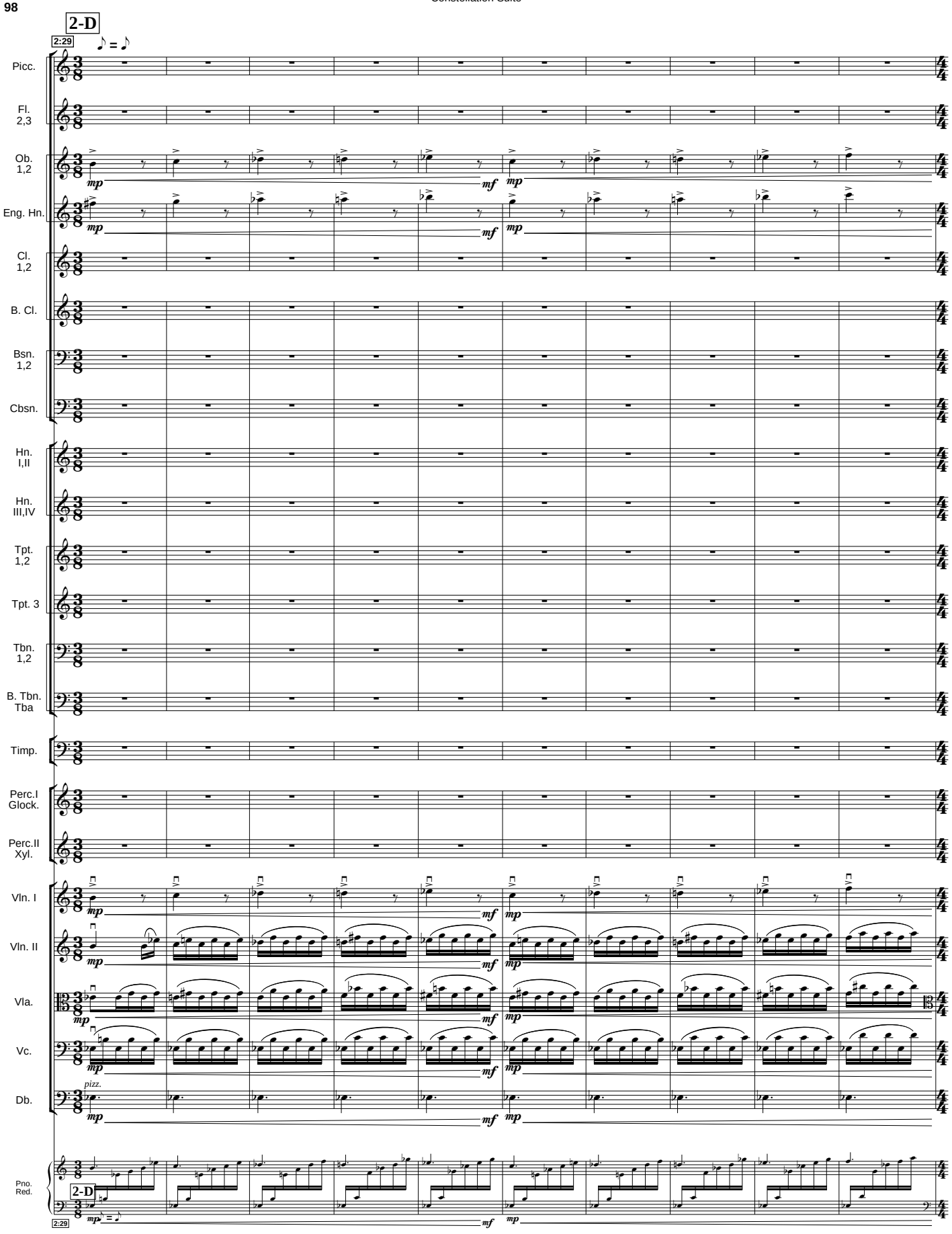
Allegretto ♩ = *110*

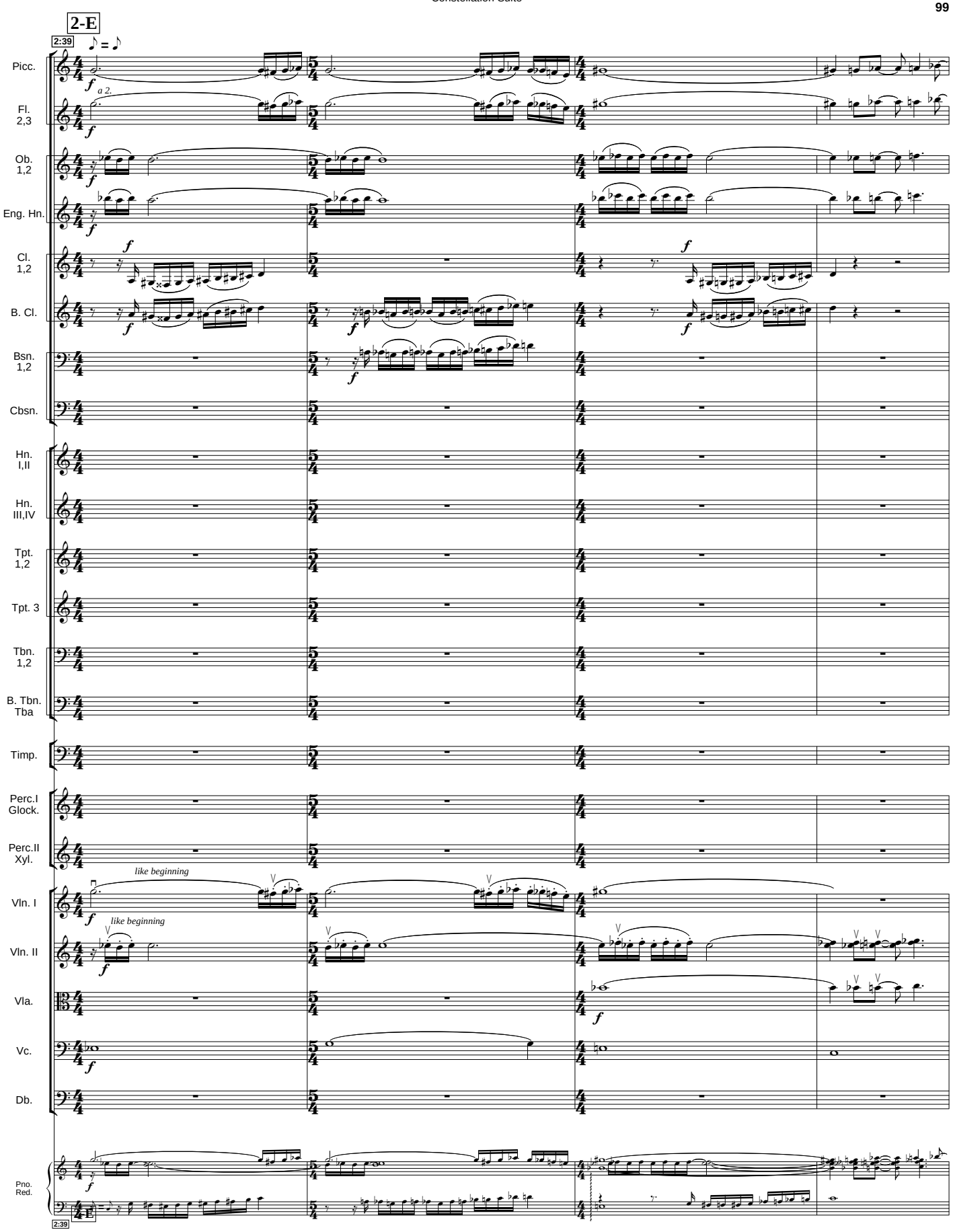

2:5
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
mf
a 2.
div.
bowing simile
2:5

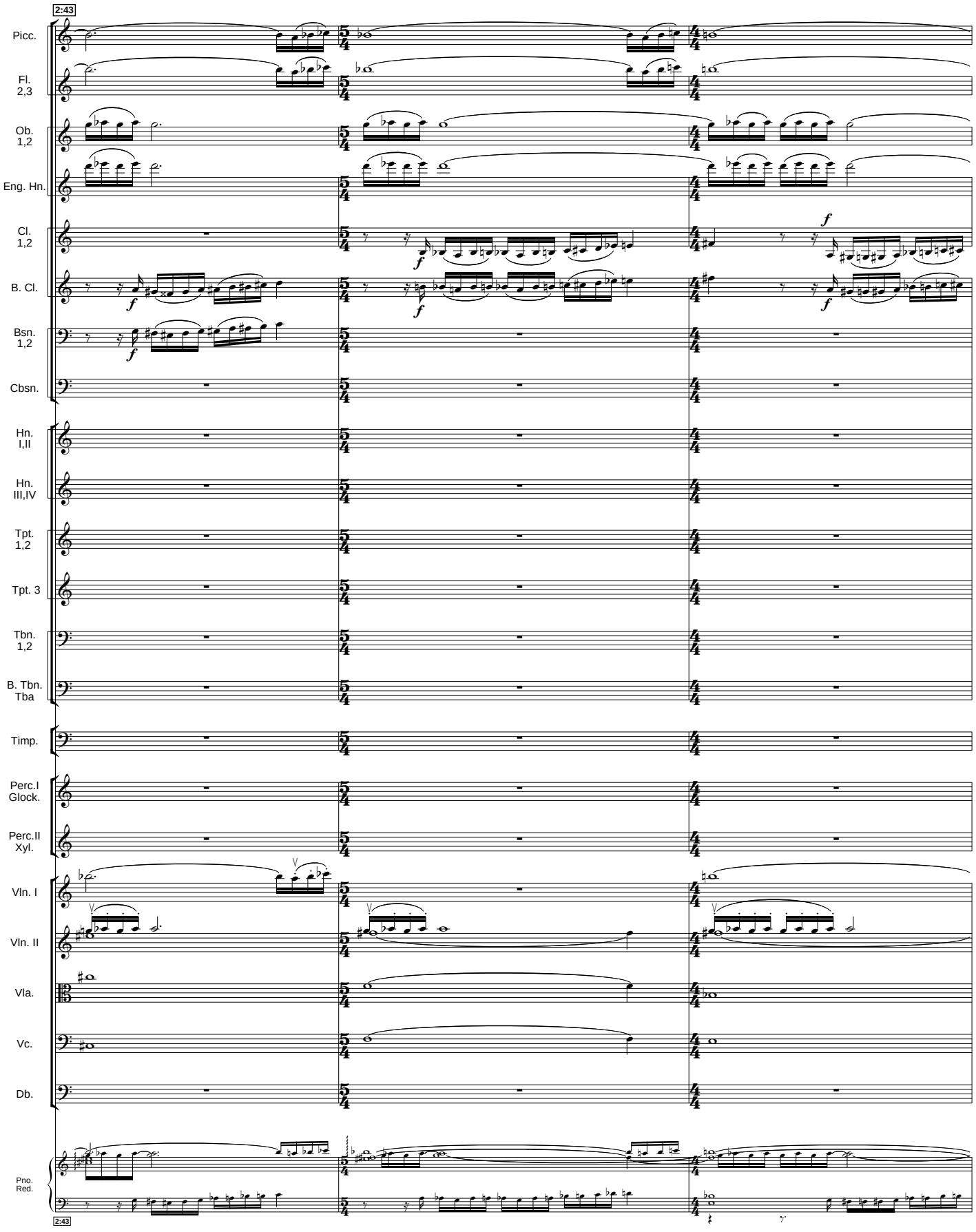

2:8
♪ = ♪
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
mf
div.
detache
2:8

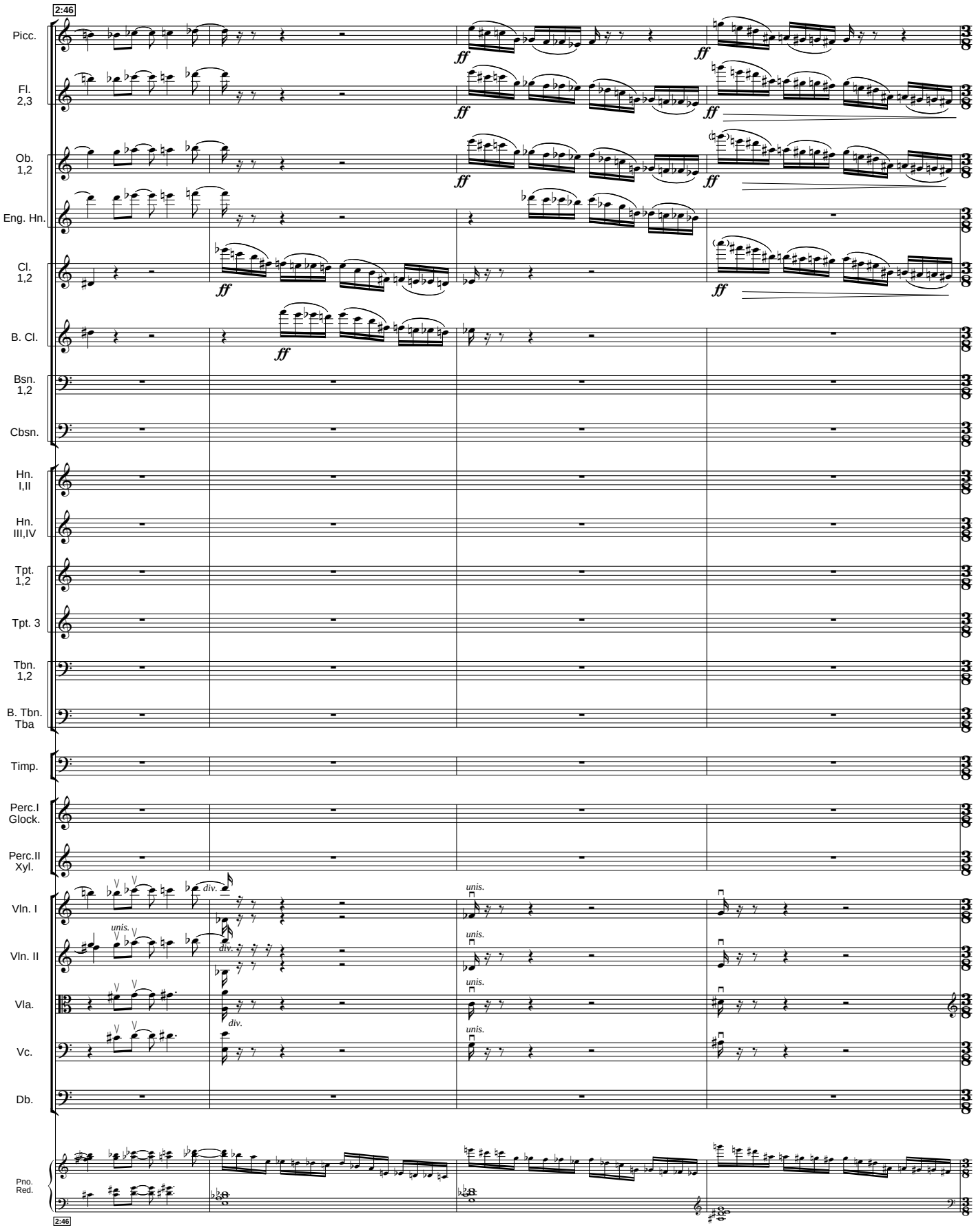

2-B
2:11
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz.
div.
Pno. Red.
2-B
2:11

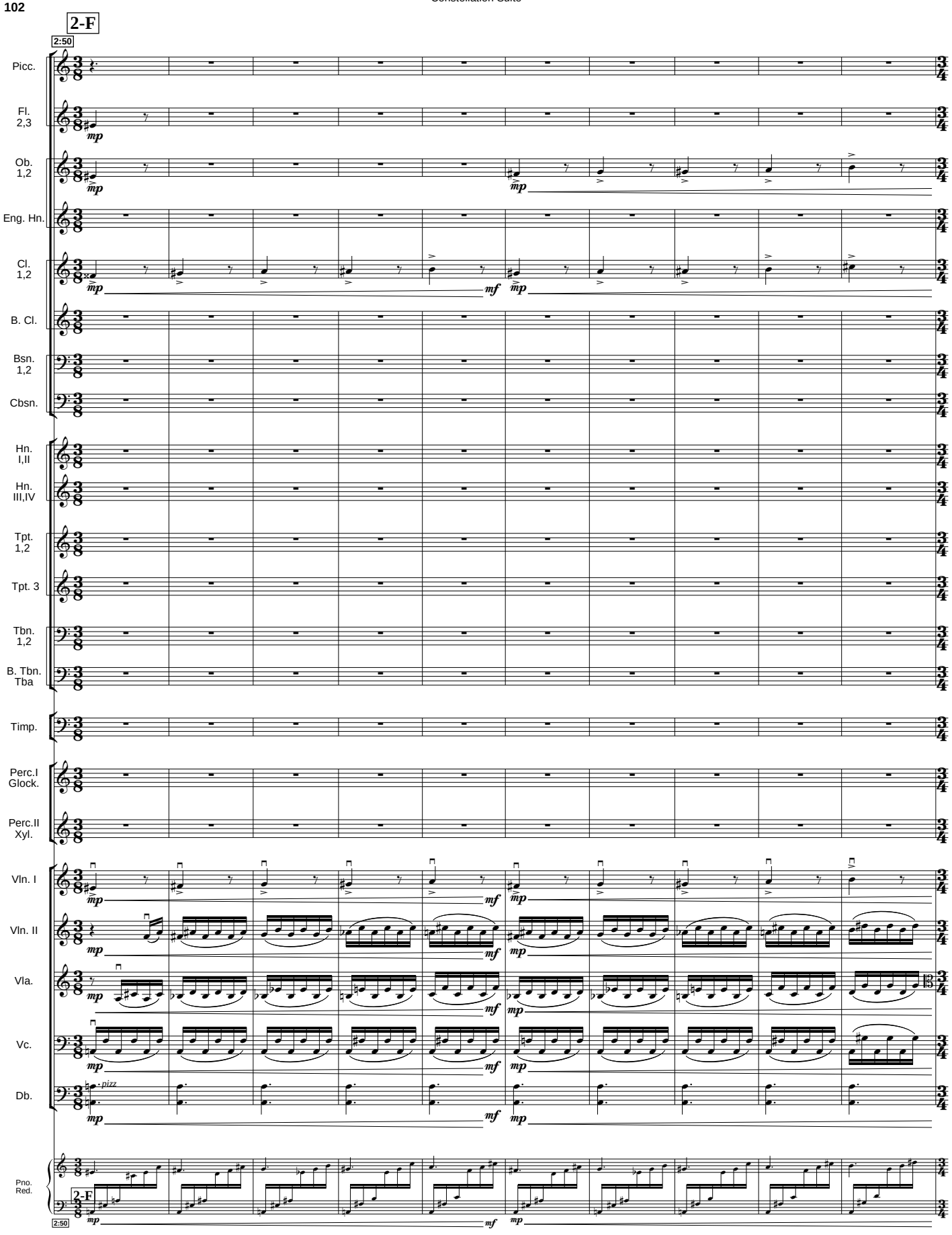

2:21
2-C
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
detache
arco.
2:21

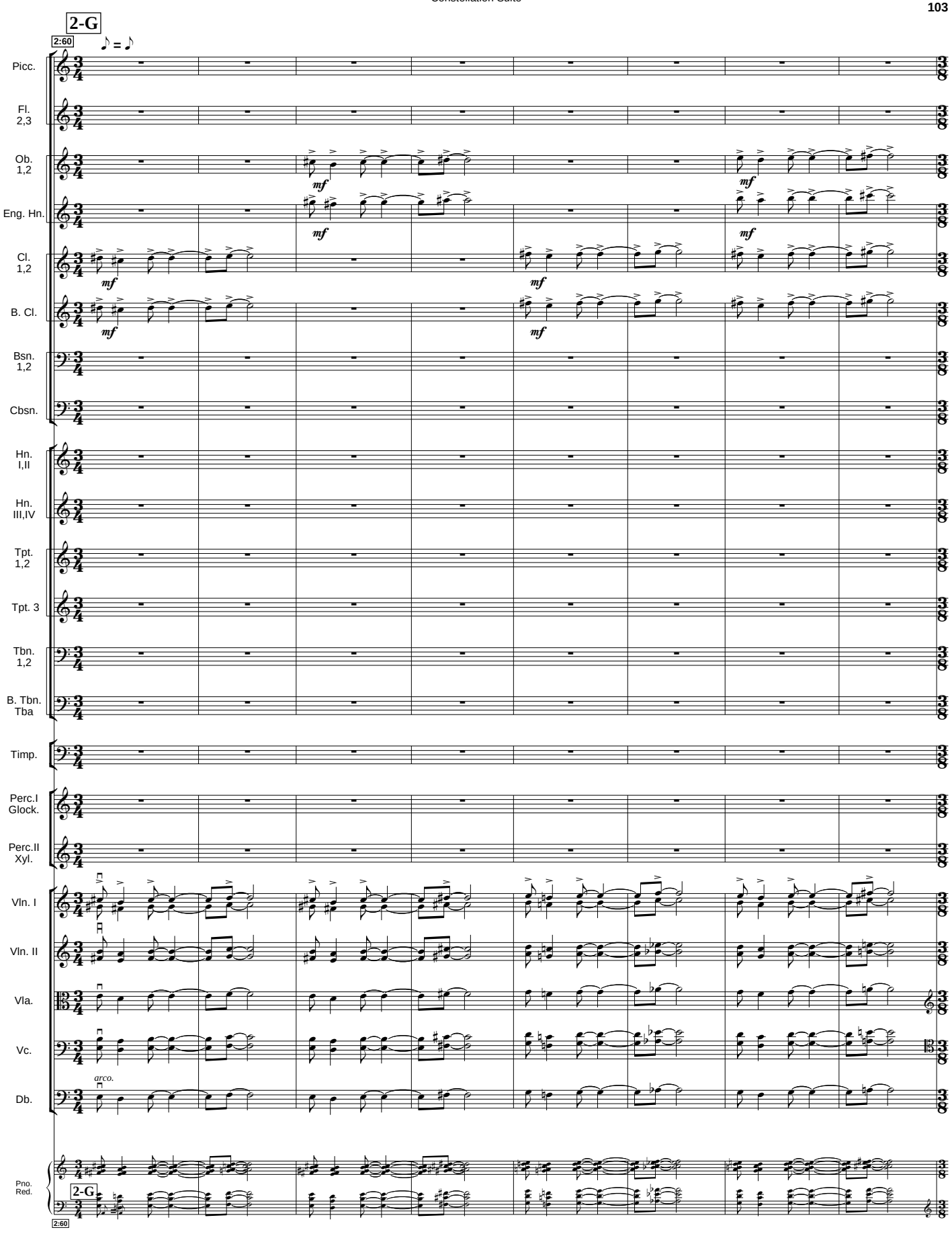

2-D
2:29
♪ = ♪
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz.
Pno. Red.
2-D
2:29
mp
mf

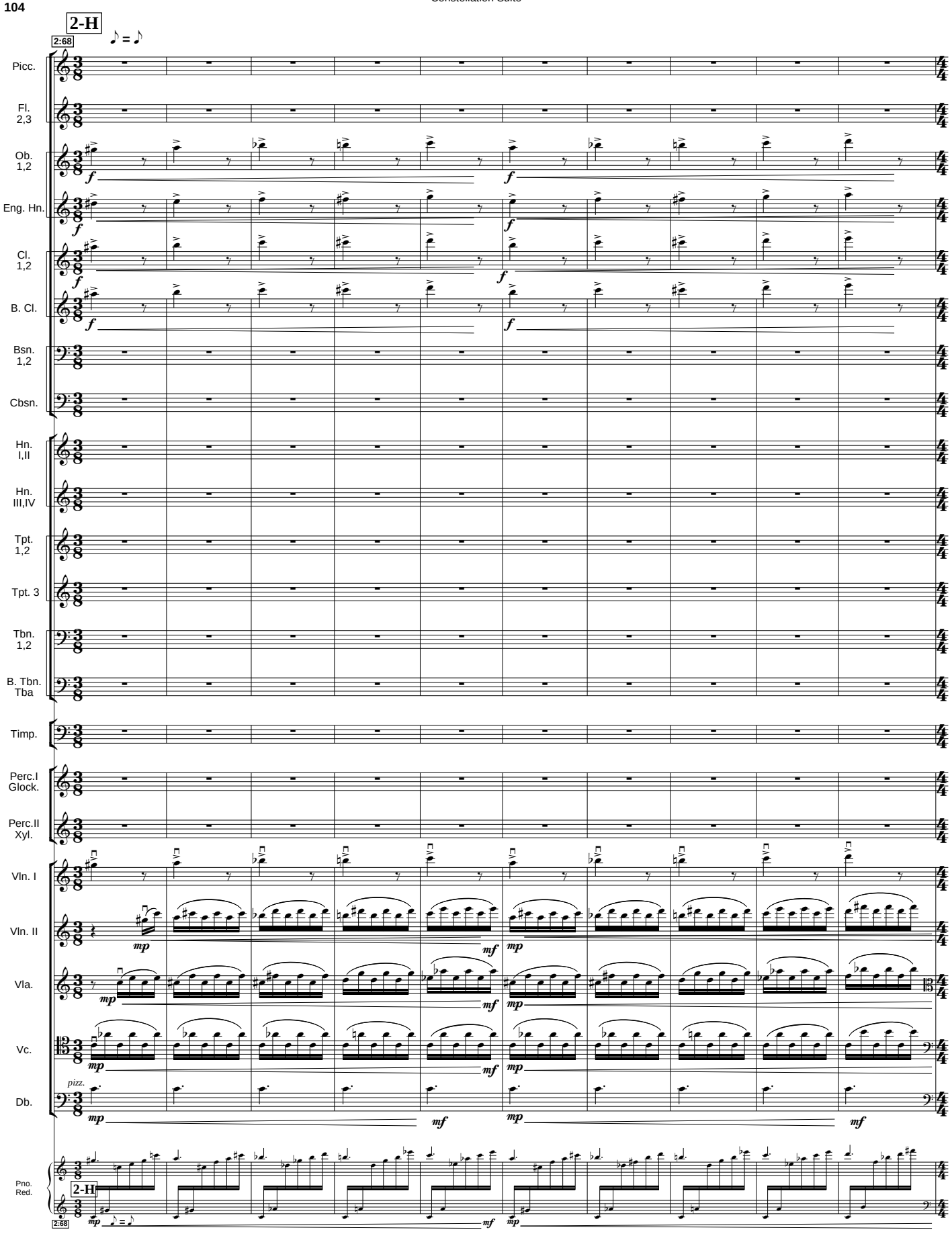

2-E
2:39
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
a 2.
like beginning
like beginning
2:39

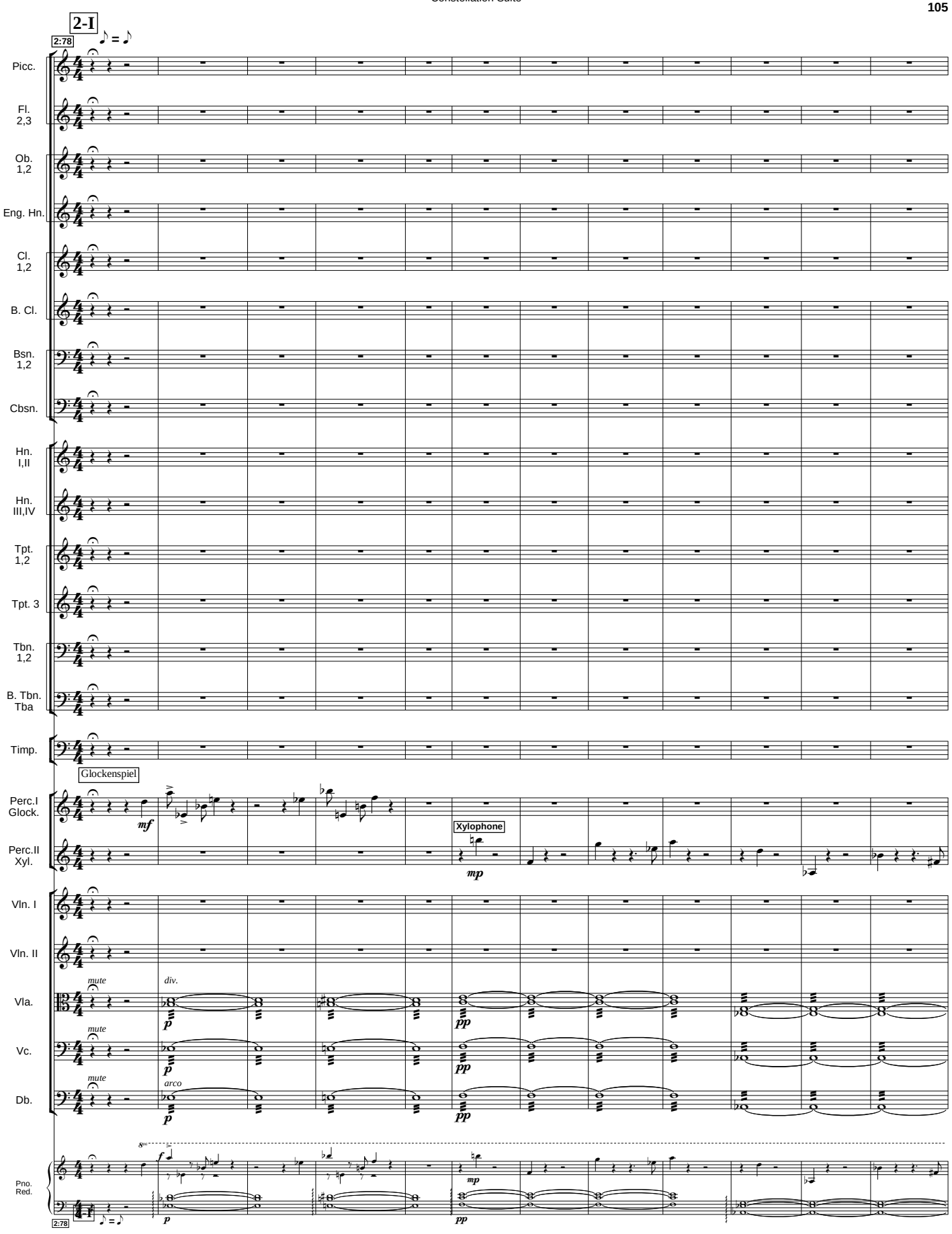

2:43
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
2:43

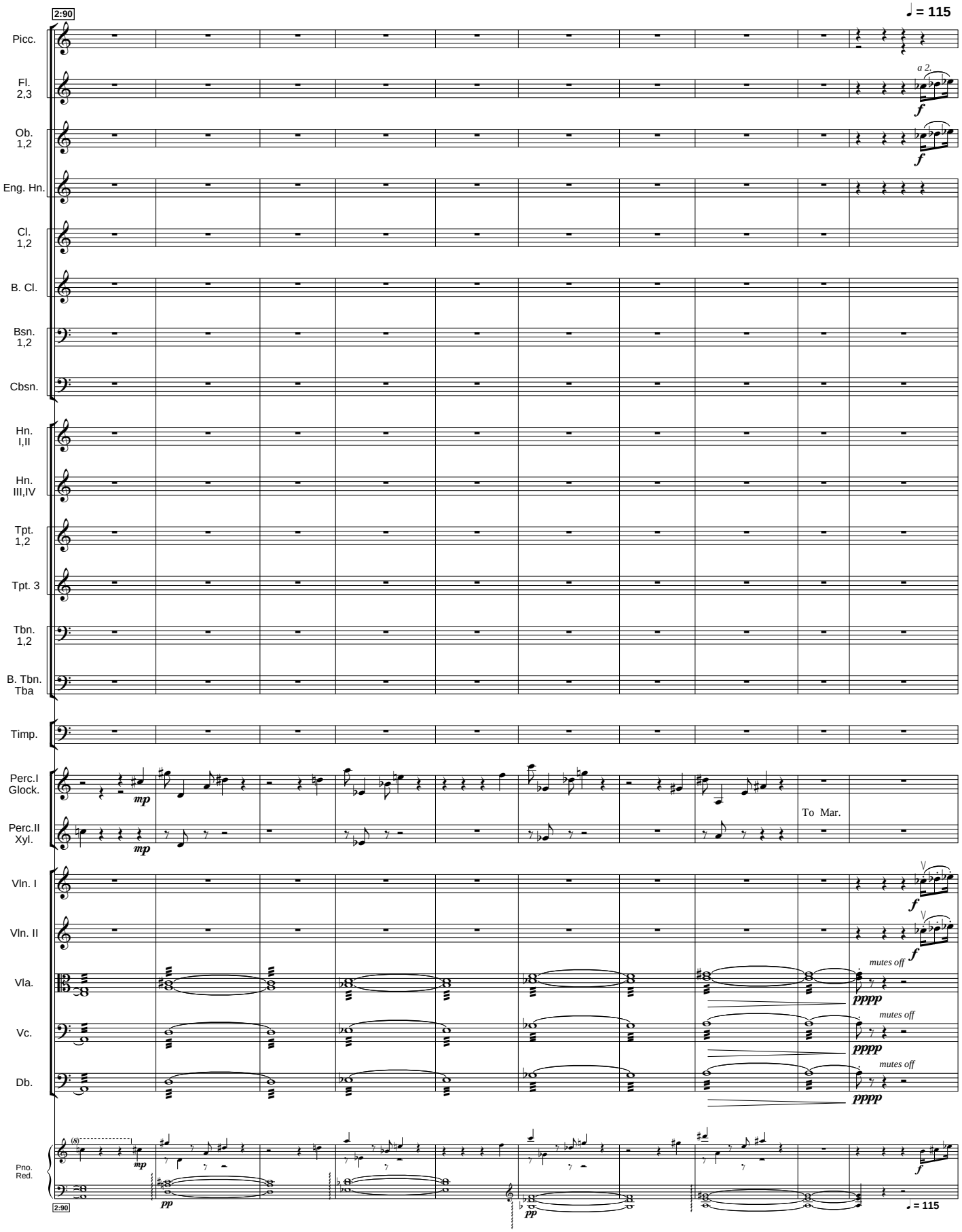

2:46
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
ff
unis.
div.
2:46

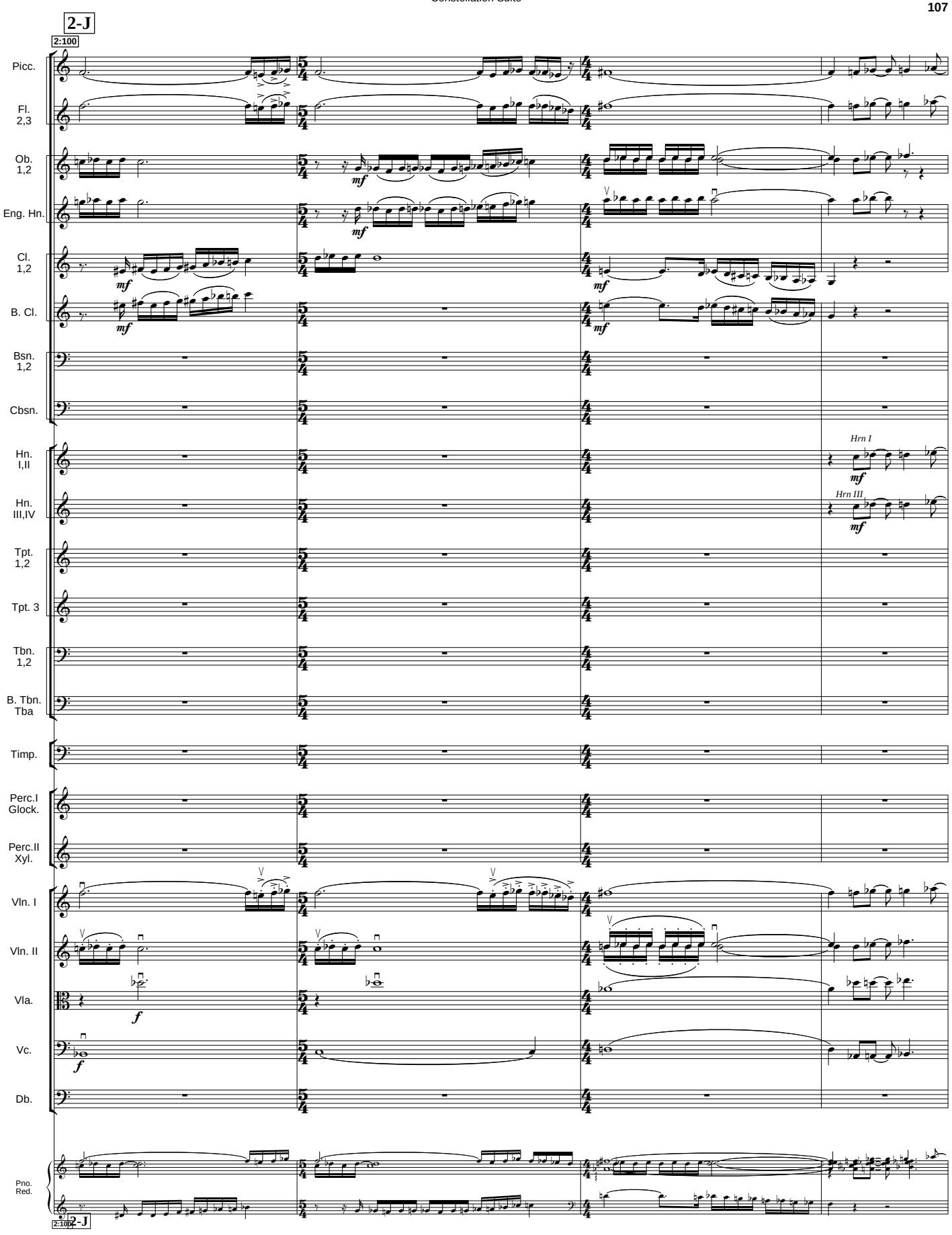

2-F
2:50
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz
Pno. Red.
2-F
2:50

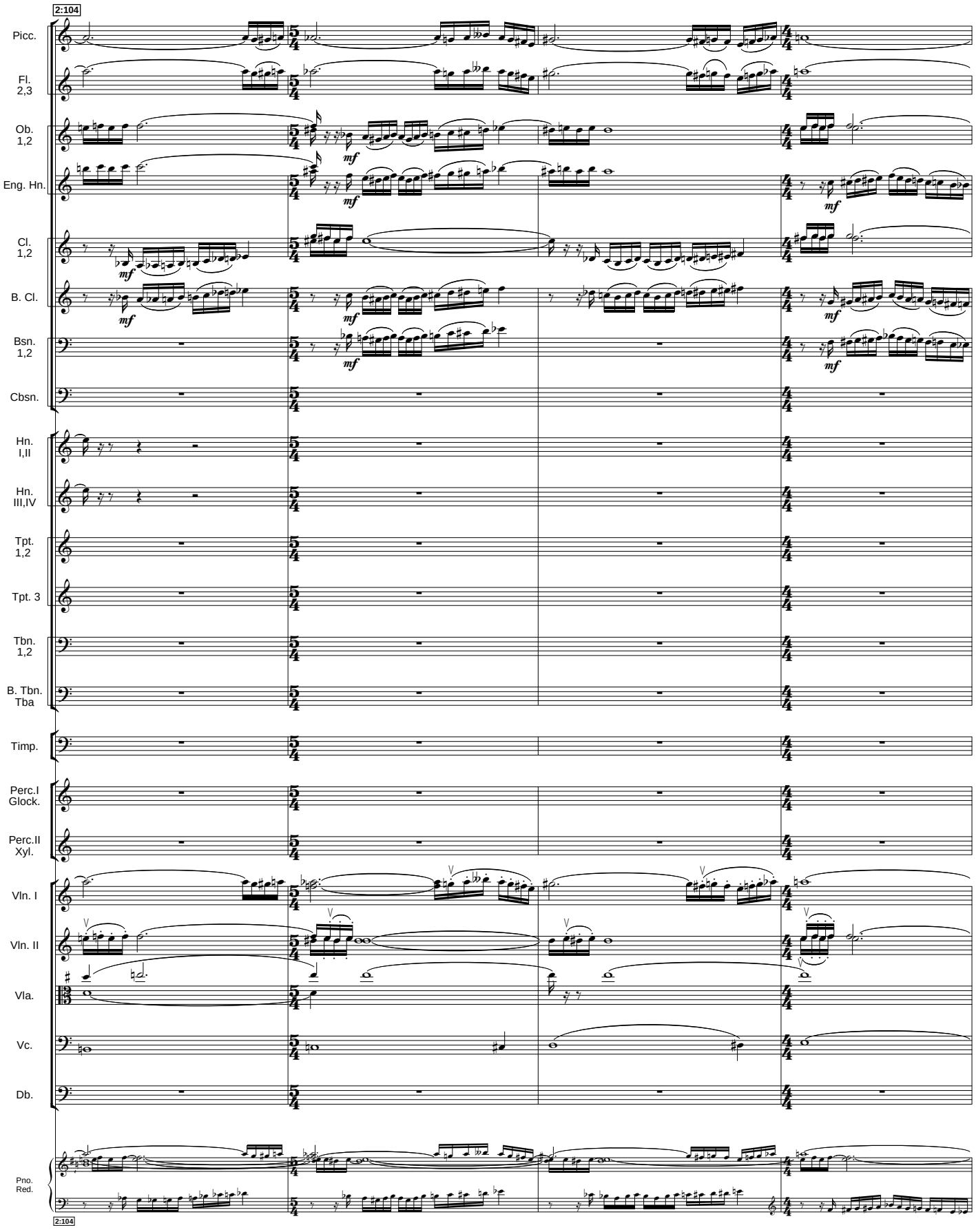

2-G
2:60
♪ = ♪
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco.
Pno. Red.
2-G
2:60

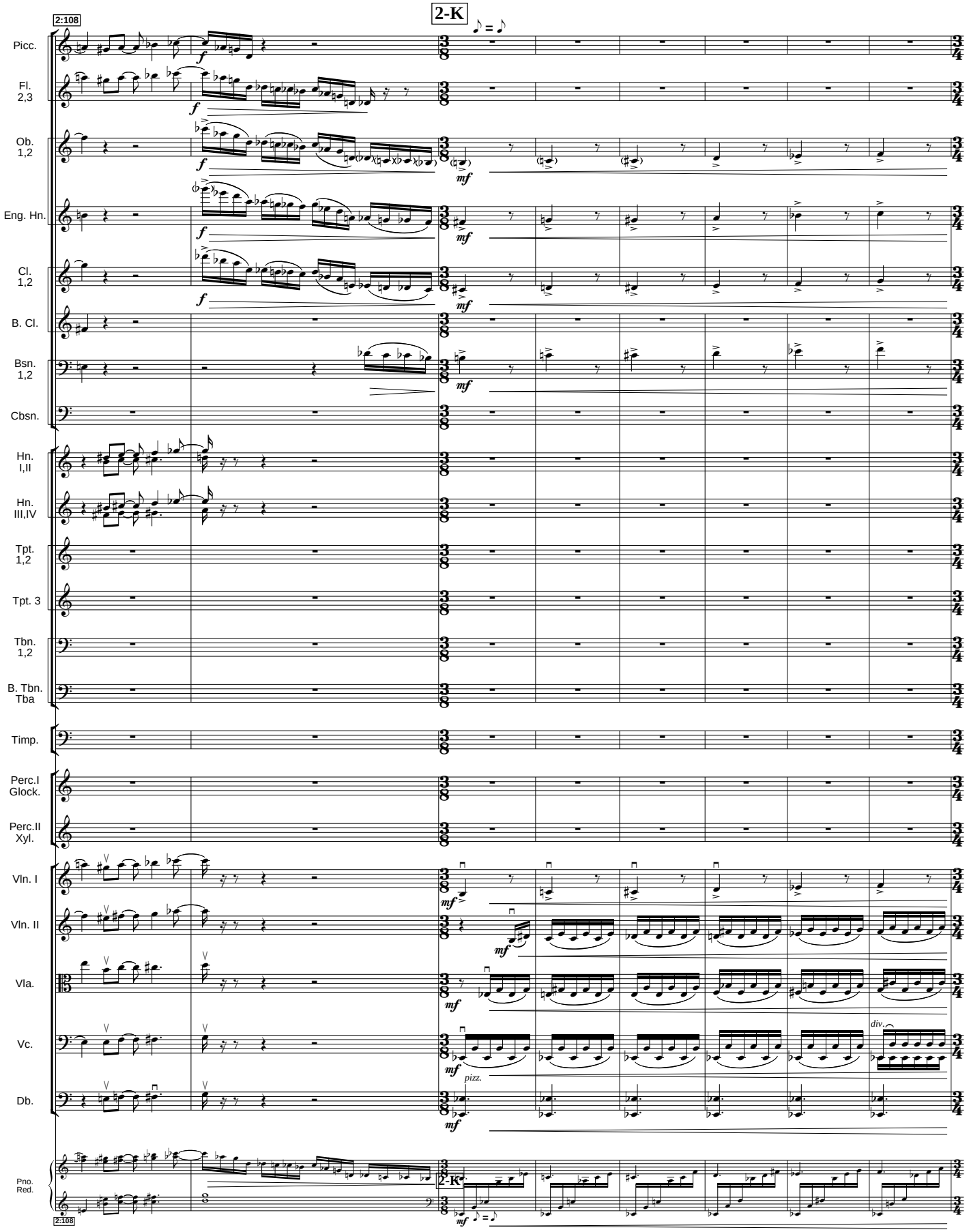

2-H
2:68
♪ = ♪
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz.
Pno. Red.
2-H
2:68
♪ = ♪

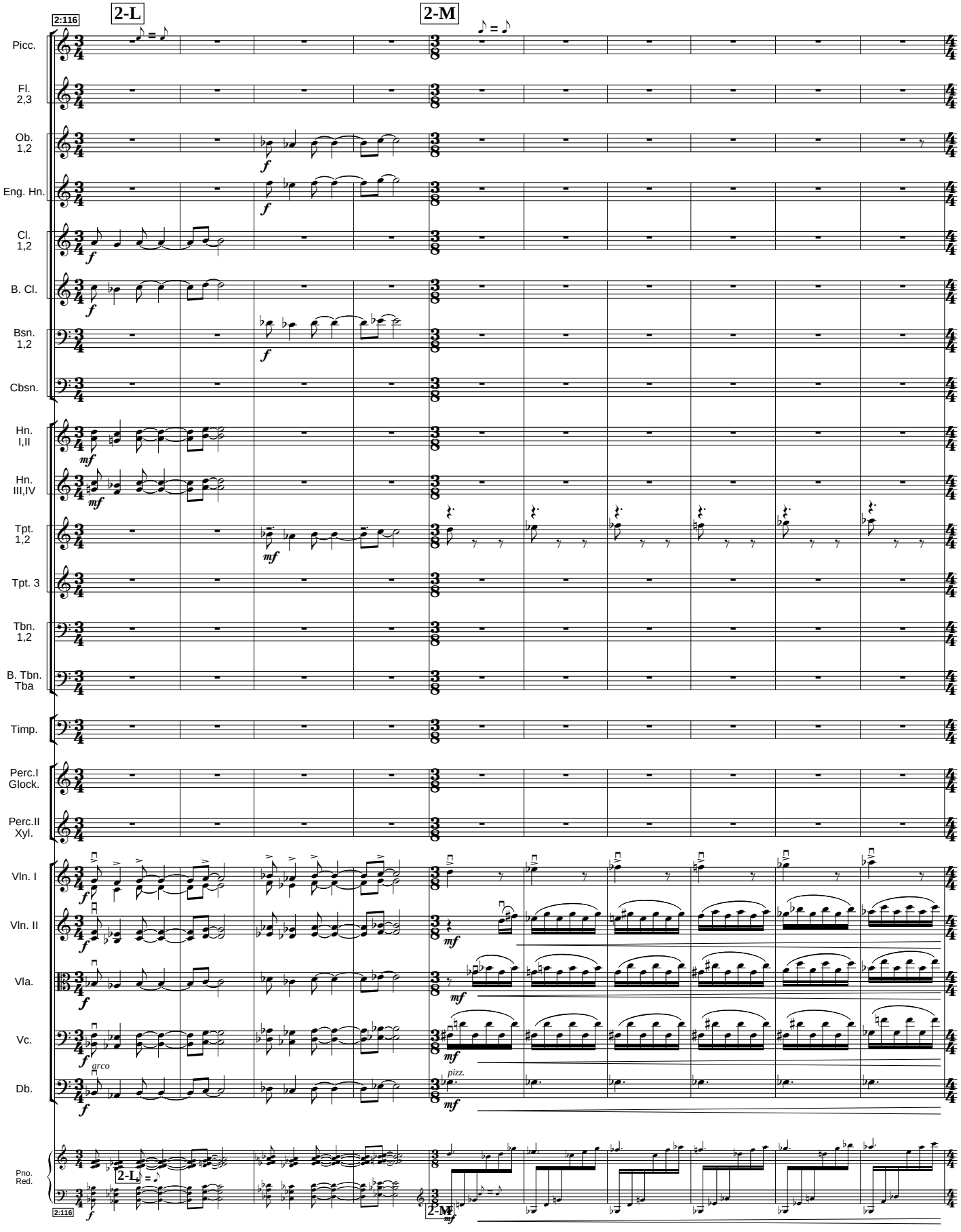

2-I
2:78
♪ = ♪
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Glockenspiel
Perc.I Glock.
Perc.II Xyl.
Xylophone
Vln. I
Vln. II
Vla.
Vc.
Db.
mute
div.
arco
Pno. Red.
mf
mp
p
pp
f
8va

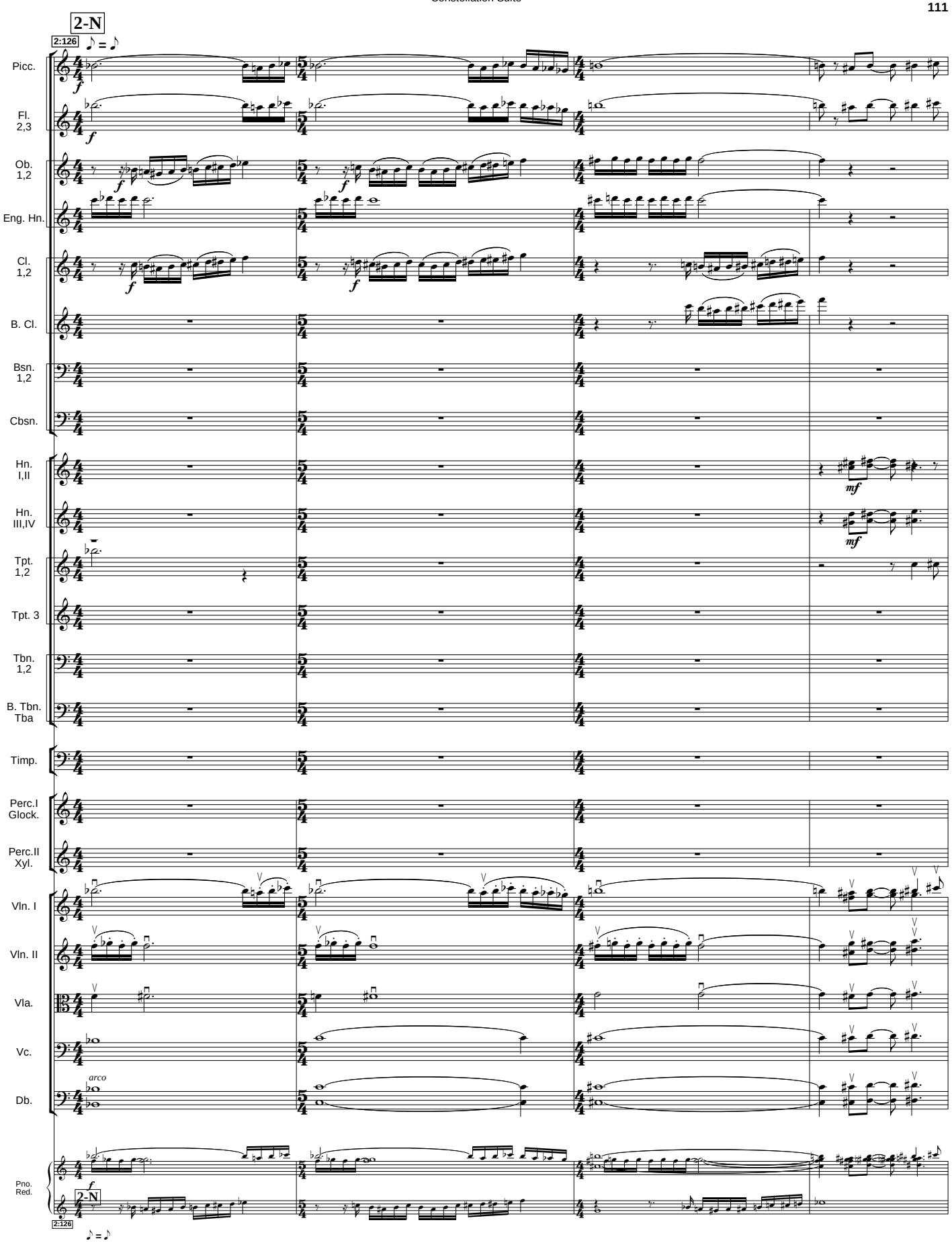

2:90
♩ = 115
Picc.
Fl. 2,3
a 2.
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
To Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
mutes off
Pno. Red.
2:90
♩ = 115

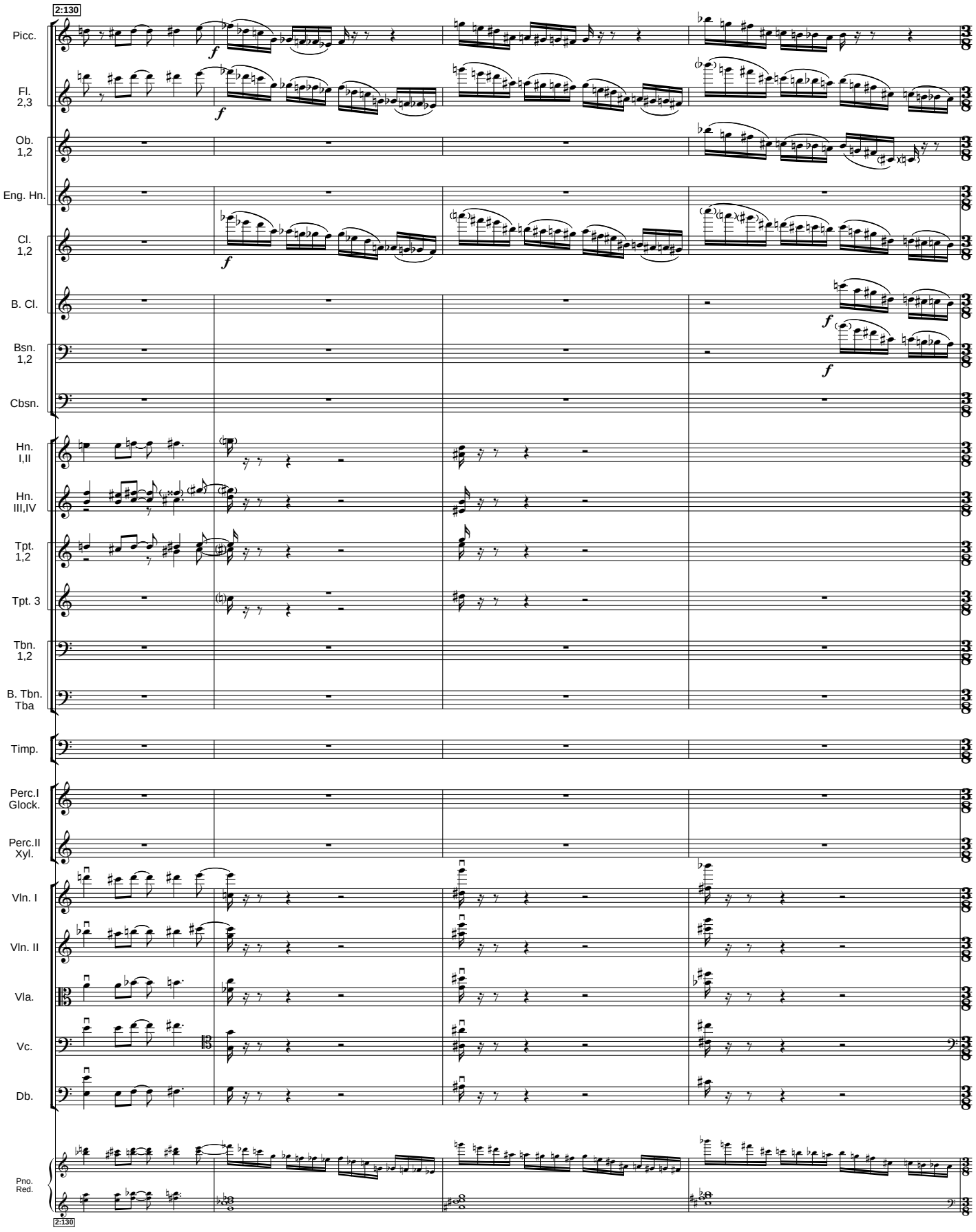

2-J
2:100
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
Hrn I
Hrn III
mf
f
2-J
2:100

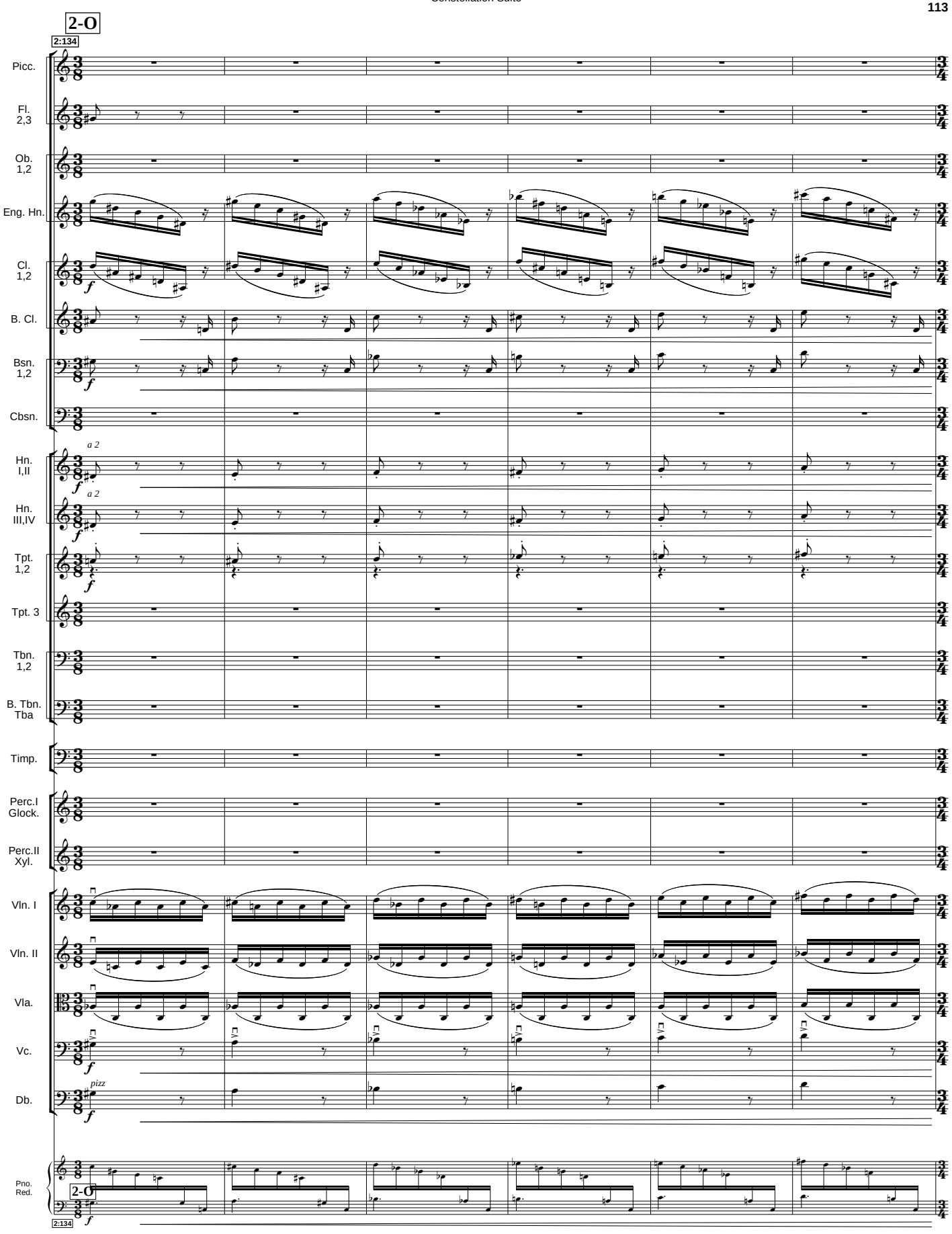

2:104
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
2:104

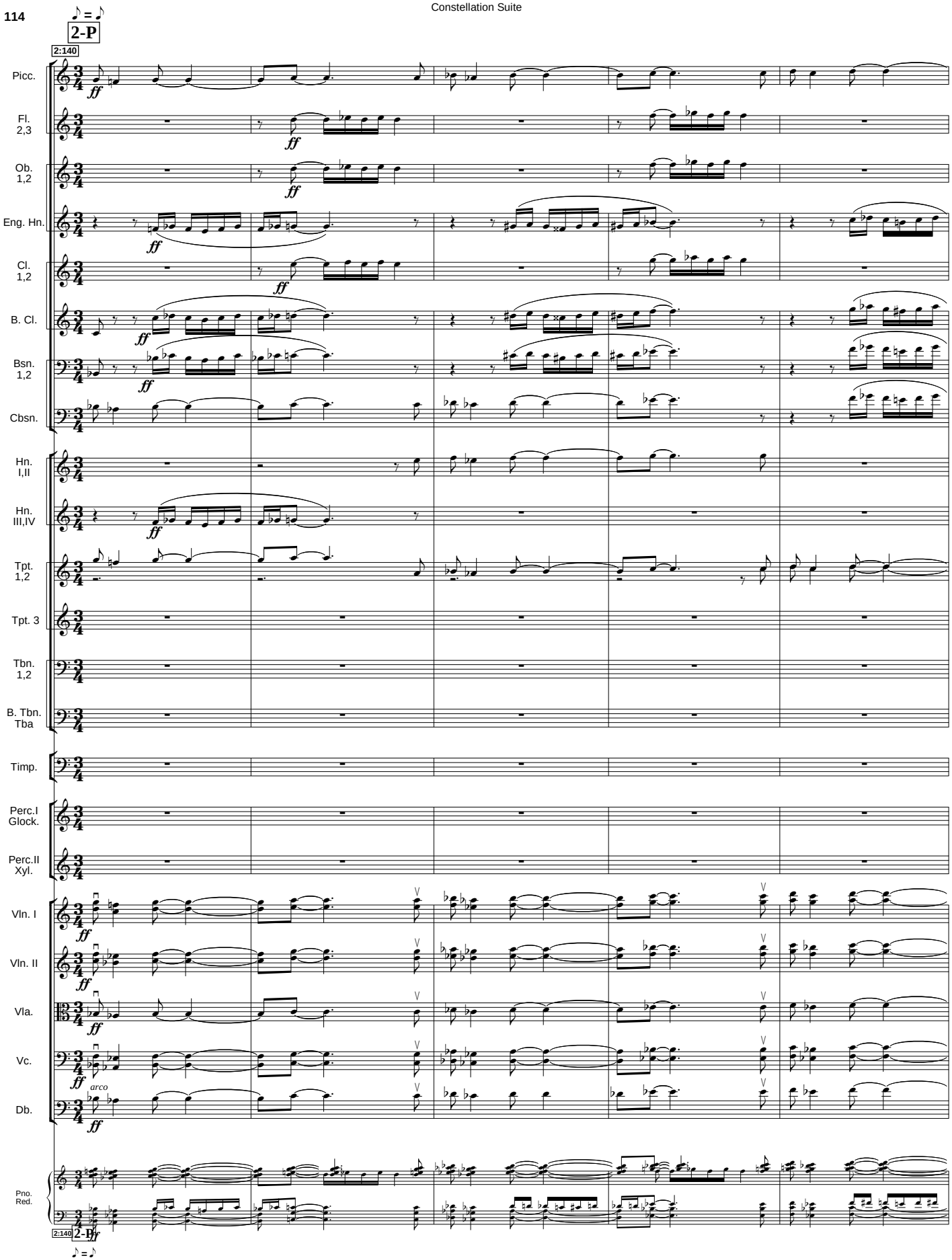

2-K
2:108
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
pizz.
div.
2-K
2:108

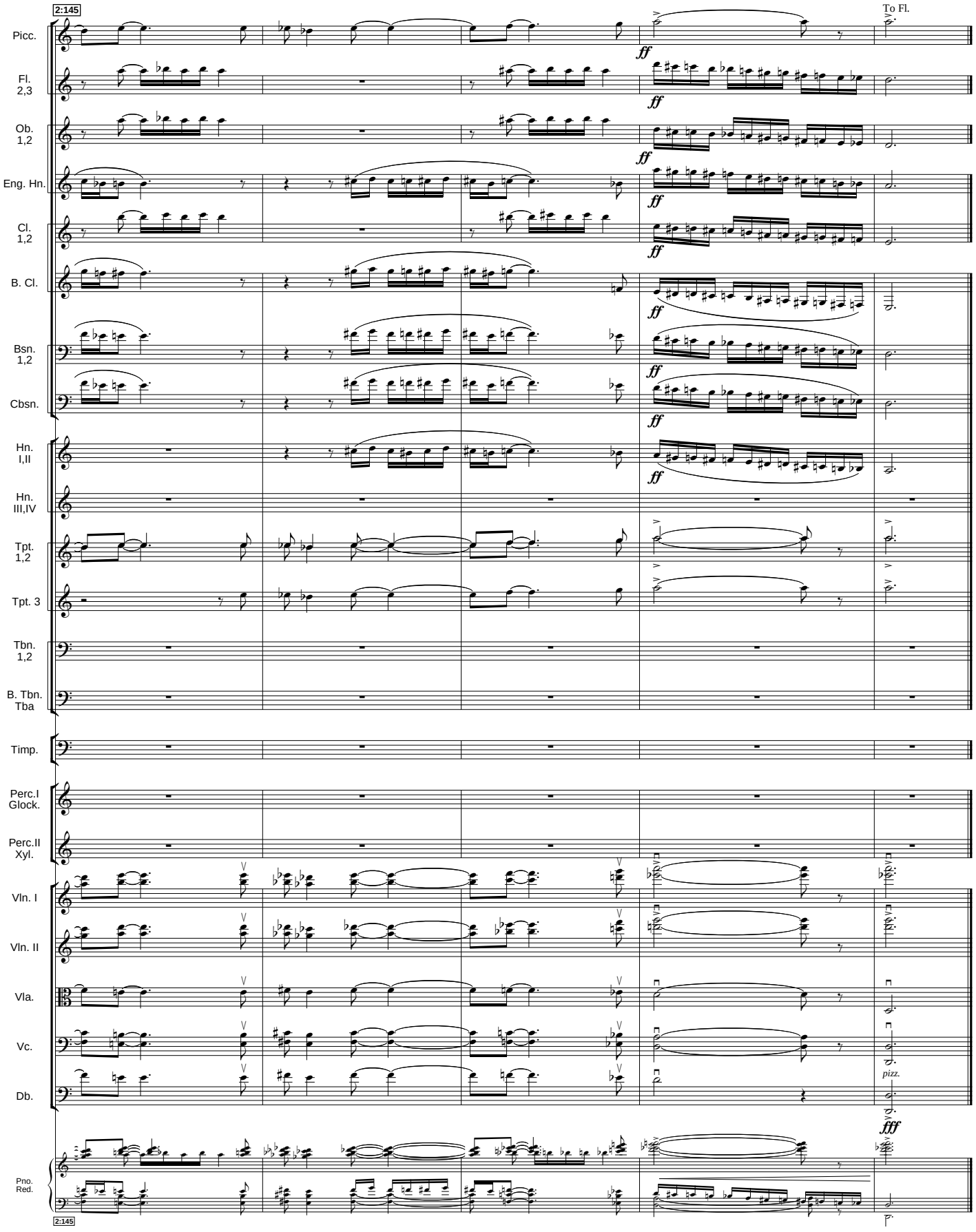

2-L
2-M
2:116
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco
pizz.
Pno. Red.


2-N
2:126
♪ = ♪
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco
Pno. Red.
2-N
2:126
♪ = ♪


2:130
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
2:130


2-O
2:134
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
a 2
a 2
pizz
2-O
2:134

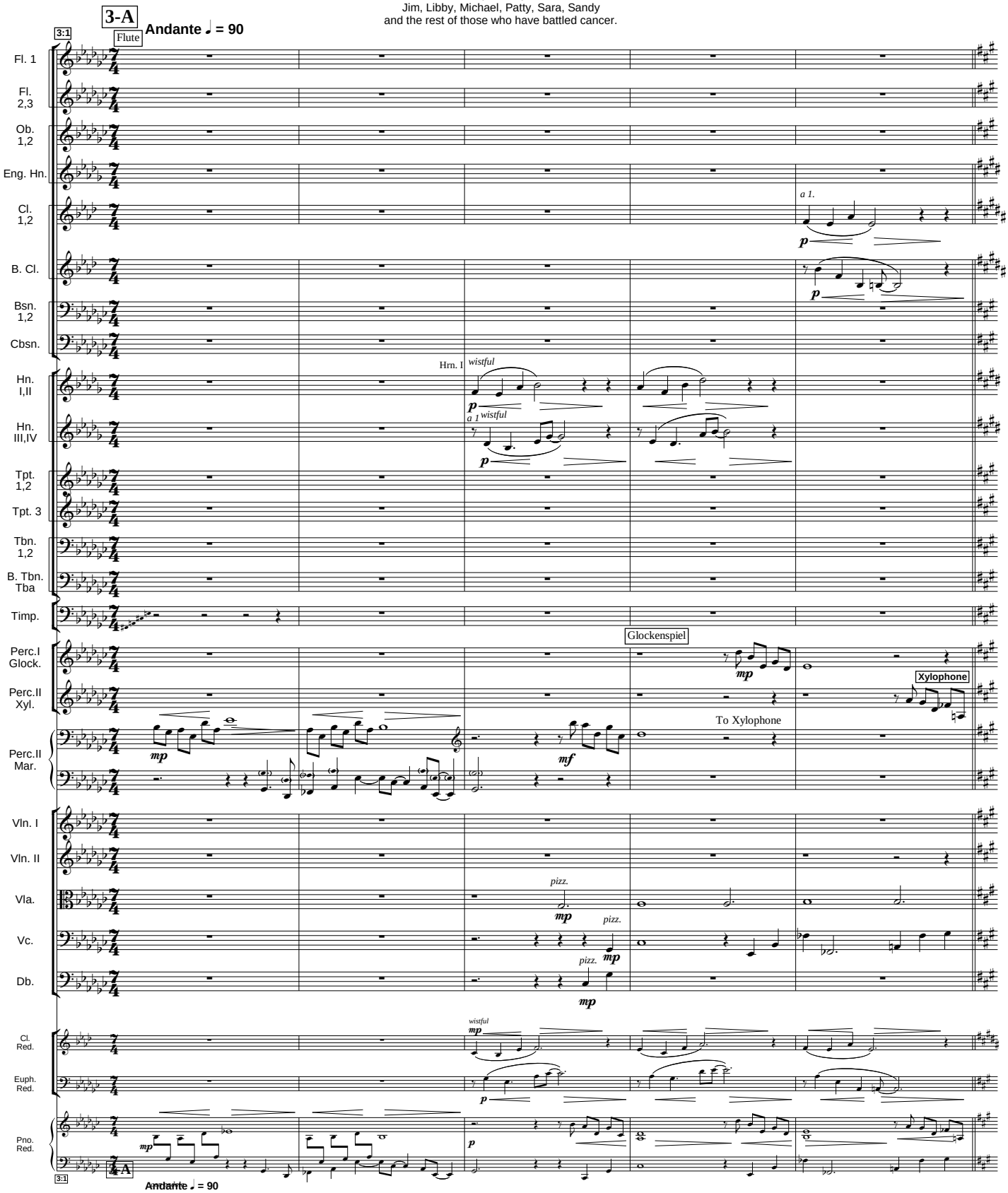

♪ = ♪
2-P
2:140
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco
Pno. Red.
2:140
2-P
♪ = ♪

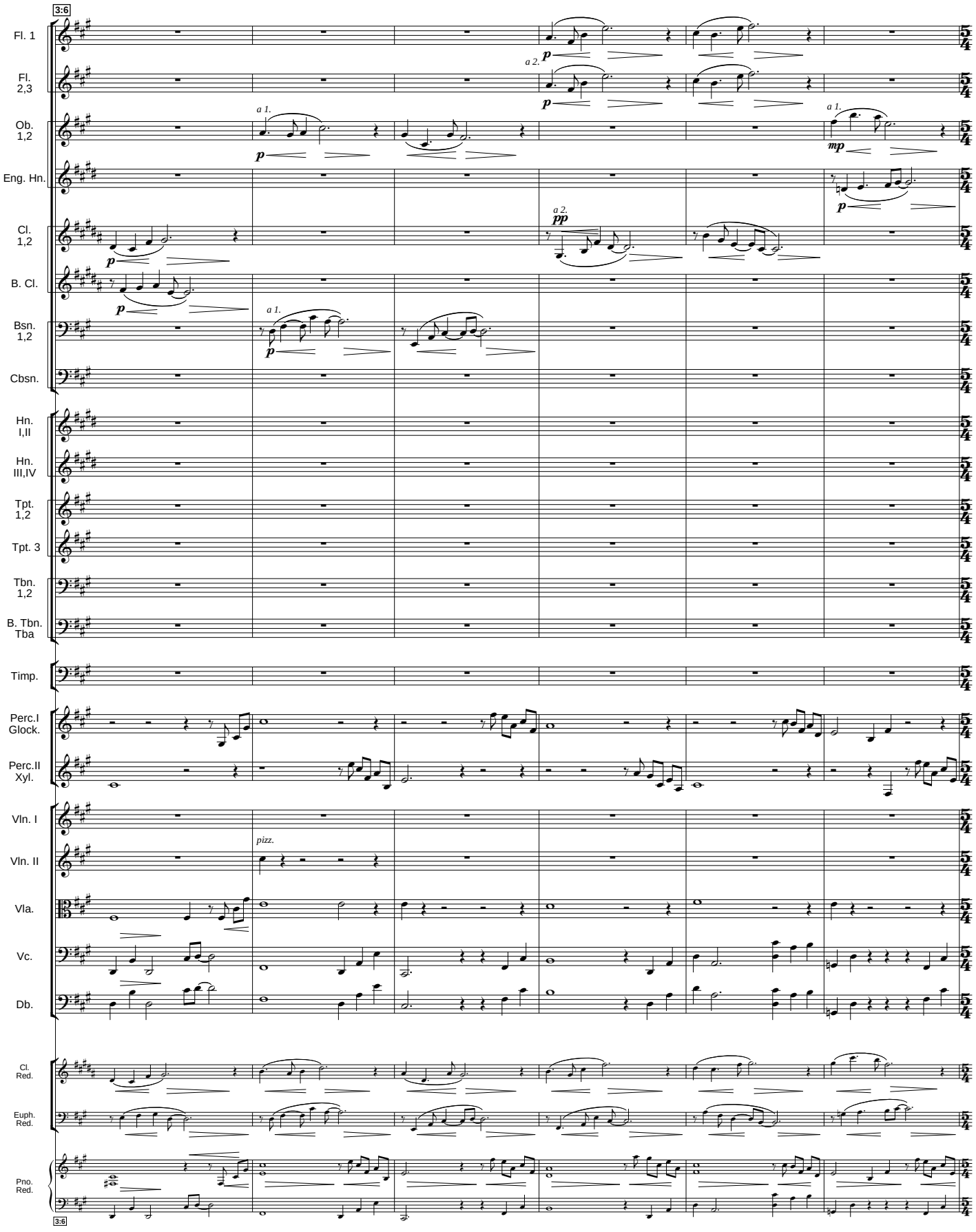

2:145
To Fl.
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz.
Pno. Red.
2:145

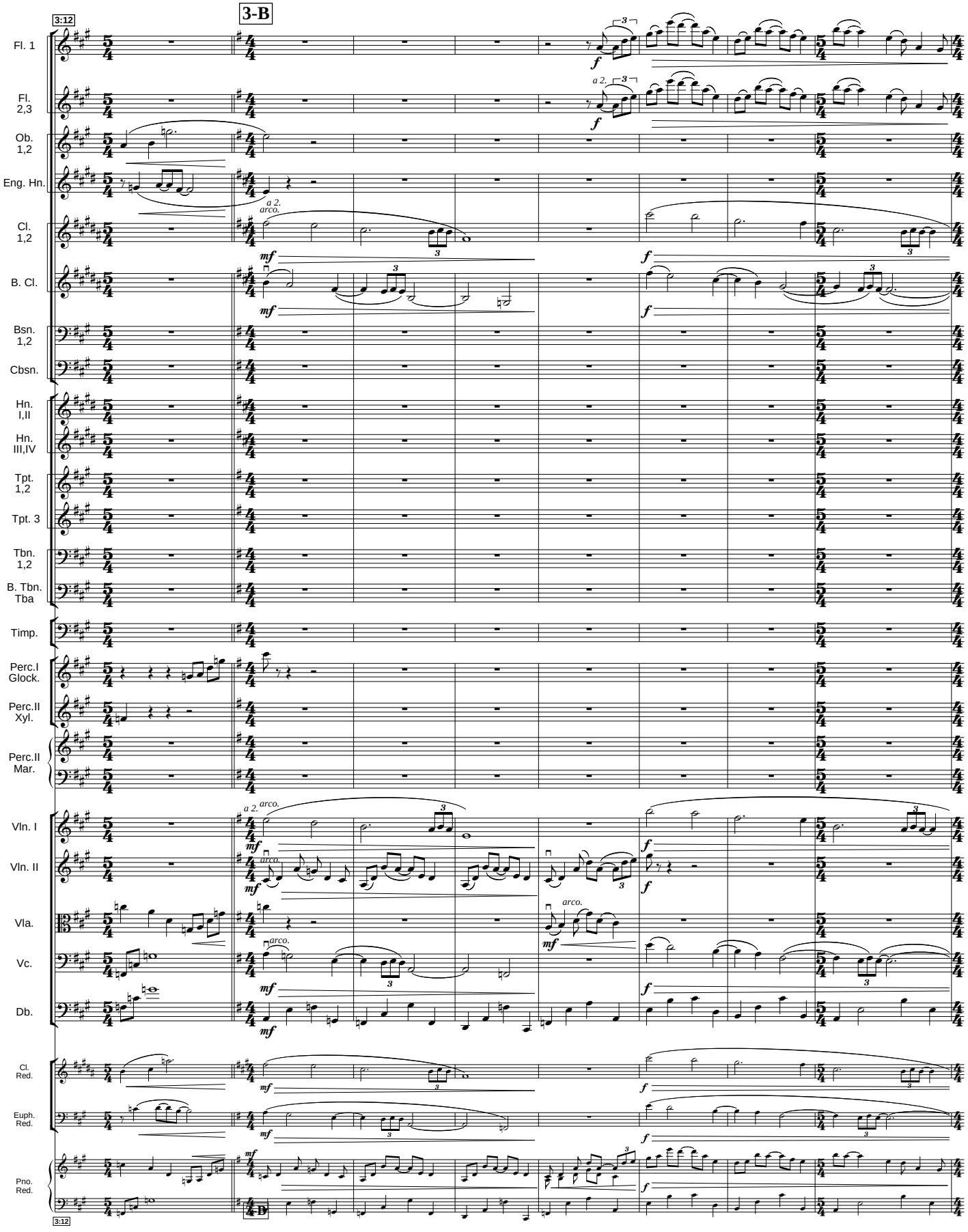
Written for Eugene Jones and Jimmie Self
American Cancer Society benefit concert
East Tennessee State University, April 10, 2011

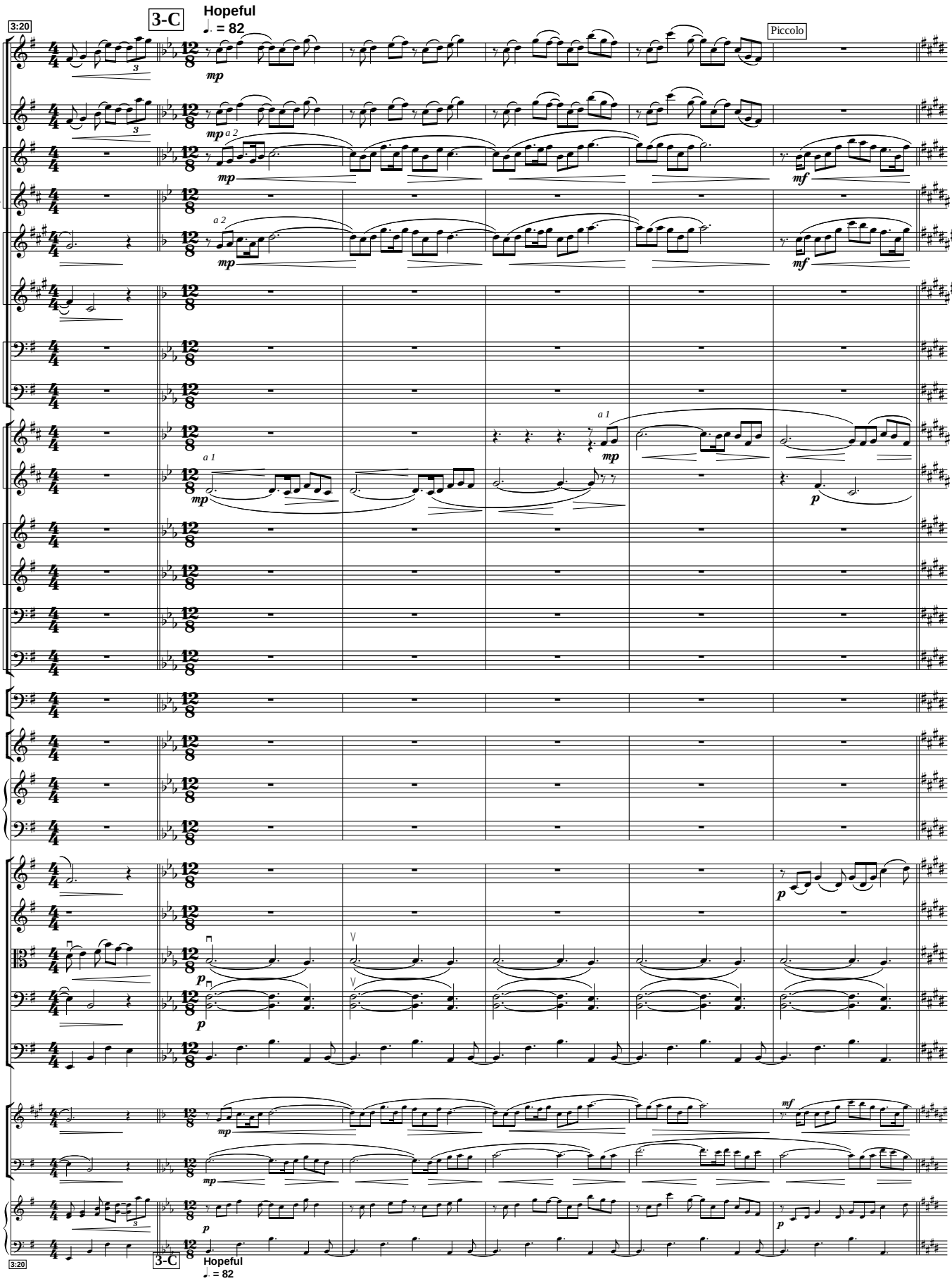
PLEIADES

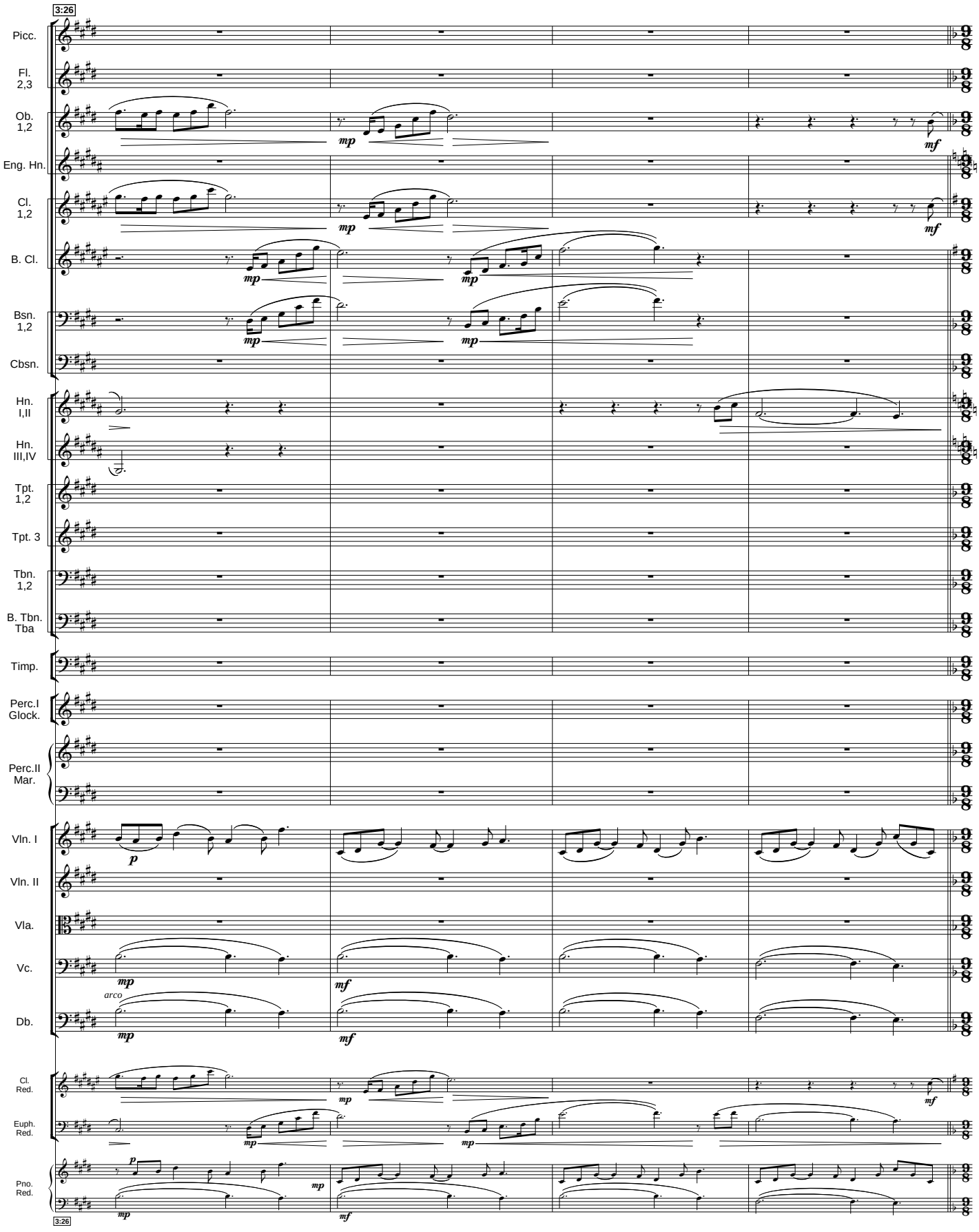
Dedicated to Cindi, Grandpa, Larry, Mom, Norma, Vanessa
Jim, Libby, Michael, Patty, Sara, Sandy
and the rest of those who have battled cancer.

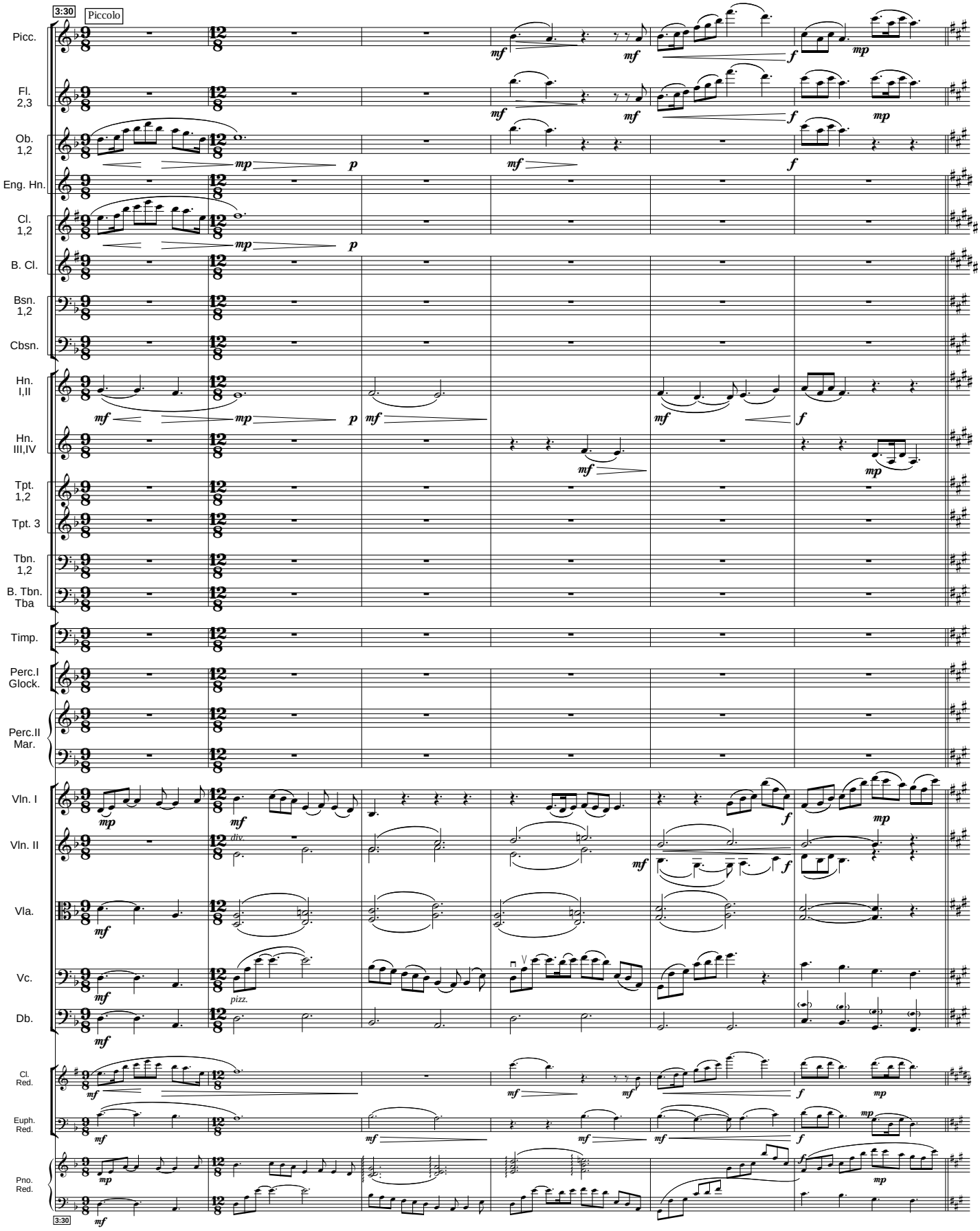


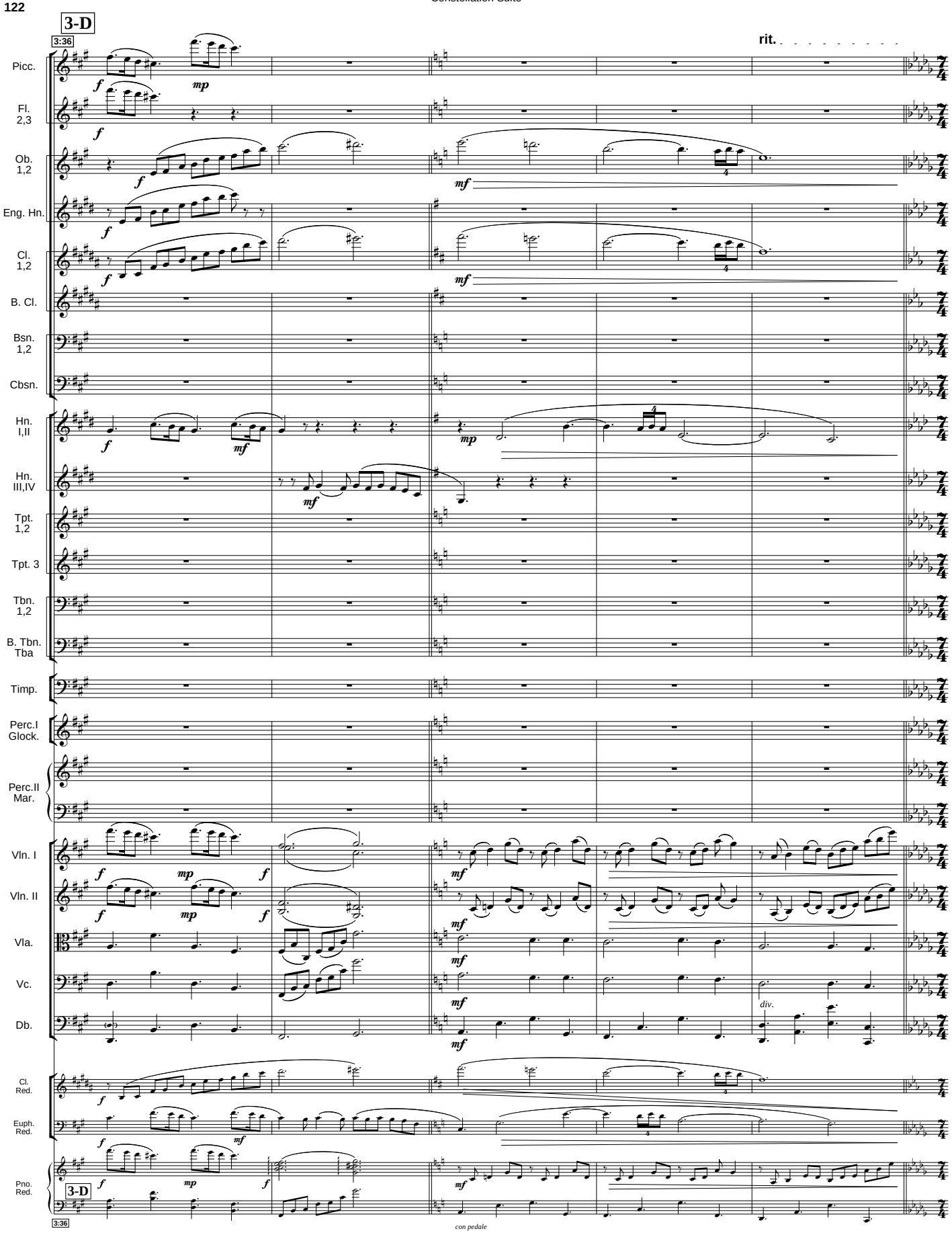

3:6
Fl. 1
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
3:6
a 1.
a 2.
pizz.
p
pp
mp

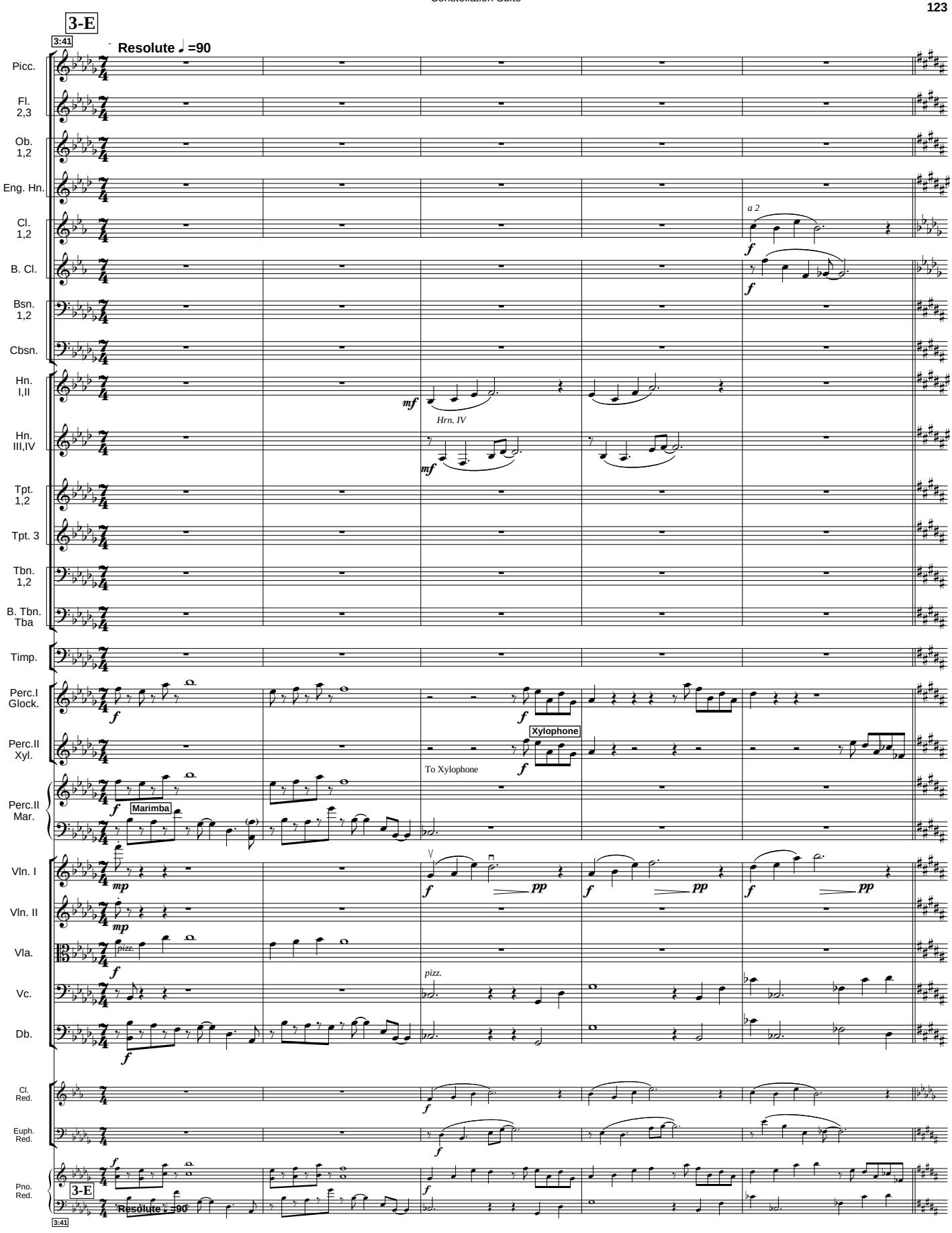

3-B
3:12
Fl. 1
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
a 2.
arco.
mf
f

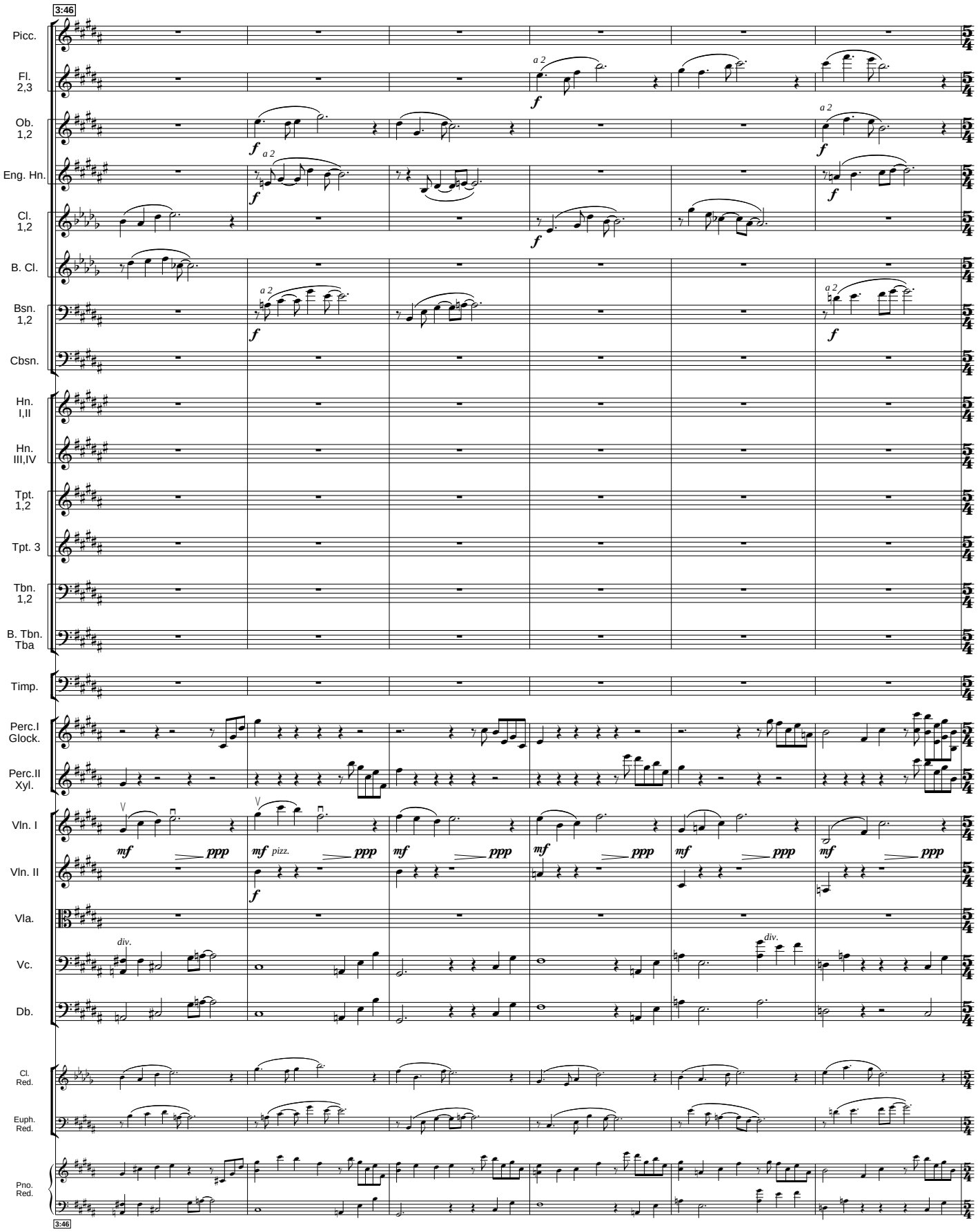

3-C
Hopeful
♩. = 82
3:20
Piccolo
Fl. 1
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
mp
mf
p
a 1
a 2

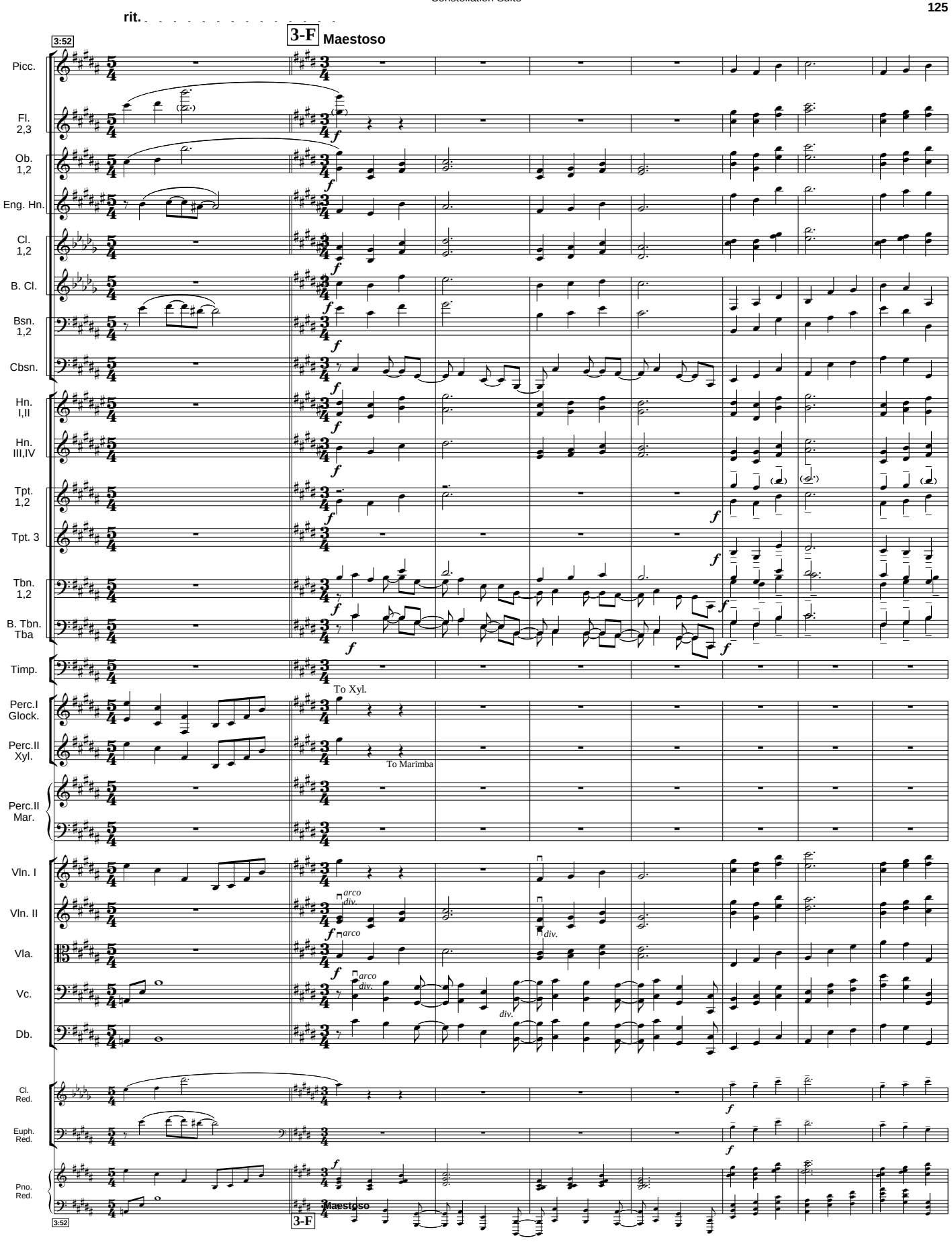

3:26
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
arco
3:26

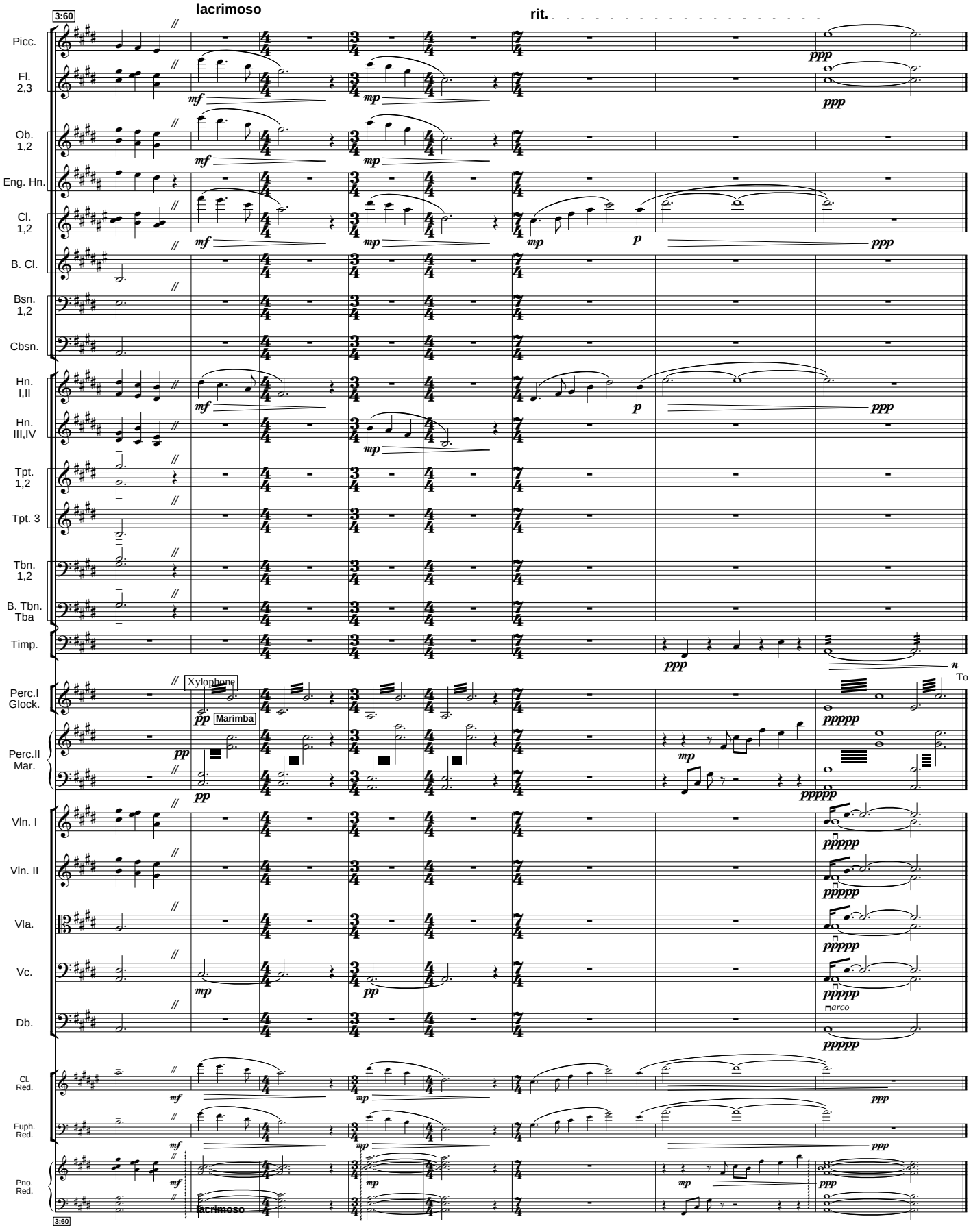

3:30
Piccolo
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Mar.
Vln. I
Vln. II
div.
Vla.
Vc.
pizz.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
3:30


3-D
3:36
rit.
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
3-D
3:36
div.
con pedale


3-E
3:41
Resolute ♩ =90
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
a 2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hrn. IV
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Xylophone
To Xylophone
Perc.II Mar.
Marimba
Vln. I
Vln. II
Vla.
pizz.
Vc.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
3-E
Resolute ♩ =90
3:41


3:46
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Perc.II Xyl.
Vln. I
Vln. II
Vla.
Vc.
Db.
Cl. Red.
Euph. Red.
Pno. Red.
a 2
f
mf
ppp
pizz.
div.
3:46


rit.
3-F
Maestoso
3:52
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
To Xyl.
Perc.I Glock.
Perc.II Xyl.
To Marimba
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco
div.
Cl. Red.
Euph. Red.
Pno. Red.
Maestoso
3-F
3:52


lacrimoso
rit.
3:60
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock.
Xylophone
Marimba
To Snare.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco
Cl. Red.
Euph. Red.
Pno. Red.
lacrimoso
3:60

Orion

Evelyn Pursley-Kopitzke

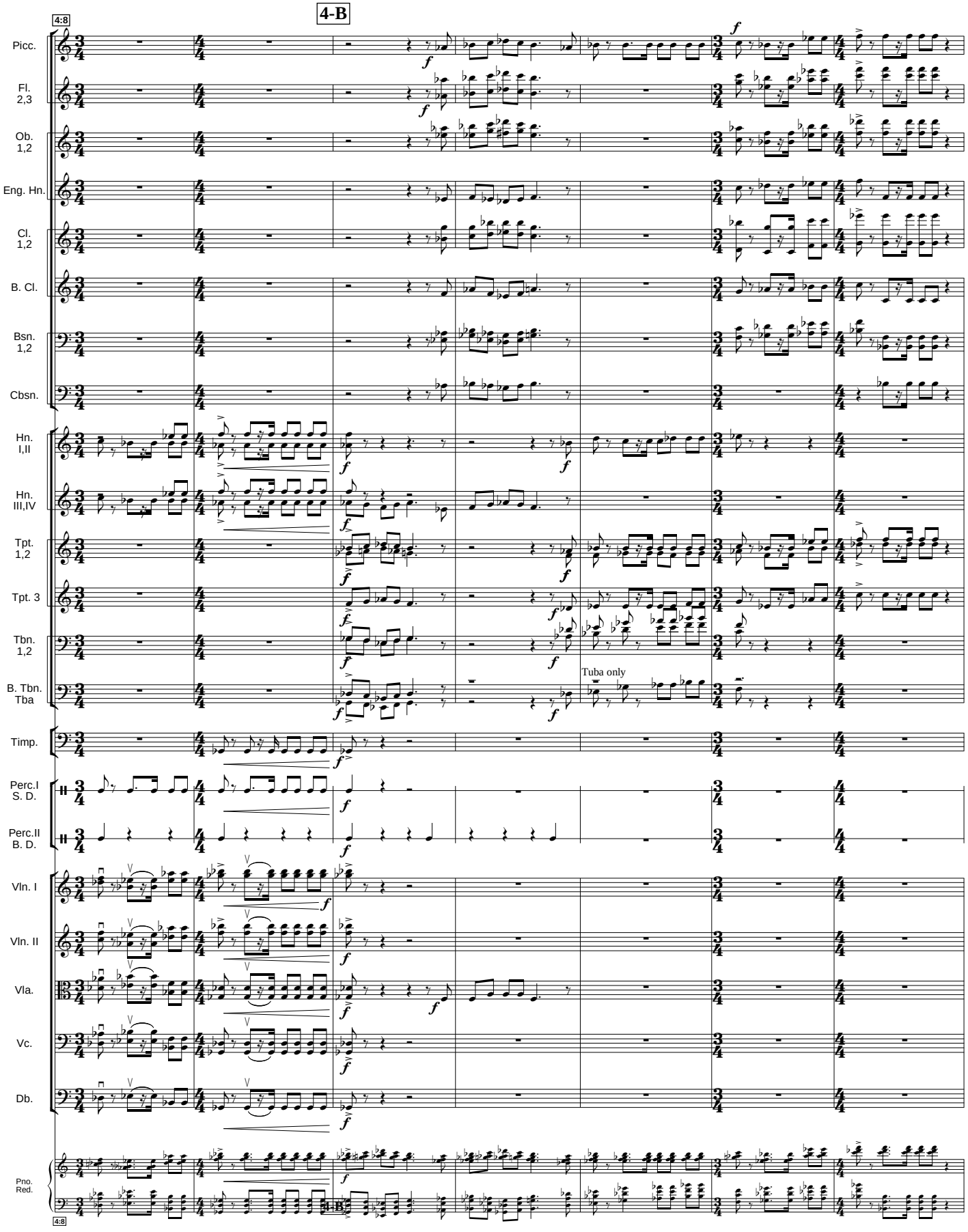
4-A Moderato ♩ = 90

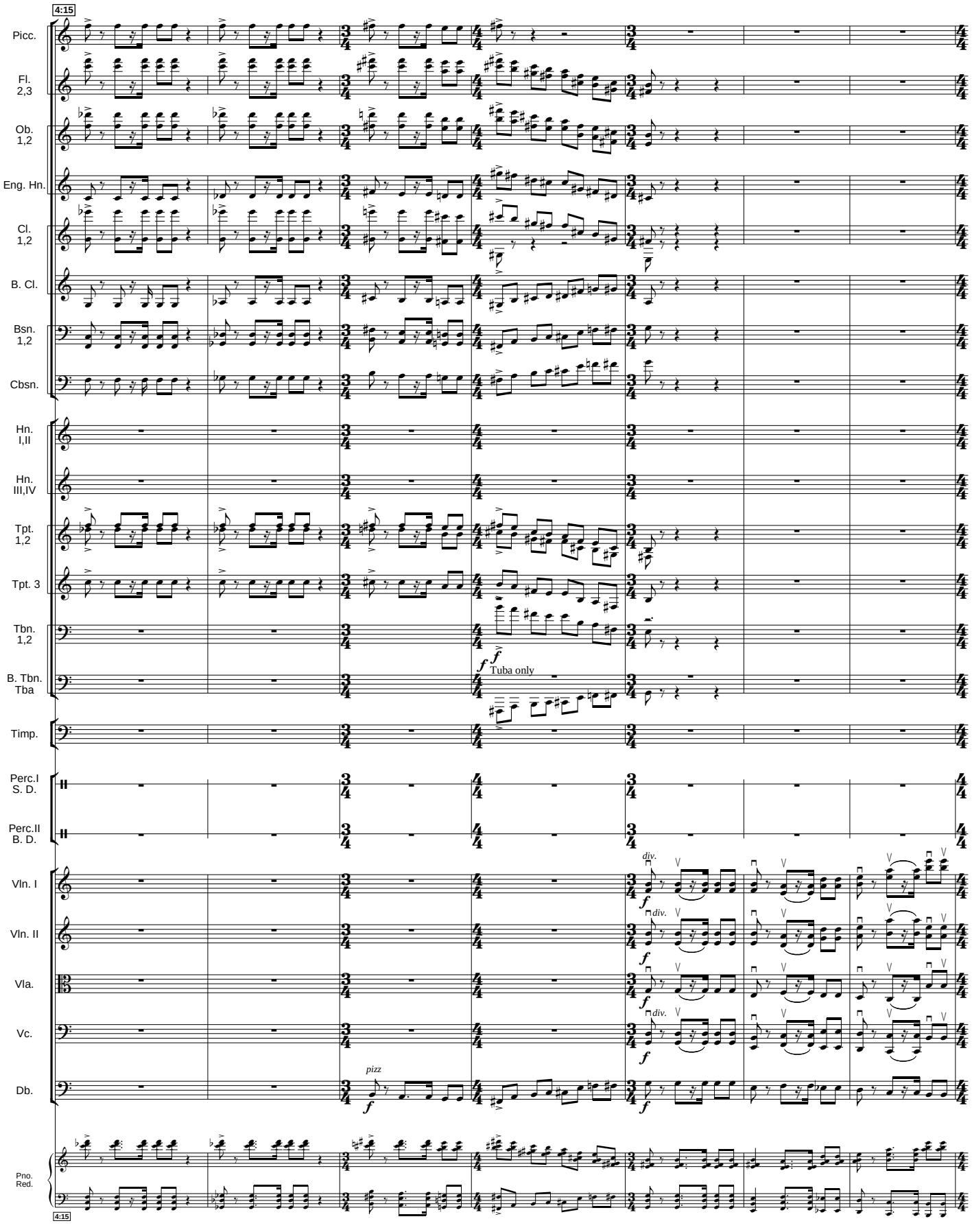
4:1

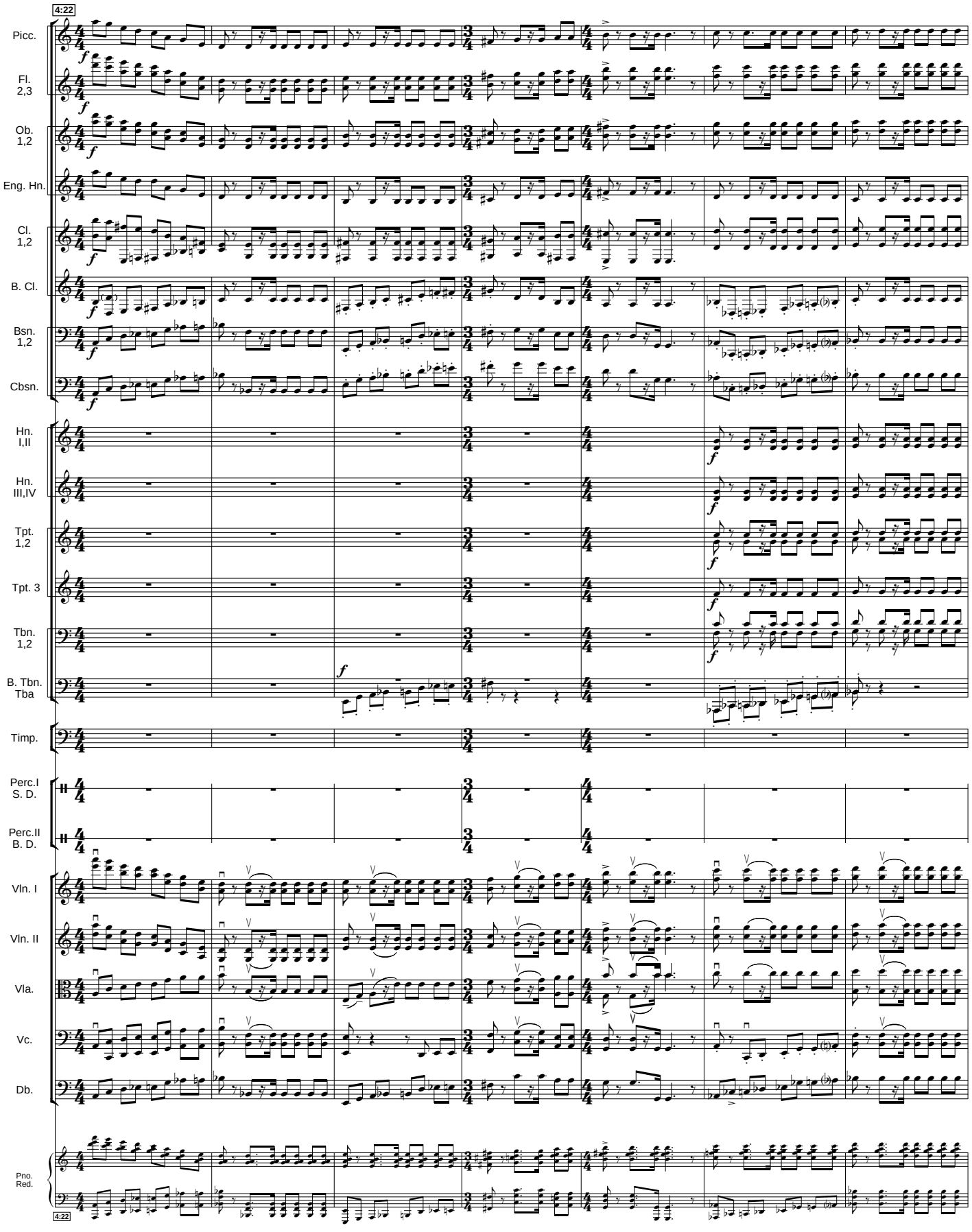
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.

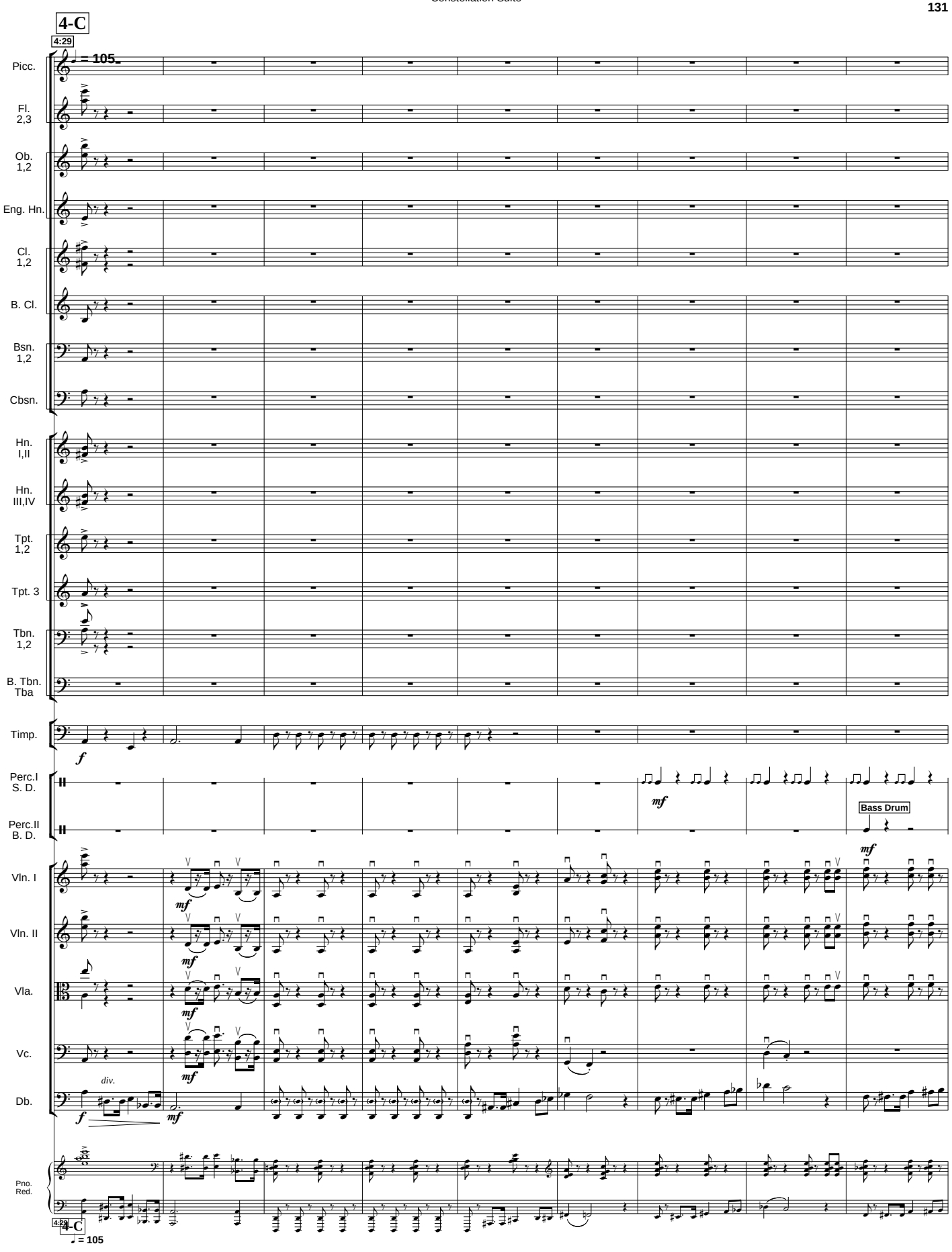
A Moderato ♩ = 90

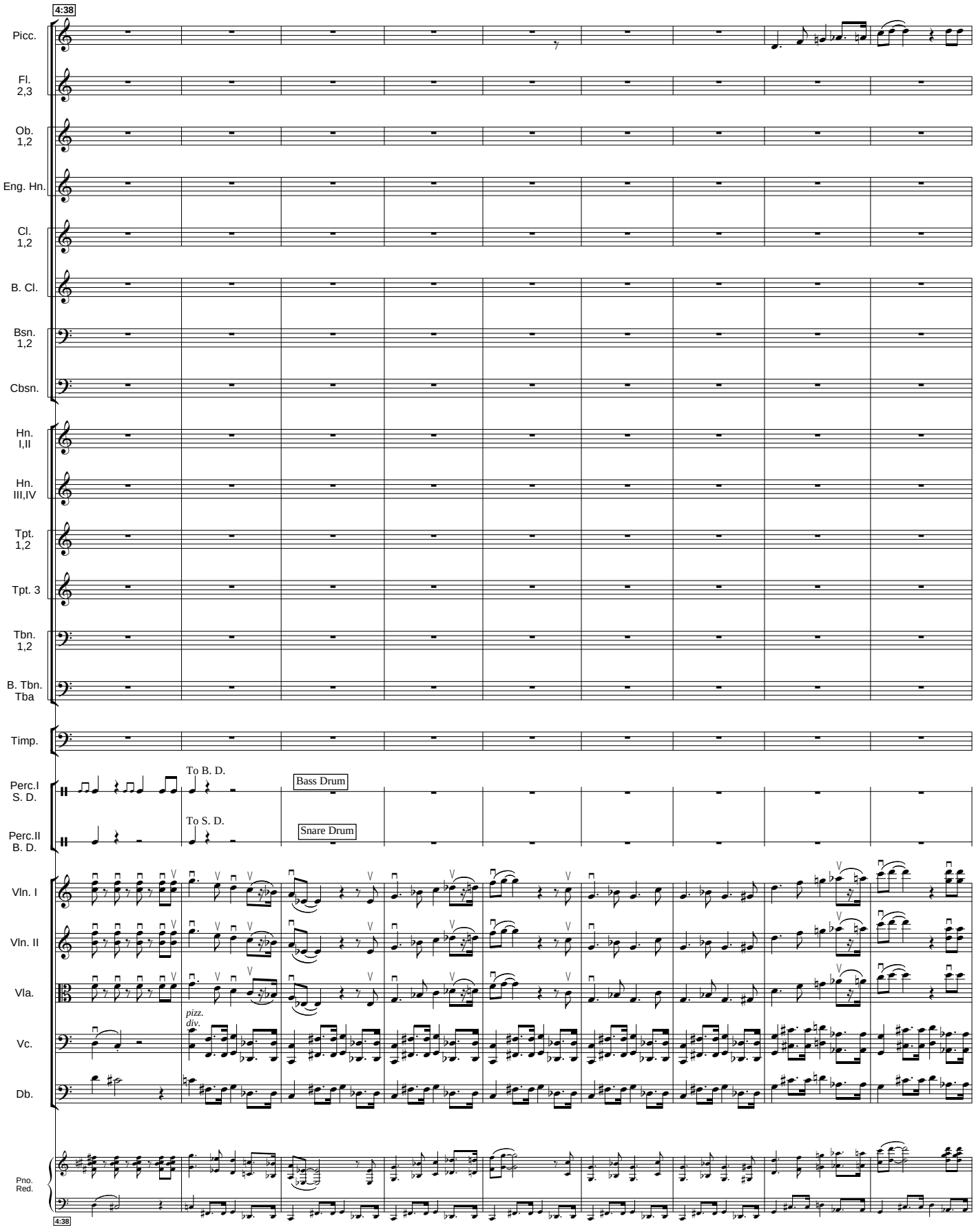
4:1

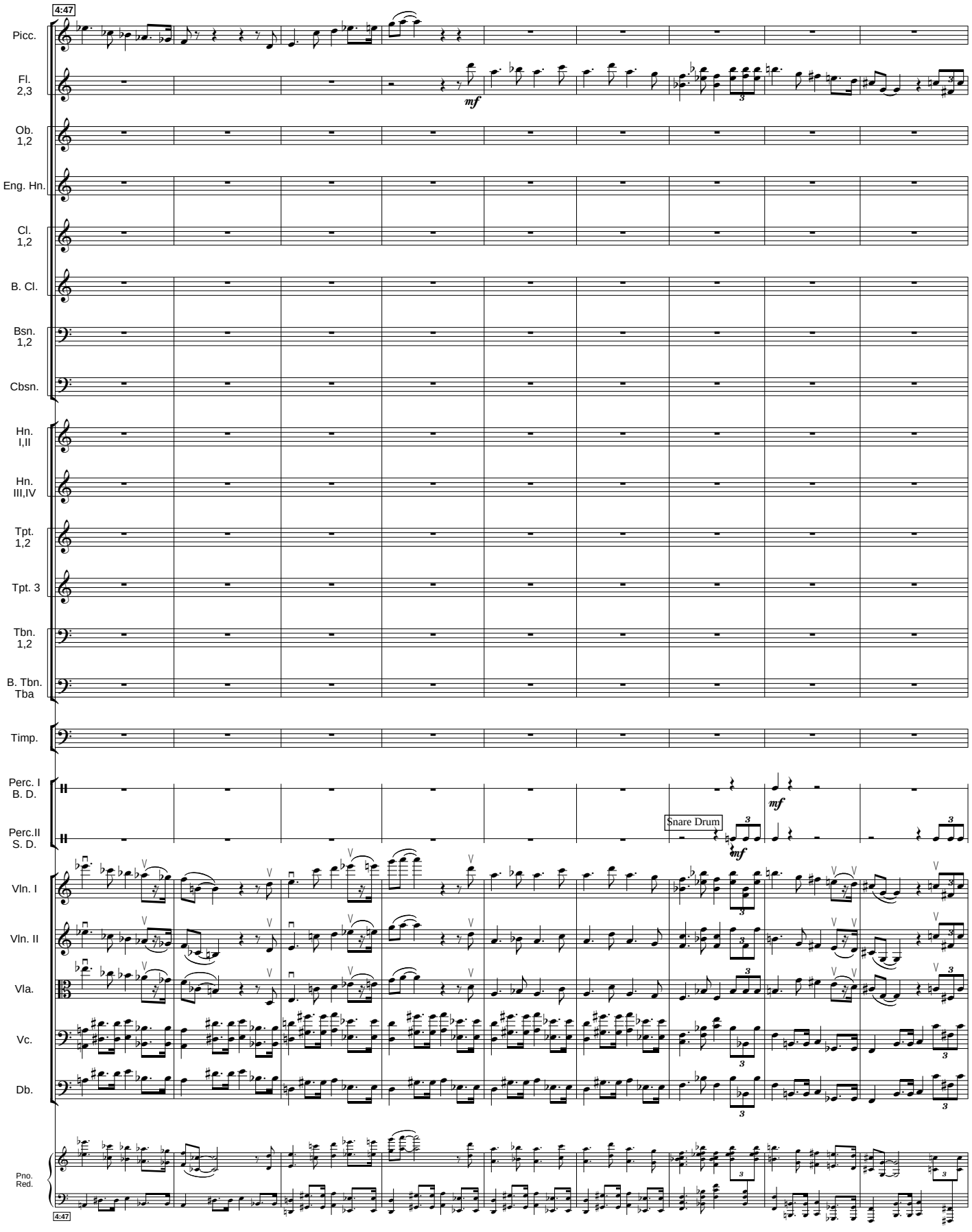

4-B
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Tuba only
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.

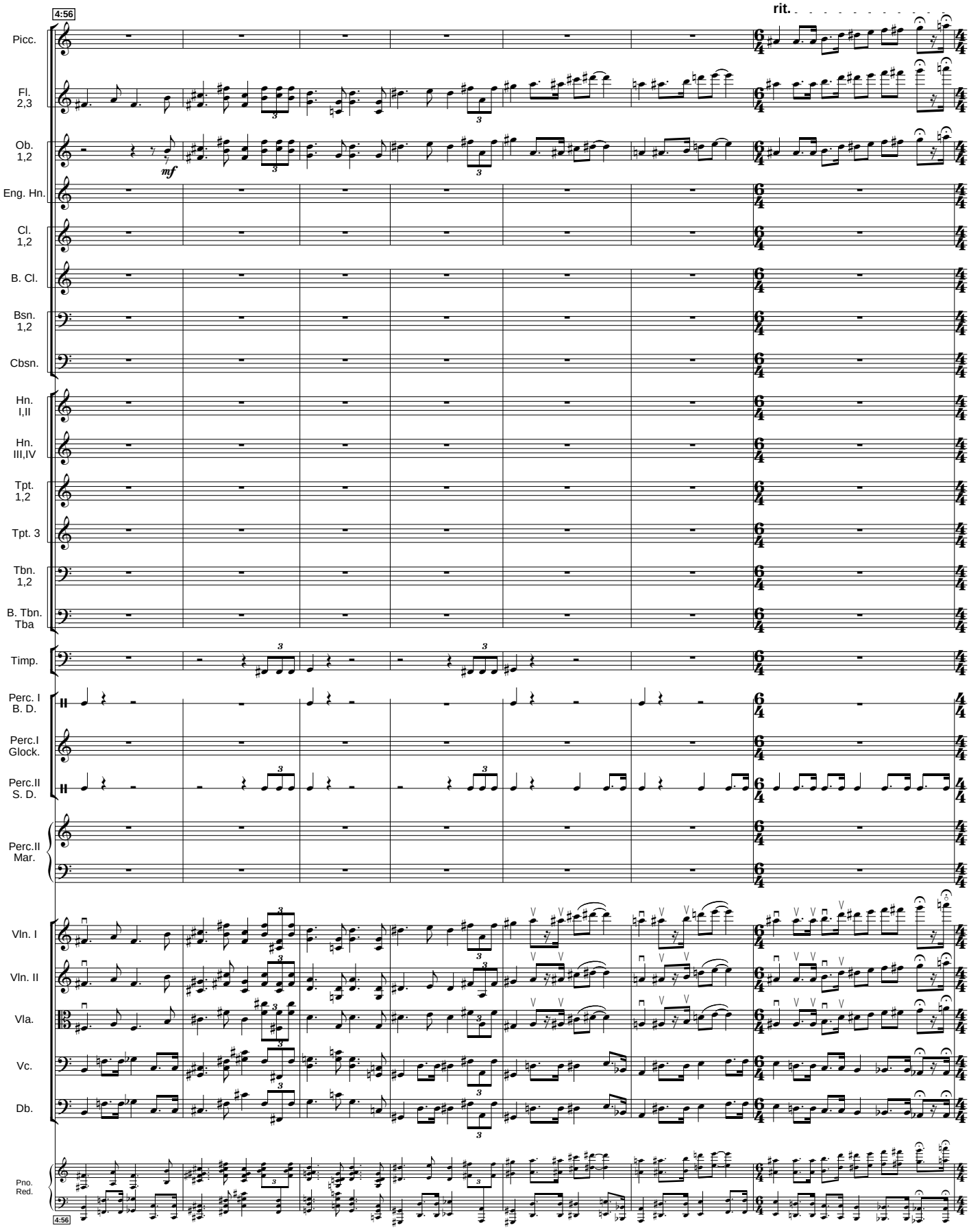

4:15
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Tuba only
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
pizz
div.
Pno. Red.
4:15

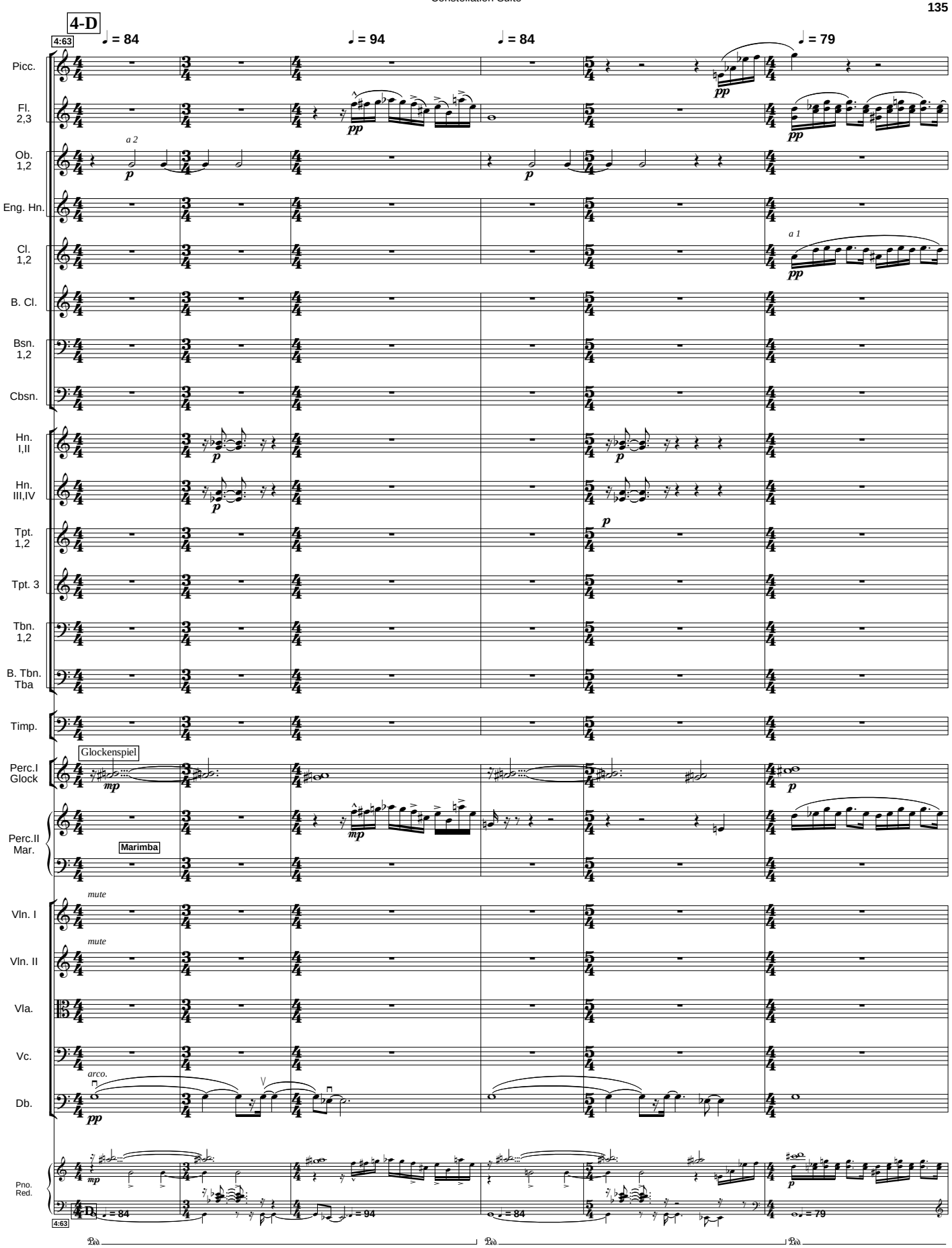

4:22
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
4:22

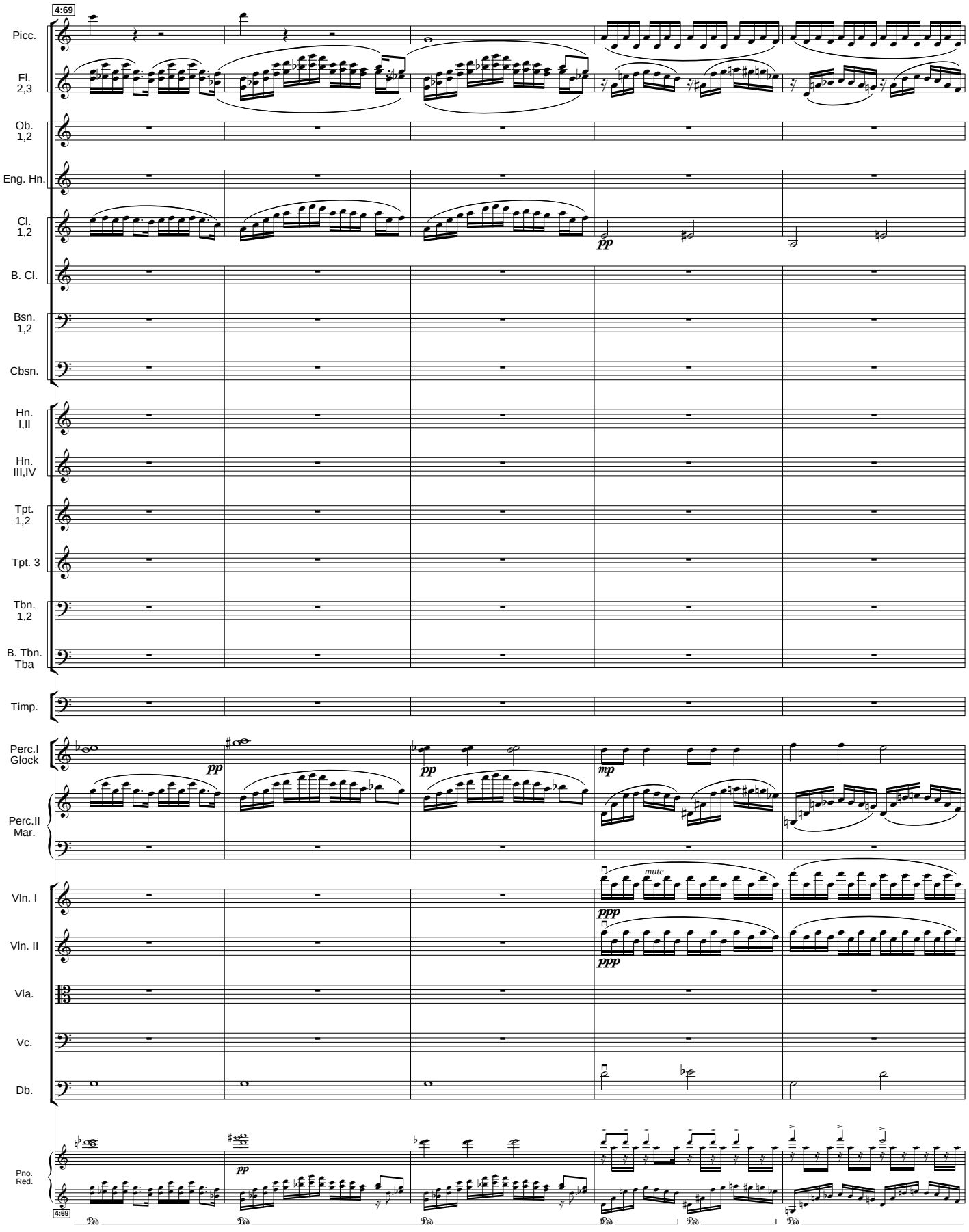

4-C
4:29
♩ = 105
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Bass Drum
Vln. I
Vln. II
Vla.
Vc.
Db.
div.
Pno. Red.
4-C
4:29
♩ = 105

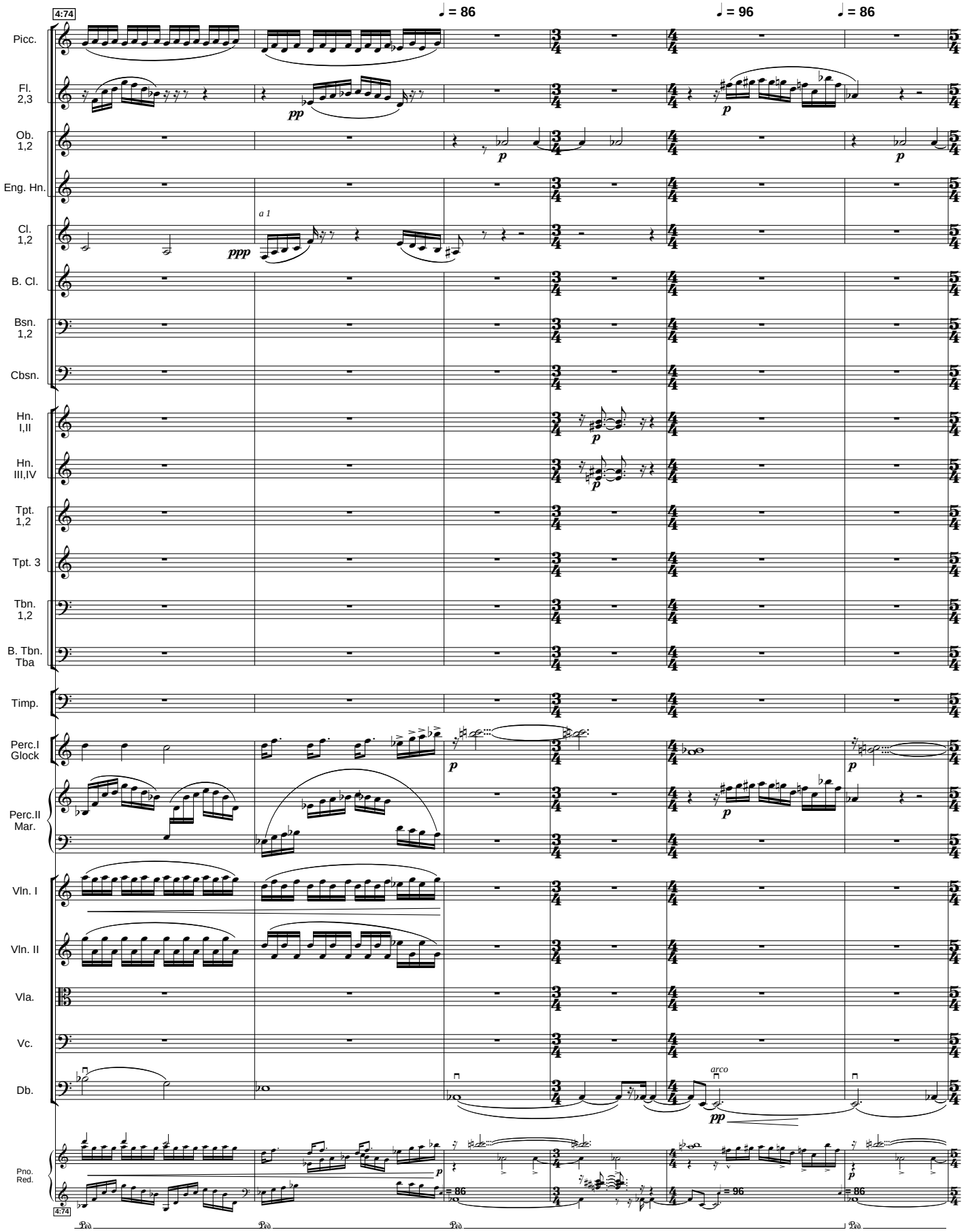

4:38
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
To B. D.
Bass Drum
Perc.II B. D.
To S. D.
Snare Drum
Vln. I
Vln. II
Vla.
pizz.
div.
Vc.
Db.
Pno. Red.
4:38

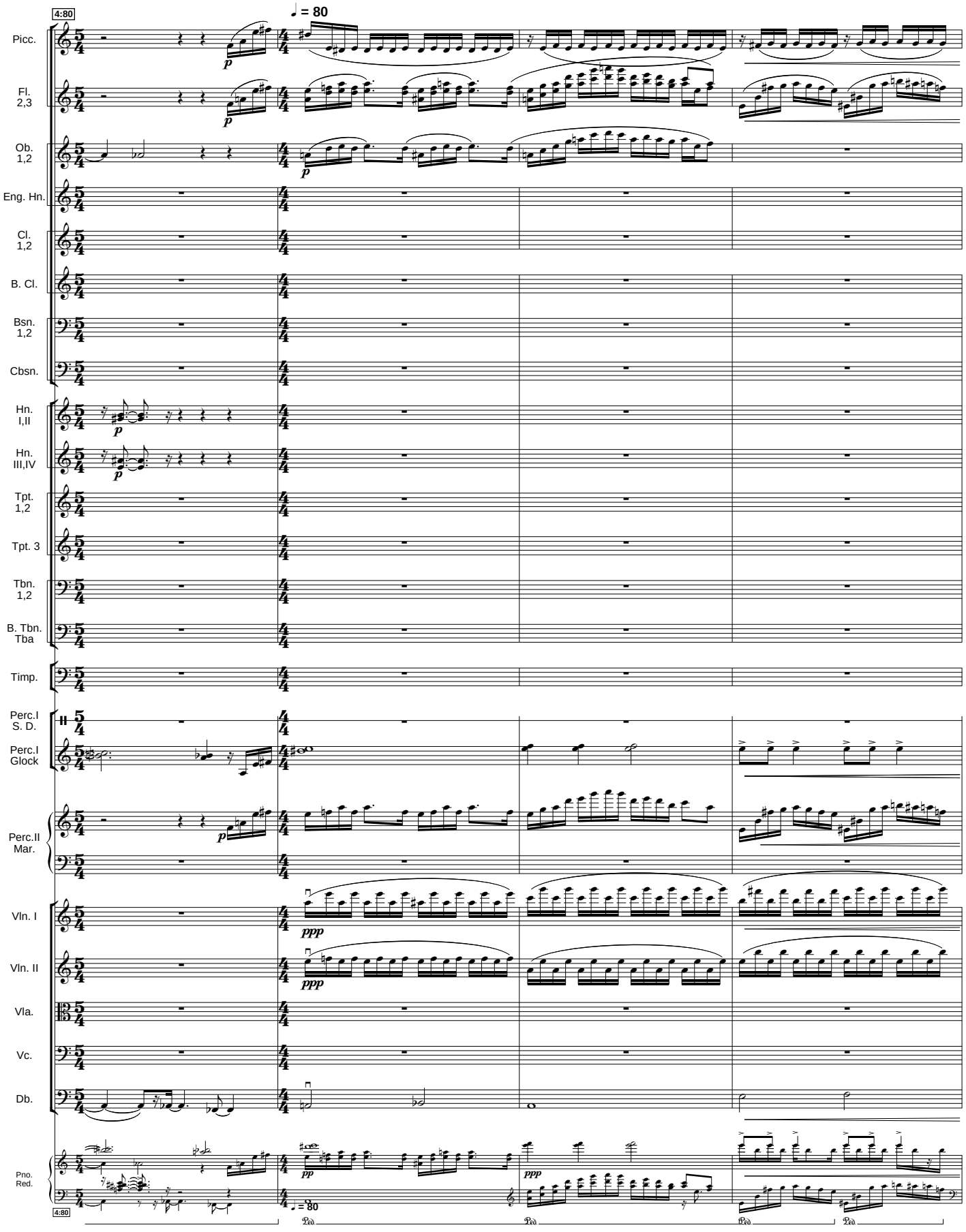

4:47
Picc.
Fl. 2,3
mf
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc. I B. D.
mf
Perc.II S. D.
Snare Drum
mf
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
4:47

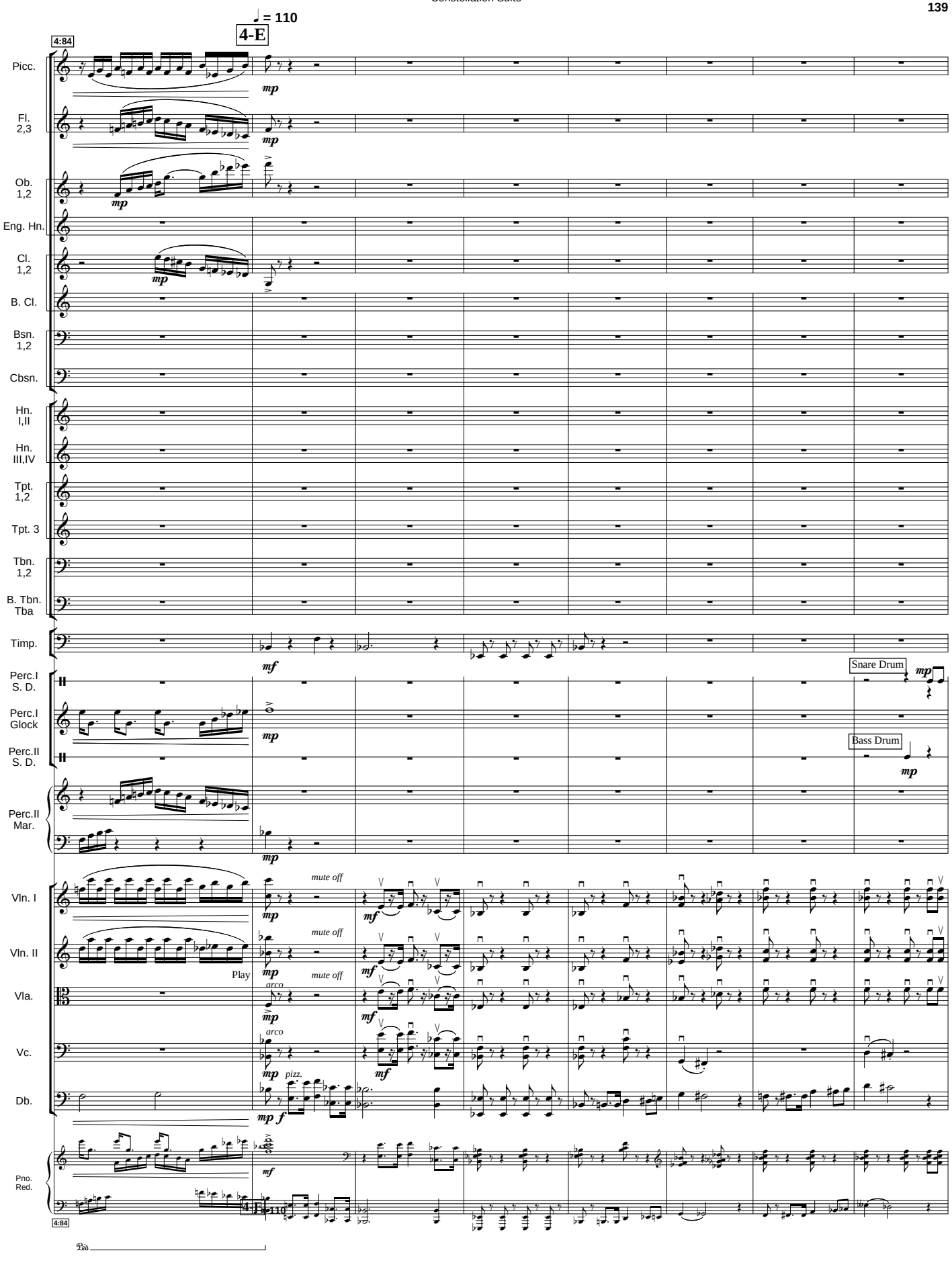

4:56
rit.
Picc.
Fl. 2,3
Ob. 1,2
mf
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc. I B. D.
Perc.I Glock.
Perc.II S. D.
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
4:56

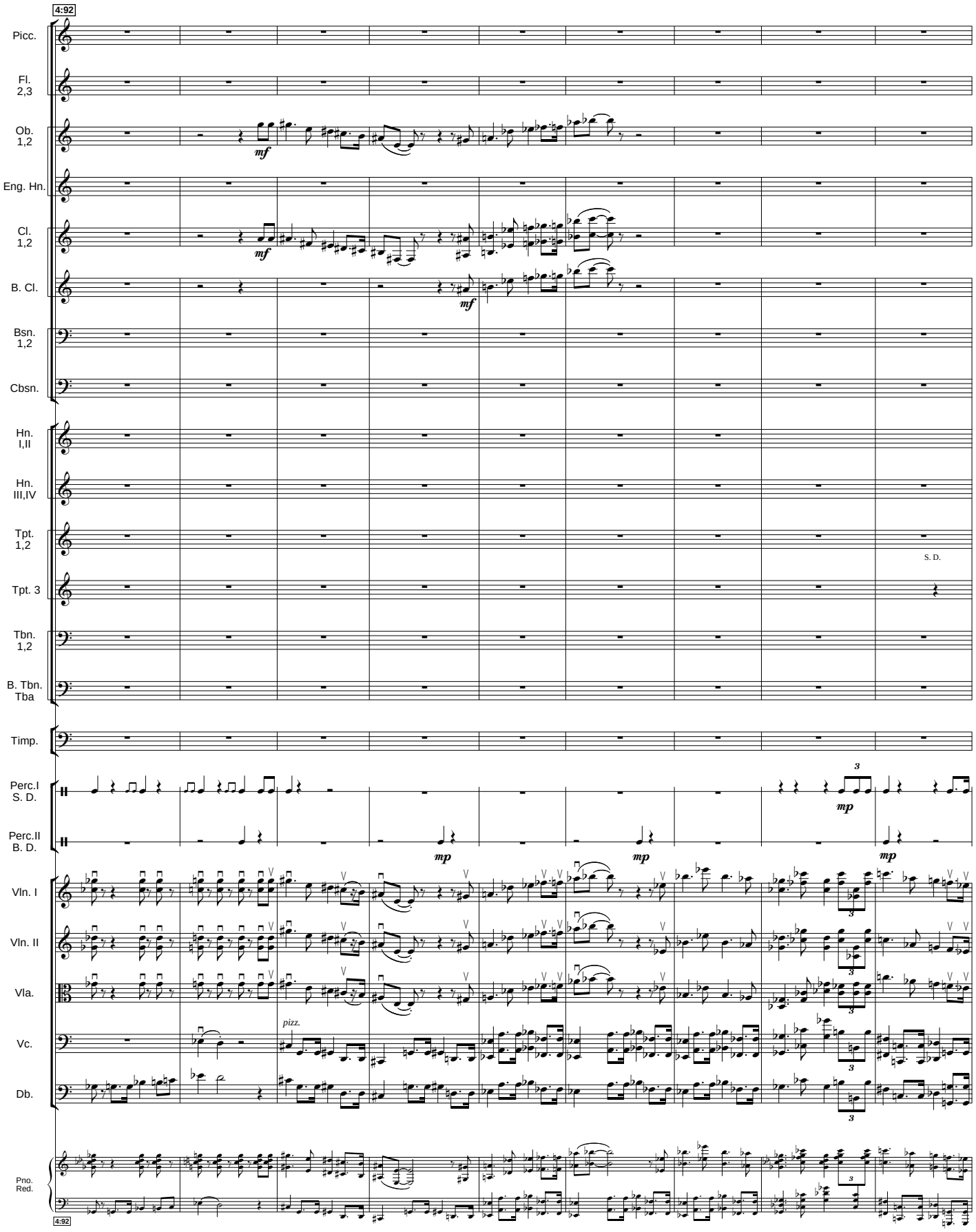

4-D
4:63
♩ = 84
♩ = 94
♩ = 84
♩ = 79
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock
Glockenspiel
Perc.II Mar.
Marimba
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
a 2
a 1
mute
arco.
pp
p
mp
4:63
♩ = 84
♩ = 94
♩ = 84
♩ = 79

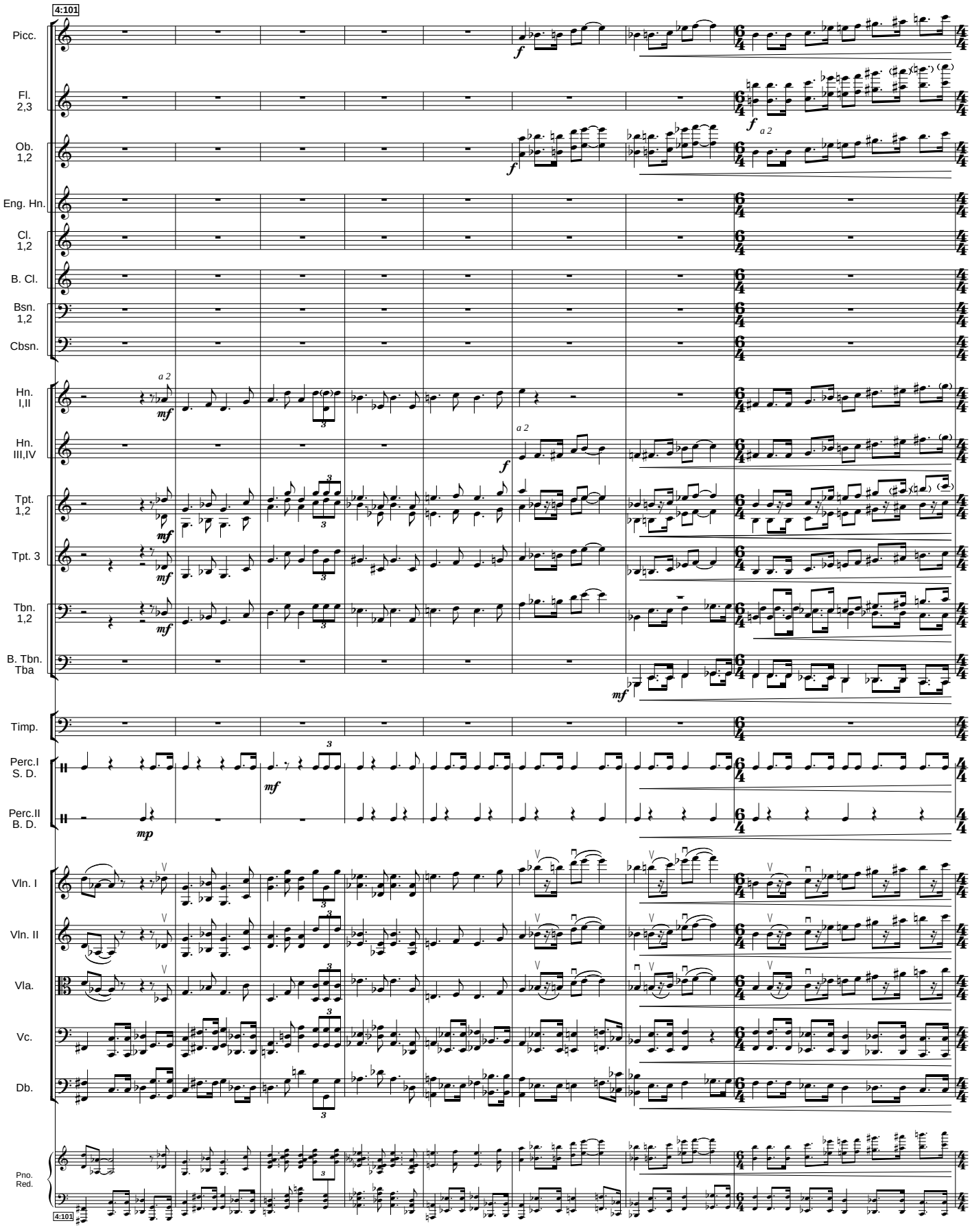

4:69
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
pp
mp
ppp
mute
Ped.

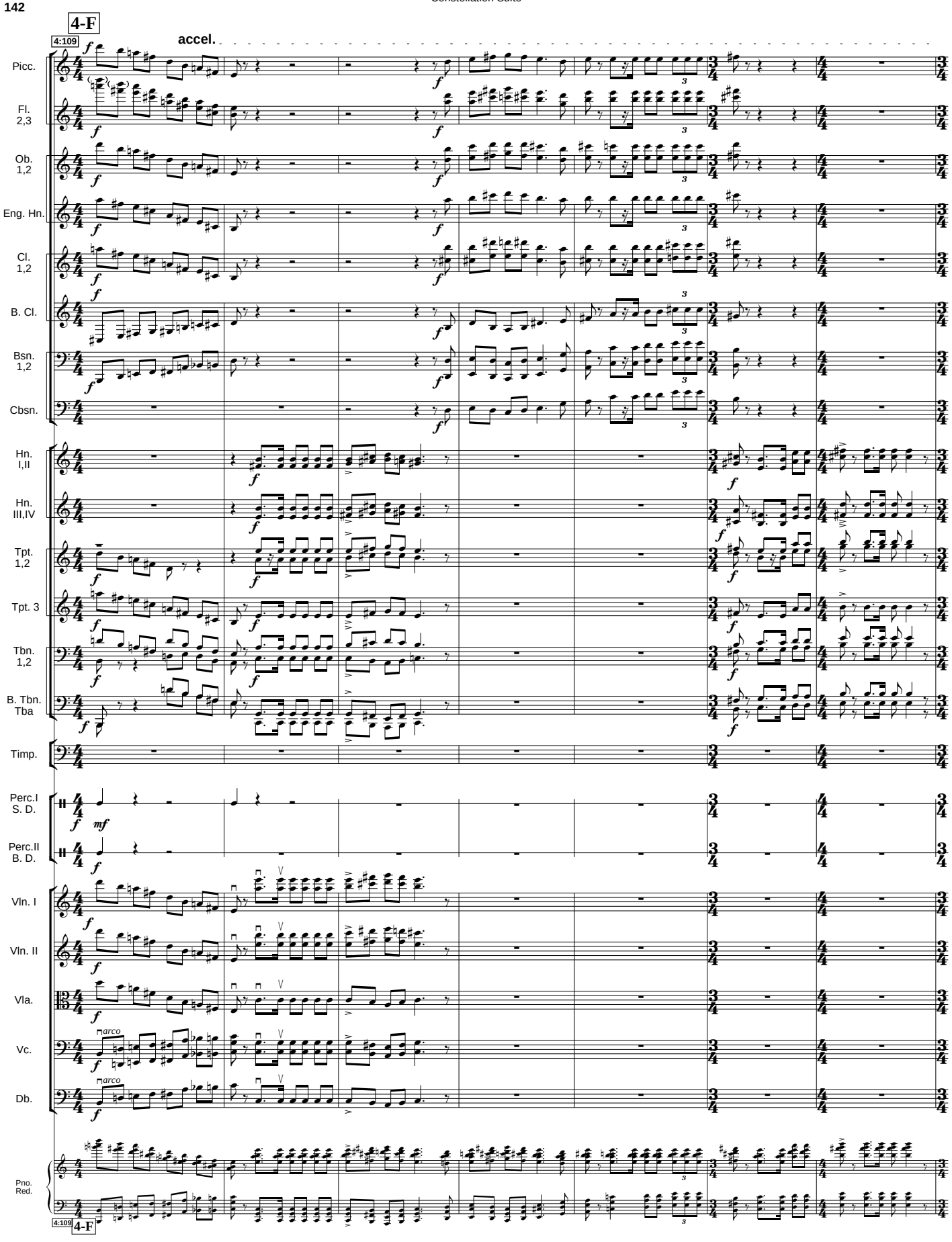

4:74
♩ = 86
♩ = 96
♩ = 86
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I Glock
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
a 1
arco
ppp
pp
p
Ped

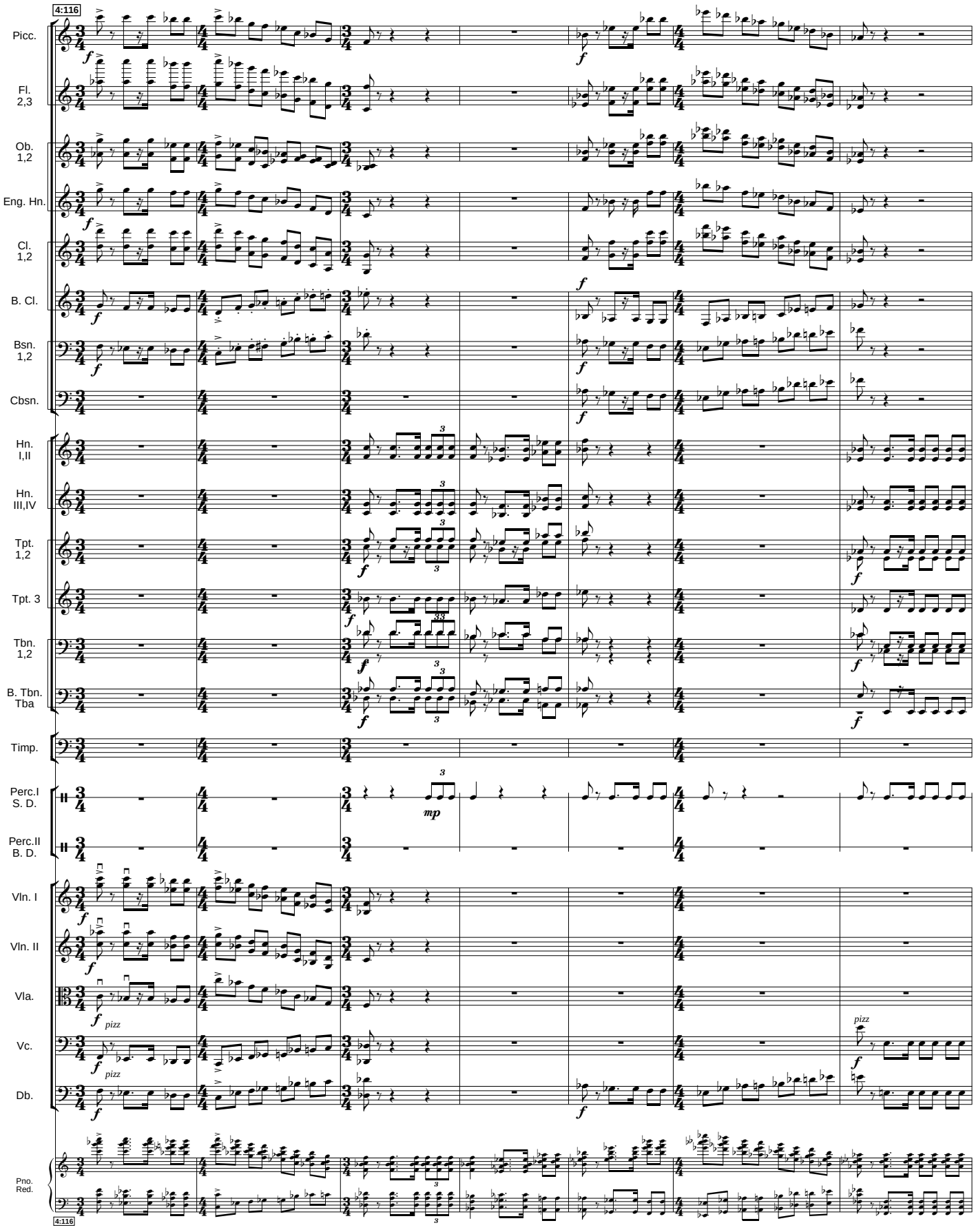

4:80
♩ = 80
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.I Glock
Perc.II Mar.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
p
ppp
pp
4:80
♩ = 80

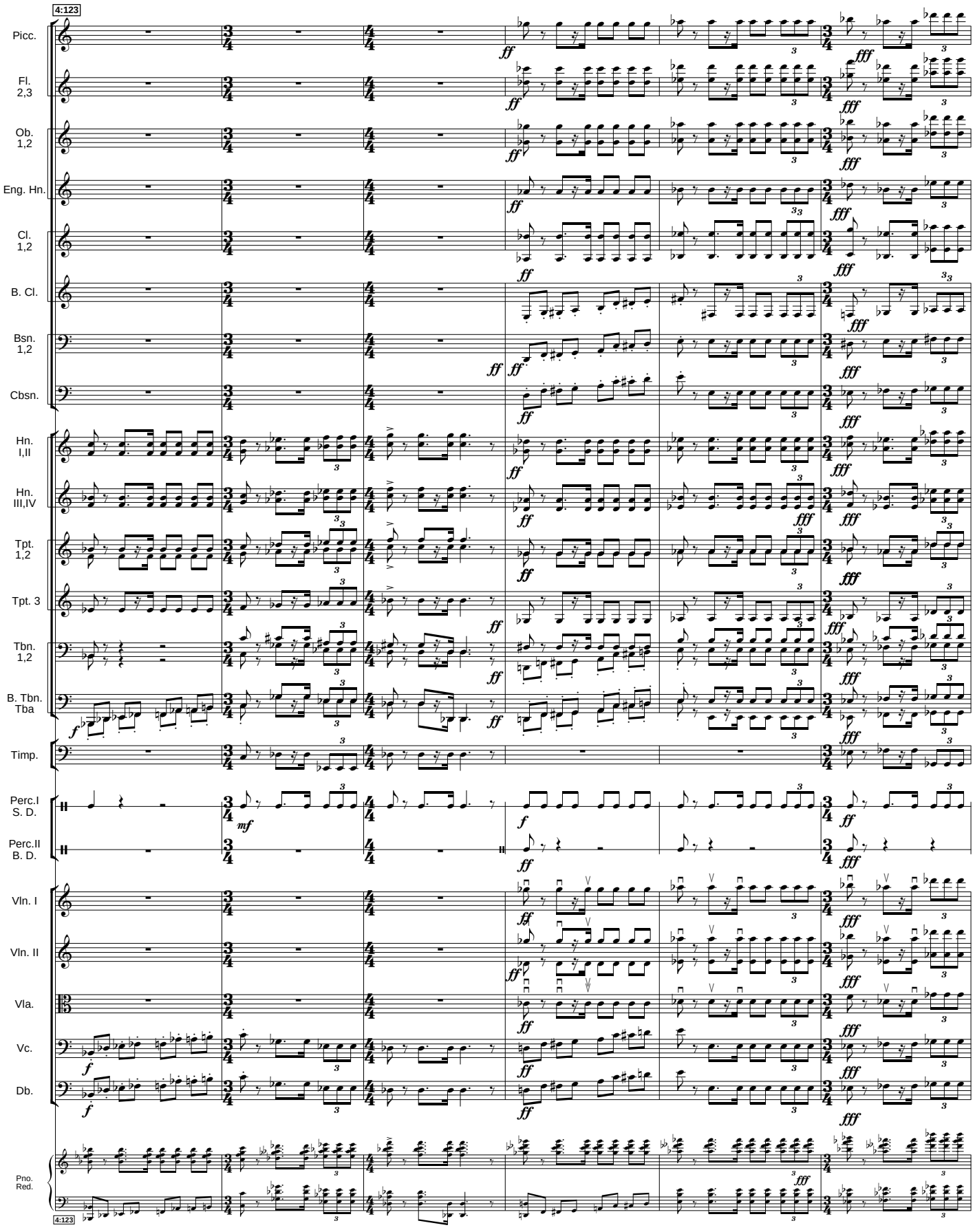

♩ = 110
4-E
4:84
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.I Glock
Perc.II S. D.
Perc.II Mar.
Snare Drum
Bass Drum
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
mute off
Play
arco
pizz.
4-E 110
4:84

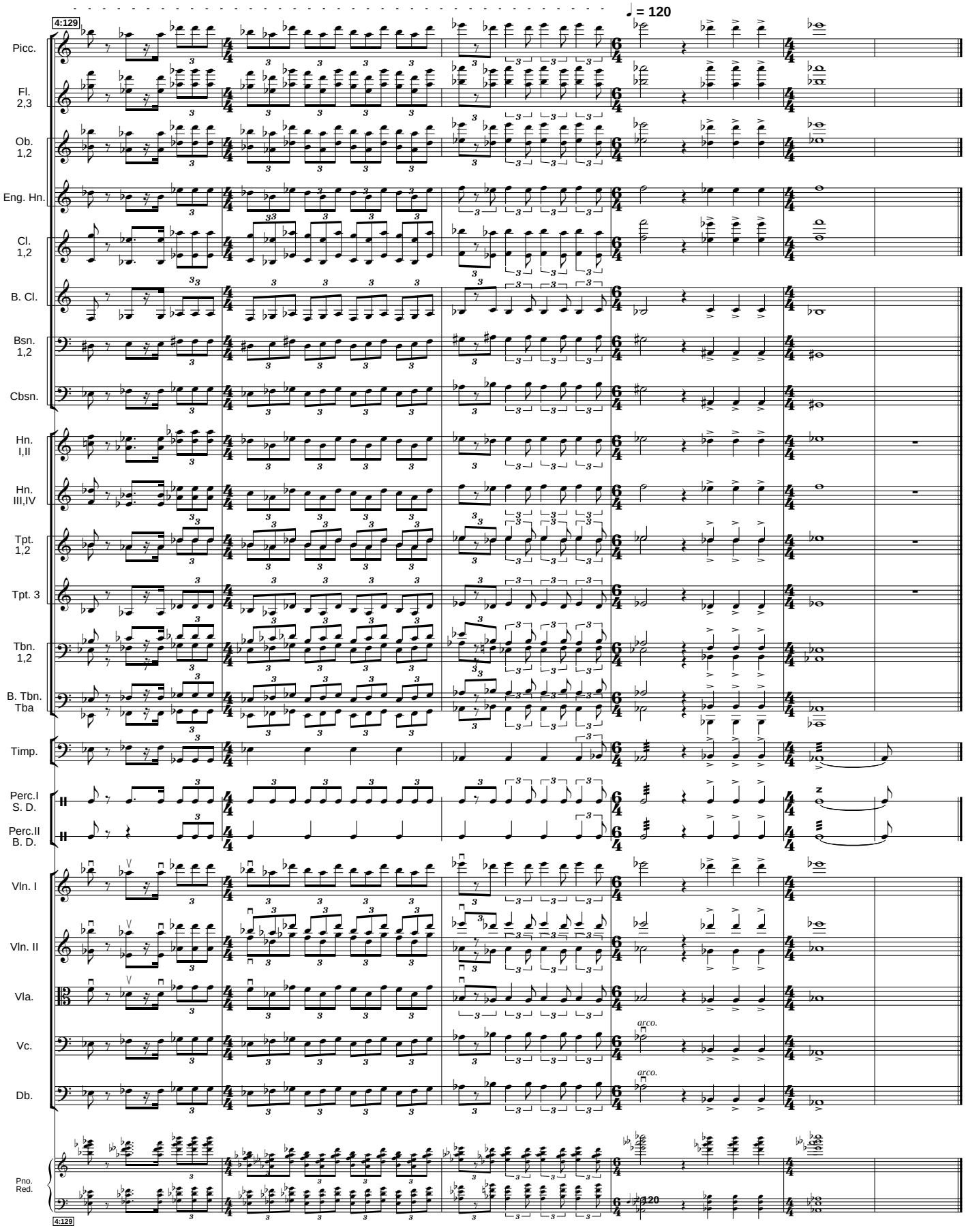

4:92
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
mf
mp
S. D.
pizz.
3
4:92


4:101
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
4:101


4-F
4:109
accel.
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
arco
arco
4:109
4-F


4:116
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
4:116
f
mp
pizz


4:123
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
Pno. Red.
4:123


♩ = 120
4:129
Picc.
Fl. 2,3
Ob. 1,2
Eng. Hn.
Cl. 1,2
B. Cl.
Bsn. 1,2
Cbsn.
Hn. I,II
Hn. III,IV
Tpt. 1,2
Tpt. 3
Tbn. 1,2
B. Tbn. Tba
Timp.
Perc.I S. D.
Perc.II B. D.
Vln. I
Vln. II
Vla.
Vc.
Db.
arco.
arco.
Pno. Red.
♩ = 120
4:129

VITA

Evelyn Pursley-Kopitzke

A Tanzania-born American living in Tennessee, Evelyn Pursley-Kopitzke is a neo-classical composer, church musician and teacher whose extensive opus includes chamber, choral, art songs, and orchestral works. She has been heard from coast to coast and in Europe. She studied composition with Drs. Margarita Merriman, Barney Childs, and Kenneth Jacobs. In 1995 she co-founded the Greater Tri-Cities Area Composers' Consortium and her music has been in every group production since. She received top honors in the 2002 Carton Savage international "I Wage Peace" project for her "Salaam, Frieden." Three of her piano pieces were included in an anthology commissioned in 1995 by the Appalachian Music Teachers' Association and that same year was AMTA Composer of the Year. She often is PR writer for the Composers' Consortium—including national press. Pursley-Kopitzke's recent works include *African Vignettes* (2007, Flute, Clarinet, Violin, Cello, Piano), an Arts Build Communities Tennessee Arts Commission, *Reflections* (2008, Marimba, Choir, Organ), *Festival* (2008, 3 C-Flutes, Alto Flute, Bass Flute), "Magnificat" (2008, two Sopranos, Choir, Piano), *Victoria Vignettes* (2009, Flute, Clarinet, Violin, Cello, Piano), "May in the Greenwood," (2009, Choir and Piano), "Adagio, Beyond the Silence" (2010, Soprano and Chamber Orchestra), "Expectations" (2010, Percussion Solo on 11 instruments, commissioned and premiered in 2011 by Alan Fey), and *Cetacean Suite* (2010, Brass Quintet). She is currently finishing the previously-abandoned Master of Music Degree in Composition at the University of Tennessee at Knoxville. *Constellation Suite* for Large Orchestra was composed in fulfillment of her thesis requirement.

http://composition.utk.edu/evelynkopitzke.shtml
http://epursleykopitzke.com