Embedded Tonality in Penderecki's *St. Luke Passion*[1]

Dominick DiOrio

> …[*The St. Luke Passion*] *was my first attempt to find a musical language that was not only modern but which also employed some elements from the past. I was trying to find a co-existence between the very avant-garde style of my experimental works and the past. I made the first step in Stabat mater, before the Passion. This is where I discovered the polyphonic style that allowed me later to write the St. Luke Passion and other pieces. But this was the result of studying 16th century counterpoint. It was a different kind of counterpoint, of course, but the idea was to incorporate both elements. In Stabat mater you have the polyphonic style of many voices—twelve different lines, twelve voices—but you also have the cluster, which was an avant-garde technique of the 1960's. Here, in this work, we find both elements.*
>
> —Krzysztof Penderecki
> interview with Ray Robinson, 1997

Most pitch-related research on the early work of Krzysztof Penderecki investigates either the twelve-tone aspects of its compositional organization, or its relationship to the school of Polish sonorism.[2]

[1] Excerpted and reworked from: Dominick DiOrio, *Embedded Tonality in Krzysztof Penderecki's Stabat Mater and St. Luke Passion* (Yale University, MMA Thesis, 2009).

[2] For a definition of sonorism, see Danuta Mirka, *The Sonoristic Structuralism of Krzysztof Penderecki* (Katowice: Akademia Muzyczna, 1997), 7.
A concise explanation:

> The shortest and most essential answer … to the question "What is sonorism?" lay in the very name of that musical trend. Derived from the French verb *sonner* ('to sound'), sonorism indicated sound value as the paramount factor of that kind of music. The inventor of this term and one of the most eminent Polish musicologists of the early post-war period, Józef M. Chominski, put it very clearly in his definition: "Sonoristic regulation consists in an exploration of the pure sound values of the sound material." All music sounds, of course. But in other styles, the sound value in itself was only a secondary result of compositional procedures concerning melody, rhythm, and harmony. With sonorism, by contrast, 'in place of melody, harmony, meter and rhythm, the sound value became the primary tectonic factor,' and it ruled over or even ousted other musical parameters. Traditional musical elements and processes, if one could still properly speak of such things, were reduced to the level of mere 'by-products'. This was so because traditional musical concepts referred to relations between single tones, while it was apparent from the very beginning to all commentators that sonoristic regulations proceeded on the level of vast 'sound fields', 'blocks', or 'masses'. (Mirka, 7)

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A commonly cited viewpoint—and subsequently also a fundamental point of departure for this study—is illustrated by Danuta Mirka:

> If in the *Passion* both compositional techniques—sonoristic and twelve-tone—existed side-by-side, they fused together in works composed at about the same time and subsequently.[3]

While Mirka acknowledges two specific avenues of influence on the *Passion*, she makes no mention of tonality or the role that *Stabat mater* has played in defining the tonal aspects of the oratorio. Wolfram Schwinger elaborates on Penderecki's stylistic development:

> Not only because the *Stabat mater* found a place in one of Penderecki's major works, but for its own sake, stylistically considered, it must be regarded as the starting-point of a new creative enterprise which carried him beyond the Passion to the two-part oratorio *Utrenia*, composed between 1969 and 1971, and the Polish Requiem.[4]

This omission of tonality from the current breadth of research on Penderecki's early music is a primary justification for its inclusion in this study.

Penderecki first attempted to end a non-tonal composition with a triad in *Polymorphia* (1961), a work for strings that is most typical of the Polish school of sonorism. The composer states:

> I started from writing the final chord C major in the best sounding, classical disposition and endeavored to build the successive elements in such a way as to make them lead towards it. For instance, the bar preceding the C major chord is a quarter-tone cluster arranged such that it requires resolution. It is thus not just any cluster in a location chosen at random.[5]

Penderecki achieves questionable success in *Polymorphia*, however, as the final C major triad does appear to be disconnected from the preceding eight minutes of sonoristically-inspired composition. Mirka conducts a complete sonoristic analysis of *Polymorphia* and even goes so far as to say that the work is "the only piece whose subsystem is identical with the fully developed state of the *langue* [basic system of sonorism]."[6] Yet for Mirka, the last chord does not fit the rules and boundaries of her sonoristic analysis; she states:

> The example of *Polymorphia* shows also that the form of an individual piece can be influenced by premises from outside the sonoristic system. Although its narration is governed very strictly by the syntax of both the basic and the timbre systems, the piece concludes completely unexpectedly with a C-major triad.[7]

Mirka is clearly puzzled by Penderecki's early experiments in pitch procedure, yet Penderecki's craft would improve with time. He achieves a greater synthesis of pitch organization in *Stabat mater* (1962), where elements of tonality, twelve-tone procedure, and sonoristic structuralism are linked in tandem to lead organically to the work's D major ending. This willful organicism is used even more convincingly in the *St. Luke Passion* (1966), where tonal references scattered throughout the score aid in foreshadowing the oratorio's final E major triad.

Penderecki's compositional experiments in tonality leave the observer with a question: how can a composer create tonal cohesion without the use of harmonic progression? By viewing this process through the lens of embedded tonality, we can begin to answer this question. Embedded tonality is defined as the deliberate use of veiled tonal references to suggest and foreshadow the occurrence of triads. It manifests itself in the Passion through three specific indicators, all designed to lead the

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3 *Ibid*, 343.

4 Wolfram Schwinger, *Krzysztof Penderecki: His Life and Work: Encounters, Biography, and Musical Commentary* (New York: Schott, 1989), 31.

5 Mirka cites the following source for this quotation: [Discussion] (1976). "Dyskusja na seminarium poswieconym twórczosci Krzysztofa Pendereckiego". Muzyka 2 (81): 29–52.

6 Mirka, *Sonoristic Structuralism*, 328.

7 *Ibid*.

ear to hear tonal function where triads are not directly present.

The first indicator is the pedal tone, a fundamental pitch sustained throughout a musical texture for an established duration of time.[8] The pedal tone serves as Penderecki's tabula rasa. It becomes a signal of musical significance on account of its duration, thus highlighting its function amid the musical texture. Further harmonic unity and coherence can be identified in the relationships between pedal tones, as an analysis of a succession of pedals can lend insight into the hierarchical structure of the pitches in Penderecki's music.[9] The unison pitch also serves a role similar to the pedal, the distinction being that the unison pitch is the only pitch class present at a given moment.

The next indicator is the outer-voice frame, where two melodic lines are simultaneously present in the highest and lowest registers. These upper and lower voices appear to "ghost" a harmonic verticality or progression that is never directly heard; in other words, the inner voices either do not conform to the harmonic structure suggested by the outer voices or they are simply not present. Even more strikingly — and perhaps most applicably — Penderecki often uses outer-voice frames simultaneously with clusters. To this end, the boundaries of the clusters are of utmost importance in defining the outer-voice frame.

The third indicator is the presence of a series of pitches that imply a diatonic collection. In using a diatonic subset, Penderecki creates a phenomenological experience for the listener: one compares the melodic fragment being heard with other tunes that one has heard and known over a lifetime.[10] If a melodic fragment appears to fit past archetypes of tonal melodies, then a listener may hear the fragment as having a tonal context, even if no such context is apparent in Penderecki's scoring. To investigate these indicators of embedded tonality, it is helpful to consider a few movements from the *Passion* more intimately.

Analysis of No. 1 — "O Crux"

The *St. Luke Passion* is one of the few pieces from Penderecki's early output of compositions to make use of a twelve-tone row (see fig. 1).

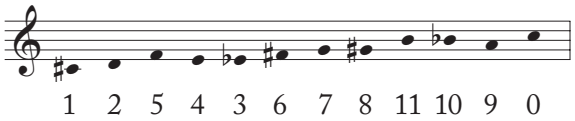


Figure 1: Principal Twelve-Tone Row/ Cantus Firmus I from Penderecki *St. Luke Passion* (1966)

Ray Robinson has already commented on the motivic and formal significance of this principal row (Cantus Firmus I), which consists of subsequent i.c.1 and i.c.3 relationships, resulting in prominent [013] and [014] collections.[11] In the first movement of the work,

[8] This established duration of time does not have easily definable limits, and is thus perhaps best represented by fuzzy set theory, whereby a sustained pitch becomes recognizable as a pedal because it has been sustained for a certain period of time necessary to distinguish itself from other, shorter pitches in its concurrent vicinity of time.

[9] A clarification must be made here about the registral placement of pedal tones in Penderecki's system. More often than not, pedals will occur — as one would predict — in the lowest register. Yet, Penderecki often varies the registral placement of his pedals for very specific reasons to highlight their overall hierarchical and formal functions. In this analysis, the presence of a pedal tone is more relevant than its register of occurrence.

[10] For a thorough exploration of the phenomenological understanding of tonality and listening, see Daniel Harrison, *Pieces of Tradition: An Analysis of Contemporary Tonal Music*. Unpublished MS in progress: http://pantheon.yale.edu/~dh287/book/index.html

[11] See Ray Robinson & Allen Winold, *A Study*

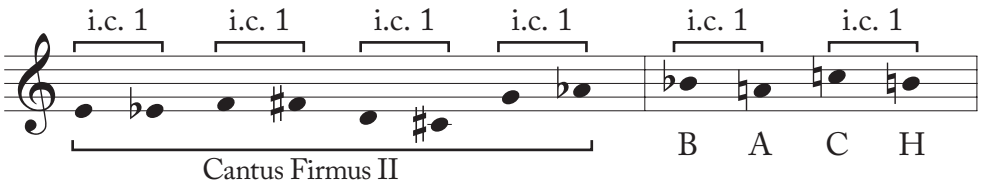


Figure 2: Prominent Motivic Material in *Passion* – I. O Crux

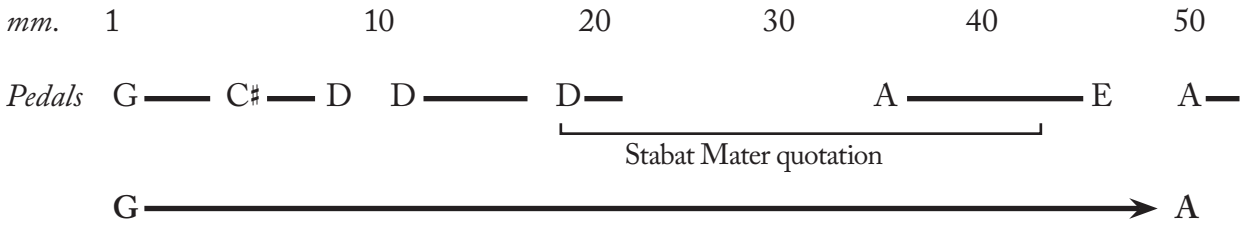


Figure 3: Pedal Progression in Penderecki *St. Luke Passion* – I. "O Crux"[a]

[a] This diagram does not presume to denote specific voice leading, but to show general progression throughout the movement, as hinted by the devices of embedded tonality. While it would be dangerous to impose a distinct harmonic progression on a work without triads, suggesting how a work progresses by using the syntax of tonality can aid one in understanding the background unity and coherence of a given passage.

Penderecki presents Cantus Firmus I (CFI) along with the work's other two important melodic motives — Cantus Firmus II (CFII) and the BACH motive. Robinson shows that these two motives, when combined, form a twelve-tone row of their own (see fig. 2).

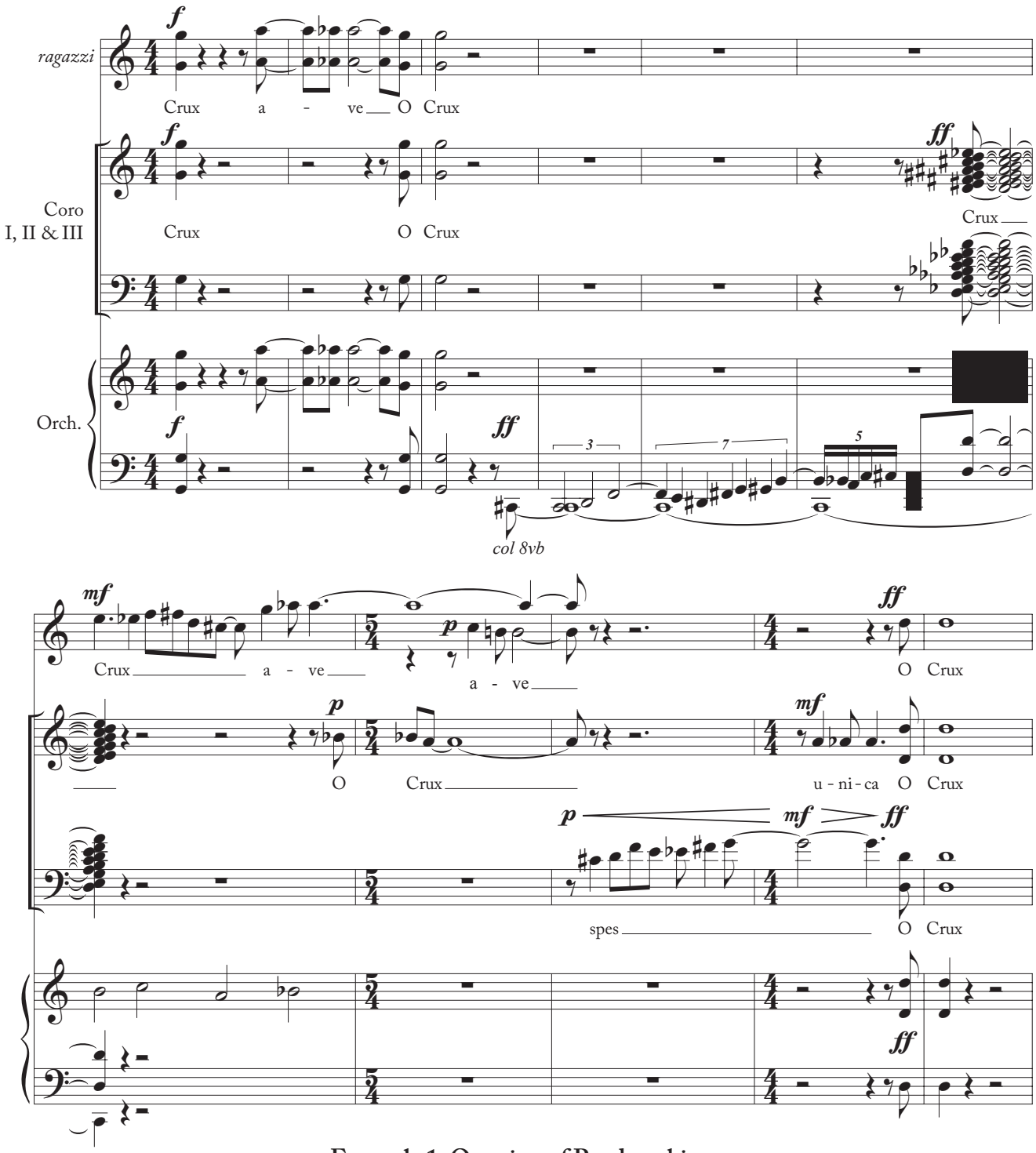
As in CFI, i.c.1 is also a characteristic interval of this collection. These two twelve-tone rows represent the majority of pitch material for the oratorio.[12]

CFI is heard first in its entirety played by the low strings and brass of the orchestra in mm. 3–6, as well as in the choral writing in mm. 7–10 (see ex. 1). The "ave" gesture in the opening measures introduces the essential opposition in the work: an ascending i.c. 2 (G–A) descends immediately by i.c.1 back to the starting pitch (A–A♭–G); Robinson calls this the "sigh" motive.

After an obfuscatory, sonoristic cluster in m. 6, CFII is introduced in the children's voices. The pitches of CFII complete an aggregate when they are combined with both

of the Penderecki St. Luke Passion (Moeck-Verlag, 1983), 70–99 and 105–110. Robinson elucidates many features of the motives from the *Passion*, with special attention given to how the musical material is derived from other sources — particularly the BACH motive and the "Holy God" hymn. His analysis of representative pitch-class sets and their corresponding musical material is especially convincing. Included also is documentation of the exact occurrence of these motives in each movement.

[12] A notable exception is the *Stabat Mater* material, which Penderecki quotes beginning in m. 19 of this movement (see fig. 3).



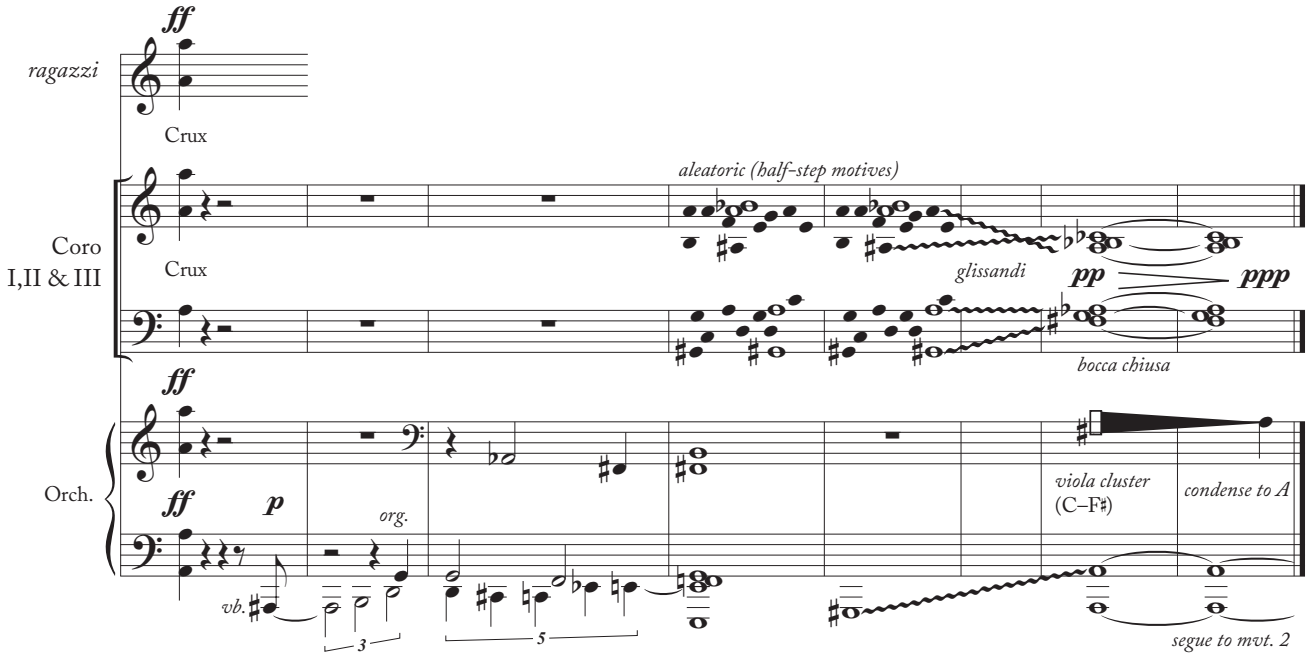
Example 1: Opening of Penderecki
***St. Luke Passion* – I. O Crux (reduction)**

the pitches in the organ melody in m. 7 and the pitches in the chorus in mm. 7–8. We have two aggregates — one horizontal, one vertical — that are present simultaneously with CFII as the choir sings "Crux." Notice also the symmetry in the ordering of the pitches: in the organ, the order of the last four pitches is HCAB, in the voices it is BACH. At the point where the text

"Crux" [cross] is the focus, aggregates of twelve pitches literally cross through the measures of the score.

The unison pitches G and D — in mm. 1 and 11 respectively — serve as a frame for this tightly constructed section. These unison pitches serve a particular role in the pitch progression of the movement.

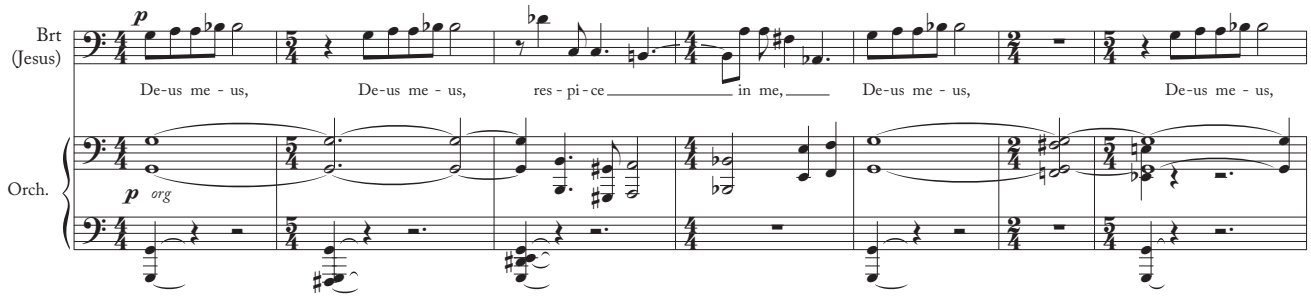
The work has a clear trajectory of centric tones. It begins with heavy emphasis on G — with the children of the choir striving towards A in mm. 1–2 but then dragged back down to the G of "O Crux." After the introduction of the principal row, with a prominent C♯ pedal in the bass, the music moves through to the next statement of "Crux" in m. 6 with D as a centric tone; this progression is confirmed by the following statement of "O Crux" on the pitch D in m. 11. The music continues with a quasi recitando on D in m. 18 before utilizing a direct quote of the Stabat mater (No. 24) in mm. 19–43, complete with its prominent chant-like diatonic collections.[13] The major difference between this quotation and its parent movement is the entrance of the organ and orchestral basses in m. 37; they sustain an A pedal tone until the downbeat of m. 44. At this point, the *Stabat mater* quote is interrupted and the full chorus of children and adults enter on "Crux" — now up a whole step from the beginning — on the pitch A (see ex. 2).



Example 2: Penderecki
***Passion* – I. "O Crux" mm. 44–end (reduction)**

The original motives from the opening return here in a veiled guise: the double basses in mm. 44–45 enter with a transposed CFI, though the strict order of the row is abandoned so that Penderecki can highlight an E pedal tone in m. 47. Simultaneously, the organ has a transposed version of the BACH motive in retrograde (HCAB). In mm. 45–46, the only pitch-class not present is A, the very pitch

[13] A complete discussion of *Stabat mater* is beyond the scope of this article. A full analysis is present in: Dominick DiOrio, *Embedded Tonality in Krzysztof Penderecki's "Stabat Mater" and "St. Luke Passion"* (MMA thesis, Yale University, 2009).



Example 3: Penderecki *St. Luke Passion* – No. 3 "Deus meus" mm. 1–7 (reduction)

that begins and ends this closing section. The aleatoric nature of mm. 47 and 48 is explicitly sonoristic: in the score, each voice is instructed to move at its own rate of speed between two given pitches, resulting in a texture of oscillating stasis. Similar techniques are used for strings in *Threnody* and other works from the early 1960's.

An outer-voice frame is also hidden in the aleatoric texture present in mm. 47–48. The low E in the strings in m. 47 is matched by an upper B in the Alto III voice (E–B frame) while the downbeat of m. 48 has a G♯ in the bass creating another frame with the Alto (G♯–B frame). This low G♯ moves by glissando over two bars to the A pedal on which the movement settles. This "resolution" into the downbeat of m. 50 is both conclusive — because of the V–I relationship as the E–B and G♯–B outer-voice frames progress to an A pedal — and inconclusive — because resolution is thwarted by the viola/chorus cluster. The cluster in mm. 50 and 51 can be analyzed as both a symmetrical structure emanating outwards by minor third in either direction from an A center, or a diminished sonority bounded by C and F♯ over an A pedal — arguably in a dominant relationship to the work's opening G unison.

The pedal points here suggest a progression — albeit one of centric tones and outer-voice frames instead of triads and seventh chords (see fig. 3). Penderecki begins on a G, moves to D, and finishes the movement on A. This motion can be viewed through the lens of tonality — a progression of fifths — even though the primary pitch procedures used deal distinctly with twelve-tone rows, pitch-class sets, and sonoristic clusters in lieu of tonal harmony. The large-scale motion in the movement from G to A fulfills the same thwarted goal attempted by the children's choir in the opening measures. Penderecki uses these three systems of pitch procedure together to achieve this stepwise motion over the course of the movement.

Analysis of No. 3 "Deus Meus" – Christ's Aria in the Garden

Penderecki associates each of the characters in the *Passion* with distinctive musical material. The narrator always speaks, either unaccompanied (No. 2), amidst the backdrop of a pedal tone (No. 19), or accompanied by the full orchestra (No. 25). The parts of the secondary characters sung by the bass are totally chromatic, with no hint of tonal sonority.[14] The part of Jesus, sung by the baritone, is most often composed using pitches from Penderecki's principal twelve-tone material.[15] Sometimes the baritone-Jesus

[14] See, for example, the chromatic writing in the part of Peter in No. 8 and the part of Pilate in No. 13.

[15] The one exception is the final statement of Christ, "Consummatum est" (It is finished), which is sung not by the baritone, but by the children's choir. With an eye towards compositional balance and symmetry, this phrase is set using all twelve

veers towards tonality, particularly in the solo aria "Deus Meus" (No. 3) where glimpses of G minor, E minor, and C minor are found with the most tonally-evocative melody in the entire *Passion* (see ex. 3).

Penderecki projects a strong symmetrical structure in the first seven measures of this movement. He begins with a central note (G) and fans outward in both directions as the phrase progresses.[16] He then returns to the motive in the fifth measure and begins to fan outward again. The exact pitches of the initial, mantra-like motive of "Deus meus" are also intriguing. Heard alone, there would be no question of a G minor tonality; but here, the possibility of G minor is muddled as the phrase continues, as Penderecki denies the listener the gratification of ever truly perceiving a tonal context.[17] The tonality is embedded, realized only through both the occurrence of a diatonic collection in the baritone solo melody and the pedal/unison G in the lower parts.

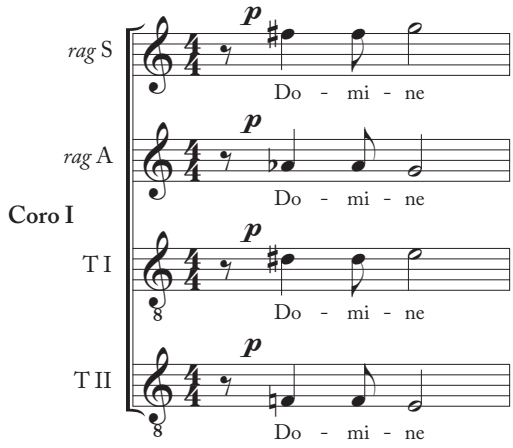
Measure	Diatonic Collection	Pedal Tone
1	G Minor	G
2	G Minor	G
5	G Minor	G
7	G Minor	G
11	G Minor	G
13	E Minor	E
15	E Minor	E
19	G Minor	G
22	G Minor	G
33	E♭Minor	E♭
34	G♯Minor	C
35	G♯Minor	C
43	G Minor	G
45	G Minor	G
57	G Minor	G

Table 1: "Deus meus" Motive Occurances in Movement 3

The "Deus meus" motive is sung by the baritone a total of 15 times in the movement (see table 1). The prevalent tonality is G minor. Penderecki affirms this tonality in the movement by sheer repetition of this one diatonic collection over its respective pedal tone—only in mm. 34–35 does the pedal tone differ in tonality from the diatonic collection. With each utterance of the "Deus Meus" motive, the i.c.3 between its lowest and highest pitches is emphasized.

This prominent i.c.3 is also found in another motive that is repeated throughout the *Passion*: the "Domine" gesture sung by boy choir and tenors in m. 12 (see ex. 4).

While the first sonority is not so easily labeled in traditional harmonic nomenclature, the second sonority is an E minor triad with an implied fifth or simply an i.c.3 that evokes



Example 4: "Domine" Gesture from Penderecki *St. Luke Passion* – No. 3, m. 12

tones of Penderecki's principal row form, aptly and symbolically completing an aggregate.

[16] This idea of symmetrical expansion is not dissimilar to procedures followed by J.S. Bach, for instance, in the "Wedge" Fugue in E minor, BWV 548, or by Béla Bartók in *Music for Strings, Percussion, and Celesta*.

[17] Interestingly, in the collection of pitches from mm. 1–4 in the above example, the only pitch-class not represented is D, the fifth of a G minor triad. The D is finally heard in m. 8.

an E minor tonality. Yet, it is significant that Penderecki does not compose a triad. Instead, this sonority appears to be derived from the horizontal motion of all four voices, putting primary emphasis on their contrapuntal—not their harmonic—nature. The motive serves to frame Christ's aria, occurring twice within the aria itself, and once at the start of the next movement, the soprano aria (No. 4). The "Domine" gesture occurs periodically at eight distinct times throughout the oratorio, with differing transpositions, scoring, and dynamics at each occurrence (see table 2).

The prevalence of the pitch-classes E and G ({4,7}) is immediately apparent, as E minor becomes a tonality that is emphasized by repetition at both the beginning and the end of the *Passion*.

Returning to the aria, the passage from mm. 33–35 demands a closer examination. The unassuming baritone statement of the "Deus meus" motive in m. 33 is answered by a full-throated choral plea for mercy (see ex. 5).

The melody soon spreads to the entire chorus. This mixed-tonality opens up Pandora's box, as the motive begins to appear in many different tonalities — D minor in bass I and III, A minor in tenor I and bass II, G# minor in the baritone, C minor in the sopranos — and also in chromatically-altered versions where the prominent i.c.2 from the original motive has been transformed into a subset of the chromatic scale (e.g., Tenor III m. 37). The score itself reflects a total saturation of the twelve pitch-classes, as the wedge-shaped outward fanning hinted at in the opening four measures is now realized in its fullest and most terrifying form. The voice of the baritone is lost, while the three mixed choirs are supplemented by the addition of the *ragazzi* beginning in m. 36. Any illusion of (or allusion to) tonality has now disintegrated, lost in the continuous layering of voice upon voice — a distinctly sonoristic procedure. Of particular note is the highest sounding voice in the texture, the Soprano II part at mm. 37–39. These pitches, A–G#–G, belong to the same descending "sigh" motive present in the first measures of the *Passion*. This texture of layered saturation is brought to its climax in the same way Penderecki dealt with a similar texture in the *Stabat mater*: the eruption into a twelve-note vertical sonority. (see ex. 6)

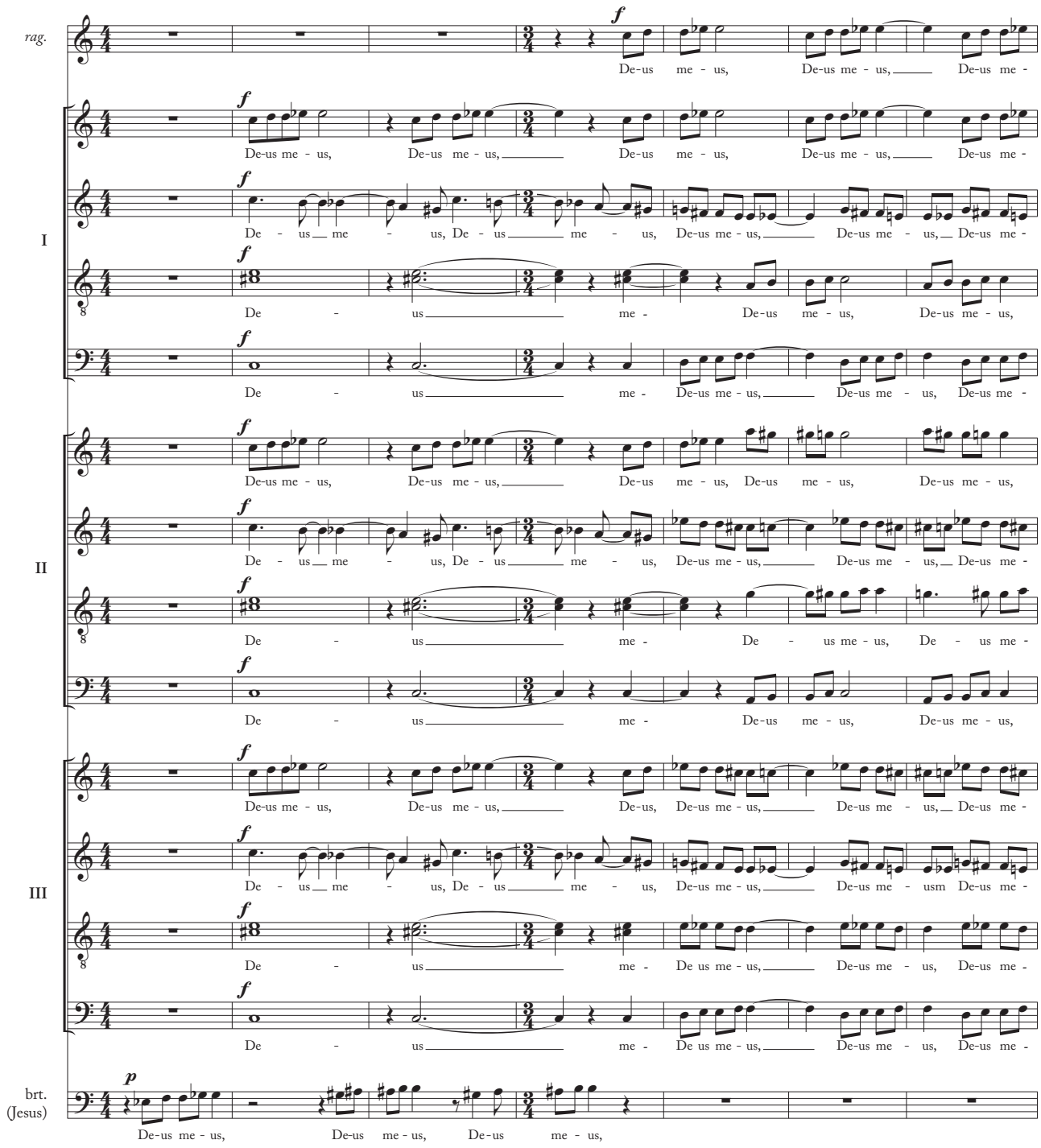
The sonority is noteworthy because Penderecki has taken the "sigh" motive from the very first measures of the score and given it to all twelve voices simultaneously. In so doing, he assigns one of the twelve pitch-classes exclusively to each voice part, thus creating a twelve-note sonority on each syllable of the word "clamabo" — I cry out. The ascending, pleading "Deus meus" invocation has been suppressed by the "sigh" motive and its inherent, hopeless descent.

Analysis of No. 5 – Judas' Betrayal

While the chorus does not always take on a specific role in the drama, in Movement 5 the chorus becomes the *turba* — the crowd, the mob, the gathering of people who scream, shout,

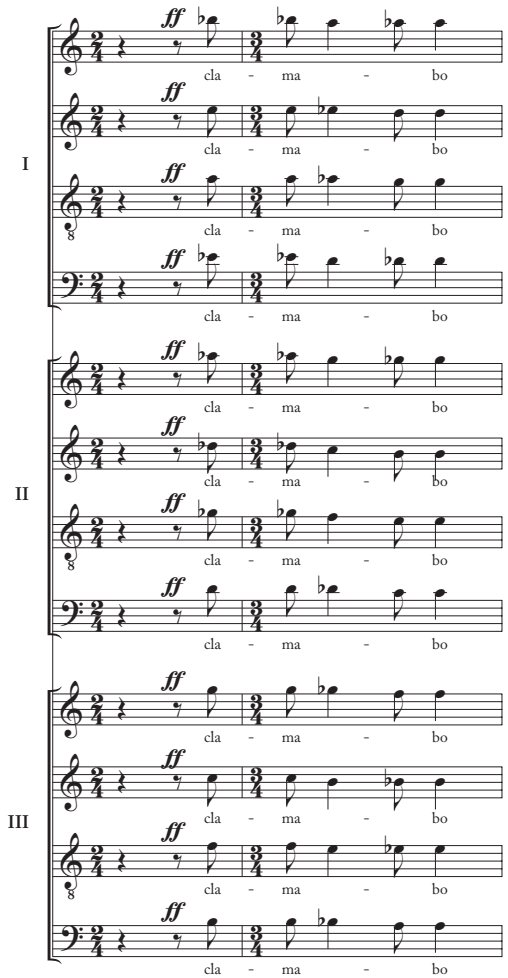
mvt.	mm.	pitch classes	scoring	dynamic
3	12	{4,7}	*rag.*, T	*p*
3	28–9	{4,7}	*rag.*, SATB	*f*
4	1	{4,7}	*rag.*, T	*pp*
7	16	{1,4}	SATB	*pp*
13	35–7	{11,2}	SATB	*pp*
19	5	{1,4}	SATB	*pp*
22	24–5	{4,7}	*rag.*, T	*p*
27	40	{4,7}	*rag.*, ST	*ppp*

Table 2: "Domine" Motive Occurances in Penderecki *St. Luke Passion*



Example 5: Climax from Penderecki
***St. Luke Passion,* No. 3 "Deus Meus," mm. 33–39 (vocal only)**

whistle, and react with all manner of rude and uncouth gestures. They perform for only five measures in the entire movement, but within that small span of time they hiss, whisper and gossip. It is no accident that Penderecki chooses to set Judas' betrayal with an array of sonoristic sounds and means. Even the baritone soloist depicting Jesus, who sings almost all of his text

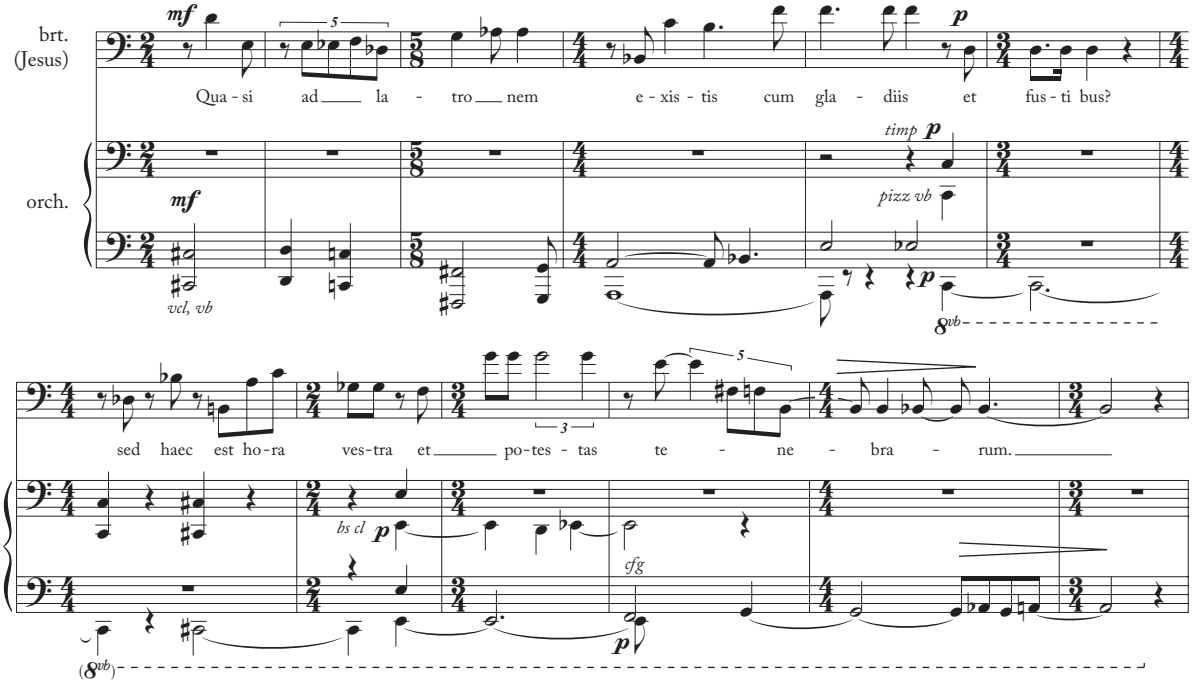


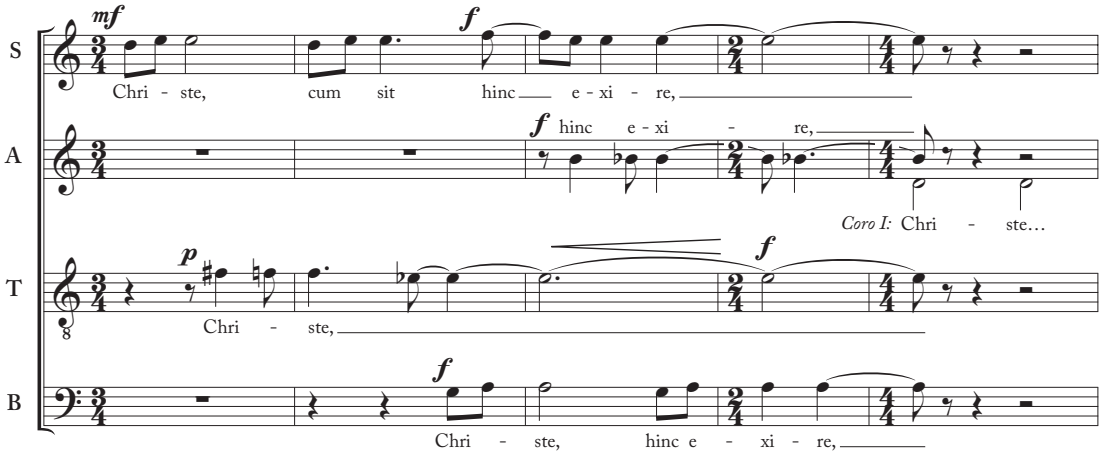
in the *Passion*, is instructed to speak in m. 37 as he utters the words "Judas, betrayest thou the son of man with a kiss?" All of the music in the beginning of the movement (mm. 1–37) has been conceived of sonoristically. Not one twelve-tone row, aggregate, or even a hint of tonal syntax is present. The final twelve measures of the movement depart from sonorism, however, as the baritone sings the words of Jesus:

> Quasi ad latronem existis cum gladiis et fustibus?...
> sed haec est hora vestra et potestas tenebrarum.
>
> *"Be ye come out, as against a thief, with swords and staves?*
> *But this is your hour, and the power of darkness."*
>
> (Luke 22: 51–53)

Example 6 (*left*): Twelve-Note Sonority from *St. Luke Passion* – No. 3, mm. 40–41 (vocal parts only)

Example 7 (*below*): Penderecki *St. Luke Passion* No. 5, mm. 38–end (reduction)





Example 8: Outer-Voice Framing in No. 24 "*Stabat mater*," mm. 90–94

The sonoristic world from the first half of the movement is gone, replaced by a twelve-tone plea sung by the baritone. Penderecki paints the "power of darkness" in his scoring with an accompaniment of low strings, timpani, bass clarinet, and contrabassoon (see ex. 7).

Mostly stepwise motion in the orchestral accompaniment is set against wide intervallic leaps in the baritone's melody. A glimpse of triadic possibility comes into focus in the measure with the baritone's highest pitch, the G natural. At this climactic moment on the word "potestas" [power], the pitch-class E sounds in the double basses and the bass clarinet creating an outer-voice frame of E–G — the same minor third evoked so often in Jesus' aria two movements prior. E minor shines as a possible sonority for a beat or so, before the shifting winds brush it away as if it were a fleeting memory.

Tonality in Relief

It is helpful at the current stage to consider the aspects of tonality that have been mentioned in isolation. The use of unison pitches and pedal tones has been shown clearly in some of the examples above, particularly the opening movement "O Crux" with its unison G, D, and A, while the most clear diatonic collections of the *Passion* are observed in the third movement "Deus meus" theme. When considering the totality of pedals and unison pitches in the oratorio, there is a limited collection of pitch-classes that are emphasized, with certain prominence given to the pitch-class G in Part I, and a prominent use of D, A, and C in Part II.

Though far less prominent than the pedal, the outer-voice frame alludes to tonality at key moments in the work, especially through the use of the "Domine" motive and other sonorities present in movements 13, 21, 22, 24, and 27. In *Stabat mater*, the initial entries of the Soprano and Tenor voices outline a minor 6th (F#–D) in m. 90 (see ex. 8).

This interval is expanded to a major 6th in m. 91 (F–D). In mm. 92–93, the Soprano and Bass voices bound the sonority in a perfect fifth (twelfth) from A3–E5. Inherent in this contrapuntal gesture is an incomplete harmonic progression (see fig. 4).

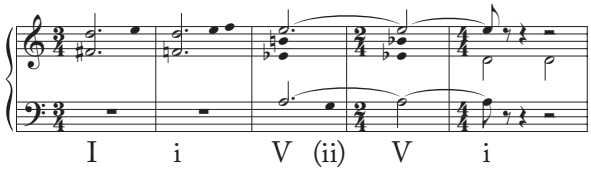
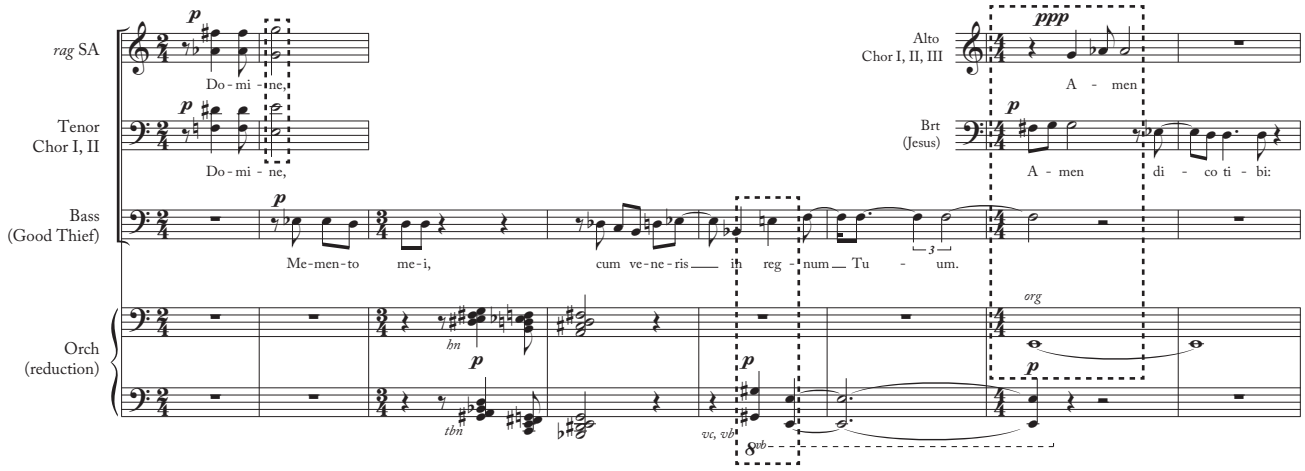


Figure 4: Outer-Voice Framing Reduction in No. 24 "*Stabat mater*," mm. 90–94



Example 9: Outer-Voice Framing in Penderecki
***St. Luke Passion* - No. 22, mm. 24–31 (reduction)**

Penderecki creates a sense of embedded tonality by suggesting a harmonic progression and leaving it incomplete. This is distinct from an outer-voice frame that implies a single triadic sonority, for example, in No. 22 where the Good Thief states, "Lord, remember me when you come into your kingdom" (see ex. 9).

This passage opens with the "Domine" motive in E minor—the first word of the Good Thief expressed not by the bass, but by the chorus. As the bass continues the text, the low strings enter with a descending major third (G#–E), while the bass sings the first syllable of "regnum" on pitch-class E. For a brief moment, an outer-voice frame of E major is perceptible. Two measures later, the baritone creates an outer-voice frame (E–G) with the organ pedal tone, and then the altos of the chorus come in and expand that outer-voice frame to an Ab (respelled as E–G#) to allude again to E major. It is with these examples that one can finally turn to the question of the final triad, the *Passion*'s oft-quoted "symbolic" conclusion.[18]

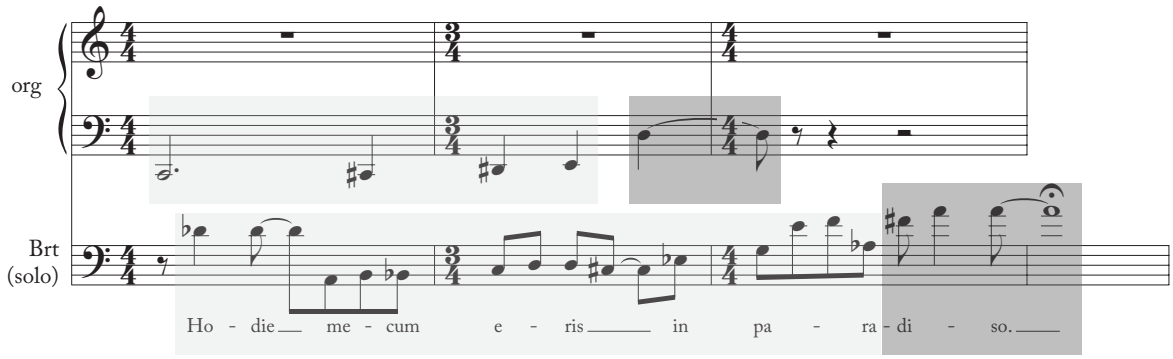
[18] Schwinger, *Krzysztof Penderecki: His Life and Work*, 214.

Tonality in Tandem

The fundamental tension in Penderecki's *Passion* is one of ascent and descent. As we observed in the opening measures of the work, as pitches ascend by whole steps, they are foiled by descending half steps. By the end of the oratorio, the ascending progression is favored. It is present throughout the work at the level of the motive, where it features prominently in the "Deus meus" and *Stabat mater* themes. The progression can also be observed at the level of the movement. Recall the pedal analysis of Movement 1 ("O Crux") (see fig. 3).

This tension between ascent and descent can also be found on a larger scale: the first half of the oratorio shows an overall progression of G to F# (descent by i.c. 1) while the second half of the oratorio shows a progression from D to E (ascent by i.c. 2) (see table 3).

This whole-step progression occurs at key structural moments of climax and resolution—for instance in preparing the D major triad in the context of *Stabat Mater*: the first cluster in m. 86 is grounded on C, while



Example 10: Ending from Penderecki *St. Luke Passion*, No. 22 (edited with highlights)

the final chord in m. 116 is grounded on D. In the last measures of the *Passion*, the final unison statement of the chorus on pitch-class C is raised one whole step by the children's choir with their pedal D. The major triad pushes it one whole step further to E. By using the same whole step progression inherent in the *Stabat Mater* to end the *Passion*, we can observe another instance of a willful organicism in Penderecki's composition.

This organicism allows Penderecki to compose his pitches in a way that will "lead towards" the triads in the work. In a type of compositional "backwards compatibility", The D major triad in the Stabat mater is prepared by embedded tonality in preceding movements of the Passion.[19] Penderecki is further justifying the appearance of this triad on the word "Gloria" in *Stabat mater* by appropriating pitches from the triad in his words to the Good Thief in No. 22.

pedal	mm.	mvt.	text
G→A	1.	O Crux Ave	("O Holy Cross," from the hymn Vexilla Regis prodeunt)
G/F♯	13.	Et surgens omnis	("And the multitude arose..." Christ's trial before Pilate)
D	14.	Et in pulverum	("And into the dust," from Psalm 21)
D→E	27.	In pulverem mortis	("Into the dust of death... "In thee, O Lord" from Psalm 30)

Table 3: Pedal Progression in Penderecki *St. Luke Passion*

A collection of pitches prescribed by a twelve-tone operation actually masks a D major triad in the final pitches of the organ and the baritone (see ex. 10). The link to the *Stabat mater* is further cemented by the linking of text; Jesus at the end of No. 22 says: "Today, you shall be with me in paradise"—while the text from the end of the *Stabat mater* (No. 24) reads: "When my body perishes, / Grant that my soul be given / The glory of Paradise"—a paraphrase of the same biblical text spoken by Jesus in No. 22. Furthermore, Jesus sings the pitches F# and A as the final two notes in the example above. These are the same two pitches missing from the 10-note vertical sonority immediately preceding the D major triad at the end of *Stabat mater*. The textual prophecy and its Marian hymn are linked via the completion of an aggregate across multiple pages of the score.

[19] To borrow a term used in telecommunications and computing circles, a technology is said to be backwards compatible if it allows input generated by some older device. Consult the introduction to Daniel Harrison's *Pieces of Tradition* for a more thorough discussion as it relates to musical analysis.

A similar procedure is echoed in the final movements of the *Passion*. The pitch collection sung by Jesus in No. 25 (mm. 27–28) makes use of all pitch-classes except E. The character of Jesus does not complete the final aggregate before dying; the baritone would have to sing the final E. The resolution of this aggregate is put off until the triumphant E major triad that closes the oratorio two movements later in No. 27, creating a symmetrical balance in both drama and text, as Jesus' death becomes linked via pitch to the final triad. In one of the few times in the oratorio when the tutti ensemble is employed, brass instruments clamor with syncopated accents, the chorus sings full-throated, and the organ provides a majestic weight. Curiously enough, these final two measures are preceded by one of the most introspective moments in the entire oratorio. In the antepenultimate measure, the children, sopranos, and tenors sing the final iteration of the "Domine" motive. This figure appears to cadence on a minor third every time, most often rooted in an E minor tonality; yet now it can be heard as the tonal center of an elaborately prepared Picardy cadence. The E major triad thus becomes a focus of resolution for Penderecki's three pitch systems: sonorism, through the sheer volume, density, and texture of the final sonority — the largest in the oratorio; twelve-tone procedure, through the unfulfilled aggregate in No. 25; and embedded tonality, through the "Domine" motive and the E major allusions to Christ's kingdom in No. 22.

Conclusion

There can be no doubt that Krzysztof Penderecki continued his experiments from *Polymorphia* in the *St. Luke Passion*, as he "endeavored to build the successive [pitch] elements [of a composition] in such a way as to make them lead towards [a triad]." In the *Passion*, he returned to tonal pitch procedures, with their tendency towards progression and resolution, while at the same time keeping the elements of twelve-tone procedure and sonorism that were formative influences on his compositional style. In his cultivation of embedded tonality, Penderecki developed a form of musical expression where these disparate pitch systems could co-exist.

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