Analysis And Performance Suggestions For Witold Lutoslawski's Grave: Metamorphoses For Cello And Piano

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ANALYSIS AND PERFORMANCE SUGGESTIONS FOR WITOLD LUTOSŁAWSKI’S

GRAVE: METAMORPHOSES FOR CELLO AND PIANO

by

MARTA REILLY

A dissertation submitted to the Graduate Faculty in Music in partial fulfillment of the requirements for the degree of Doctor of Musical Arts, The City University of New York

2014
This manuscript has been read and accepted for the Graduate Faculty in Music in satisfaction of the dissertation requirement for the degree of Doctor of Musical Arts.

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The dissertation gives an analysis and performance suggestions for Witold Lutosławski’s Grave: Metamorphoses for Cello and Piano. The analysis is grounded in set-class theory, while the performance suggestions are based on my own experience as a concert cellist. The introduction describes background, circumstances of the composition, editions, publications, performance, reception history, and summarizes other Lutosławski compositions for cello. The analysis describes the melody, harmony, rhythm, dynamics, articulation, agogic, texture, and compositional techniques. Sketches of Grave are used for further analysis and comparison. The dissertation also explores connections with other compositions, such as Debussy’s Pelléas et Mélisande and Lutosławski’s Funeral Music.
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Chapter 1

Introduction

1.1. Background and Circumstances of Composition

Witold Lutosławski wrote *Grave: Metamorphoses for Cello and Piano* in memory of Stefan Jarociński, in 1981, a year after Jarociński’s death. Jarociński, a Polish musicologist who specialized in the music of Debussy, wrote two substantial volumes: *Debussy, Impressionism and Symbolism*, in English, and *Debussy: Kronika życia, dzieła, epoki*, available only in Polish. Lutosławski and Jarociński were long-term friends and admirers of each other’s work. They often wrote to each other in expression of their strong friendship and support, but they were also constructively critical of one another. Lutosławski mentioned that Jarociński regarded his opinions highly and read each new chapter of his chronicle of Debussy before the book’s publication.

Jarociński’s publications on Debussy’s opera *Pelléas et Mélisande* served as a catalyst for Lutosławski (see Ex. 1.1 and 1.2). In describing the connections between Jarociński, Debussy, and *Grave*, Lutosławski stated:

I wrote *Grave for Cello and Piano* to honor the memory of Stefan Jarociński. As he devoted a great part of his activity to Debussy, I thought it only appropriate to put the first four notes of *Pelléas et Mélisande* at the beginning of my composition. These four notes provide the starting point for the melodic line of the cello. The work consists of a sort of metamorphoses in which—just as in my *Funeral Music*—the rhythmic values are

---

1 Jarociński was born a year before Lutosławski, on August 16, 1912, and died on May 8, 1980.
4 Collections of an ordered succession of pitch classes are presented without brackets, the normal form in square brackets, and the prime form in parentheses. Example 1.1 presents the forest leitmotif in the opera. The forest leitmotif will be referred to as the *Pelléas* motive in the rest of the dissertation.
gradually broken down, providing the illusion of a quickening tempo. Before the end of the composition the four notes from *Pelléas* recur.⁵

(I discuss the connection between Lutosławski, Debussy, and *Pelléas et Mélisande* further in Chapter 5, Section 5.1.)

Example 1.1. Beginning of Debussy’s *Pelléas et Mélisande* (cello part).

Example 1.2. Beginning of Lutosławski’s *Grave* (solo cello).

1.2. **Editions, Publications, Performance and Reception History**

*Grave* was published by Polskie Wydawnictwo Muzyczne (Polish Music Publishing Company), in 1982 and 2002. It was also published in a version for cello and thirteen strings in 1986. The publication by Polskie Wydawnictwo Muzyczne was only available in socialist countries.⁶ Chester Music Novello and Company published *Grave* in its original instrumentation

⁶ These Eastern European and Asian communist countries include: Albania, Bulgaria, People’s Republic of China, the Community of Independent States, Croatia, Cuba, the Czech Republic, Estonia, Hungary, Latvia, Lithuania,
in 1982 and reissued it in 1996. Novello also published the orchestral version in 1992. All of these British publications were made available to the rest of the world. Besides the scoring of the duo and orchestral versions, no other musical differences are apparent in the various publications. The solo cello part is the same in both duo and orchestral versions, and the orchestral arrangement has the same pitch content as the original piano part. The manuscripts for both arrangements reside in the Paul Sacher Foundation in Basel, Switzerland. None of the composer’s sketches, nor the manuscript of Grave, has been published in any scholarly work to date. This dissertation examines sketches from Grave, which are included here with the permission of the Paul Sacher Foundation.

Lutosławski finished the manuscript of Grave on March 19, 1981, a few weeks before its premiere in Warsaw on April 22 of that year by cellist Roman Jabłoński and pianist Krystyna Borucińska. The orchestral version was first performed by cellist Mischa Maisky and the Polish Chamber Orchestra, conducted by Jerzy Maksymiuk at the Festival Estival de Paris, in Paris on August 26, 1982. Grave is one of several memorial compositions written by Lutosławski; the others include Funeral Music (1958), for Béla Bartók, and Epitaph (1979), for Alan Richardson.

Many distinguished cellists have performed Grave, including Steven Doane, Lynn Harrell, Ralph Kirshbaum, Yo-Yo Ma, Mstislav Rostropovich, Heinrich Schiff, and Dmitry Yablonsky. Rostropovich, in letters written to Lutosławski, communicated that he enjoyed performing Grave and would often include it in his recitals. Heinrich Schiff, in letters written to Lutosławski, also mentioned that he included Grave in his recitals.\footnote{Letters between Lutosławski and Rostropovich and Lutosławski and Schiff are deposited in Paul Sacher Foundation in Basel, Switzerland.}

\footnote{North Korea, Poland, Romania, Slovakia, Slovenia, Vietnam, and the remaining territory of Yugoslavia of June 1991.}
Grave has also been popularized by the Witold Lutosławski International Cello Competition in Warsaw. Since 1997, it has been an obligatory piece of the competition’s second stage, and a special award has been given for its best performance.

Grave has been well received by critics. Allan Kozinn described Grave in the New York Times as “a complex piece that takes advantage of the instruments’ different characters to create a haunting atmosphere,” “an elegiac work that balances lyricism with dense chromatic writing,” “troubled beauty,” and as “driven but abidingly lyrical.” Bernard Holland has written that Grave is “a well-made piece alternating baritonal dirges and rapid studies in anxiety.” London-based music critic Frances Wilson has described Grave as “haunting and powerful.” Another European music critic, Rachel Holstead, wrote that it is “a work full of substance, beautifully balanced and proportioned. Its strength lies in its restraint and economy of language, all growing from the opening four-note motif.”

Grave has also been chosen by cellists for debut recitals. For example, Paul York performed it during his New York debut at Carnegie Hall in 2010. Joy Lisney played the work during her debut concert at St John’s, Smith Square in London, in 2011.

10 Frances Wilson, Review of concert performance by Joy Lisney (cello) and James Lisney (piano), St John’s Church, Smith Square, London, Bachtrack Review, October 21, 2011.
13 Frances Wilson, Review of concert performance by Joy Lisney (cello) and James Lisney (piano), St John’s Church, Smith Square, London, Bachtrack Review, October 21, 2011.
2013 was the hundredth anniversary of Lutosławski’s birth. The celebration of that event stimulated renewed interest in the composer’s compositions and, for cellists, inspired performances of *Grave* around the world.

1.3. Other Lutosławski Compositions for Cello

Lutosławski wrote numerous chamber compositions for various instrumental configurations, nineteen of which are chamber pieces with cello. There are fourteen songs with a minor cello part, and two transcriptions: *Dance Preludes* for nine instruments (1959), written originally for clarinet and piano in 1954, and *Bukoliki* for viola and cello (1962), transcribed from a piano piece written in 1952. Only three of these works are substantial and original chamber works that include cello: *String Quartet* (1964); *Sacher Variation for Cello Solo* (1975); and *Grave: Metamorphoses for Cello and Piano* (1981). These compositions explore distinctive features of the cello as a chamber and solo instrument. Lutosławski used innovative techniques to attain the unique sonorities of his compositions. From a performance perspective, he contributed to the expansion of cello technique by introducing new means of expression. His compositions did not revolutionize the development of cello technique, but they significantly contributed to it.

Lutosławski’s first major chamber work with cello is the *String Quartet*, for which he used a controlled aleatoric approach in all its parts. This technique was considered innovative in the 1960s, requiring the performer to read the part without trying to synchronize with other instruments. It also provided new challenges in the interpretation of rhythm. Lutosławski’s written comments instruct the performer when to start and finish a section of the quartet. The
cello part includes the use of quarter tones and special fingerings for these intervals. The String Quartet was first performed by the LaSalle Quartet in Stockholm on March 12, 1965.

*Sacher Variation* was dedicated to Paul Sacher, a Swiss conductor and patron of the arts, on the occasion of his seventieth birthday. Twelve composers were commissioned by Mstislav Rostropovich, who stipulated they use Sacher’s last name for the theme of a cello work. Each letter symbolized a note in German or Italian notation systems: Es-La-C-H-E-Re. *Sacher Variation* is a twelve-tone piece using quarter tones as ornaments around pitches complementary to the “Sacher” hexachord. Other significant coloristic articulations employed in this composition include *sul ponticello*, *glissando*, and *pizzicato*. Although Lutosławski’s work is in one movement and a duration of four minutes, it also features a variety of musical characters and a gradual dramatic evolution leading to a clever ending. Rostropovich premiered the work in Zürich on May 2, 1976.

Encouraged by Rostropovich, Lutosławski also wrote a larger work for cello, the Concerto for Cello and Orchestra (1969–70). It was his first concerto for a solo instrument. He did not consult with Rostropovich during the composing process, but kept the cellist’s virtuosity, musicality, and commitment to the defense of human rights and artistic freedom in mind.\(^\text{14}\)

After the completion of the concerto, Lutosławski sent the score and cello part to Rostropovich, with written instructions about the piece’s division and development. He described specific moods associated with each of the four, *attacca* movements. The concerto

\(^{14}\) An example of Rostropovich’s defense of human rights can be found in an open letter he wrote to the Soviet newspaper *Pravda* in 1970. He stated that artists in the Soviet Union are unable to freely express their ideas and opinions and that the most important artistic decisions were made by incapable people. The letter was not published by *Pravda*; however, Western newspapers printed it. After this publication Rostropovich and his wife met with many difficulties in their country, such as a limited number of concerts and a ban on traveling outside the Soviet Union. He and his family left the Soviet Union in 1974 and he promised that he would not return there until artists were allowed to freely express their opinions and ideas. As a result he and his family’s Russian citizenship was revoked in 1978. In 1989 he performed in Berlin after the fall of the Berlin Wall. His Russian citizenship was eventually restored in 1990, and he was able to return to Russia in 1992.
presents the cello as a solitary voice in opposition to the constantly interrupting and reprimanding voice of the orchestra. One might find a parallel between the musical plot of the cello concerto and Rostropovich’s life and career, as he was constantly observed, supervised and judged by the Soviet system. The plot of the concerto also resembles a Greek tragedy. In the cello concerto, an individual—the cellist—tries to communicate his thoughts but is never completely understood by the orchestra, serving as chorus. Like a Greek chorus, the orchestra is internally divided into two distinct voices. The first voice is represented by strings and the second by brass and winds. At first the strings support and agree with the cello line, while the brass and winds seem to reprimand the protagonist and to destroy signs of agreement between cello and strings. By the end of the composition, the orchestra stands united as one voice which “laughs,” “rebukes,” overhelms, and ultimately destroys the cellist’s efforts to be “understood,” leaving him alone in a desperate cry. The composition starts and finishes with cello solo playing a repeated single pitch. As in the String Quartet and Sacher Variation, Lutosławski extensively used quarter tones and extended cello techniques such as artificial harmonics, glissandi, and pizzicati.

The cello concerto premiered in London on October 14, 1970 by Mstislav Rostropovich with the Bournemouth Symphony Orchestra, conducted by Edward Downes. Soon after Rostropovich premiered the composition, he was forbidden to travel abroad and perform. As a result, a number of other cellists had the opportunity to perform this composition, with Lutosławski as conductor.

15 See Medea by Euripides and Antigone and Electra by Sophocles for a comparison.
1.4. **Overview of Grave**

Lutosławski wrote *Grave* during a transitional period (1979–1983), which Charles Bodman Rae has called “Emergence of the Late Style.” Lutosławski made limited use of his customary techniques in *Grave*, such as controlled aleatory (*ad libitum* was the term used by the composer) and vertical, twelve-tone aggregates. He first used the technique of controlled aleatoricism around 1961 in *Jeux Vénitiens* (Venetian Games). Lutosławski incorporated the element of chance into the piece in order to give the player interpretative freedom in performing rhythmic groups. Pitch content, articulation, and dynamics are fixed. In Lutosławski’s orchestral pieces, aleatoric sections are not conducted. The conductor might only cue the beginning of a section to each player, and then resume conducting after the last player had finished his or her part. Lutosławski often mentioned in interviews that, after hearing John Cage’s Concerto for Piano in 1960, a new chapter opened for him in understanding time organization in music.

Describing the aleatoricism in *Jeux Vénitiens*, he said:

> I’m thinking about both the possibility of enriching the rhythmic aspect of the composition without increasing the difficulties for the performers, and about allowing free, individualized play on the instruments in the orchestra. These were the elements of the aleatoric technique that interested me most of all, because they permit me a wide vision of sound that would otherwise exist only in my imagination.

*Grave* does not employ aleatoricism; however, traces of this technique can be found in sections where one player has sustained notes while the other has fast rhythmic values, for example, in the cadenza (m. 117) or in the last measure of *Grave*. Such sections give some freedom in interpreting rhythmic values.

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17 Lutosławski also used the terms “limited aleatory,” “textual aleatoricism,” and “aleatory counterpoint.”
Though *Grave* has no vertical twelve-tone aggregates built as twelve-tone chords (as was typical of Lutosławski’s earlier music), they appear horizontally and diagonally in both voices during short but significant moments of the composition. In such a horizontal/diagonal aggregates, some pitches have long rhythmic values while others are shorter. The pitches appear in the shape of a parabola in various voices, therefore could be described as horizontal/diagonal. The shorter notes are heard in the foreground, the longer pitches in the background. Voices appear as layers; they overlap and create chords. Examples of these aggregates can be found in various places in *Grave*. (See Chapter 2, Section 2.5.) In addition to twelve-tone aggregates, Lutosławski also employed collections of nine, ten or eleven tones. This procedure was a typical feature of his late style.

1.5. Techniques

It is important for performers to understand Lutosławski’s compositional techniques because doing so will help them to interpret his music more accurately. While Lutosławski does not employ his signature techniques in *Grave* (aleatory, or vertical aggregates), the work shows typical traits of his music including: the aural *accelerando* that results from shortening the rhythmic values throughout the piece; interval pairings; intervallic/rhythmic overlapping (also called the chain technique); additive techniques; horizontal/diagonal aggregates; and repetitions of a single pitch with various rhythms.

While Lutosławski used new cello techniques abundantly in other cello compositions, *Grave* is somewhat conservative from a technical perspective. For example, he avoids quarter-tones, *glissandi*, and tapping on the instrument, playing *sul ponticello*, or playing between the bridge and tailpiece. *Grave* gives the cellist a chance to focus on exploring the instrument’s
timbre and sound colors. As Lutosławski wrote Grave in a later period than his other cello compositions, it is characterized more by conventional, rather than avant-garde, methods of technical expression. A possible explanation for this return to convention can be found in Lutosławski’s own words:

> It is so much easier to compose something shocking, chilling, surprising than—something beautiful. That is why almost no one tries to do it.\(^\text{19}\)

The cello and piano in this piece seldom overwhelm each other; instead they complement one another on every musical level. From a technical point of view, Grave develops internally by an evolution of rhythm and ascendance of register. Faster and registrally higher sections, more technically demanding for a cellist, appear gradually and form a crucial part of the work’s dramatic development.

As mentioned earlier, one of Lutosławski’s techniques was to use aural *accelerando* by shortening rhythmic values throughout a piece. The manuscript of Grave shows that Lutosławski carefully planned its rhythmic organization. He devised a rhythmic chart where he organized the division of rhythmic values from half notes to triplet sixteenth notes. From this chart he chose rhythmic values for eleven stages of the rhythmic development. As a result, there is a gradual appearance of faster rhythmic values from half to sixteenth notes. Each following stage evolves by adding faster rhythmic values. A copy of the manuscript of the chart appears in Chapter 4, Section 4.1, with further description of the rhythm.

Lutosławski insisted that he was not a dodecaphonist, while he admitted that he used twelve tones and simple mathematical calculations in his compositions. He explained his calculations in several interviews. In an interview with the Hungarian music publisher, Bálint András Varga, he remarked:

With the elementary construction of twelve-tone chords one can use strong harmonic contrasts: which is impossible, for instance, in serial techniques, especially in the case of Allintervallereihe. Here lies the most obvious reason why you maintain that my methods of organization of pitch conflict with twelve-note technique. The only thing I have in common with the latter is the nearly continuous flow of all twelve notes of the scale. It has absolutely nothing in common with dodecaphony, which is [so] alien to me that I simply have nothing to say on that score.... What is alien to me in Schoenberg is the pre-eminence of the system over the ear control. The latter is of course also present in his music, after all Schoenberg was an outstanding musician. However, the system in his art assumes universal significance, and determines the composition of not just one work but a whole series of works. That never occurs in my case. I always work out new elements of a system for every new work which serves my imagination.20

Lutosławski used twelve tones in his music starting from the early 1950s. Even though he could be considered a dodecaphonist in some respects, there are many elements in his music, including pentatonic, modal, and whole-tone collections and a strong point of gravity equivalent to the tonic in tonal music that lie outside any sort of twelve-tone systematic organization and are governed by what Lutosławski called “ear control.” Lutosławski acknowledged that all music involves some sort of balance between system and ear. He also felt that Schoenberg’s music tipped too far toward system, while he himself adjusted and modified for every composition.

1.6. A Limited Number of Intervals

Lutosławski used a limited number of intervals to build chords or horizontal lines. Using two or three intervals gave his compositions an exclusive harmonic or melodic homogeneity. A choice of specific intervals, *ic* 1 and 6, for example, gives a row or a chord a unique, particular quality and color. As a result, a limited number of intervals produce a limited number of set classes. This technique relates perhaps to the one employed by Anton Webern, as both composers used a limited number of set classes, creating distinctive harmonic colors and melodic

unity in their compositions. Lutosławski explained further in another fragment of conversation with Douglas Rust, in 1993:

The fewer kinds of intervals you use in constructing your twelve-note chord, the more characteristic is the general physiognomy of this chord. There are two poles: one is [the chord voiced in] perfect fifths or fourths, and the other is the chord voiced in minor seconds. The most characteristic type of twelve-note chord occurs when there is only one kind of interval used between neighbor notes. I described these chords as two poles because they differ from each other the most, but there are many different kinds of twelve-note chords composed with only two kinds of intervals. Using this rule, you can achieve something that in a certain sense may replace the keys of tonal music. We have no minor, no major now in our twelve-note chromaticism.21

Lutosławski used this limited number of intervals in a row to create a specific harmonic sonority in *Grave*. Thus, he composed the part for cello; by contrast, the piano part follows less strict rules than does the cello. As can be understood from the manuscript and a draft of *Grave*, Lutosławski generally used pitches in the piano not used for the cello. For example, if the cello includes a collection of pitches E-B-A-Ab-D#-F in a certain section, the piano uses one or more notes from the collection of complementary pitches: C-C#-D-Gb-G-Bb. (Section 2.1 of Chapter 2 includes further discussion about Lutosławski’s technique of using a limited number of interval classes to create *Grave*’s twelve-tone row.)

It is important for performers of *Grave* to understand that the composition employs a limited number of intervals for the cello. It is particularly crucial to distinguish the qualities of different intervals, and the specific set classes they belong to, rather than to focus on the flow of twelve tones in *Grave*. The procedure of using the twelve tones was also a melodic device for the composer, who was more interested in qualities of intervallic sonorities. Therefore performers should understand that a certain interval is related to a specific sound approach, color, articulation, vibrato, or timbre.

21 Douglas Rust, 214.
1.7. **Intervalllic and Rhythmic Overlapping**

Lutosławski often used rhythmic and intervalllic overlapping—also called the chain technique. In rhythmic overlapping one voice opens with an idea, which another voice then takes up as the original voice moves on to another, or drops out and resumes the idea from the other voice a moment later. This technique can be found in *Grave*, for instance, in mm. 41–44 (Ex. 1.3).\(^{22}\) The cello and piano play a rhythmically homogenous phrase, which continues in the piano after RN\(^{23}\) 4, where the cello begins a new phrase with faster rhythmic values (m. 43).

In intervalllic overlapping the first part of a set class finishes a phrase as the second part of the same set class starts the next phrase. The cello has an intervalllic overlapping between two phrases in mm. 41–44. The entire collection in the cello C-F-G-A-G# should be played *forte*; however, only the first three pitch classes C-F-G create the set class (027) that, for most of *Grave*, is associated with strong dynamics markings from *mezzo-forte* (mf) to *fortissimo possibile* (fff). Pitch classes A-G# (mm. 41–42) are members of (016) → [G#,A,D] (ending on pc 2 at the beginning of m. 43) and associated with soft dynamics in the work from *pianissimo possibile* (ppp) to *mezzo-piano* (mp). (More information about dynamics and their association with specific set classes can be found in Chapter 3, Section 3.2.) In order to achieve a contrast in articulation, dynamics and sound color in mm. 41 and 42, the cello’s collection C-F-G-A-G# must be played with short strokes at the frog, with fast amplitude and wide *vibrato* in the left hand. Avoiding open strings will result in a denser and stronger sound color. A sudden change, *piano subito flautando*, in m. 43 can be achieved by playing on the D string, using a light stroke in the upper part of the bow.\(^{24}\) In order to avoid accentuating every change of bow direction, the index finger of the right hand must not pressure the bow too much. A chromatic fingering should

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\(^{22}\) The full score of *Grave* can be found in the Appendix.

\(^{23}\) Rehearsal numbers are labeled as RN.

\(^{24}\) In order to mark bowings in examples, I will use “˄” for a down-bow and “˅” for an up-bow.
also be used by the left hand. *Vibrato* in RN 4 should be fast and narrow; this will enhance the soft dynamics.

Example 1.3. Rhythmic overlapping in cello and piano and intervallic overlapping in cello.

1.8. **Additive Technique**

Additive technique in *Grave* can be found at the end of the piece. In this technique, a single motive, for instance, the dyad (01), evolves by expansion and contraction, with new pitches added each time it reappears. Example 1.4 shows the cello part in the second half of m. 150. A single dyad evolves by a repetitive and additive process.
Example 1.4. Dyad (01) evolves by repetition with new pitches every time it reappears.

The above section is played by the solo cello, constituting a significant example of local metamorphosis of the dyad (01) and the set class (016). The dyad Bb-A evolves by adding a pitch to every subsequent gesture each time it appears after a fermata: Bb-A-Eb are members of set class (016), and Bb-A-Eb-E of (0167), a superset of (016). After the third fermata, the cello includes a member of set class (01267). All of these sets are subsets of the superset (012678). As will be explained in the next section, this hexachord in the cello has the crucial role of building the row. The last two figures in this measure are members of set classes (027) and (0247), the set class (0247) a superset of (027). The two set classes in this measure (016) and (027) are highly distinct and the cellist must distinguish them by applying different dynamics, sound color, and articulation. Thus we might hear two Dramatis Personae in conversation: Persona A and Persona B.

Persona B has a quiet and sad nature represented by set class (016) and Persona A, represented by set class (027), is decisive and impatient. At the beginning of this section (Ex. 1.4) Persona B “speaks” repetitively. If we think of intervals as words, repeated intervals sound like words spoken repeatedly. The same words are repeated “patiently,” in the same way, in order that the listener might understand their meaning. We might imagine that Persona B,
represented by (016), is trying to convince Persona A to do or understand something by starting a sentence with the same word each time, after rests, and adding a new word of similar meaning. With the purpose of achieving the described plot, the cellist should use down-bows each time B speaks. In order to avoid accents at the beginning of each down-bow, the cellist should use the upper part of the bow. The rests alternating with the words spoken by Persona B represent an important part of Grave’s drama. They should create a feeling of breathlessness after the last words spoken by B. The rests also provide A time to think and reconsider.

The cellist must play each of the six groups with slurs and pianissimo in this section (Ex. 1.4). At the beginning their rhythm is built from eighth notes. No new intervallic material appears other than \(ic\) 1 and \(ic\) 6, rendering the section intervallically stagnant. While performing this section, the cellist must make sure that the bowstroke is slow and notes are well connected. My proposed fingering requires a minimum of shifting. Consequently, with the flow of pitches, the cellist will not face any registral obstacles that would prevent the execution of legato articulation. The cellist must also keep to pianissimo for as long as it is marked, as soft dynamics represent \(ic\) 1 and 6 in Grave.

Later, starting in the fourth group, the rhythm accelerates to quintuplet eighth notes. There should be no dynamic preparation for the last two groups in m. 150, set classes (0247) and (027), which have short and accented articulation. They appear suddenly, without preparation, and are marked subito forte. This sudden change of dynamics and articulation creates a different character—now Persona A speaks. The two groups representing A are built from quintuplet eighths, and rhythmically incomplete. Each finishes with a rest. They represent A’s short, unfinished answer to B. The first collection Db-Eb-F-Bb, a member of set class (0247), should be played with short strokes in the lower part of the bow, placed close midway between the end
of the fingerboard and the bridge. The choice of fingering in Example 1.4 reflects the character, tempo, and dynamics of this collection. For that reason, I choose the most clear and powerful sounding positions in my instrument, where the cello would respond quickly and the collection Db-Eb-F-Bb would sound as sudden fortis.

The second group, representing Persona A, is collection A-B-E, the last trichord of a double row in Grave.\(^{25}\) I play the first collection on the G and C strings and the second collection entirely on the C string. The G and C strings have the darkest and most potent sound color that reflects the dynamics and articulation of the two collections. Even though no time signature accompanies the second collection, it should be played sostenuto and without any hurry, as a final pitch statement from the double row.

The diagram in Example 1.5 shows the second part of m. 150 (described above) intervallically. At the bottom, the diagram shows set classes (027) and (016), and dyads (01), (02), (05), and (06). The lines connecting these two set classes show which dyads appear in both sets and which are exclusive to a given set class. A superset, the hexachord (012678), appears at the top of the diagram with its subset, the pentachord (01267), immediately below. Both sets (027) and (016) are subsets of the pentachord (01267) and are also subsets of the hexachord (012678). Due to the close relations between these collections, the cello line is very homogenous, producing continuity in this section.

\(^{25}\) The row is called “double” because the first and the second twelve-tone rows in the cello part are closely related by retrograde-inversion; they mirror each other. More information about the double row can be found in Chapter 2, Section 2.1.
1.9. **Horizontal/Diagonal Chords**

Lutosławski also used horizontal/diagonal chords as a significant compositional technique. An example can be found at the end of *Grave*, where the cello and piano complement each other from a pitch perspective, as Lutosławski spread twelve tones throughout the cello and two hands of the piano part. The cello has long rhythmic values that expand in length with each new note: moving from a half note, to whole, dotted whole note, and double whole note with a *fermata*. It is important that the cellist use harmonics to play collection D-A-G-A, to prolong the sound of the pitches until the end of the piece so that the pitches overlap each other and sound as a chord. The collection (027) → [G,A,D] in the cello part is a pitch background for notes that appear in the piano part. The piano is more active, having the remaining, complementary nine pitches in the rest of the measure. The right hand repeats a collection (036) → [C,Eb,F#] three
times while the left hand’s collection (014679) → [E,F,Ab,A#,B,Db] forms an abstract superset of (036). The collection [E,F,Ab,A#,B,Db] is built from two sets of (036): [F,Ab,B] and [A#,Db,E]. That is the final section in the piano part is built entirely from (036). Example 1.6 illustrates the proposed fingering and bowing for m. 151 in the cello. Example 1.7 illustrates the second part of m. 151 from a pitch and intervallic perspective. (Note that the horizontal/diagonal chord between two parts in the second part of m. 151 is also an aggregate.)

Example 1.6. Fingering and bowing for m. 151 (of cello).
Example 1.7. Pitches and intervals in second part of m. 151.

The proposed fingering and bowing in Example 1.6 reflect the need for dramatic contrast between the first and second halves of m. 151. This measure starts with a paraphrase of the opening of the composition, with a contrasting dynamic marking $ff$. Here the cellist can use the same fingering and bowing as at the beginning. Next, the cello has the same pitch-class content but with a different tempo marking, dynamics, register, and rhythms. This echo-like occurrence creates a distinctive ending for the work; therefore the cellist must apply fingerings and bowings that reflect its closing character. In m. 151 when the cello plays alone using the Pelléas motive (027), he or she should play with a simple and open sound, as everything complex and problematic has already been said in the composition. The cellist can also use open strings and harmonics. There should be a serene and smooth sound color. This closing section has a large registral span, starting in the lowest cello register and gradually climbing to the highest. The
dramatic interpretation of this section can be said to symbolize the ascendance of a human soul from the earth to heaven after death.\textsuperscript{26} It is recommended that the cellist gradually play closer to the bridge, where it is easier to play slowly and to use sustained bowings.

1.10. **Repetitions of a Single Pitch**

Repetitions of a single pitch appear in *Grave* in various places. Examples of this technique can be found as early as the opening measure and continue throughout the entire piece in both parts. Lutosławski repeated a single pitch with different rhythms and articulations. He often repeated pitches in a twelve-tone row in his compositions; a technique that obscured the order of the twelve tones. In addition to *Grave*, Lutosławski used this technique in compositions such as *Chain* No. 1 and *Chain* No. 2, the Cello Concerto, and as an ending gesture in his *Third Symphony*.

This technique enriches limited pitch-class material; examples can also be found in mm. 21–63 of *Grave*, most prominently in mm. 43–51 (Ex. 1.9), 59–63. In these measures Lutosławski repeated a single pitch in a span of a few measures with gradually slower rhythms. In the cello part, Lutosławski mostly used pitches from the middle part of the double row, the part using $ic_1$ and 6. The repeated pitches are also preceded by $ic_1$ or 6; therefore, this technique emphasizes the set class (016). Example 1.8, in mm. 21–24, shows repetitions of a single pitch in different voices: in the cello and separately (both hands) in the piano part. From an intervallic perspective, the relation of the repeated notes is linked to the construction of the cello part.

Dyads (01) and (06) are significant for the construction of the cello part in *Grave*. In the second measure of RN 1 (see Ex. 1.8) the cello starts the section of the row that consists entirely of (01) and (06), ending in m. 22; however, the dyad (01) continues in the piano. Both performers must be aware of this feature in the other’s part, and that the dyad (01) appears with various articulations, dynamics and registers. It is important to play the dyad’s occurrences with different sound colors because it will bring more variety to the limited intervallic content in this section. In particular, the pianist must make a clear distinction in mm. 22–25 that follows the repetitive *pc* 8 in m. 21 in the cello. The cellist must use *tenuto* down-bows and play softly, using the middle and upper parts of the bow in m. 21. The pianist must contrast the articulation in mm. 22–23, playing the short *staccati* with *diminuendo*, then *sforzando* and *poco forte*.\(^\text{27}\) This section gives both players many possibilities in creating various sound colors.

Example 1.8. Pitch repetitions and dyad (01) and (06) between two instruments.

\(^{27}\) Lutosławski used in *Grave* an unusual, Brahmsian dynamic marking *poco forte*. Since Lutosławski had conservative training as a composer, studying sonatas of classical and romantic German composers, he might have learned about this dynamic marking way back in his student years, according to Michael Klein. Michael Klein, email message to author, March 9, 2014.
Repeated pc 2 in the piano (m. 22) is unavailable for the cello in this section of the double row; together with pc 3 in the cello part, however, they create the important dyad (01). In m. 23 the piano emphasizes this dyad by repeating pc 3 in the left hand while right hand plays pc 2. Pc 7 in m. 24 in the piano is also unavailable in this particular segment of the cello’s row, but with pc 1—and later with pc 6—they emphasize (06), also an important dyad in Grave.

In the next example the repetitions are presented with various rhythms, with piano dynamics, and flautando articulation followed by a section with short eighth notes, played forte.

Example 1.9. Pitch repetitions presented with various rhythms, dynamics and articulation.

In a short section of a documentary made in 1984, Lutosławski gave suggestions to a cellist for RN 4 in Grave. He explained that this passage must be relaxed, played without
tension, breathlessly and like “a pierced balloon.”

The cellist should use the upper part of the bow without too much tension from the right arm to maintain “flute-like” articulation. Example 1.9 presents aural ritardandi, created by repeating pitches written out in gradually longer rhythmic values. The aural ritardandi are followed immediately by faster rhythmic values, eighth notes, as if Lutosławski had written a tempo in mm. 4 and 9 of this RN. The cellist in the first eight measures of RN 4 should use the chromatic fingering, suggested in Example 1.9, and must ensure that collections of (012) and (016) are played legato, not only in the right hand but also by using non-stop vibrato in the left hand. The cellist must emphasize the two set classes by adding crescendi when they appear with an ascending contour in mm. 43 and 46, and diminuendi with a descending contour in mm. 47–48.

It is noteworthy that the flautando section (mm. 43–50) is built only from set (016) that signifies the character of Persona B. This passage presents her fragile and indecisive character, represented by the contour, articulation, rhythm and dynamics of the cello part. A narrow vibrato with small amplitude should be applied in this section to create the effect of a fragile, feminine voice, using stereotypical male/female roles.

A rapid crescendo in m. 50 temporarily halts the flautando section (mm. 43–50). In order to achieve a successful crescendo that leads to strong forte dynamics, the cellist must gradually move closer to the frog, playing with an up-bow. Mm. 42–50 must contrast with the forte section that follows in m. 51, which should be played in an “attacking and aggressive” manner.

Playing in the lower part of the bow is more effective for achieving stronger and shorter articulation and

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28 University of Southern California and the Friends of Polish Music invited Lutosławski to Los Angeles for a series of lectures, master classes, and as a conductor, January 21–29, 1985. A documentary made during this visit is a useful source on Lutosławski’s methods of rehearsing, teaching and on his lectures. Open Rehearsals with Witold Lutosławski, directed by Paweł Kuczyński (1984; Los Angeles, CA: University of Southern California, School of Cinema - Instructional Media Services, 1985), http://www.youtube.com/watch?v=NTUUt9NzM. 0:03:50.

29 Open Rehearsals with Witold Lutosławski, 0:03:50.
forte dynamics. In practice, this means that the cellist should use a down-bow to play the eighth notes, retaking the bow every time and playing “from the frog.” In order to achieve the forte, the cellist should also play with a fast bowstroke.

(0247) is a super set of the Pelléas motive; therefore mm. 51 to 57 ought to be played as one musical idea. The distinctive uses in Grave of (0247) → [A,C,D,E]—in mm. 51–52—and three times (027) → [Ab,Bb,Eb], [Gb,Ab,Db] and [C,D,G]—in mm. 53, 54–56 and 57—are characterized by separate, non-legato notes. Notes in mm. 51 to 54 should be played exclusively on the G string to achieve a unity of sound quality that distinguishes the character of Persona A. The rise of the contour that starts m. 55 can be enhanced by playing on the D string (except the first two notes in m. 57), and later on the A string starting from pc 2, in m. 57. This section represents the contrasting character of Persona A, who speaks again with short and incomplete words as if his thoughts would be too difficult to express with a sustained and calm voice. As regards duration, mm. 51 to 57 have brief rhythmic values, separated by rests with augmenting and then diminishing rhythmic values: 1+2+3+4 and 1+2+3+4+5, and 1+2. These digits represent the number of eighth notes in rests (see Ex. 1.9).

Example 1.10 presents the section following mm. 50–57. Persona B takes over here by accentuating a pc 4 with a sforzato in m. 58. Pc 4 belongs to the collection (016) → [Eb,E,A]. Persona B continues with an uninterrupted, sad voice based on (016). A local metamorphosis of a rhythm appears in mm. 60–63. Starting at m. 64, the cello continues to use (016), but the character changes after an ascending leap (06) → B–F and becomes more decisive and persistent by the repetition of (01).
1.10. Persona B takes over in m. 58 with continuously somber voice until m. 64.

1.11. **Large-Scale Form**

Although not many sources would organize or explain the problem of musical form in post-tonal compositions, we might still use the same parameters as in tonal music. Such parameters would structure the melodic line, vertical harmony, articulation, dynamics, rhythm, register, and texture. Taking all of these factors under consideration, in *Grave* we discover a large-scale form. This deduction process influences how we comprehend its form, but we should also consider the meaning of the second part of the composition’s title (*Metamorphoses for Cello and Piano*). “Metamorphoses,” the plural form of the singular noun “metamorphosis,” defines *Grave* as a work characterized by stages of transformation, from one metamorphosis to another. A metamorphosis is “a change of form or nature of a thing or a person into a completely different one.”

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boundaries of each metamorphosis are blurred in order to smoothly transform from one stage to another.

A larger picture of the metamorphoses emerges by synthesizing the parameters listed earlier. The structure of the melodic line reveals *Grave* to be an unusual twelve-tone composition. Its twelve-tone count does not indicate boundaries of the melodic theme, often the case in other post-tonal pieces. The flow of twelve tones is less important than the two significant set classes (027) and (016) that form the cello part.

As the cello part is constructed from a monolinear melody, it needs another voice to create vertical harmony. Thus the piano pitches complement vertically those of the cello. (The vertical harmony represented by the piano is described in Chapter 4, Section 4.2.)

Articulation and dynamics in *Grave* depend on the location of set classes (027) and (016) in the cello. The set class (027) is associated with detached articulation, while (016) is associated with *legato*. The piano follows the dynamic plan of the cello. Although it does not always mirror the cello’s articulation, it often complements it in this regard. For example, when the cello has sustained notes, the piano plays detached notes. Both instruments also interchange articulation (see the entire cadenza and climax in the Appendix). The dynamic plan has the shape of a parabola because it constantly changes from soft to strong dynamics.

Nevertheless, two crucial sections of *Grave*, accompanied by extremely strong dynamics, appear towards the end of the composition. The cadenza in RN 8 must be played *ff* while the climax in RN 10 *fff*. The composition finishes with extremely soft dynamics, *ppp*. Since the dynamics fluctuate throughout *Grave*, the composition might be divided into smaller units. However, the dynamic plan does not influence its large-scale form as much as its rhythmic plan does.
The rhythmic plan is central in identifying the large-scale form of *Grave* as metamorphoses. The composition is formally divided into twelve sections, indicated by RNs. Each section ends with a thin double barline. This division is significant because every new RN introduces faster rhythmic values and frequently introduces a denser texture in both parts. The texture in the piano varies throughout the composition; however, it generally follows the density of the cello.

Register in *Grave* evolves together with the rhythmic plan. It gradually ascends in both parts until RN 10, which includes the climax. From the third measure of this RN, the register dramatically drops in both instruments until RN 11, which is only one measure long; however, it encompasses a wide span of the cello range from a low D in the great octave on the C string to a high A in the two-line octave on the A string. In contrast, the piano left hand starts on a relatively high A# in the one-line octave and finishes in the contra octave. (See RNs 10 and 11 of *Grave* in the Appendix.)

*Grave* can also be divided into two parts. The first part starts with an introduction, the second part concludes with a coda. The introduction consists of the *Pelléas* motive D-A-G-A that creates the set class (027), played by the solo cello. The first measure is a point of departure for further development in the cello. From this moment, the motive starts its transformations, joined by a new motive (016) and its transformations. The role of the piano is secondary because it complements the cello from a pitch and rhythmic perspective. The RNs demark the transformation from one metamorphosis to the next through quickening rhythmic values, rising register, strengthening dynamics, and thickening texture. Up until m. 112, the first part of *Grave* prepares for the climactic cadenza.

The second part of *Grave* starts with the cadenza in m. 113 and it contains the fastest
rhythmic values (sixteenth notes), the highest register, the strongest dynamics and the thickest texture. RNs 8 and 9 (mm. 112–145) prepare for the climax in RN 10 (mm. 146–150) where the cello reaches the highest note—Bb in the two-line octave, while the piano spreads out from the sub-contra octave to the four-line octave, within first five measures of RN 10 (mm. 146–150). Before RN 11, both instruments play again in the low register. The last measure of RN 10 is important for the formal division of Grave because the last double row in the cello finishes there. (See Section 2.1 of Chapter 2 and Grave’s score with labeled rows in the Appendix.) The coda is one measure long and is embedded in RN 11. In the coda, the cello repeats the Pelléas motive D-A-G-A from the beginning of Grave, while the piano complements it with the remaining pitch classes.

Jadwiga Paja-Stach’s description of the formal structure of Grave suggests that it is comprised of several brief sections and a final statement from mm. 113–150:

As far as formal structures in Grave are concerned, this work does not unfold in two phases as the String Quartet did, but is composed of several short segments (equivalent to a first movement in Lutosławski’s bipartite form) and a final culmination-segment (bars 113–150) dominated by semiquaver motion. In this concluding part both the continuity of the momentum and the method of reaching the climax resemble traits of the second, “direct” movement in many of Lutosławski’s mature works.31

Although Paja-Stach’s analysis lacks an explanation for how the segments are divided, it might be assumed that she saw the rhythmic evolution in every subsequent RN as a segment. The second part includes the climax and lasts until the end of the composition where the initial D-A-G-A motive is repeated by the cello.

1.12. Texture

From a textural and character perspective, *Grave* is internally diverse. In the documentary mentioned earlier, Lutosławski asked the performers to display conflicting characters. He suggested to the performing cellist that *forte* dynamics should be attacking and aggressive, but that *pianos* must be “strengthless.” Lutosławski wanted to depict extreme and contrasting characters over a short duration. In the first measure, the cello solo plays the *Pelléas* motive *mezzoforte*, then, after a rest, softly. The dynamic range is from *pp* to *mf*, the first *poco forte* appearing in m. 12, but the character does not change much until m. 17, where Lutosławski writes *subito piano* in the cello above a *sforzato* chord in the piano. Until m. 22, the texture is thin and the dramatic plot of the composition develops slowly.

The next dynamically contrasting section runs between mm. 23–26. RN 2 (m. 26) introduces a new, quasi polyphonic texture, as both instruments play in imitation and in canon. In RN 3 (m. 36), the texture is denser than before but the dynamics remain soft. This passage leads to RN 4, which has the same dynamics but different articulation, *flautando*. The plot becomes more complicated and characters represented by Personae A and B begin speaking ambiguously, using various contours, articulations, and dynamics. The piano has arpeggiated collections of pitches that become scale-like passages in mm. 49 and 50. These passages create a growing tension, reflected by the musical content of the cello.

Both parts have independent dynamic markings in m. 58. A *sforzato* and *diminuendo* appear in the cello and *subito piano* in the piano, which brings in a transparent texture in mm. 59–61 where the cello plays almost entirely alone. At RN 5 (m. 64) both instruments seem to begin forming melodic and rhythmic agreements but the attempt fails. The section comprising mm. 72–75 depicts an argument between the two instruments, which they attempt to reconcile.
around RN 6 (mm. 78–88). The cello whispers in mm. 85–88 while the piano plays two repeating, four-note motives. The two motives comprise set classes \( (0268) \rightarrow [E,Gb,Bb,C] \) and \( (0167) \rightarrow [F,Gb,B,C] \), having two tritones in common in their interval vectors. The latter set class is a superset of \( (016) \) collections \( ightarrow [G,G\#,C\#] \) and \( [A,D,Eb] \), which appear in the cello. The pianist should play this collection \( \textit{più piano} \) in order to similarly express the dynamics in the cello (Ex. 1.11).

Example 1.11. Cello whispers \( (016) \) (mm. 85–88) while piano repeats \( (0268) \) and \( (0167) \).

\[
\begin{align*}
\text{(016)} & \quad [G,G\#,C\#] \\
\text{[A,D,Eb]} & \\
\end{align*}
\]

Two four-note motifs: \( (0268) \rightarrow [E,Gb,Bb,C] \) and \( (0167) \rightarrow [F,Gb,B,C] \)

After the \( pp \) section the cello solo plays courageously in m. 89, \textit{subito forte}. From here until m. 94 the piano plays only brief, staccato, repetitive chords. A section similar to that shown in Example 1.11 appears in mm. 95–98, with arpeggiated \( (012567) \rightarrow [G\#,A,Bb,C\#,D,Eb] \) and \( (012367) \rightarrow [D\#,E,F,Gb,A,Bb] \) in the piano and a timid, hesitant mood in the cello based on \( (016) \rightarrow [F,F\#,B] \) and \( [G,C,C\#] \) (see Ex. 1.12).
Example 1.12. Arpeggiated (012567) and (012367) in piano and (016) in cello.

At RN 7 the two instruments seem to achieve a temporary rhythmic agreement that leads to the cadenza in RN 8. The cadenza’s outburst of energy in both parts resolves the struggle leading to this section, finally rewarded by the freedom and openness of $ff$ dynamics. From m. 121 both instruments start a chase and compete with each other dynamically. They interchange sixteenth notes in mm. 121–125, their parts rhythmically similar. They are also intervallically associated, sharing the dyad (01). The cello uses collections of (016) while the piano has chromatic harmony built from (0123). The thin texture in this section functions as a catalyst after the cadenza and before the preparation for the climax in RN 10. (See fingering suggestion for this section in Chapter 3, Ex. 3.15.)
Lutosławski used trill-like figures that intensify the texture. From mm. 137 to 145 a four-note accented figure Gb-Ab-Gb-Ab appears twice, then four times, then six times. This four-note figure is interchanged by the dyad Gb-Ab, which takes over in m. 142 and leads both instruments to the climax starting on pc 10 in the cello. Although Lutosławski used limited pitch content in mm. 137–145—a single dyad—he created much variety in the cello’s articulation. Example 1.14 shows this local metamorphosis that leads to the climax. Though Bb is the highest pitch in this section, it is not the most significant note of the climax, which continues for the next two measures, ending on pc 2 in the middle of m. 150. Thus pc 2 opens Grave and is also the last pitch of the climax. This section is based on (027) and its intervallic families; therefore, it represents Persona A. Dyad (02) creates an illusion of a tireless fight that ends with the last note of the climax.
Example 1.14. Local metamorphosis, based on (02), leads to climax.

During the climax in RN 10, both instruments play **fff**. Although the cello begins the last double row two measures later (in m. 148), the row is interrupted by a pentatonic collection that continues from m. 149 to the beginning of m. 150. Both instruments finish this section playing accented eighth-note quintuplets. The texture is suddenly diluted in m. 150 as only one instrument continues. After a rest in this measure, a coda starts and the cello plays two contrasting units alone, an eighth-note/quintuplet motive in **pp**, followed by two accented groups in played **subito forte** (Ex. 1.4).

RN 11 (m. 151) lasts one measure; the cello plays the *Pelléas* motive **ff** and then repeats it **piano** after a rest. The last four notes in the cello, with the complementing piano, fade dynamically. They both have a **diminuendo**, fading to the **pp** in the cello and **ppp** in the piano, the texture dissolving into air.

The RNs are useful for performers in the process of working on this piece. In some instances they signal boundaries of phrases because, except for RN 11, every new RN signals faster rhythmical values and a denser texture. Lutosławski uses RNs as a way of organizing the
composition as metamorphoses, which depend on an evolution of the rhythmic values and intensification of texture in both instruments. This texture enhances the dramatic plot of *Grave*, which fades away at the end of the composition.
Chapter 2

Twelve-Tone Organization in Grave

2.1. The Twelve-Tone Row

Charles Bodman Rae has developed a concise explanation of the main structural idea in Grave, which helps to analyze its twelve-tone row:

Grave also makes extensive use of 1 + 6 melodic interval pairing of the semitones with tritones. Symbolism may be found in the way the piece then unfolds in continual alternation of the 2 + 5 and 1 + 6 interval pairings: the former representing an allusion to Jarociński’s lifelong study of Debussy; the latter expressing the mood of mourning. Lutosławski adopts a consistent method of passing from one interval pairing to the other via three-note interval cells of interlocking semitone/tone.32

In Grave the cello’s rows are built from only two set classes, created from ic 2 and 5 and ic 1 and 6. These two set classes, (027) and (016), share only ic 5. (016) is contracted by one semitone from (027) and both collections are subsets of the hexachord (012678).

As discussed in Chapter 1, the cello solo is partly based on a motive from Debussy’s Pelléas et Mélisande. The Pelléas motive is a member of the set class (027) and is a subset of the anhemitonic pentatonic scale (02479). The anhemitonic pentatonic scale has no semitones or tritones; therefore, the major second and the perfect fourth or fifth become important intervals in this scale. As Debussy often used pentatonic scales, this motive is a significant marker of his style.

In Grave, as early as the third measure, a contrasting idea starts, a motive from Lutosławski’s Funeral Music and a member of set class (016). Both Grave and Funeral Music are memorial compositions, demonstrating that, for Lutosławski, set class (016) appears to be connected with sadness and death. Set class (016) may be viewed as a subset of the Phrygian mode, which starts with a semitone and has a tritone between the second and fifth scale degrees.

2.2. Internal Structure and Combination into Pairs

The cello line in *Grave* has a unique construction and develops under specific calculations. In an interview with Bálint András Varga, Lutosławski explained how he created *Grave*’s rows and their permutations:

Varga: You write somewhere that you apply certain simple mathematical procedures in composing. Are these simple for the professional mathematician, or for the layman?

Lutosławski: They are very simple for the professional mathematician. I use among other things arithmetical progressions which help me to compose sound-blocks where the parts are very similar but not identical. [I use what] is needed for bringing about a certain sound picture and [the math] never gains a leading role in my work.\(^{33}\)

For *Grave*, Lutosławski used an arithmetical calculation as a core for the construction of the cello part. He used twelve double rows, each first row starting successive pitches of the circle of fifths, clockwise. Although the cello quotes the first measures of *Pelléas et Mélisande*, joined by the piano four measures later, the piano does not follow the double row. The first seven measures of the cello contain twelve pitch classes that create the first part of a 24-note row. The second part of the row starts with *pc* 7 (m. 7) and finishes with *pc* 11 in the middle of m. 14. The row has repeated pitch classes and just where the succeeding row starts is sometimes unclear. Example 2.1 shows the double row in the cello.

As explained in Chapter 1, the row is called double because the first and the second twelve-tone rows in the cello part are closely related by retrograde inversion. Note that the pitches creating collections (027) have *non-legato* articulation and *mf* dynamics or stronger. Pitches belonging to (016) are slurred and have *mp* or softer dynamics. The cellist performing *Grave* must make a clear distinction between these two set classes to express two contrasting characters. For example, throughout the entirety of *Grave*, pitches from set class (027) should be played more detached than pitches producing (016). Lutosławski stipulated that *legato* or *tenuto*

\(^{33}\) Varga, 6.
be played on “the same bow” articulation (see RN 3) in parts of the row with (016). He applied (016) to achieve a distinct sound color that contrasts with sections built from (027). Pitches are almost never slurred in sections of the row that come from *Pelléas et Mélisande* (i.e., the sections of the row with set class (027)). They are written out separately.

Example 2.1. Double row built from (027) and (016) with division on two twelve-tone rows.
Double row with ordinal numbers 1–24 indicating position of each note:

First row:

Second row:

The row is built from two collections of (027) in the first half and two collections of (016) in the second. Thus the order of trichords is reversed in the RI form of the second row, two sets of (016) followed by two sets of (027). The first two collections of pitches [G,A,D] and [C#,D#,G#] appear in the first two measures. Contours of the collections are obscured because Lutosławski used pitch repetitions and octave displacements. In Example 2.1, the second pitch in m. 1, pc 9, is repeated after pc 7. The first pc 9 is not counted as a second pitch of the row because of the order of the succeeding rows in Grave.

As discussed earlier, Grave’s divisions are marked by RNs. Although this division does
not organize the piece in a symmetrical way, it does show steps in the process of the melodic and rhythmic metamorphoses. All twelve 24-note (or double) rows evolve with diverse rhythms and melodic contours, but they have no relation to the division of the RNs (except that the end of RN 11 is synchronized with the end of the last double row). Table 2.1 presents RNs and measure numbers with the beginnings of each double row.

Table 2.1. RNs and measure numbers with boundaries of each double row.

<table>
<thead>
<tr>
<th>RNs with Measure Numbers</th>
<th>Boundaries of Double Rows</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1–15)</td>
<td>1–14</td>
</tr>
<tr>
<td>1 (16–25)</td>
<td>14–24</td>
</tr>
<tr>
<td>2 (26–35)</td>
<td>24–32</td>
</tr>
<tr>
<td>3 (36–42)</td>
<td>33–40</td>
</tr>
<tr>
<td>4 (43–63)</td>
<td>40–53; 54–73</td>
</tr>
<tr>
<td>5 (64–84)</td>
<td>73–91</td>
</tr>
<tr>
<td>6 (85–98)</td>
<td>91–103</td>
</tr>
<tr>
<td>7 (99–111)</td>
<td>103–115</td>
</tr>
<tr>
<td>8 (112–125)</td>
<td>116–128</td>
</tr>
<tr>
<td>9 (126–145)</td>
<td>128–148</td>
</tr>
<tr>
<td>10 (146–150)</td>
<td>148–150</td>
</tr>
<tr>
<td>11 (151–end)</td>
<td>Debussy’s D-A-G-A</td>
</tr>
</tbody>
</table>

Table 2.1 also shows that subsequent RNs do not appear within boundaries of succeeding double rows and that Lutosławski distributed the double rows freely in *Grave*. For example, the first double row is spread over fourteen measures, the second double row over ten measures, and the third double row is spread over eight. The eleventh double row uses twenty measures to introduce all twenty-four tones, but the twelfth double row is very dense and uses only two measures to introduce the twenty-four tones. As will be discussed later, each new RN is aligned with the introduction of new rhythmic values. (See Chapter 4, Section 4.1 for a further discussion about the rhythm.)
We might question how the rows’ placement—their beginnings and endings—influence the execution of *Grave*. Must performers be aware of the rows’ locations? The twelve-tone count is not crucial for the performance of *Grave* because the boundaries of phrases and new sections do not coincide with the boundaries of the rows. However, performers should be aware of the rows’ location, as they are related to two specific set classes, (027) and (016). Phrases in *Grave* very often overlap because of Lutosławski’s chain technique, but the listener does not have to distinguish their boundaries. What the listener or performer of *Grave* should notice is the clear distinction between contrasting set classes (027) and (016), which express different characters.

Members of (016) are represented by two collections of pitches, [E,E#,A#] and [F#,B,C] (Ex. 2.1). The mirrored row starts in m. 7. The second row starts with the set class (016) and its repetition as the following collections, [C#,D,G] and [D#,Ab,A]. Next, the two collections of (027) are represented by collections [Bb,C,F] and [E,F#,B].

Table 2.2 shows how the double row is built. The table lists ordered interval classes with the symbols *i* and *ic*, representing unordered interval classes. The dashed line in the middle of the frame symbolizes the division of the double row.

<table>
<thead>
<tr>
<th></th>
<th>P2</th>
<th>RI11</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>i</em></td>
<td>5 2 11 5 2 2 11 6 1 1 6</td>
<td>1 6 1 1 6 11 2 2 5 11 2 5</td>
</tr>
<tr>
<td><em>ic</em></td>
<td>5 2 1 5 2 2 1 6 1 1 6 1</td>
<td>6 1 1 6 1 2 2 5 1 2 5</td>
</tr>
</tbody>
</table>
If we omit repeated notes, we can analyze the entire cello part in Grave as one 24-note palindrome that occurs twelve times. The palindrome’s ordered pitch-class intervals from the beginning to the end mirror those from the end to the beginning, built from two twelve-tone rows related by retrograde-inversion. If the first row is labeled P2, then the second will be labeled RI11 (Ex. 2.1 shows P2 and RI11).

If we divide the twenty-four note collection into three parts, we can see that the first and third parts are built from unordered interval classes 1, 2, and 5. The second part is built from unordered interval classes 1 and 6, and is symmetrical, $ic: 611616116$. If we divide the twenty-four note collection into two parts, we notice that hexachords of each twelve-tone row are members of a set class (012678). This set class is symmetrical. The hexachord from Grave is all-combinatorial. It is transpositionally combinatorial at T3 and T9, and inversionally combinatorial at I1 and I7. It is also retrograde-combinatorial at R0 and R6, and retrograde-inversion combinatorial at RI2 and RI8. Because the second hexachords from the prime rows and the first hexachords from the retrograde-inverted rows together create aggregates, the double row has an internal homogeneity and a connection between the P and the RI rows. Example 2.2 shows an aggregate made with a secondary set (two middle hexachords of the double row).
Example 2.2. Aggregate made with secondary set.

2.3. Sketches

Martina Homma, a German musicologist who has analyzed Lutosławski’s sketches, has observed that the composer typically used a limited numbers of interval classes. Lutosławski often used derived rows which segments were related by I or RI. He categorized groups of twelve tones depending on their intervallic qualities and called them “twelve-tone classes.”

Lutosławski felt that he must create his own system. Thus he attributed to specific intervals their own characters, similar to different keys in the tonal system. In an interview with Varga, Lutosławski explained:

Intervals have characteristic power to create an atmosphere. It is difficult to define what I have in mind, but I think of such rather suspect words as expression, color, atmosphere, that is, notions that can hardly be measured objectively. After all, they refer to a composer’s complex inner world and sound imagination. The qualitative difference between intervals is important for my musical thinking. If you put a perfect fifth on a number of octaves and compare it with several octaves plus a tritone, you will realize that the difference in distance is very little, but there is a world of difference between the two in quality. I think that is obvious for any musician.

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35 Varga, 21.
As a result of this theory, the composer created hundreds of intervallic patterns he used in building horizontal twelve-tone rows and vertical twelve-tone aggregates. The horizontal collections often formed double rows. Two rows embedded in a single double row were not always related by inversion or retrograde. For example, the first row could be constructed exclusively from \( ic\, 5\), while the second row had a combination of \( ic\, 2\) and \( 5\) that followed no strict rule. The most important features of the double row were that it contain two complete aggregates and use a limited number of interval classes. The aforementioned pattern \( ic\, 2 + 5\) was applied to a few different versions of a row. One of the versions was used for the first and fourth hexachord of the cello’s double row in *Grave*.

Lutosławski used almost all possible intervallic patterns in his sketches that contained interval classes from 1 to 6, for example, \( ic\, 3\) and \( 4\), \( ic\, 4\) and \( 5\), \( ic\, 5\) and \( 6\), as well as \( ic\, 1\) and \( 3\). Each pattern had a specific sound quality for Lutosławski. If he decided to use a certain pattern, it had to reflect the character of a certain passage or even an entire composition, such as the intervallic pattern of \( ic\, 1\) and \( 6\) in *Funeral Music*. The only patterns absent from Lutosławski’s sketches were rows with \( ic\, 2\) and \( 4\), \( ic\, 2\) and \( 6\), \( ic\, 3\) and \( 6\), and \( ic\, 4\) and \( 6\).\(^{36}\) He must have decided that these pairings had not enough distinctive musical qualities.

In parts of the sketches that contained the intervallic patterns, Lutosławski also tried to work out harmonies or twelve-tone aggregates derived from the patterns. For example, if a pattern consisted of two set classes (025) and (027), Eb-Db-Gb-Ab-Bb-F-C-D-G-A-E-B-F#-G#-D#-C#-B-E-A-G-D-C-F-Bb, and Lutosławski needed melodic material for three voices; he located adjacent notes in different voices. Eb was located in the low voice, Db in the high voice and Gb in the middle voice (see Ex. 2.3). These notes could appear simultaneously or could be distributed gradually into three voices. There was no strict order because pitches from a row

\(^{36}\) Homma, 199.
could be variously selected and rotated. This application could create a vertical or diagonal row. In a diagonal row notes appeared interchangeably—horizontally and vertically in various voices. Such technique resembled a cross-partition because vertical order of collections derives from a row, while horizontal collections create new set classes.  

Example 2.3. Lutosławski’s sketch with intervallic patterns built from (025) and (027).

Homma also observed in another part of her article describing the sketch (Ex. 2.3):

The part of the sketch page discussed, headed “unikanie współbrzmień” (avoiding of chords), is one of a few small musical fragments exemplifying concretely the harmonic aim of the sketches: showing a coloristic predilection for whole-tone-fourth interval pairings for brass instruments. The vertical harmony is given by successive three-note groups of adjacent tones, whereas the horizontal interval-lines differ. The horizontal lines are not “automatically” derived from the row-intervals. The notes, progressing in minor seconds, minor/major thirds and fourths sometimes result in some meta-counterpoint; this principle was successfully used in the sustained sounds of the Fugue’s episodes and described by the composer as “alien sounds,” fulfilling in the mode-like (“tryb”) harmony a role similar to traditional dissonances, which are placed not just for the sake of color, but in order to be prepared and resolved as in traditional counterpoint and harmony.  

Another important application for the intervallic pattern lies in the way Lutosławski rotated consecutive pitch classes from a row (see Ex. 2.4). The purpose of this application was to delay the flow of all twelve tones in a composition. For example, if Lutosławski planned to use

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38 Homma, 202-203.
the first pentachord from the row E-D-A-G-C-F-Eb-Bb-Ab-Gb-Db-B as material to build a section, he would start a section with the first five notes E-D-A-G-C, and then continue with D-A-G-C-F. Later he would use a single note G and then A-G-C-F-Eb. Configurations of a limited number of pitch classes hold many possibilities for developing related collections. As a result, a section would—using the terminology of tonal music—create a certain “key” area because it preserved certain interval-class content. Although the row used in Example 2.4 is derived from a trichord (027), Lutosławski’s sketch under the row comprises mostly of pentachords. The row is presented as a series of 5-note segments, advancing systematically row-position by row-position.

Example 2.4. Lutosławski’s sketch with twelve-tone row and string of rotated, consecutive pcs.

Lutosławski did not date sketches that contained intervallic patterns; therefore it is not possible to precisely place the time of their creation. It seems that he constantly used them in his compositional process. (Manuscripts of these intervallic patterns were deposited in the Paul Sacher Foundation in Basel only after Lutosławski’s death.)

Lutosławski kept many prepared sketches of ready-to-use rows built from a limited number of interval classes. Those sketches were used in many of his compositions; however, there exist a large number of sketches that he never used. His technique of using a limited number of interval classes gave a unique cohesion to his compositions. An example that gives
some idea about Lutosławski’s compositional devices and working process are his double rows in Example 2.5. These double rows are built from a limited number of interval classes, such as $ic\ 6$ and $1$, $ic\ 5$ and $2$, $ic\ 2$ and $3$, $ic\ 4$ and $3$, and $ic\ 4$ and $1$. The first two double rows in Example 2.5 are especially important because they use exclusively set classes (016) and (027); however, they were not used in *Grave*. The first double row was used in *Funeral Music*. The first part of the second double row is built from an interval-5 cycle. The second part of this row is built from $ic\ 5$ and $2$ used interchangeably. The second, third and fourth double rows were not used in any Lutosławski’s compositions.

Example 2.5. Lutosławski’s rows.

Example 2.6, the second page of *Grave*’s manuscript, and Example 2.5 are similar because they both develop under a similar rule using a limited number of intervals and double rows. In Example 2.6 Lutosławski wrote a long string of pitches later used as a pitch and intervallic base for the cello. The string of the pitches consists of twelve divisions of twenty-four

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39 Homma, 199.
40 Homma, 199.
pitches each, which relate to the succeeding division by an unordered pitch-class interval 5, moving clock-wise.

Example 2.6. Lutosławski’s draft, second page of *Grave* manuscript.

The second page of *Grave*’s manuscript (Ex. 2.6) shows Lutosławski’s divisions of the composition into twelve sections. Each succeeding Arabic numeral, along with a thin double barline, represents the beginning of a double row. In the printed score of *Grave*, double barlines indicate boundaries of RNs, not double rows.

The Roman numerals in the draft indicate RNs; however, there are a few imprecisions to note: Roman numeral II should be written under pc 3 instead of pc 4; Roman numeral XI under
pc 10 instead of pc 3; and Roman numeral XII should not be written under pc 11 because this pitch class does not start a new double row. In the printed score of Grave the circled Arabic numerals, not the Roman numerals, indicate RNs. Moreover the first section (mm. 1 to 15) has no RN. The circled Arabic numeral 1 in the printed score appears as m. 16, not m. 1 as it is in the draft. As a result, in comparison to the draft shown in the Example 2.6, each consecutive circled Arabic numeral in the printed score of Grave is delayed by one. Although boundaries of RNs and double rows do not appear at the same time, Lutosławski’s division with RNs is useful for locating new sections of the piece.

The last line of the draft, except pc 0, shows a string of pitches that together create a diminished seventh chord forming collection [D,F,Ab,B], a member of set class (0369). The same set class with different pitch content was used at the end of the piece. Pitch classes from the collection [C,Eb,F#,A] are divided among two instruments. The cello has a sustained harmonic, pc 9, while the piano right hand arpeggiates three notes from the same collection.

A variety of other notations appear in the draft, such as arrows pointing down, short vertical lines or long horizontal lines connecting pitches. These have no clear explanation. In some cases arrows and the short vertical lines indicate “attacks” in the piano, but no rules can be established for interpreting these markings.

Lutosławski noted his suggested articulations in Grave's manuscript. As a former violinist and pianist, he had a clear idea of the benefits of proper bowings and of using the piano pedals. For Grave, his suggested bowings and pedals not only enhance dynamics but also strengthen the contrasting qualities of the two primary set classes, (027) and (016). All of the bowing suggestions from Lutosławski's manuscript are included in the published version of Grave. One discrepancy can be found between the draft and the published version in the piano, where
Lutosławski erased the pedal marking in the manuscript in mm. 63–66 (the first beat in m. 66). This marking remains in the published version. (See Ex. 2.11 and 2.12.)

2.4. **Twelve-Tone Organization of the Music.**

As described in Section 2.1, the cello part in *Grave* is based on twelve palindromic double rows; from the beginning of the composition, a flow of twelve tones forms a vital part of the melodic content. Despite repetitions of pitches, it is clear that the composer used twelve tones as part of his musical language. The cello follows a strict twelve-tone count rule except in three instances: during the cadenza, during the climax, and just following the climax. Moving clockwise, each 24-tone row starts from a succeeding note of the circle of fifths. The cello finishes with the Debussy quote, D-A-G-A. Twelve double rows appear in the cello, each with two complete twelve-note series. Furthermore, each 24-note row might be divided into two twelve-note rows where D-G-A-Ab-Db-Eb-F-Eb-Bb-C-F# is P2 and G-C#-Eb-A-Ab-Bb-C-F-E-F#-B is R111. In comparison with the other rows, the twelfth double row differs by one note replacement.

As mentioned earlier, twelve tones are freely used in the cello and follow no boundaries of phrase or RN. (See *Grave* score with labeled twelve-tone rows, double rows, and twelve-tone count in the Appendix.) Table 2.3, presented below, is a matrix comprising all rows from *Grave.*
The cello solo plays the first three measures of *Grave*, freely—as no time signature appears in the first measure—and *mezzo-forte*. Intervallically, m. 2 echoes m. 1 but contrasts dynamically. The *crescendo* here lasts just through the measure. In order to achieve the proper sound expansion the cellist must start playing this measure with a soft and short bowstroke, then gradually use a longer and faster stroke that will result in a *crescendo*. (Ex. 2.7 provides suggested fingerings and bowings for this section.) The time signature in m. 2 is 152 to the quarter-note. This tempo remains until the final measure where it changes to 40 to the half-note. The cellist must ensure that the chosen tempo remains unchanged until the final measure; otherwise the composition develops without fluency and gradation. The only two exceptions where the tempo can slightly change are two climactic moments: the cadenza in RN 8 and the

### Table 2.3. Matrix showing rows from *Grave*.

<table>
<thead>
<tr>
<th>I0</th>
<th>I5</th>
<th>I7</th>
<th>I6</th>
<th>I11</th>
<th>I1</th>
<th>I3</th>
<th>I2</th>
<th>I8</th>
<th>I9</th>
<th>I10</th>
<th>I4</th>
</tr>
</thead>
<tbody>
<tr>
<td>P0</td>
<td>0</td>
<td>5</td>
<td>7</td>
<td>11</td>
<td>1</td>
<td>3</td>
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<td>1</td>
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<td>P5</td>
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<tr>
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<td>4</td>
<td>9</td>
<td>11</td>
<td>10</td>
<td>3</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>P3</td>
<td>3</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>11</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>P2</td>
<td>2</td>
<td>7</td>
<td>9</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>4</td>
<td>10</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>P8</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>9</td>
<td>11</td>
<td>10</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

RI

R

The cello solo plays the first three measures of *Grave*, freely—as no time signature appears in the first measure—and *mezzo-forte*. Intervally, m. 2 echoes m. 1 but contrasts dynamically. The *crescendo* here lasts just through the measure. In order to achieve the proper sound expansion the cellist must start playing this measure with a soft and short bowstroke, then gradually use a longer and faster stroke that will result in a *crescendo*. (Ex. 2.7 provides suggested fingerings and bowings for this section.) The time signature in m. 2 is 152 to the quarter-note. This tempo remains until the final measure where it changes to 40 to the half-note. The cellist must ensure that the chosen tempo remains unchanged until the final measure; otherwise the composition develops without fluency and gradation. The only two exceptions where the tempo can slightly change are two climactic moments: the cadenza in RN 8 and the
climax in RN 10. In a lecture he gave on Polish Radio, Lutosławski explained the importance of gradual musical development.\footnote{Witold Lutosławski, “Fragmenty Archiwalnych Wypowiedzi Witolda Lutosławskiego z Archiwum Polskiego Radia” (undated lecture on Polish Radio, http://www.radiopik.pl/public/32/94.mp3).} The beginning of any composition, he said, must engage, intrigue, inspire and interest a listener, but must not satisfy. It must instead, create a feeling of impatience and expectation. The beginning of *Grave* reflects this idea.

In mm. 3 and 4 Lutosławski introduces the contrasting set class (016), whose tritone and half-step are expressive dissonances. The underwritten dynamic markings (*subito pianissimo*, *crescendo* to *mezzo-piano*, *decrescendo*) enhance the expressiveness of the intervals. The cellist should use an up-bow in m. 3 to achieve the *crescendo*, and continue with a down-bow in m. 4 for the *decrescendo*. Similarly, mm. 8–9 and 10–11, intervallically and dynamically identical to mm. 3–4, should start with up-bows in order to make the *crescendi* sound more natural and effortless. Although m. 5 in the cello begins *pianissimo*, the cellist should start the measure with a down-bow. The soft dynamics can easily be achieved by using the upper part of the bow in mm. 5 to 7.

The piano joins the cello in m. 4 with sustained *pc* 4, and together with the cello, creates the second important set class, (016). As mentioned earlier, in m. 5, the cello dynamics soften to *pianissimo*. The rhythm is repetitive and stagnant, a quarter followed by a half note, for three measures followed by the opposite rhythm, a half followed by a quarter. This pattern creates a feeling of expectation that results in a release at the *crescendo* in m. 8 and the *diminuendo* in m. 9. The phrase continues in mm. 10 and 11 (see Ex. 2.7).

The first phrase closes in the cello (m. 11), but does not parallel the boundaries of the row. The first twelve-note row (P2) finishes in m. 6 on *pc* 6 and the new row (RI11) starts in m. 7, ending in m. 14.
In contrast to that of the cello, the piano’s phrase has no evident end in m. 11 because the trichord (012), on which it opens, continues until the end of m. 12. Here, Lutosławski uses the chain technique (i.e., overlapping lines) between instrumental parts, similar to the technique used in his compositions entitled Chain 1, Chain 2, and Chain 3. The double row in the cello also overlaps the musical phrase as it only finishes in m. 14; thus the cello row and the phrases begin and end at different points.

Example 2.7 shows a twelve-tone row from the beginning of Grave and the cello’s first phrase with the piano. Here, the phrase’s end is dictated by dynamics and set-class content. The second phrase starts in m. 12. Note that Lutosławski only used a limited number of unordered pitch-class intervals in the entire cello part of Grave, *i.e.*, 2+5 and 1+6; therefore, the boundaries of phrases cannot always follow specific intervals or the set classes they create. Instead they usually follow dynamics and texture. On the other hand, the division of phrases is not always clear because the instrumental parts overlap.
Example 2.7. First phrase (cello) ends in m. 11.

The cellist might ask if the appearance of the same interval classes influences performance. It certainly does: Lutosławski used only four unordered pitch-class intervals—1, 2, 5 and 6—to build the cello part. Because the limited interval content only produces two types of trichords in the cello, the performer must find a variety of sound colors and qualities throughout Grave. Table 2.4 shows an array of all double rows in Grave and their intervallic description.\footnote{The red color of the font used in the last double row indicates an inconsistency in the order of interval classes: \textit{ic} 5 and 2 are replaced by \textit{ic} 2 and 5. This exchange is explained later in the chapter.}
Table 2.4. \textit{Grave}, double rows in cello with indications to locations and unordered pitch-class intervals between pitch classes.

<table>
<thead>
<tr>
<th>Note</th>
<th>mm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3: D-G-A-G#-C#-D#-E-#-E-A-#-B-C-#</td>
<td>1–14</td>
</tr>
<tr>
<td>P9: A-D-E-Eb-Ab-Bb-C-B-F-#-G-C#</td>
<td>14–24</td>
</tr>
<tr>
<td>P4: E-A-B-Bb-Db-F-G-#-F-C-#-D-G#</td>
<td>24–32</td>
</tr>
<tr>
<td>P11: B-E-F-#-F-Bb-C-D-C-#-G-G-#-A-D-#</td>
<td>33–40</td>
</tr>
<tr>
<td>P6: F-#-B-C-#-C-F-G-A-G-#-D-#-E-A-#</td>
<td>40–53</td>
</tr>
<tr>
<td>P1: Db-Gb-Ab-G-C-D-Eb-A-Bb-B-F</td>
<td>54–73</td>
</tr>
<tr>
<td>P8: Ab-Db-Eb-D-G-A-B-Bb-#-E-#-F-C</td>
<td>73–91</td>
</tr>
<tr>
<td>P3: Eb-Ab-Bb-A-D-E-#-F-B-C-#-C-G</td>
<td>91–103</td>
</tr>
<tr>
<td>P5: F-Bb-C-B-#-E-#-F-G-#-C-#-D-Eb-A</td>
<td>116–128</td>
</tr>
<tr>
<td>P0: C-F-Gb-Cb-Db-Db-D-G-#-A-Bb-E</td>
<td>128–148</td>
</tr>
<tr>
<td>P7: G-C-D-Db-Db-Ab-Bb-A-D-#-E-B</td>
<td>148–150</td>
</tr>
</tbody>
</table>

Repetition of Debussy’s motif
D-G-A

Moreover, at the beginning of the composition the cellist must familiarize the audience with the specific sound quality of set class (027), thus choosing fingerings and strings that reflect cohesion between repeated set classes in mm. 1 and 2. For example, all notes in m. 1 should be played on the C string. Doing so will give the measure a unity of sound color. M. 2, especially the first three pitches, should be played entirely on the G string; this can help demonstrate that m. 2 is a transposition of m. 1. Using only one string to play pitches belonging to set class (027) creates a coloristic bond between them. It is also possible to achieve a unified sound color by using crossed strings; however, using one string more naturally connects the adjacent notes that
create (027) or other collections. Technically, the reappearances of (027) simplify the performance of *Grave* because the same set classes become familiar to the ear of performer and the audience alike, much like the repetition of chords in tonal music. It also facilitates the execution of *Grave* with correct intonation.

The rise of the register is another technical challenge of *Grave*, crucial to a successful performance. The cello starts in a low register and slowly rises to a higher one at climactic points. Lutosławski uses leaps smaller than the pitch interval 11 almost exclusively throughout the cello part. Thus the rise of the register is slowly distributed through the composition.

Example 2.8 shows suggestions for fingering and bowing for the second phrase (mm. 12–22). The first palindromic double row, built from two twelve-tone rows, finishes in the middle of the second phrase (m. 14). Borders of the first two phrases are dictated by intervallic qualities and dynamics. In the first and second phrases, the appearances of two intervallic groups indicate their boundaries, the first group *ic* 2 and 5, the second *ic* 1 and 6. The two groups contrast strongly, but they also compete with each other. One might think of two elements in nature: masculine *ic* 2 and 5, and feminine *ic* 1 and 6, or two contrasting characters, Persona A and Persona B. The appearance of both elements creates a sensation of intervallic completeness because the masculine *ic* 2 and 5 is an expansion of the feminine *ic* 1 and 6.

In order to achieve sudden soft dynamics, a frequent requirement in *Grave*, the cellist must usually use the upper part of the bow without much pressure from the right index finger. An example of this sudden change of dynamics appears as early as the beginning of *Grave*. Although this is not technically demanding for the left hand, it requires the right hand to react quickly on dynamic and articulation changes. It should be noted that, even though RN 1 (m. 16) has faster rhythmic values than at the opening of *Grave*, Lutosławski slows down the flow of twelve tones
by repeating pitches.

Example 2.8. Second phrase appearances of Persona A (ic 2+5) and Persona B (ic 1+6).

The section containing exclusively ic 2 and 5 (mm. 12–16) should be played entirely on the C string to maintain a homogenous sound color that reflect poco forte dynamics. The cellist should use the lower and middle parts of the bow here. Playing entirely on one string can be problematic for the left hand because it requires many shifts. Paradoxically, to address this issue the cellist must let the right hand’s gestures lead the left hand during shifts. The right hand’s gestures should initiate the cellist’s body movement. The cellist should leave enough bow so the left hand has enough time for shifts.

The section in mm. 17–22 contains exclusively ic 1 and ic 6, accompanied by subito piano dynamics. In order to emphasize the contrasting unordered pitch-class intervals, the cellist must use the upper part of the bow and apply narrower vibrato than in the preceding section with
ic 2 and 5 (mm. 12–16). It is not necessary to play this section entirely on the G string because using G and C strings interchangeably will emphasize leaps ic 1 and 6. Furthermore, m. 17 starts with the same pitch as the previous measure; therefore the cellist should locate a contrasting sound color that reflects the contrasting character of Persona B. This section also requires fewer bow changes; so, for instance, the cellist must play the entire m. 21—which contains exclusively pc 8—with down-bows. The cellist should slur pc 9 to pc 10 with an up-bow (in m. 22), which requires using the middle part of the bow. Next, he or she should play pc 4 and pc 3 with down-bows in order to produce a natural *diminuendo*. An application of these bowings will emphasize the appearance of Persona B, characterized by soft speech and indecisiveness. Moreover, the cellist should avoid accenting bow changes or increasing the sound volume in these few measures. In the piano (starting in m. 17), set class (0167) is derived from ic 1 and 6, therefore closely related to the cello, which also plays ic 1 and 6. As a result, the pianist must make sure that the sound quality of (0167) will contrast with the previous section, containing ic 2 and 5 in the cello (see Ex. 2.8).

As stated earlier, Lutosławski repeated pitches of a row to delay the flow of the twelve tones. An example of this can be found at the end of the second and beginning of the third phrases (see mm. 22–23; Ex. 2.9). Lutosławski ends the phrase in the cello *ppp* (m. 22) in order to contrast with the intervallic and dynamic content in the next measure. Mm. 23–25 are played *poco forte* and are intervallically based on (027), which represents Persona A. The boundary of the row has no influence on the phrase because the end of the second double row lies between pc 6 and pc 4 (middle of m. 24). To achieve a contrasting sound color and *poco forte* and *forte* dynamics, the cellist should use the lower part of the bow. (Suggested bowings and fingerings are presented in Ex. 2.9.) M. 24 could be entirely played on the G string; however, in order to get
more variety of sound color with the repeated three pitches E-A-B, the cellist might play them first on the G string and the second time play E on the D string and A-B on the G string. This application emphasizes the repetition of the collection [A,B,E], but the suggestion depends on the sound quality of the instrument. If the cello has more resonant G and C strings, the collection E-A-B could first be played entirely on the G string and its reappearance on the G and C strings (pc 4 on G string and pc 9 and 11 on the C string). The indication to play forte, as well as the crescendo (in m. 26), suggests use of an up-bow for a natural strengthening of the dynamics. M. 27 has the same rhythm—triplet quarters—but the dynamics change together with its intervallic content (ic 1 and ic 6). Similar to other parts of Grave, ic 1 and 6 appear together with softer dynamics than mf. In this instance the cellist must lessen the pressure of the bow on the strings and, at the same time, try to connect groups containing ic 1 and 6.

Example 2.9. Boundaries on third phrase and double row are not parallel.
2.5. Aggregates and Their Influence on Performance

The performer should address the fact that the melodically stagnant sections in the cello coexist with highly chromatic parts in the piano. As a result, both instruments can create an aggregate completion. Example 2.10 (m. 37) demonstrates this idea. The piano contains a superset of the cello’s intervallic content; however, the cello complements the piano pitch-wise by including the missing pc 10. Consequently, the cellist should emphasize pc 10, which appears after a leap, by sustaining it longer than the other pitches in this measure. On the other hand, the pianist should sustain the chromatic chords that contain the eleven pitch classes. The aggregate between two instruments appears in the middle of the cello’s double row and is indicated by the dashed line in the example.

Example 2.10. Aggregate between cello and piano created by pitch complementation.

Example 2.11 presents another instance of an aggregate (mm. 58–64), where the cello has a limited number of pitches that represent Persona B and the piano acts as a commenting voice. This example demonstrates an aggregate consisting of a hexachord (012678) in the cello and all twelve tones in the piano. The circled pitches in the cello (up to the dashed line in RN 5) show each pitch of the hexachord. The two instruments have different articulations and rhythms;
however, it is important to maintain the same dynamics in both parts.

In m. 59, the cellist should maintain the *piano* dynamics introduced by the piano in m. 58. In mm. 59 and 60, the cello plays alone and the piano joins in m. 61 continuing an eighth-note rhythm from the cello. The piano’s eighth notes should not blend into the dynamics of the cello because they create very distinctive set classes not related to the content of the cello, such as (0124) → [D,Eb,E,Gb] and [B,C,Db,Eb] (mm. 61–62) and (012367) → [Eb,E,G,Ab,A,Bb] (m. 63, in both hands). The third voice enters (m. 63) in the piano left hand, and because of its registral placement above the cello and the piano right hand, it projects well. It has an important dyad (01), the collection E-Eb. The same dyad appears in the cello in m. 59.

Example 2.11. Aggregate in piano juxtaposed with hexachord (012678) in cello.
Twelve-tone aggregates in *Grave* can be placed diagonally rather than vertically. This means that all twelve tones do not appear simultaneously as a vertical line but are distributed in several voices within one or two measures. Example 2.12 shows an instance of a diagonal aggregate in mm. 66–67. Similar to the previous example, the cellist must be aware that the piano is missing *pc* 2 in this section. As a result, the cellist should sustain this pitch class by playing it with more expressive vibrato than other pitch classes in this section.

Example 2.12. Diagonal aggregate between cello and piano.

In discussing the twelve-tone organization in *Grave*, I must mention the interesting way Lutosławski uses the hexachord (012678) to build the cello part; for instance, in connecting hexachords in mm. 104 and 105. A new row begins in m. 103 and its first hexachord finishes on *pc* 11 (m. 104), the collection of pitches [Eb,E,F,A,Bb,B]. The second part of the row would only include the remaining pitches, which would be [C,C#,D,F#,G,Ab]; however, Lutosławski continues using *pc* 11 with *pc* 1 as a trill-like motive (mm. 104–105). Example 2.13 illustrates this usage. The thick black line in m. 103 shows the beginning of a new row in the cello with *pc* 10, and the thin line in m. 104 indicates a hexachordal division. *Pc* 1 starts the second hexachord.
of the row; however, the cello preserves $pc_{11}$ from the first hexachord. This persistently repeated $pc_{11}$ with $pc_1$ from the new hexachord appears as a written-out trill (similar figures can be found as early as RN 5 and at the end of RN 9).

Lutosławski wrote *subito piano* in m. 106 to emphasize the appearance of a new note, $pc_0$, one belonging to the new hexachord C#-B#-F#-G-Ab-D. This section vividly shows that the beginnings of hexachords and rows occur unconventionally, at points other than the beginning of a new phrase or dynamic change. It can be challenging to execute the written dynamics for the piano right hand in this section (including, for example, m. 105). Since the section (mm. 101–105) must be played in the lower part of the bow to execute *forte* triplets, the cellist should take a luftpause, which will allow time to move the bow to the tip to achieve *subito piano* in m. 106. This quick shift of dynamics does not begin or end a phrase, but rather presents a different sound color.

The proposed bowings for mm. 108–111 support the proper execution of the dynamic markings. The local climactic moment rises in register and dynamics in part of this section (mm. 108–109); it is also the end of a twelve-tone row but not the end of the double row. Thus this section comprises the middle part of the double row that contains exclusively set class (016). The next row (m. 110) starts with the same interval classes (*ic* 6 and 1). The end of the row (m. 109) and the start of the new row avoid coinciding with a new musical thought. The piano independently plays triplets (mm. 109–110) avoiding phrase alignment with the cello.
Example 2.13. Boundaries of row and hexachord (012678) → [Eb,E,F,A,Bb,B] avoid coinciding with boundaries of phrases in cello.

A few other aggregates appear that warrant discussion. Example 2.14 presents the piano’s eleven tones as the cello supplies the “missing” twelfth tone (pc 2), which should be given emphasis.

Example 2.14. Diagonal aggregate by pitch complementation between cello and piano.

Another diagonal aggregate found at the beginning of the climax (in mm. 134–137; Ex. 2.15), demonstrates both players as having equally important roles in building the climax, with
piano dynamics, because each part is highly chromatic. This is the only section in Grave where three aggregates appear within four measures. Consequently both players must achieve subito forte in m. 137 without slowing the tempo prior to this measure.

Example 2.15. Closely placed aggregates leading to climax.

2.6. Further Comments on the Twelve-Tone Organization

It is crucial for performers to understand the dramatic plot that occurs in both instruments in RN 9, before the climax. Here, Lutosławski halted the flow of pitches of the penultimate double row in the cello. From RN 9 (m. 126) to RN 10 (m. 146) a gradual and constant ascension of register in the cello is stopped by a repeated dyad Gb-Ab. Starting in m. 137, the pitch content of the dyad in the cello is unchangeable for nine measures. The dyad Gb-Ab, a subset of the collection (027), represents the persistent nature of Persona A. Dramatically, the repeated dyad evokes the unchanging cello as stoically fighting against the piano, whose line constantly shifts texturally, dynamically, and intervallically. A variety of intervallic collections appear in the piano in mm. 137–145, such as (0257) → [A,B,D,E] and a contracted (0147) → [A,Bb,C#,E] and, later, collections such as (0125) → [A#,C#,D,D#], (0157) → [E,F,A,B], (0149) → [C,C#,E,A],
(01347) → [A,C,C#,Eb,E], (0127) → [D#,E,F,A#], (02358) → [A,B,C,D,F], (01458) → [A,Bb,C#,D,F], (037) → [Bb,D,F], (025) → [A#,C#,D#], and (01356) → [B,C,D,E,F]. The intervallic content in the piano in this section (mm.137–145) is not central to this section’s evolution; however, the pitch content is significant. Both instruments lack pc 7 for several measures, creating an expectation for its only appearance (m. 148), as the first note of the last double row.

In Examples 2.16 and 2.17 mm. 146–150 show fingering, bowing, and arches to suggest phrasing. (For practical reasons the same section is shown in two examples to prevent overcrowding. RN 10 begins at m. 146.)

Example 2.16. RN 10 (mm. 146–150) with bowings and phrasing.

![Example 2.16](image)

The beginning motive of the last double row in the cello (m. 148) starts on pc 7. The row deviates from the usual because the first hexachord of the cello is not a member of set class (012678), but of collection [C,Db,D,Eb,G,Ab], a member of set class (012378). The deviation occurs because pc 6 is replaced by pc 3 in the cello in m. 150. Instead of appearing in the cello, the missing pc 6 appears several times in the piano right hand. This placement provides both instruments with strong unity and emphasizes the last appearance of the double row during the climax. Example 2.17 shows this exchange and a brief interruption in the cello (m. 149 and beginning of m. 150) based on an anhemitonic pentatonic collection (02479) → [C,D,E,G,A].
Example 2.17. Climax, brief interruption based on pentatonic and pitch exchange.

In performance, the highpoint of Grave (the entire section contained in RN 10), must be played with constantly strong dynamics, \textit{fff}; the suggested bowings in Example 2.16 are useful in realizing these. The sustained \textit{pc} 10 (m. 146) can be played with a fast bowstroke and few bow changes, the cellist careful not to accent them. M. 147, with a single note (\textit{pc} 3) is longer than the previous because it has a double whole note with a \textit{fermata} and, accordingly, should be expanded—possibly with two or three bow changes. Since both \textit{pc} 10 and \textit{pc} 3 are written with strong dynamics and \textit{fermatas}, it is important to find good fingerings for these two pitch classes. They do not have to be \textit{legato}; therefore, the left-hand third finger is suggested, ensuring it is steadily placed on the fingerboard and supported by the thumb and other fingers. The whole weight of the left arm and the forearm should be concentrated on the third finger so the \textit{vibrato} can be freely executed in mm. 146 and 147. The half rest with a \textit{fermata} in m. 148 plays a significant role as a part of the climactic phrase. The rest leaves time for the listener to aurally absorb \textit{pc} 10 and \textit{pc} 3, which create a descending dyad \((05) \rightarrow [Bb, Eb] \). (See Ex. 2.17.) The dyad’s importance derives from its role in the opening of \textit{Grave}, where it appears in inverted motion and ascending contour. Dramatically, in the development of the musical plot, the ascending motion of \((05)\) invokes hope and the descending motion of \((05)\) conveys the opposite,
pessimistic meaning, representing the cello’s defeated Persona A.

Lutosławski often mentioned in lectures that the psychological element is crucial in music perception. Such an element appears in Grave, for instance, in a pause (m. 148) disrupting the constant flow of notes, where Lutosławski attends to a psychological need for resolution. This pause reinforces the climax by its unexpected hesitation. $Pc\ 7$ also appears here after an absence of a few measures in both instruments. Subsequently, the pentatonic collection of $[C,D,E,G,A]$ appears in mm. 148–149. The appearance of the entire $[C,D,E,G,A]$ in these measures also creates psychological resolution after the section (mm. 131–145), with absent set classes (027) and (02479). The suggested fingering in Example 2.16 helps connect the members of (02479) in order that this collection can be heard as a pentachord. To better connect notes within the collection, it is recommended to avoid shifting after the third finger, $pc\ 4$. The cellist can slightly stretch the left hand and use the thumb to play $pc\ 9$, a natural harmonic on the cello. The harmonic will last longer than a non-harmonic note and, as a result, will link to the subsequent $pc\ 7$. With the aim of maintaining $fff$, the remainder of m. 148 should be played on the A string as this string has a naturally brighter sound color than the other strings.

Although the cadenza in RN 8 forms a climactic moment in Grave, the section at RN 10 (starting at m. 146) forms the final high point of the piece. Similar to the cadenza in RN 8, in this section, Lutosławski uses a brief interruption in the double row (m. 148 to middle of m. 150). Compare Example 3.15 (from middle of m. 116 to m. 118) with Example 2.17 to see the similarity between these interruptions. Both sections are based on an anhemitonic pentatonic scale and are members of the set class (02479): $[Bb,C,D,F,G]$ in RN 8 and $[C,D,E,G,A]$ in RN 10. They are also related by transposition (T2).

The climactic moments are linked intervallically in their interruption of the flow of

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twelve tones and based on the same pentatonic collection. To performers, this link also indicates the significance of these moments to the composition, particularly in the exploration of the part of the double row based on the pentatonic collection.

Although the order of pitches (from m. 149 to the middle of 150) varies, a literal repetition of the pitches from m. 148 appears. This section has the second interruption in the flow of the double row after the cadenza, using ic 2+5, a fragment built entirely with quintuplets. (See Table 2.5.)

Table 2.5. Pentatonic collection during interruption in double row (mm. 149–150).

<table>
<thead>
<tr>
<th>E-A-G-C-D</th>
<th>(\bigwedge\bigwedge\bigwedge\bigwedge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ic: 5 2 5 2</td>
<td></td>
</tr>
</tbody>
</table>

This melodic collection—the Pelléas motive based on the anhemitonic pentatonic scale, with pitches E-A-G-C-D creating set class (02479)—appears in various orders from m. 148 to the middle of m. 150. Lutosławski also added accelerando in this figure to pick up the momentum. The performer might observe that the accelerando in this section sounds as if the composer tirelessly exhausts set class (02479) in repeating each pitch six times, excepting pc 7, which is repeated only four times (mm. 148–150). As a result, the appearance of pc 7 is more significant for the cellist in m. 148 since it is not repeated as much as other pitch classes later. The grouping of quintuplets does not reflect the structure of the pentachords as some pitches are repeated. The fingering suggested for this section supports the accelerando. Because the cellist has little time to shift at this tempo, the player must connect the notes using the least amount of movement. (See Ex. 2.16.)
Since the $pc\ 6$ in the piano is a “missing” pitch in the cello (m. 149), the players should be aware of this pitch exchange. Lutosławski purposefully added accents to each appearance of $pc\ 6$ in the piano to emphasize the conflict between the two instruments in mm. 148–150. The accented quintuplet in the piano seems to compete with the accented notes in the cello, representing the final argument between the two.

In the second part of m. 150, the cello alone plays the collection $[Ab,Bb,Db,Eb]$, preceded by a quarter rest. This collection is a continuation of the double row after the brief interruption described earlier. Consequently, it seems that the cello reinstalls the “old” order by playing all four accented pitches uninterruptedly, $a\ tempo$, in the beginning of the coda. Therefore, after a short rest in m. 150, the cellist must recall the tempo played before the accelerando and perform the $a\ tempo$ section as earlier. The proposed fingering in Example 2.16 uses the strongest fingers of the left hand to make sure each of the notes is well emphasized with vibrato. In choosing this fingering, the cellist must be careful to accent each note equally.
Chapter 3

Intervallic Families and Characteristic Set Classes in Grave

3.1. Lutosławski’s Intervallic Families: Basic Distinctions between (016) and (027)

The Pelléas motive, D-A-G-A, is one of two components of the musical material for cello in Grave, and a member of the set class (027). Both (027) and a contrasting set class (016) are essential to the construction of the cello part. Example 3.1 shows the beginning of Grave with indicated members of set classes (027) → [G,A,D] and [C#,D#,G#] and (016) → [E,E#,A#], [A#,D#,E] and [A#,B,E].

Example 3.1. Beginning of Grave with circled members of set classes (027) and (016).

These two set classes are contrasting; the one including intervals excluded from the other and interval vectors of both showing only ic 5. The two set classes are also subsets of hexachord (012678), from which the entire cello part is created. Even though these set classes are contrasting, a connection lies between them: (027) expands (016), or (016) contracts (027), by one semitone, a noteworthy link between them. (See Ex. 3.2.)
Example 3.2. Expansion of (016) and contraction of (027) by one semitone.

\[
\begin{array}{c}
+1 \\
(016) \quad (027) \\
-1
\end{array}
\]

The set class (027) is a subset of the Debussian anhemitonic pentatonic scale, with a perfect fourth or perfect fifth, and a major second or minor seventh. The sonority of this set class is relatively consonant, using the terminology of tonal music. By contrast, the set class (016) is a sonorously tempestuous collection that is more dissonant.

The same two set classes also appear at the beginning of Lutosławski’s String Quartet. There, he purposely used them to create melodic contrast. The composer described the two set classes in an interview with Douglas Rust.

For instance, maybe the most contrasting twelve-note chords are those composed of minor seconds and tritones and those consisting of major seconds, and perfect fifths or fourths with their variations, of course. These are two very different kinds of chords. It applies as well to the melody, to the horizontal line. If I compose my melody in that way—which is sometimes the case, not always—but, for instance, if you take the introductory monologue in the first violin of the String Quartet, when the first violin begins playing alone, he plays up to the moment where other instruments join. Up to then, he doesn’t play any intervals other than minor seconds and tritones, or their variations—by that I mean variations of the minor second: minor ninth and major seventh. There are no other intervals in the melody and it gives you a certain, it’s very difficult to find a good term…We have key-interval music—minor and major—but we have no term for that atonal music of which I speak. I find that quality is the best term, because it doesn’t say anything [extramusical]. I think it’s the best. So what is the difference between your melody or your harmony composed of perfect fifths or fourths and major seconds, and your twelve-note chords composed with tritones and minor seconds? It’s the difference that plays the role—the fundamental difference not only in construction when reading music, but when listening to it. It’s psychological.\textsuperscript{44}

\textsuperscript{44} Rust, “Conversation with Witold Lutosławski,” 215.
3.2. Dramatic and Programmatic Nature of the Distinction between (027) and (016)

Any analysis of Grave must identify the functions of set classes (027) and (016), and describe their dramatic contrast. Because Lutosławski used these set classes as two contrasting elements, we might consider how he perceived them. He again explained his opinion on the difference between sequences ics 2 and 5, and ics 1 and 6, in an interview many years before writing Grave. For example, in discussing a bridge passage from Preludes and Fugue (written in 1970–72), he stated:

In my last piece, for example, Prelude and Fugue, in the bridge passage of the fugue, I deliberately used vertical and horizontal (sometimes both) sequences consisting of perfect fifths, fourths and major seconds, which have a pure, serene atmosphere. In a figurative sense, I might also say a “consonant” mood, as opposed to “dissonant.” These bridge passages are contrasted with some themes of the fugue which are based on tritones and minor seconds, and exude an opposite atmosphere.

The two set classes not only appear as motives in Grave, they also function as a device in melodic narration through the creation of the contrasting characters, Persona A and Persona B. Because the set classes belong to two distinct harmonies, they represent two contrasting sound qualities and colors. This exclusive division clearly marks a contrast between the two set classes. The performer must also understand the dynamics as closely associated with a variety of sound colors. Choosing appropriate bowings is important for realizing appropriate dynamic colors and sound qualities.

Since the cello part is built exclusively from two types of trichords, it is crucial to separate and describe their contrasting characters. Persona A, represented by (027), starts and finishes Grave. Although Lutosławski had earlier described intervals building this set class as serene, in Grave they are not associated with serenity. They appear rather with strong, masculine dynamics and short articulation, and build to high points, such as the cadenza and the climax.

\[\text{45} \text{ Varga, Lutosławski Profile, 21–22.}\]
The high points are tumultuous and decisive. Persona A speaks through the cello line loudly and with pronounced, short utterances. A is gendered male and often interrupts sections containing (016) with his *subito forte* statements.

By contrast, (016) represents Persona B, gendered female. This character appears with soft dynamics and legato articulation. The contour of (016)’s melodic lines is variable, like the mood of Persona B, who speaks softly, indecisively and repetitively. Pitches constructing (016) are often repeated, as if Persona B’s shy personality could not allow her to make a courageous or assertive statement. Persona B sounds unsure and her repeated utterances resemble stammering. Her statements are easily halted by Persona A’s forceful and impatient exclamations. (See Ex. 3.3.)

**Example 3.3.** Contrasting personalities of Persona A (027) and Persona B (016).

In order to understand Lutosławski’s use of two contrasting Dramatis Personae, we might consider his psychological background. Lutosławski came from a traditional Catholic family; religion was an important part of his life. Even as he was a very private person, never publicly commenting on his spiritual thought, in several personal discussions with friends he expressed his Catholic beliefs. On the occasion of the composer’s 100th birthday, Channel 2 of Polish Radio broadcasted interviews with his close friends. Interviewers mentioned that since his marriage, in 1946, he could not fully practice his religion because he had married a divorced
woman. He had no children of his own; only his wife’s son from a previous marriage. Although
a composer obviously need not be Catholic or divorced to explore the contrast of genders, these
circumstances may well have left Lutosławski with the need to express his emotional dilemma
through the music he composed. Lutosławski never characterized the musical relation between
the genders in his lectures or interviews.

An example of this expression of conflicted feelings occurs in *Grave*’s two juxtaposed set
classes or elements (masculine and feminine), creating a homogenous and symmetrical
hexachord (012678). Two contrasting energies, like male and female, together create a
primordial unity (012678) that transcends gender. (016) and (027) are subsets of partitions of that
unity, into internally contrasting parts.

Although Lutosławski often denied any programmatic connections with extramusical
content in his compositions and left extramusical interpretation to the imagination of his
audience, one might question how he could completely disconnect his work from his personal
life. Such a feature would be virtually impossible, even as Lutosławski claimed that he composed
only for himself, not to satisfy any audience. For him, composing was a very personal process
that reflected his private philosophy and beliefs. He stated that he could not and did not attempt
to satisfy everyone’s musical taste, therefore preferred to pursue his own taste and judgment
concerning music he composed.

Each of the two characters that build the cello part—(027) and (016) (or Persona A and
Persona B)—appear with various dynamics, articulations, contours and rhythms within his or her
character. Just as one’s personality consists of various aspects, Persona A does not always speak
with a short and decisive voice (mm. 39–41 in Ex. 3.4); he occasionally has a pensive and
sustained voice (mm. 12–15 in Ex. 3.5). While he always speaks with a pronounced and
confident voice, A is not always agitated or impatient. Therefore Persona A represents no particular man, but rather imitates various stereotypical features of a male character. Persona A, depending on a surrounding situation, reveals various archetypal elements of the male personality, shared by different men.

Example 3.4. Persona A speaking with short, decisive voice.

Example 3.5. Persona A speaking with pensive, sustained voice.

The personality of Persona B differs tremendously from Persona A. She never raises her voice and her character remains submissive. She is not able to continue her sentences when Persona A interrupts with his overbearing voice. She can only speak in full sentences when she is alone, i.e., when the cello plays solo. (See mm. 59–60 in Ex. 3.6.) Persona B is also unsure of the idea she wants to express. As a result of this instability (016) has constantly changing contours and follows no explicit path. It goes up and down as if Persona B was lost, desperate, or cannot make up her mind. (See mm. 76–88 in Ex. 3.7 and mm. 95–100 in Ex. 3.8.)
Example 3.6. Persona B speaks in full sentences only when cello plays solo.

Example 3.7. Constantly changing contour of Persona B’s voice.

Example 3.8. Persona B’s lost, desperate voice expressed by changing contour.
Since the dramatic plot takes place in the cello through the appearances of Persona A and Persona B, it is important to understand their roles in the piano. The piano’s pitches and set classes, not present in the cello, resemble a chorus or commentator, but not as a clearly distinguished personality. The part might take different sides in the confrontation between Dramatis Personae A or B. With utterances of supersets such as (0167) → [D#,E,A,A#] (m. 17) and (01468) → [F#,G,Bb,C,D] (m. 31), the piano part supports Persona B. By contrast, it also sides with Persona A, playing set class (012567) → [G#,A,Bb,C#,D,Eb] (m. 95) and set class (0127) → [A,Bb,B,E] (beginning of the cadenza in m. 113). No consistency emphasizes the piano’s support in the cadenza because four measures later (m. 117) the piano’s (016) → [D#,E,A] sounds against the cello’s (02479) → [Bb,C,D,F,G], a superset of (027). Intervallically, the two sets (016) and (02479) exclude one another, but programmatically they complement each other by juxtaposing the female and male elements. (See Ex. 3.9.)

Example 3.9. Two juxtaposed elements: female and male.

An interesting example of the coexistence of two elements within these two instrumental parts occurs at the end of Grave (see Ex. 3.10). Here, a descending superset (014679) → [E,F,Ab,A#,E,Db] in the left hand of the piano distantly recalls the existence of (016) (i.e.,
Persona B, the female element, while the cello represents the male element, set class (027) → [G,A,D]. The female element has exhausted her chances of appearing in the cello as (016), a part of the double row, appears for the last time in m. 150. The male element (Persona A) closes Grave in the cello (m. 151), forming a coda. The appearance of Persona A at the end at the composition echoes the opening of the work. In the coda, Persona A sounds defeated and abandoned, speaking softly for the first time. The aural presence of Persona A should gradually disappear at the end of the composition; as if his existence was impossible without Persona B. Therefore the cellist should gradually apply softer dynamics, leading to complete silence.

Example 3.10. Second part of m. 151 with two coexisting Personae: A and B.

3.3. Function of (027) and (016) Trichords and Associated Harmonic Families

Members of the harmonic families of (027) and (016) must share common intervals with these two set classes, such as $ic\, 1$ or $ic\, 6$ with (016) and $ic\, 2$ or $ic\, 5$ with (027). From another
perspective, in order to be members of the harmonic families of (027) and (016), collections appearing in the cello and piano must be subsets or supersets of these two set classes. Thanks to closely related intervallic content of the members of the harmonic families in Grave, the composition is intervallically unified.

The following chart, Table 3.1, summarizes the relationships of (027) and (016) to their supersets, or how they belong in the same harmonic families. The diagram shows connections between set classes analyzed in this section. Arrows in the diagram indicate connections between supersets and their subsets.

Table 3.1. Harmonic families constructed on (027), (016) and their supersets.
Since the two trichords (027) and (016) are exclusive units comprising the cello part, we might usefully consider how their harmonic families develop and influence the performance of *Grave*. One of the supersets of both (027) and (016) is the hexachord (012678). This hexachord holds a higher level of intervallic organization in the cello part. It also unifies the trichords: inversionally symmetrical (027) can be combined with its T6 transposition or with its inversion to create this hexachord. (016) can also create (012678) by combining with its inversion. Looking at it the other way around, (012678) can be partitioned into forms of (016) or (027). (See Ex. 3.11.) Lutosławski used the combinatorial hexachord (012678) to create the double row in the cello part; however, he did not exploit its combinatorial properties in this composition.

Example 3.11. Two hexachords (012678) created from two collections of (027) and (016).

![Example of hexachords](image)

The hexachord (012678) in the cello can be juxtaposed with any collection in the piano that comprises a member of the same harmonic family, such as its abstract superset. As a result the two collections complement each other, creating a horizontal aggregate. An example of such a horizontal aggregate occurs in mm. 54–57 with the cello’s collection of pitch classes [C,Db,D,Gb,G,Ab], a member of the set class (012678). The piano’s collection of ten pitch
classes \([\text{Db}, \text{D}, \text{E}, \text{F}, \text{F}, \text{G}, \text{A}, \text{B}, \text{Bb}, \text{B}]\) forms a member of set class \((012345678T)\), also an abstract superset of \([\text{C}, \text{Db}, \text{D}, \text{Gb}, \text{G}, \text{Ab}]\). The cello has members of a \((012678)\) collection (mm. 54–57), written with the same \textit{forte} dynamics and register as the piano part. Since the piano plays a superset of the cello, the pianist should imitate the short articulation of the cello by refraining from using any pedal, thus bonding the two instruments. Moreover, for the purpose of achieving a homogenous sound quality in the cello (mm. 54–56), the short eighth notes should be played with down bows, using the bottom part of the bow. The choice of bowings is related to the intervallic content of this section. Pitch classes \(\text{Db-Gb-Ab}\) that create \((027)\) are separated by rests; however, the cellist must make an aural connection between them by treating the three pitches as a part of one musical gesture. Example 3.12 presents collections \((027) \rightarrow [\text{Gb}, \text{Ab}, \text{Db}]\), \((012678) \rightarrow [\text{C}, \text{Db}, \text{D}, \text{Gb}, \text{G}, \text{Ab}]\) and \((012345678T) \rightarrow [\text{Db}, \text{D}, \text{E}, \text{F}, \text{F}, \text{G}, \text{A}, \text{B}, \text{Bb}, \text{B}]\).

Example 3.12. Closely associated harmonic families in both parts.
A significant moment for the cello and piano occurs in mm. 30 to 35 where both instruments play the same set class (027), representing Persona A. They perform in a short canon (mm. 30 and 31) based on the set class (027) with a slightly changed rhythm. Since the piano part throughout Grave mainly uses pitches unavailable in a particular segment of the cello’s row, the moment of shared material is noteworthy in both parts. Both instruments must be aware of the similarities in their rhythms and use the same dynamics and articulation. The cello continues playing collections of (027) while the piano content expands from (027) to (037) via ic 1. The set (037) appears in both hands of the piano in mm. 32–33 and 35, and in the right hand in m. 34. The pianist must deliberately emphasize three consecutive pitches from collections of (037), which expand (027). These are pc 5 from the first collection of (037) (m. 33), pc 7 (m. 34), and pc 6 (m. 35). It is also significant that the collection (037) is reminiscent of triadic tonality. (See Ex. 3.13.)

The piano part contains trichord (016), which represents Persona B in mm. 30–35: first as F#-F-B in three consecutive pitches in the left hand, and later as the chord [B,C,F] in the right hand. Set class (016) → [C#,D,G] also appears in the cello (m. 36) and is related by transposition to (016) in the piano (from m. 35). Both instruments have the collections in different dynamic markings: poco forte with sforzando in the piano and piano in the cello. Therefore the cellist must achieve an echo-like effect in m. 36. He or she should use the upper part of the bow to avoid accenting each note.

From a dramatic perspective this six-measure section demonstrates that the piano, as a chorus avoids taking sides with either Persona. For example, before Persona A finishes speaking through the cello with a collection (0247) (in m. 31), the piano—as the chorus—interrupts and repeats (0247) (also m. 31). Set class (0247), a superset of (027), belongs to the same harmonic
family and is also a subset of (02479). Because the trichord (027) is expanded by one pitch to a tetrachord (0247), this application creates a stronger statement by Persona A. However, the chorus is deceptive and takes Persona A’s side only superficially. Lutosławski discreetly evokes Persona B’s statement in the chorus’s background by spreading members of (016) in mm. 30, 32, and 34 in the piano left hand. The piano reinstates (016) (again in m. 35), but this time does so less discreetly as a chord in the right hand. The chorus appears to encourage Persona B to reemerge, presenting (016) in the piano prior to its appearance in the cello (m. 36). (See Example 3.13.)

Example 3.13. Intervallic and rhythmic canons between two instruments.
Another example of a set class that belongs to the harmonic families of \((027)\) and \((016)\) occurs in m. 112. Although this section is challenging for the performers of both instrumental parts, an understanding of its pitch and intervallic content can facilitate its performance. The cello has \(pc\) 5, unavailable to the piano in m. 112. Therefore it is crucial that the pianist avoids dynamically “covering up” the cello part. Moreover, together with the piano part, they create a hexachord \((012357)\), a superset of \((027)\) and \((016)\). The piano alone has \((01237)\), also a superset of \((027)\) and \((016)\). Lutosławski tried to foreshadow the sonority of \((027)\) (m. 113 in the cello) by using its superset in both the cello and piano in m. 112. To emphasize the feeling of anticipation, both instruments should play m. 112 expansively, with a \textit{crescendo}, and avoid rushing into the cadenza. The pianist should articulate the triplets and each new pitch that appears in this measure. A cellist should start \(pc\) 5 without any accent, at the tip of the bow, and gradually add more speed to the movement, toward the frog. (See Ex. 3.14.)


Both instruments have a long dialog (in mm. 113–125) during which they exchange leadership. Who leads depends on rhythmic values and on the texture of voices. When one
instrument has sixteenth notes, the other has slower rhythmic values. Intervallically, m. 113 has related collections in both voices: the cello has (0247) and the piano (0127); they share two ics: 2 and 5. Pitches in the cello (mm. 113 and 114) create the familiar (0247), and (027) (m. 115); however, each pitch has a distant octave displacement, typical for the music of Lutosławski. Because of this displacement, maintaining the same dynamic (forte) in these measures is problematic. The suggested fingering for this section is written out in Example 3.15. Although the fingering depends on the instrument and its sound quality, in order to emphasize (027), it is useful to play this passage in the same or adjacent positions of the cello. This approach will help maintain a homogenous sound color and timbre with the unchanged dynamic marking. Thus, the suggested fingering in mm. 113–114 is kept in the first and half positions. (See Ex. 3.15.)

At the beginning of the cadenza an aggregate appears in both the piano and cello (mm. 113–115). In this aggregate, the piano has a collection of eleven pitches that contains all pcs, except pc 2, while the cello has the hexachord (012678) → [C,C#,D,F#,G,G#]; therefore, some pitches are doubled by the piano. Pc 2 appears in the cello in m. 115. (Pc 2 is significant in Grave as it opens the composition.) Dramatically, the appearance of the superset (0123456789T) in the piano embraces both Dramatis Personae; it represents both, as their superset. It also produces anticipation for a full aggregate because it lacks pc 2. Thus the presence of pc 2 in the cello at the beginning of the cadenza signifies completeness.

A new hexachord F-Bb-C-B-E-F#, a member of (012678), starts in m. 116, but only its first three pitch classes are presented: (027) → [Bb,C,F]. The flow of the remaining three pitches is interrupted by a quasi-improvised cadenza that begins in the cello in the same measure. The remaining three pitch classes, (027) → [E,F#,B], appear in m. 119.

The cadenza in m. 116 is led by the piano and, starting from pc 2, continued by the cello.
from the second part of the measure. A collection of five pitch classes \((02479) \rightarrow [Bb,C,D,F,G]\) comprises the content of the cello part in the cadenza. Set class \((02479)\) creates an anhemitonic pentatonic scale; therefore, the cadenza is based on a superset of \((027)\), related to the character of Persona A. (See Ex. 3.15.)

Example 3.15. Cadenza in both parts and collections they create.

Although most of the cadenza is built from harmonic families associated with \((027)\) and \((016)\), it is also important to note distantly related collections that bring new intervallic material
to this section. For example, the piano plays a twelve-tone collection (m. 116) that can be divided into whole-tone collections: Gb-Ab-Bb-C-D, Cb-Db-Eb-F-G, Db-Eb-F-G-A, and Ab-Bb-C-D-E. These collections are members of the pentachord (02468) and, programmatically, are only remotely related to Persona A or Persona B. They share only one interval class with each character, such as $ic\ 2$ with (027), or Persona A, and $ic\ 6$ with (016), Persona B. Thus I would argue that the piano, as a chorus, expresses a new idea in m. 116.

In the next measure, the piano presents (016) while the cello explores various contours of (02479), the two representing a symbolic unification of Persona A and Persona B. This unification represents two elements—male and female—joined in a climax. The female element, (016) → [D#,E,A], in the piano appears vertically as a chord, while the male element, (02479) → [Bb,C,D,F,G], is more mobile, both horizontally and vertically active because of its contour. Collections in both parts of m. 17 create an octachord (0123578T), a superset of (027) and (016), therefore, within the harmonic family of these two set classes. (See Ex. 3.2.)

Even though Lutosławski did not write an accelerando in the cadenza, an aural accelerando is generated by accelerating rhythmic values. The cellist must take this feature under consideration in choosing a fingering for mm. 116–118. The fingering suggested in Example 3.15 works well played a tempo because it incorporates a minimum amount of shifting. For example, the cellist should play all notes in m. 116—except the first and last—on the G string. There is only one shift, between $pc\ 2$ and 7. It is technically convenient to use a natural harmonic on the G string to play $pc\ 7$, and this will allow the cellist to play comfortably and with secure intonation in the thumb position. (Since half of m. 117 is constructed with sixteenth notes, it would be uncomfortable for the cellist to use different fingering.)

The cellist takes over the momentum in m. 117 from the pianist, who plays only sixteenth
notes in m. 116; therefore, both instruments must practice a smooth transition between these two measures. For example, this passage could be played by both instruments as one line of sixteenth notes, omitting pitches other than sixteenth notes so that, first, the piano would be heard above the cello in m. 116, and the reverse would be heard in m. 117.

Because this passage is the cadenza and the piano has a fermata in m. 117, the cellist can take time to interpret this section expressively. His or her choices should not be dictated by technical issues but instead by musical choices. For example, pc 0, pc 7, and pc 5 should be treated as main pitches in m. 117 because they produce the set (027). They ought to be well articulated with tenuti and possibly played più forte than other pitches in this measure. Musically, this procedure will sufficiently connect the cadenza with the rest of Grave.

The cellist should use a fast bow stroke in m. 117 to execute the passage of sixteenth notes with ff dynamic. When the rhythm slows down rapidly in the second half of this measure, the cellist should deliberately plan how to distribute notes on the bow in order to maintain ff dynamics. The cellist must try to use the entire length of the bow and avoid only playing at the frog, which can prevent executing the desired dynamic and freedom in shaping the melodic line by over-accentuating down-bows. It is also crucial that the bow be placed close to the bridge. This placement will enhance the dynamic in this section. The fingering proposed in m. 117 optimizes the connection between notes in order to emphasize the appearance of the set (02479). The cadenza is based on the pentachord (02479), a superset of (027).

The last three pitches of m. 117 create the collection D-G-A, a member of the set (027). They are separated by large leaps, which can cause a problematic connection between the pitch classes. Pc 5 and pc 7 should be played respectively by the second and first fingers, with a string crossing and without shifting. Pc 5 should be played by the third finger and ought to be
approached by a stretch of the left hand so that the cellist avoids shifting. (See Ex. 3.15.) The pianist should use the pedal and play all three pitches from the collection \((016) \rightarrow [D\#, E, A]\) evenly, without highlighting any of them. This action will help to present the trichord in the piano as a background to the more mobile cello. (See Ex. 3.15.)

To further analyze the cadenza in the cello, from the middle of m. 116 to the beginning of m. 118, one should note that Lutosławski used \((02479)\) with various rhythms. He sped up the rhythm and added a crescendo to create the dramatic plan of this section. The cadenza in the cello is built from five pitch classes \(D-G-F-Bb-C \rightarrow [Bb, C, D, F, G]\). If repeated notes are omitted, this fragment (starting from \(pc\) 2 in m. 116 to the beginning of m. 118) is built from a five-pitch cell, which is repeated three times. Even though the cello uses only a pentachord, Lutosławski changed the order of the pitches so the contour of the cell is obscured. The repeated melody, the five-pitch cell \(D-G-F-Bb-C\), is an intervallic palindrome (not including the last \(ic\) 2) and, as a result, it bears a constructional resemblance to the double row in *Grave*. The pitch-class set, as an unordered collection, has the property of inversional symmetry. The melody realizes that inherent symmetry by arranging the notes in a particular order (apart from the last note).

Example 3.16. Diagram presents five-pitch cell from part of cadenza in cello.
The end of the cadenza (mm. 118–120) has a descending contour in both parts. Intervallically, the content of the two parts have little in common. The cello has (0247) → [E,F#,G#,B] (in mm. 119–120) while the piano has two whole-tone collections (02468) → [Gb,Ab,Bb,C,D] and [B,Db,Eb,F,G], and a set class (048) → [Eb,G,B], an augmented chord (mm. 118–119). Both parts “meet” on a unison, pc 8 (m.120). The unison creates relief after the cadenza, as if time was needed to rest after a climactic moment, i.e., the act of unification between male and female elements, (027) and (016).

The transition for the final section of Grave is embedded in mm. 121–125. The rhythm consists of interchanged sixteenth notes in both parts, with soft dynamics as though two characters are whispering to each other. The content of this short, quiet, and intervallically stagnant moment creates anticipation for the next section. The members of set (016) in the cello are similar to melodic turns or mordents. The piano has chromatic tetrachords (0123) → [C,Db,D,Eb], [A,A#,B,C], [Eb,E,F,Gb], and [B,C,C#,D] in the form of sequences, which are divided between two hands. The two instruments have a mutual element in dyad (01), creating a dramatic bond between them. If the piano part is analyzed measure by measure (not by tetrachords), we can see the set class of (0123456) → [A,A#,B,C,Db,D,Eb] in m. 122 and, its expansion by one extra pitch, (01234567) → [B,C,C#,D,Db,Eb,E,F,Gb] in m. 124. In m. 125 both instruments play sixteenths at the same time, creating the set class (0123567). The last two set classes are supersets of (027) and (016), therefore, a part of the harmonic family in which (027) and (016) are the two most important trichords. (See Ex. 3.15.)

Lutosławski often mentioned in interviews that there should be moments of rest and expectation for the listener. The following quote from his discussion of Haydn symphonies illustrates the importance he placed on this psychological aspect of the music:
The concentration of musical content can change within a piece, consequently it does not require one to listen with the same intensity throughout. One can relax at times. There is a precedent for that in Classical sonata form, too. In Haydn symphonies, the recapitulation of the first subject is preceded by a long section whose purpose is to create a feeling of expectation in the listener.46

*Grave* is obviously a composition of a much smaller size, but it appears that Lutosławski incorporated this philosophy in the piece. Thus it is vital for performers to treat this short, post-cadenza section (mm. 121–125) as psychological preparation for the section starting in m. 126. Both players should sustain the piano dynamic up until the end of m. 125. Each appearance of sixteenths in both parts (mm. 121–125) must be played fluently without losing momentum. The cellist should use the middle to the upper part of the bow in this section for swift changes in both directions. In mm. 120, 122 and 124, the cellist must be sure to hold dotted half notes for their entire value. In order to better connect dotted half notes in succeeding measures, the cellist can speed up the stroke in the second half of the bow to achieve a natural *crescendo*. This operation will tightly bond members of (016), for example, *pc* 3 (m. 122) with *pc* 9 and *pc* 10 (m. 123), which construct the collection \{A, A#, Eb\}.

Rhythmic values in the piano of this section are the same as in the cello; however, the articulation is slightly different. Each group of four sixteenth notes starts with an accent. *Pc* 3 and *pc* 6 in the cello (mm. 122 and 124) are also the first pitches of each measure in the piano. As a result, the accented groups in the piano give the impression of embellishing the notes in the cello. Lutosławski suggested using the pedal for two measures in order to better connect the two parts and to emphasize (016). (See Ex. 3.15.) Both performers should take a short caesura prior to the section, which starts two measures later, in RN 8 (m.126), in order to stress its contrasting, thicker texture. The new section is the fastest, most dynamically and, in piano, intervallically contrasting part of *Grave*.

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An interesting example of an aggregate for which Lutosławski uses two hexachords (012678) in both parts—but with complementary pitch-class content—appears at the beginning of m. 126 and finishes on pc 2 in m. 128. The hexachord (012678) in the cello is represented by the following pitch classes [C#,D,D#,G,G#,A], while the piano has a complementary hexachord [E,F,F#,Bb,B,C]. This could be a tempting moment to use the combinatorial properties of the hexachord between the two instruments; however, Lutosławski did not do so. The appearance of the hexachord (012678) in the piano and cello creates a dramatic connection between the two instruments (or between Persona A and the chorus). The diverging contour and double slower rhythmic values in the piano expand the textural dimension of this section.

The cello part in this passage shows two members of set class (027) (mm. 126–130). However, the cellist should not accentuate every appearance of (027), but treat it as a part of an intervally, rhythmically, and dynamically homogenous four-measure section that expresses the stubborn character of Persona A. Note that each time Persona A “speaks” through the cello in this section, his voice ascends from a lower to a higher register three times as if he must restate his idea. Since the chorus supports Persona A by presenting the same hexachord, Persona A appears confident that he can dominate Persona B. Example 3.17 shows the two hexachords in both parts as well as (027)’s exclusivity in the cello.
Example 3.17. Two complementary hexachords in both parts and four-measure section in cello based on (027).

From m. 131, the cello and piano unite rhythmically by playing sixteenths. The cello has trill-like motives interchanged by (06) leaps, while variously grouped collections in the piano have fluctuating contours. (See Ex. 3.19.) The piano content again fills in the pitch space using pitch classes absent from the cello. Lutosławski most likely wrote the cello part first based on the twelve palindromic double rows. Then, he most probably wrote down missing pitch classes from the cello part on an adjacent staff in the form of chords or arpeggios. From these “missing” pitch classes he selected notes for the piano part. This procedure is not the rule in his construction of the piano part in *Grave*; however, an examination of the manuscript reveals that this is his primary method. (More information about the procedure of composing the piano part can be found in Chapter 4, Section 4.2.) See Example 3.18 showing a transcription of such chords and arpeggios from *Grave*’s manuscript. Notes used in the piano’s printed version are circled.
Example 3.18. Transcription from Lutosławski’s manuscript, originally written on adjacent staff above Grave’s score.

Example 3.19 presents the section from mm. 131 to 137, with suggested fingerings and circled notes denoting consecutive pitches in the double row. Row RI9 in brackets shows the middle part of the double row where a new twelve-tone row appears. The performers should note that the new twelve-tone row starts in the middle of this section and that the beginning of RI9 does not function as an opening of a new phrase. However, the end of the hexachord (012678) → [F,Gb,G,B,C,Db] finishes the section in m. 136. The boundary of the section in m. 136 is determined by the appearance of contrasting intervallic content and subito forte dynamics in m. 137. The entire section (mm. 131–136) in the cello part is based on set class (016) and accompanied by piano dynamics while the new section (starting in m. 137) exclusively uses dyad (02) → [Gb,Ab] with forte dynamics.
Example 3.19. Various sets that belong to harmonic families of Persona A and Persona B.

Mm. 131–136 feature Persona B in the cello—as is clear from its intervallic content—piano dynamics, and a constantly altering melodic contour. The piano, as the chorus, does not clearly support Persona B, as it uses various sets belonging to both Persona A and Persona B. For example, there are collections (012) → [B,C,Db] and [F,Gb,G], (0123) → [A,Bb,B,C], [G,G#,A,A#] and [G#,A,A#,B], and (01256) → [D,Eb,Gb,G,Ab] and [D,Eb,F#,G,Ab] (in mm. 131, 133, 134, 135 and 136) where the main component is the dyad (01); therefore, they belong distantly to the harmonic family of Persona B. The collection (0257) → [B,C#,E,F#] (in m.132), a superset of the trichord (027), is related to the character of Persona A. The piano contains
hexachord (012678) → [F,Gb,G,B,C,Db], in m. 132 and hexachord (012567) → [C,C#,D,F,F#,G] in m. 136, both superset\(s\) of \((027)\) and \((016)\). Consequently, they create a bond between Persona A and Persona B.

The cello part in this short, six-measure section includes collections of \((016)\) that appear four times in between the dyadic interventions, or \((06)\) leaps. These four collections bring melodic motion to the cello; thus, the cellist should emphasize them by increasing the dynamic volume every time the contour changes in \(ic\) 6’s whereabouts. Although Lutosławski did not include any dynamic changes in Grave’s score, it is beneficial to the dramatic import to emphasize \((06)\) leaps by applying crescendi because they are a part of \((016)\) and belong to the character of Persona B. Constant changes of contour characterize Persona B as indecisive; shifts between registers reflect unstable moods.

Applying crescendi with each of the four appearances of \((016)\) will also give more momentum to the phrase. Technically, this short section in the cello, based on the trichord \((016)\), requires chromatic fingerings for \((01)\) and quick shifting to execute \((06)\) every time they appear. Such shifting in this fragment can be challenging for a cellist to play with accurate intonation in a fast tempo. A technical suggestion that would help the cellist to properly execute these measures relies on the mobility of the fingers and the forearm of the left hand. The whole left forearm should create a straight line with the left wrist in the most comfortable position, so that the left-hand fingers’ mobility is not blocked by any stiffness in the arm. The left arm should feel well balanced and ready for fast movement when shifting its weight from position to position. The left thumb must be placed on the fingerboard as a support for the hand.

The whole section between mm. 131–136 must be played in the upper part of the bow with the right index finger controlling the bow’s pressure on the strings. The first pitch of each
four-note group based on \( ic \) 1 should be slightly accented in order to show a clear rhythmic distinction between pitches. These groups are intervallically identical as they use only the dyad (01). Therefore, without emphasizing the beginning of each four-note group with \( ic \) 1 in the cello, the pianist might have trouble adjusting his or her more intervallically diverse passages (mm. 132–134) than those of the cello. The cellist’s accents can be made by pronating the right hand and transferring the weight of the arm to the whole right hand and, especially, to the index finger. The index finger should press the bow at the beginning of the note. Just after the note has begun, the hand should release the pressure of the arm on the string so the bow can swiftly change direction while still playing with piano dynamics.

It is also important in this section to keep an even balance between the two instruments. The passages in the piano can easily cover the cello dynamically. The pianist must be cautious not to overuse the pedal. Accents in the piano appear only in groups that consist exclusively of \( ic \) 1’s, not when the piano has more intervallically varied passages, suggesting that the accent’s role is to replace intervallic variety with more diverse articulation.

The dynamic marking changes suddenly (m. 137) with the cello playing subito forte. Trill-like figures in the cello (mm. 137–145) are based on the dyad (02) → [Gb,Ab]. A way of grouping the trill-like figures is central to understanding the musical drama in this section. Even though the cello uses only trill-like figures constructed from two repeated pitch classes, they have an important influence on the evolution of this section. (Ex. 3.20 and 1.12 in Chapter 1, Section 1.12 shows the division of groups and indicates the trill-like figures.)
Example 3.20. Trill-like figures lead to final highpoint in *Grave*.

First, groups of four-note slurs appear twice, then four, and finally six times. Each group has an accent at the beginning of the slur. There are also three groups of two-note slurs inserted after each appearance of a group of four. This simple operation builds up to the final highpoint in *Grave*. Second, trill-like four-note figures are interchanged with two-note groups that take over and lead to the climax. Because of the dynamic marking in this section (*forte* in mm. 137–142), the cellist must ensure that each four-note group is well accented. Groups must sound equally emphasized regardless of whether they are played with a down or up-bow. If the up-bows are weaker, the phrase loses the audible construction of the two-plus-four-plus-six groups. In order to attain equally accented groups, the cellist should use the bow’s lower half to middle part. The right index finger ought to control the pressure on the bow while the whole right arm must freely move its weight in both bow directions.

Each of the last appearances of four-note figures (in mm. 138, 140 and 142) is marked *sforzando* in the cello. At the same time the piano suddenly changes dynamics from *piano* to
forte. Since only the cello has the repetitive dyad (02) → [Gb, Ab], a subset of (027), this section symbolizes Persona A in a relentless and, perhaps, fatal exclamation.

Starting from m. 137 both instruments contrast intervallically and in pitch. Lutosławski purposely used pitches in the piano absent from the cello in order to create an extremely chromatic and intense feeling of contrast between the two instruments. Although it might be challenging to make quick pedal changes and sudden dynamic alterations from forte to subito piano, the pianist must play this section strictly in tempo. Additionally, longer rhythmic values in the piano are associated by forte while sixteenths are associated with piano dynamics. Oscillating between the contrasting dynamic markings increases the mood of expectation. It seems that the two characters lead a fierce conversation by using contrasting dynamics, rhythm, and pitch content. They unite dynamically in m. 143 where they both start with piano and for three measures increase their volume, leading to the climax in m. 146. Both musicians must begin m. 143 carefully, with the same dynamics, and continue to increase their volume together.

The piano in each of mm. 143–145 has two repeated collections: (01356) → [B, C, D, E, F] and (02479) → [F#, G#, A#, C#, D#]. The first is a superset of (016), although this set does not appear in the cello in this section. Both collections are supersets of the dyad (02) in the cello, but only the latter collection (02479) in the piano shares two pitch classes with the cello, pc 6 and pc 8. It is remarkable that this time the pentatonic set class (02479) appears in the piano; it had appeared in the cello as the main builder of the cadenza in m. 117, and also appears as an exclusive set class at the end of the climax (mm. 148–149). Even though this set class is significant in Grave, the pianist should not emphasize it in mm. 143–145; here it is a part of a three-measure crescendo and should not be treated as separate. In this section, emphasizing only those collections that are members of (02479) would disrupt the flow of sixteenth notes that
leads to the highest point of the climax (m. 146; see Ex. 3.21 for this section).

Example 3.21. While cello plays (02), piano plays its supersets: (01356) and (02479).

It is useful for both players to take a little time just before m. 143 so they might start the final, pre-climactic passage as one. The cellist should begin this measure in the middle of the bow: first with the “short length” of the bow and gradually lengthening it to achieve stronger dynamics. Both instruments must balance and unify their dynamics so the crescendo sounds homogenous and the piano does not overpower the cello.

There is significant application of pitch classes in the section prior to the climax. Lutosławski used pc 6 in mm. 137 to 145 of the cello from the earlier hexachord: [F,Gb,G,B,C,Db], which ended in m. 136. (See Ex. 3.19.) The succeeding cello hexachord [D,Eb,E,Ab,A,Bb] (starting in m. 137) is enriched by pc 6, which forms a dyad with pc 8, with a trill-like shape leading to the climax. This passage is distinct because both voices create an eleven-pitch collection; no pc 7 appears until m. 148, where a new double row begins. In performance, this event reinforces the preparatory passage for the climax that begins in m. 146.
Although in m. 146 the cello has the highest note of the entire piece (pc 10), the climax is unresolved until m. 150. The climax is preceded by eleven-note collections in both instruments that, pitchwise, resolve only in m. 148.

The resolution of the climax comes with the appearance of pc 7, which has not been present between mm. 137 to 148. The thick texture in these measures prolongs the anticipation of the climax. Pc 7 appears in m. 148 and starts the last double row. This measure is comprised of a sostenuto. A suggestion from Lutosławski, the sostenuto articulation lasts for the entire measure and both players should treat it as a decisive point of the climax. This particular pc 7 must not be accented because it appears in the middle of the phrase; however, the entire m. 148 forms the final highpoint of this phrase.

The highpoint is prolonged in time because (in m. 149 and at the beginning of m. 150) the cello ornaments the row by repeating pentatonic collections of [C,D,E,G,A]. Consequently, the climax lasts until the beginning of m. 150. This means that the dynamics fff should be sustained until the beginning of m. 150. The last pitch of the climax, pc 2, also opens the work, and therefore its presence in m. 150 gives a symbolic closing of the composition’s climax. The piano has only two pitches-classes (in mm. 148–150): 6 and 10. Together with the sustained and then repeated pc 2 in the cello, they create an augmented chord [D,F#,Bb]. Programmatically, this passage invokes the end of the battle for the defeated Persona A; its rhythm, his heartbeat, slows as if the energy of this formerly persistent character were finally exhausted.

The section from the fermata (in m. 150) until the close of the work can be called a coda or epilogue. The cello plays solo until the second part of m. 151 when the piano joins. Persona B speaks her last words in the second part of m. 150. The cello solo restates D-A-G-A in m. 151. Example 3.22 shows this section. (Ex. 1.5 in Chapter 1, Section 1.8. shows how harmonic
families develop around set classes (027) and (016) by expansion and contraction.)


From m. 151, RN 11, the cello gradually ascends three and a half octaves, from the low \( pc \) 2 in the great octave to high \( pc \) 9 in the two-line octave. The last appearance of the \textit{Pelléas} motive in the cello, symbolizing Persona A, is complemented by the piano from the second half of m. 151. The complementary nonachord \([A\#B,C,D_{b},E_{b},F,F_{#},A_{b}]\) is a member of set class (01235678T), and a superset of (027) and (016), both having created the cello part. Consequently, the two trichords belong to the harmonic family of the nonachord.

The two complementary collections create a diagonal aggregate, called such because the pitches do not appear as a chord or as a vertical string of twelve tones, but instead create three overlapping layers. Within this diagonal aggregate an embedded diminished seventh chord \((0369) \rightarrow [C,E_{b},F_{#},A]\) is sounded by the last three pitch classes in the piano right hand with the
last note in the cello. The chord distantly evokes Persona B through the dyad (06), present in (0369) and (016). This remarkable ending for the composition leaves the diminished chord unresolved as it fades away with soft dynamics.

It is crucial that the cellist use natural harmonics to play the last four pitches. Harmonics last longer aurally; therefore using four natural harmonics consecutively creates the effect of a vertical chord that might effectively last in the melodic memory of the audience. This application will aurally sustain set class (027) until the end of Grave, while the pianist must use the pedal to play the complementary nine pitches. The sustained pitches by both players should result in a vertical-sounding twelve-tone chord. Example 3.23 demonstrates the ending section of Grave in both parts. (See also Ex. 1.6 for a fingering and bowing, and Ex. 1.7 for a pitch and intervalllic analysis of this section.)

Example 3.23. Ending section of Grave creates diagonal aggregate using two complementary collections.

Tadeusz Kaczyński, the Polish musicologist who interviewed Lutosławski, calls this final moment in paradiso (into paradise). This is a typical gesture of Lutosławski that, according to
Kaczyński, expresses the composer’s Christian belief in resurrection after death. The ascending contour of the cello can be interpreted as the ascension of the human spirit into paradise. Dynamic markings grow gradually softer. The two voices expire in m. 151, a typical Lutosławski conclusion. The composer also used a diagonal twelve-tone aggregate for the ending, a gesture that might symbolize the completeness of human life, preceded by metamorphoses that represent the struggles of earthly life.

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47 Trochimczyk, “‘Dans la Nuit’: The Themes of Death and Night,” 118.
Chapter 4

Performative Aspects of Rhythm and the Role of the Piano in *Grave*

4.1. Performative Aspects of Rhythm

Rhythm is important in expressing the evolution of metamorphoses in *Grave*.

Lutosławski described his compositional approach to the rhythm in his preface to the work:

“The rhythmic values are gradually broken down, providing the illusion of a quickening tempo.”\(^{48}\) Table 4.1 shows the rhythmic plan of *Grave*; the notated tempo stays the same until almost the end of the piece, quarter note = 152. In order to construct the metamorphoses that comprise the main engine of this piece’s evolution, Lutosławski precisely diminished rhythmic values of notes at each new RN. Thus the rhythmic metamorphoses can be tracked by comparing the content of *Grave*’s RNs. Succeeding RNs introduce new, faster rhythmic values until RN 10, after which the rhythmic values slow down. At RN 11, the tempo slows down to half note = 40.

Table 4.1. RNs and new rhythmic values in *Grave*.

<table>
<thead>
<tr>
<th>Measures and Rehearsal Numbers</th>
<th>New Rhythmic Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mm. 1–2</td>
<td>Half notes</td>
</tr>
<tr>
<td>From m. 3 to RN 2</td>
<td>Quarter notes</td>
</tr>
<tr>
<td>RN 2 and 3</td>
<td>Triplet quarter notes</td>
</tr>
<tr>
<td>RN 4 and 5</td>
<td>Eighth notes</td>
</tr>
<tr>
<td>RN 6 and 7</td>
<td>Triplet eighth notes</td>
</tr>
<tr>
<td>RN 8 and 9</td>
<td>Sixteenth notes</td>
</tr>
<tr>
<td>RN 10</td>
<td>Quintuplet eighth notes and double whole note with <em>fermata</em></td>
</tr>
<tr>
<td>RN 11</td>
<td>New agogic indication for slower tempo</td>
</tr>
</tbody>
</table>

\(^{48}\) Lutosławski, *Grave*, 20.
Example 4.1, a reproduction of the first page from Lutosławski’s manuscript, shows how the composer gradually broke down rhythmic values in order to achieve the rhythmic evolution of metamorphoses in *Grave*. The page is divided into three vertical columns. The left column shows rhythmic values from slow to fast with the last, fastest value repeated in each following stage of the rhythmic evolution. The middle column shows how each subsequent Roman numeral includes some, but not all, rhythmic values from the left column. Finally, the right column has combinations of rhythmic values from the middle column. Some values are taken from previous stages, which creates more rhythmic possibilities. Roman numeral I applies to the section from the beginning until RN 1; II applies to the section between RNs 1 and 2; III relates to the section between RNs 2 and 3, and so on. The rhythmic evolution finishes with X. XI has no additional, faster rhythmic values. Note that the prepositional triplet sixteenth notes in the manuscript’s penultimate and last horizontal rows, on the left side of the page, were not used in *Grave*. 
An examination of the score of *Grave* shows how this chart is incorporated into the music. The first two measures in the cello are rhythmically similar; however, *fermatas* appear above half notes in the first measure while the second measure’s half notes have no further indications. Thus Lutosławski established the tempo of the composition in the second measure.

The rhythm starts accelerating (m. 3) in a sequence of quarter notes slurred with half notes and its mirror-like answer, half notes slurred with eighths. Example 4.2 shows the cello
using these rhythmic motives, which emphasize the appearances of \(ic\) 1 and 6. The cellist must ensure that each slur has a clear beginning, even with soft dynamics, in order to emphasize the rhythmic motive.

Example 4.2. Cello repeating motive.

The piano (starting in m. 4) has only long notes until m. 12. In m. 13, the piano introduces a series of short, *staccato* quarter notes, interchanged with sustained, long rhythmic figures; however, the piano refrains from leading from this point on. The cello takes the rhythm over from the piano by exclusively playing quarter notes at RN 1. Lutosławski used an interesting grouping of quarter notes, which are interchanged with rests. A pattern of three quarters, two, and then one quarter note repeats in this section (mm. 16, 23 and 24).

For performance it is important for the cellist to accentuate each statement of the same rhythm in mm. 16, 23 and 24, by accentuating each slurred group of three quarter notes. The pattern of slurred three-plus-two-plus-one quarter notes appears three times, each time with supersets of (027): set class (0247) → \([Ab,Bb,C,Eb]\) and \([C,Eb,F,G]\) (mm. 16 and 23) and set
class (02479) → [A,B,C#,E,F#] (m. 24). Because of its intervallic content these occurrences must be played with a confident and sustained stroke that characterizes Persona A. (See Ex. 4.3.)

Another rhythmic pattern based on quarter notes emerges first in the cello (m. 21) with four quarter notes, marked *sostenuto*, then in the piano (mm. 22–24), the pattern used twice with six quarter notes and the last time with nine quarters played *staccato* with various dynamics. Players should not try to imitate each other’s articulation and dynamics because Lutosławski provided different suggestions for each appearance of the repeated quarter notes. Each *pc* creating the collection G#-D-Eb-G between the two instruments (in mm. 21–24) must be played distinctly because each *pc* is a part of the same quarter-note rhythmic pattern. Each of the pitch classes creating a rhythmic pattern is also a member of set class (0156) → [D,Eb,G,G#], a superset of (016), and representing the character of Persona B.

Example 4.3. Repetitive rhythmic and intervallic pattern, and expansion of same rhythm.

The piano has ambiguous rhythmic values one measure before RN 2 (m. 25). These values are longer than eighths but shorter than quarter notes. Lutosławski used them in the piano to emphasize a brief separation of the repeated chord, played twice. (See Ex. 4.3.)

Later (mm. 30–35), there are rhythmic canons between both instruments. The pianist
must imitate the articulation of the cellist in order to create a homogenous rhythmic connection between the two instruments, especially the dyad (05) → [D,G] in m. 31. (See Ex. 4.4.)

Example 4.4. Rhythmic canons between instruments.

A remarkable slurring pattern occurs in the rhythmically homogenous cello part (mm. 37 and 38), the variety of which helps to achieve an aural metric displacement. This section also has a pattern of four slurred, triplet quarter notes that emphasizes repetitions of the same pitch, starting on the measure’s weak beats after two occurrences of \( ic \) 1.

Example 4.5. Pattern of four slurred, triplet quarter notes.
The piano has an interesting moment of pitch and rhythmic mirroring (mm. 41–43) and rhythmic complementation, occurring between the two parts. Where the cello rests, the rhythm in the piano complements the silent moments so that a constant flow of triplet quarters results between the two instruments. Both players must make sure that the flow is uninterrupted between them so that the triplets can be heard as one line. (See Ex. 4.6.) In m. 43, the rhythmic values accelerate to eighths; however, longer values are still used in both parts. A recurring pattern in the cello repeats a few times, a group of ten eighths divided into three slurred and seven detached notes. As mentioned earlier, this section must be played without accenting each change of bow because the \textit{ic} 1 and \textit{ic} 6 used here express the character of Persona B. (See Ex. 4.6.)

Example 4.6. Mirroring in piano, rhythmic complementation between two parts and recurring rhythmic pattern in cello.
Example 4.7 shows rhythmic complementation between the two instruments. An accurate performance of this short section can be problematic because the rhythm, constructed solely from eighth notes and marked *staccato*, is divided between two instruments. As a result, both players must ensure that each appearance of eighths is not delayed. They must also preserve the same dynamics and articulation even though the piano has chords and the cello only single pitches.

The last appearance of a *staccato* eighth note is highlighted as *sforzato* in the piano. Dramatically, this is the end of Persona A’s statement; therefore, the cellist should take a short caesura before playing the next section solo (m. 76), representing Persona B. The section from m. 76 not only has different intervals but also different articulation, since slurs are associated with *ic* 1 and *ic* 6. The presence of the eighth notes in both parts creates the shape of a parabola that continuously changes its direction.

Example 4.7. Shape of *staccato* eight notes in both parts creates parabola.

Contrasting rhythms between the two instruments can also strengthen dynamics, such as in the section shown by Example 4.8. The cello has four instances of a half note slurred to an eighth, followed by an eighth rest (mm. 90, 92, 93 and 94). On beats where the cello has a slurred eighth with a rest, the piano plays a triplet (mm. 90, 92–94). The triplet contains a chord repeated three times, creating an aural culmination for the end of each *crescendo* in the cello. The
repeated chords in the piano also complement the cello rhythmically by filling silent moments in these measures.

Although not directly related to the rhythmic analysis of this section, each chord repeated three times in the piano is built from symmetrical set classes: \( (0145) \rightarrow [D, Eb, F\#, G] \) (mm. 90 and 92), \( (0347) \rightarrow [Eb, Gb, G, Bb] \) (m. 93), and \( (0246) \rightarrow [Eb, F, G, A] \) (m. 94). This application creates a rhythmically and intervallically homogenous section in the piano part.

Even as each appearance of the long note in the cello must be played with a down-bow (an unusual choice, suggested by Lutosławski) the cellist must realize crescendi by applying various speeds to the bow. He or she should use a slow bow at the beginning of each note and then add more speed and pressure from the right arm so that a natural crescendo can be achieved.

In mm. 90 and 92 there are no printed down-bows in the score; nevertheless, Lutosławski includes them in these measures of the manuscript of *Grave*. The section in the cello between mm. 90–94 represents Persona A; therefore each crescendo must be played as if Persona A spoke loudly and the chorus (in the piano) tried to shout back after each word spoken.

Mm. 95–97 show a similar technique between instruments where the cello represents Persona B and the piano comments as the chorus. Persona B emerges (m. 95) with the cello playing subito piano and the long rhythmic gesture ends with a group of triplets. The gesture is repeated in the following two measures. Each long gesture has a diminished rhythmic value that generates an uneven rhythmic pattern. At the end of each long gesture, the piano plays two triplets as if the chorus were quietly commenting on the content of the cello’s utterances. For performance, the cellist should carefully listen to the piano’s first three triplets while playing long rhythmic gestures (mm. 95–97) so he or she can join the pianist precisely where the cello has the triplets ending each long rhythmic gesture. (See Ex. 4.8.)
Example 4.8. Piano rhythmically complements gestures in cello.

At RN 10, the momentum slows as both instruments reach the climax. Lutosławski gives more freedom to the cello by using fermatas on a dotted whole note and a double whole note. The rhythmic space is filled in by the piano’s faster rhythmic values with a poco accelerando.

The momentum stops in the piano (m. 148), but the cello takes over in slower motion, playing a sostenuto quintuplet group and a whole note with a fermata. The climactic moment could finish for both instruments here, at the end of m. 148. Instead, it resumes (m. 149) with the cello playing quintuplets poco accelerando.

Both instruments, playing a group of quintuplets, resolve the climax in m. 150. It is crucial that the pianist adjust his or her tempo to the cellist’s accelerando so that the two align at
the resolution of the climax. The cello resolves the climax, playing gradually slower rhythmic groups (m. 150) as if the energy of Persona A were gradually diminishing. (See Ex. 4.9.)

Example 4.9. Climax and resolution.

After a rest with a fermata in m. 150, the cello continues playing alone as Persona B. In this ending fragment, the performer has many opportunities for tempo interpretation since every entrance of the cello is preceded by a rest with a fermata. The rhythm accelerates for the last time, with eighths and quintuplet eighths in the second part of m. 150. As long as the quintuplets are accompanied by soft dynamics, the cello speaks as Persona B. When the dynamics and intervals change, Persona A speaks even though the rhythmic values do not change. Since Persona A’s nature is to speak rapidly and impatiently, the two groups of quintuplets at the end of m. 150 sound incomplete, as if he were astonished by the disappearance of Persona B’s voice.
This rhythmic phenomenon again emphasizes the restless character of Persona A. (See Ex. 4.10.)

Example 4.10. Rhythmic groups in this section reflect contrasting characters.

At RN 11 (m. 151), the cello restates the *Pelléas* motive (from the beginning of *Grave*) with exactly the same rhythm and octave placement, but different dynamics. After a quarter rest with a *fermata*, the tempo marking changes to *Lento* where half note = 40. The rhythm decomposes with a *ritardando* in the cello as each note is lengthened by half. The piano fills in the rhythmic space by playing half notes in the left hand and quintuplet quarter notes in the right until the end of the piece. (See Ex. 4.11.)
4.2. The Role of the Piano in Grave

Although this dissertation focuses primarily on the analysis of and performance suggestions for the cello in Grave, the piano warrants a separate discussion in their relationship. Fundamentally, the cello dominates the texture while the piano supports and adds to the development of the metamorphoses. The piano functions like the chorus in a Greek tragedy. It comments on the main plot taking place in the cello. Since the cello is represented by two characters, the piano can reaffirm their ideas by supporting either or both characters using set classes harmonically related to (027) or (016), or both.

The musical content in the piano does not belong to the twenty-four-note palindrome used in the cello. It uses interval classes 3 and 4, both unavailable for the cello because the latter’s double row only uses ic 1, 2, 5 and 6. In addition, the piano often utilizes pitch classes not present in a particular portion of the cello’s double row.
The music of the cello and piano is independently shaped, avoiding homophony. Construction of both parts is based on twelve-tone polyphony and counterpoint. In general, the piano uses diverse set classes belonging to the cello’s harmonic families of (027) and (016), most importantly their supersets. The piano also uses set classes outside these harmonic families, such as whole-tone collections. As previously discussed, Lutosławski used the combinatorial set class (012678) in the cello, he avoids its combinatorial properties between the two instrumental parts.

The instruments contrast rhythmically, as seen in their texture: when one instrument plays long rhythmic values, the other complements it rhythmically with shorter values. (I have demonstrated examples of this kind of writing in Section 4.1.)

Study of the drafts and the manuscript of Grave clearly demonstrates that the piano part was written after the cello part. The first page of the draft is a rhythmic division of Grave (a copy of which is shown as Ex. 4.1). On the second page of the draft, Lutosławski wrote a strict pitch plan of the cello part (see Ex. 2.4), writing the piano part only on the third page of the manuscript. No separate draft for the piano part exists, likely because Lutosławski wrote it to accompany the cello.

The cello and piano complement each other intervallically. The piano uses various intervals rather freely while the cello strictly follows the double row. While the cello uses pitch classes from the double row, the piano uses vertical and horizontal collections that consist of fewer than twelve tones. Lutosławski’s piano part is typical of the period when Grave was written. He used twelve-tone chord aggregates and also collections of a few pitches, for example, of eight, ten, or eleven notes. In the manuscript, some measures of the cello are surrounded above by clusters of pitch classes used only in the piano.

The first appearance of such a cluster occurs above m. 4, where the piano enters. The
cluster consists of (01256) $\rightarrow$ [D#,E,F,G#,A], above the cello’s dyad (01) $\rightarrow$ [A#,B]. The cluster and the dyad create a septachord (0123678) $\rightarrow$ [D#,E,F,G#,A,A#,B] an abstract superset of the hexachord in the cello (012678) $\rightarrow$ [E, E#, F#, A#, B, C]. Lutosławski did not use all pitch classes from the written-in septachord in the piano here, only pc 4, which continues until m. 8. The remaining pitch classes from the cluster are also unused in the cello throughout m. 8. Another cluster appears above the cello in m. 9. This cluster has nine pitch classes, all complementary to the cello in mm. 9 and 10. The cello has a trichord [C#, D, D#] and the cluster consists of [E, F#, G, G#, A, A#, B, C]. Although the cluster is a nonachord, Lutosławski only used three of its pitch classes: [E, F, Gb] (mm. 11–12). Even though the manuscript of Grave shows many such clusters written above the cello, it is difficult to find a rule for Lutosławski’s choice of pitches in the piano. (See Ex. 4.12.)

Example 4.12. Chords and arpeggios from manuscript with circled notes used in piano.
The piano’s single note, pc 4 (m. 4), also appears a measure earlier in the cello, giving the impression that Lutosławski wanted to prolong the cello’s sonority in the piano. This pc provides a stagnant pitch background to the dramatic development in the cello following the double row. It also creates various set classes coupled with the content of the cello, often not having anything to do with the cello’s double row and harmonic families. An exception occurs in m. 4, where the content of the two parts creates a member of (016) → [A#,B,E], strengthening this important set in the cello row. However, in mm. 5 and 6 both parts create two contrasting set classes (015) → [B,C,E] and (026) → [C,E,F#]. The cello expands the interval-class content by moving away from (016). Example 4.13 shows this intervalllic expansion between voices.

Example 4.13. Set class (016) and intervalllic expansion between cello and piano.

In m. 9, in the example above, Lutosławski added pc 5 in the piano part, which together with pc 4, creates a dyad (01) → [E,F]. The combined voices create the chromatic collection [C#,D,D#,E,F], a member of set class (01234). Lutosławski added one more note, pc 6, two measures later, the combined voices here creating a member of set class (01236) →
[D#,E,F,Gb,A]. This additive process in the piano fills in the pitch space by adding chromatically neighboring tones.

Pitchwise, the piano often complements collections in the cello. Although both parts rarely create a vertical aggregate together, the content of the piano often fills in a chromatic pitch space in the cello as a diagonal or horizontal line. Therefore, diagonal or horizontal aggregates created by both parts are more common in *Grave*. As the piano sustains a collection of a few pitches, the cello contains their complements. Example 4.14 presents such a diagonal aggregate (mm.17–21). The collection in the piano represents a member of a symmetrical set class (0167) → [D#,E,A,A#], while the cello also has a symmetrical set class (01236789) → [F,F#,G,G#,B,C,C#,D]. The cello’s collection is an abstract superset of the piano. The collection in the piano alone is noteworthy for the set class (0167) → [D#,E,A,A#] (m. 17), a superset of (016), one of the two primary components of the cello part. Consequently, the pianist must play this collection with an expressive *sforzato*, which should be prolonged by the pedal. As a result, the piano can provide a meaningful background for the cello. (A discussion of other aggregates can be found in Chapter 2, Section 2.5.)

Example 4.14. Two parts create diagonal aggregate complementing each other intervallically and pitchwise.
The piano has different phrase boundaries than the cello. These boundaries are not clearly defined between parts and occur separately, but often overlap. This technique creates an aural continuation of metamorphoses and blurs the distinction of phrases. An example of this technique occurs between the cello and piano and is described in Chapter 1, Section 1.7. (Other examples of phrase blurring occur in mm. 48–50 and elsewhere.)

Example 4.15 presents melodic overlapping between parts (mm. 48–50), where the cello continues a one-pitch motive while the piano starts an ascending chromatic quasi-scale. Since rhythmic variety is a priority for the cello in this section, the cellist should emphasize the lengthening rhythmic values by slightly accenting each note in mm. 49–50. The piano, in contrast, is highly chromatic and more mobile than the cello. It is exclusively built from three set classes and their members—(0124) → [C#,Eb,E,F] in the right hand, and (0147) → [C,Db,E,G], [E,F,G#,B], [A,Bb,C#,E] and its expansion (0258) → [Db,Eb,F#,A] in the left. These three set classes bring new intervallic material to Grave. Since these collections have little in common with the cello’s central (027) and (016), the pianist should emphasize this passage and treat it as a new idea spoken by the chorus. Because each hand plays a different collection, the pianist should treat each voice autonomously, as in polyphonic compositions, which will result in independent voice-leading in each hand.
Example 4.15. Cello continues one-pitch motive while piano starts ascending chromatic quasi-scale.

Even as the cello part is strictly based on double rows while the piano part is constructed more freely, the parts cannot exist alone because they complement each other on every level. For example, although the cello leads in the cadenza, the piano is the initiator of this section, as it introduces faster rhythmic values. Lutosławski introduced sixteenth notes in the piano (m. 114) and later in the cello (m. 117). The instruments chase one another by complementing each other rhythmically until the end of the cadenza. It is important that the sixteenth notes in the cello in m. 117 (over the sustained chord in the piano) are played freely and without rushing as this passage is the most virtuosic part of the cadenza for the cellist.

Later (m. 120), a significant moment occurs in Grave as the two parts simultaneously play the same pc (G# in the cello, Ab in the piano). This moment provides aural relief and a resolution. From this point, the two voices start to compete anxiously with each other until the beginning of the climax (m. 146). In the section preceding the climax, the piano uses various collections of pitches. Some are members of the same harmonic family as the cello’s collections; others are not related at all and, as a result, deserve expressive emphasis by the pianist. (See Ex.
Example 4.16. Cadenza.
Chapter 5

Grave’s Connection to Other Compositions

5.1. The Debussy Connection

As discussed in Chapter 1, the composition that most influences Grave is Debussy’s opera Pelléas et Mélisande, based on the drama by Belgian writer, Maurice Maeterlinck. Writing Grave, Lutosławski wanted to honor his late friend Stefan Jarociński, who devoted his life to the study of Debussy’s music. Jarociński was particularly interested in Pelléas et Mélisande and Grave’s first motive, played by cello solo, comes from the beginning of this opera. The motive appears in the first four measures of the opera, played by the cello section where Debussy reinforces the pitches in the cellos’ voice by doubling it an octave higher. (See Ex. 5.1 showing the beginning of the opera.) The first four pitches in Grave use the same octave placement as the cellos’ lower voice in Pelléas et Mélisande.

To better understand the connection between *Grave* and *Pelléas et Mélisande*, we must describe the first scene of the opera, which opens with Prince Golaud lost in a dark, terrifying forest. He wanders about and finds a tearful young girl at a stream. She reveals nothing about herself to him except her name, Mélisande. The opera unfolds with a dramatic plot similar to that of Wagner’s *Tristan und Isolde*. The plot of *Pelléas et Mélisande* involves a love triangle between the mysterious girl and two half-brothers Golaud and Pelléas.

*Pelléas et Mélisande* is a symbolic work with multiple elements, of which Jarociński made a life-long study. The beginning motive from the opera (D-A-G-A) creates an ambiguous, quasi-tonality area that might suggest the key of D minor or a pentatonic collection. At the time of its premiere in Paris, on April 30, 1902, *Pelléas* stirred controversy. Debussy was both praised and criticized for his innovative use of quasi tonality, twelve-tone collections, unusual keys, extreme dynamic markings (especially extremely soft dynamics), and unusual types of articulation in the orchestra.

Although the beginning statements of *Grave* and *Pelléas et Mélisande* are marked *mezzo-forte* and *pianissimo* respectively, Lutosławski seems to reproduce the same sound quality as the orchestral cello section of the opera. Therefore, his choice of dynamics and instrumentation in *Grave* helps to explain why the piece starts with a cello solo playing *mezzo-forte* rather than *pianissimo*. The sonority of a single cello playing *mezzo-forte* dynamics cannot equal the entire cello section playing *pianissimo* in an opera house. However, the cellist performing the opening motive of *Grave* should try to imitate the sound color produced by the orchestral cello section at the beginning of the opera.

To imitate the beginning of the opera with limited instrumentation, Lutosławski chose the solo cello for *Grave’s* opening; however, the articulation distinguishes the two compositions.
here. The first four notes of *Grave* D-A-G-A are not slurred as in *Pelléas*. The second note in both compositions, *pc* 9, is repeated after *pc* 7. In *Grave*, each pitch is a half note with a *fermata*; in the opera they appear as slurred half notes without *fermatas*. In order to preserve the resemblance with the Debussy’s opera, the opening notes of *Grave* should be played well connected. Each note must have a rounded, long resonating sound quality that, brought together in the listener’s imagination, the specific sonority of the trichord (027) can be heard. Played thus these notes will evoke the beginning of the opera. (Compare Ex. 5.2, which shows the beginning of *Grave*, and Ex. 5.1, the beginning of the opera.)

Example 5.2. Cello opening of *Grave*.

![Example 5.2](image)

The half rest that follows the four-note theme in *Grave* separates this theme and the remaining composition. Lutosławski always had clear ideas about the time plan in his compositions; thus, his scores were usually written with precise time signatures. In *Grave*, the cellist should not prolong the rest. A close connection lies between the two measures: what follows in m. 2 is a transposition, or echo, of m. 1.

Why did Lutosławski choose the first motive from *Pelléas* for *Grave*? Is the plot of Debussy’s composition connected to *Grave* in a purely instrumental way, or is *Grave* a
programmatic mirror of the opera? The full title of Lutosławski’s piece, *Grave: Metamorphoses for cello and piano*, might hint that the listener should make a dramatic connection between two compositions since Debussy’s opera is also a sequence of metamorphoses.

As discussed earlier, two elements comprise the cello part in *Grave*: set classes (027) and (016). The set class (027) → [G,A,D] opens both Lutosławski’s and Debussy’s composition. The role of the set class in Debussy’s opera is not as vivid as in *Grave*. Debussy uses it when characters make a reference to the forest surrounding the castle, but it does not influence the pitch construction of the whole opera as much as it does in *Grave*. Example 5.3 shows the appearance of set class (027) in *Pelléas*, also played by cellos in Act I, Scene III (two measures before RN 36), where Mélisande sings:

> It is dark in the gardens. And these forests, these forests around the castle!\(^{49}\)

Example 5.3. (027) → [G,A,D] in cello part in Act I, Scene III, of *Pelléas et Mélisande*.

Debussy’s opera abounds with symbols and their leitmotifs, linked with main characters and also with the symbolic “forest” and “destiny.” In the opera the forest leitmotif represented by (027), is often expanded by two more pitches to create a pentatonic set class (02479). The leitmotif for Golaud follows, represented by a trichord (026); but in some cases it appears with a pitch expansion, for example, as a dominant seventh chord, set class (0269), a superset of (026). The set class of the Golaud leitmotif contains an unresolved tension within itself in the dyad (06).

The Mélisande leitmotif appears next in the opera, mostly as set class (025) and its superset (0258). The Pelléas leitmotif, built from the same intervals as Mélisande’s, contains the same set class (025). The difference between these motives lies in the order of pitches; they are related by inversion. The destiny leitmotif is similar to Golaud’s, represented by (026), but is often more expanded and creates a part of a whole-tone collection rather than the dominant seventh chord, set class (0269). Lutosławski borrowed only the forest leitmotif from the opera. However, similarity between Pelléas et Mélisande and Grave can be found in the musical language of both composers.

Set class (016) plays a more important role in Grave than in Pelléas et Mélisande; Debussy uses only its subset, dyad (06), throughout the opera. Vocal lines are emotionally charged by using the tritone; for example, when Pelléas is anxious to see Mélisande one last time, he sings a passage outlining (06) → [C,F#]. (See Ex. 5.4.) Another example occurs when Mélisande is dying: Golaud asks her for the truth, singing a passage also outlining (06) → [D,G#]. (See Ex. 5.5.) In contrast to (016)’s function in Grave, this set class has no crucial intervallic role in the opera.
Example 5.4. Pelléas sings emotionally charged line outlining (06) → [C,F♯].

Example 5.5. Golaud asks Mélisande to tell truth, singing (06) → [D,G♯].

Since the two set classes play dissimilar roles in the compositions, the parallel between the two compositions could only be metaphorical. In other words, Grave can only reenact the drama of Pelléas et Mélisande in a symbolic way, as only one leitmotif from the opera appears in Grave. It is probable that two set classes have extramusical meanings in Grave; for example, set class (027) can symbolize Pelléas and (016) Mélisande. Set class (027) can be built from two superimposed intervals: a perfect fourth and a perfect fifth. Both intervals, juxtaposed, can create an octave, or symbol of perfection.

Set class (016) has different connotations in the two works. In the Middle Ages the semitone represented a symbol of femininity and imperfection. The second interval of (016) is a tritone, which was avoided in the Middle Ages—probably because its six-semitone span represented the satanic number. The tritone was called diabolus in musica because of its dissonance, which sounded unstable to the ear and needing resolution. It was disfavored by the

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50 Debussy, Pelléas et Mélisande in Full Score, 320.
51 Ibid., 383.
church because it could supposedly evoke lust, sin, and other evil thoughts.\textsuperscript{53}

If we follow programmatic connotations, set class (027) in \textit{Grave}, symbolizing the male element, acts as Pelléas or Prince Golaud, while (016) acts as Mélisande, the female element. Dramatic moments of each composition have parallels in the other. For example, Mélisande’s first meeting with Pelléas parallels \textit{Grave} (mm. 30–31), where the cello plays (0247) $\rightarrow$ [G,Bb,C,D] \textit{poco forte}, and the piano right hand plays exactly the same pitches. Another parallel occurs between the opera, in the scene in which the enigmatic Mélisande cannot fully reveal her origin, and \textit{Grave}, in m. 43, where the hesitant Persona B speaks through the cello with \textit{flautando} articulation and a constantly changing melodic contour. Mélisande, or Persona B, is interrupted a few measures later (m. 51) by the violent Prince Golaud who demands clear answers to his questions. Although she hesitates, she is not afraid. Her desire to keep her secrets is stronger than her fear of his threats. Her singing in the opera is characterized by a constantly changing contour that reflects her indecisive nature and fragility. She again has an argument with Prince Golaud who torments her with his jealousy and questioning, a moment parallel with mm. 95–111 in \textit{Grave}, where both Persona A and Persona B speak with constantly changing dynamics and articulation.

The section demonstrating how the love between Mélisande and Pelléas matures (mm. 112–125) contains the cadenza symbolizing the climactic moment between them. It is also their last meeting, for Prince Golaud witnesses their affectionate moment together and expresses his anger. In \textit{Grave}, the parallel section occurs (mm. 126–130) when the cello (echoing Golaud) plays collections of (0247) $\rightarrow$ [G#,B,C#,D#] and (027) $\rightarrow$ [G,A,D], [F,G,C] and [Cb,Db,Gb] \textit{subito forte}. Explanatory words spoken by Mélisande (Persona B) in mm. 131–136 fail to

alleviate the situation and Prince Golaud decides to kill Pelléas. An encounter and a fight between the two men (mm. 137–145) results in Pelléas’s death in the climactic moment (mm. 146–150).

Although Prince Golaud has won, he regrets killing Pelléas. He has also wounded Mélisande during the duel. At her bedside he begs her for forgiveness, but it is too late. She dies after giving birth to a child. *Grave* symbolizes such a moment (beginning the second part of m. 150) in the last short words spoken by Persona A. The death of Mélisande and Pelléas and the ascension of their souls to heaven are presented (m. 151) in the cello’s fading dynamics and a rise of register. Here, the cello and piano create a twelve-tone diagonal aggregate that symbolize the completeness of human life.

Besides the dramatic plot, other traits connect *Grave* and *Pelléas*, such as the use of pentatonic scales, whole-tone collections, diminished seventh chords, fading ppp dynamics for closure, and recurring, rhetorical silent moments. Interruptions with the pentatonic set class (02479) occur in two crucial moments of *Grave*: during the cadenza in the cello ([Bb,C,D,F,G] in mm. 115–118) and in part of the climactic moment ([C,D,E,G,A] in mm. 148–150). The whole-tone collections also appear at a decisive moment—in the piano during the cadenza (m. 116), and as a diminished seventh chord [C,Eb,F#,A], embedded in the last chord of the work. The *Pelléas* motive D-A-G-A starts and finishes *Grave* and might symbolize the beginning and end of a human life.

It is essential for performers of *Grave* to know that Lutosławski felt close to the music of Debussy. In an interview with Bogdan Gieraczyński, when asked with which tradition he would connect his music, Lutosławski stated:

20th-century music has split into two streams. One arose from the Second Viennese School, that is, from Schoenberg, Webern and Berg, while the source of the other is
Debussy. There is a widespread belief, cultivated mainly by the heirs of the Viennese School, that these two musical currents were amalgamated in the works of Webern. I find this idea far-fetched. For the time being, the two main traditions are still distinct, although this is not to say that they may not, in the near future, unite into one musical amalgam. Needless to say, I feel a part of the second tradition, that of Debussy.⁵⁴

In another interview Lutosławski discussed his connection with Debussy:

Varga: What is it in Debussy that is akin to your art?
Lutosławski: The sensitivity to vertical aggregations, and the way these appear in our music.
V.: It is not clear what you mean by vertical aggregation.
L.: It is the group of sounds that you hear at the same time, the total of those sounds that one hears simultaneously. Not harmony itself, although it is very near to the notion of harmony. I do not use that expression, because it is too much associated with traditional music, and that would be wrong in the case of Debussy. Debussy’s system of organizing sound shows that he was indifferent to functions—that is what I have in common with him. The German method, on the other hand, is characterized by the absolute need for some kind of a system which determines the transition from one chord to another. Debussy organizes the sequence of chords in a very individual manner—and the need for an individual system is also something that makes me similar to him.⁵⁵

5.2. The Funeral Music Connection

Understanding the nature of the connection between Lutosławski’s Funeral Music and Grave can help performers to better interpret the latter, and also explain Lutosławski’s compositional choices in Grave.

The 1956 revolution in Hungary against the Communist party and Soviet oppression of the country resulted in the deaths of many thousands of Hungarians. Public discussion about this event was forbidden until 1989. Lutosławski undertook the commission of Funeral Music in 1954 and was finished only around 1958. Although the occasion to write the composition was to commemorate the tenth anniversary of Bartók’s death, Lutosławski must have considered dedicating this piece to the Hungarian men and women killed during the revolution. This theory

⁵⁵ Varga, Lutosławski Profile, 16.
is supported by Lutosławski’s own course of life.

As previously discussed in Chapter 3, Lutosławski was very private and he did not reveal his personal opinions about politics. Perhaps his pronounced introversion is connected to the fact that he and his family faced oppression by totalitarian regimes numerous times in his life. His father and uncle were Polish patriots, and were killed in Moscow by Bolsheviks during the October Revolution when he was five years old. Lutosławski, as a member of the Polish Army, was imprisoned at the beginning of the Second World War and, later, after escaping from a POW camp, he spent five years in Nazi-occupied Warsaw. There he played in restaurants as a part of a piano duo with another Polish composer, Andrzej Panufnik. During the war Lutosławski’s brother died. Henryk Lutosławski, as one of thousands of Polish officers, was transported to a Soviet labor camp in Kolyma, in northeastern Siberia, and forced to work in a gold mine. He died of hunger and typhoid in 1940. Witold’s family also suffered from the Nazi regime. One of his cousins, Bohdan Lutosławski, was killed in Auschwitz in 1942. Although Witold never publicly commented about his family’s difficult past, these incidents must have impacted his beliefs and inspired his antipathy toward totalitarian regimes.

Between 1949 and 1955, Polish composers were obliged to obey rules dictated by the Communist party. Composers who did not follow the imposed rules were accused of “formalism” in music and their compositions were banned from public performances. According to the Communist party’s imposed instructions, compositions had to be “understandable” to the masses. Composers had to use a simple tonal or modal language, folk themes, and avoid dense textures in their compositions. Stylistically, they were also encouraged

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56 “[Formalism is an] alleged fault in composing by Soviet Union composers for which Prokofiev, Shostakovich, and others were officially criticized, especially in 1948. The criticism is of too much intellectual emphasis on form as opposed to content, with the suggestion also that the music is too ‘modern’ and discordant.” The Oxford Dictionary of Music, 2nd ed. rev., s.v. "Formalism," Oxford Music Online, http://www.oxfordmusiconline.com/subscriber/article/opr/t237/e3891.
to seek a connection with the music of nineteenth century. Lutosławski’s First Symphony was banned after its performance during the International Fryderyk Chopin Piano Competition in 1949. The First Symphony was only published in 1957 but not performed until 1959.

In 1956, Polish music resumed its connection with Western trends through a newly established festival of contemporary music, Warsaw Autumn. This festival allowed for a cultural exchange between East and West, and motivated Polish composers to become familiar with new compositional techniques and tendencies of the West. It also inspired creative freedom among composers.

*Funeral Music* (known as *Muzyka Żałobna* in Polish, *Musique Funèbre* in French), also translated as *Music of Mourning*, was written more than twenty years prior to *Grave*. Both pieces use the term “metamorphoses” and both achieve an aural *accelerando* by introducing gradually shorter rhythmic units. Charles Bodman Rae, in his description of *Grave*, wrote:

> Although in *Funeral Music* this subtitle for the second section of the form signifies successive transformations of the twelve-note row, there is an equally important transformation of the rhythm. The metamorphoses of *Grave* may be interpreted in this rhythmic sense, as operating independently from the continual alteration of melodic interval pairings (i.e., the moments of rhythmic and intervallic change do not necessarily occur together). The effect of rhythmic quickening in *Grave* is not the result of any system, but follows a general, and informal, principle of shortening the rhythmic durations: minims; crotchets; triple crotchets; quavers; triplet quavers; semi quavers. Thus the piece drives towards its culmination in bars 146–50, with the cello reaching its highpoint at Fig. 10 [m. 146].

*Funeral Music* was written for a string orchestra and is built from four continuous movements: *Prologue*, *Metamorphoses*, *Apogee*, and *Epilogue*. *Metamorphoses*, the second movement of *Funeral Music*, has the closest connections to *Grave*. In this movement, as in *Grave*, Lutosławski uses twelve sections for a rhythmic transformation based on a gradual division of rhythms into smaller values. In both *Grave* and the second movement of *Funeral

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Music Lutosławski achieved an evolution of the musical drama by introducing faster rhythmic values leading to a climax. As he did in Grave, Lutosławski used rhetorically quiet or silent moments to release tension within sections of Funeral Music.

Lutosławski used set class (016) extensively in both compositions.\(^\text{58}\) The reception of Funeral Music and the memorial character of both compositions help to explain why he used this set class for the cello in Grave. Funeral Music was not warmly received in Poland. Jarociński was among the few who appreciated the work. He called Lutosławski “the most eminent Polish composer” and wrote a very laudatory article about the composition, praising Lutosławski for his courage, great ingenuity, and uniqueness.\(^\text{59}\) Jarociński supported Lutosławski’s work as composer and conductor during his entire career, and perhaps this connection was one of the reasons why Lutosławski also used set class (016) in Grave.\(^\text{60}\)

Since both Funeral Music and Grave are memorial compositions, the application of the limited, unordered pitch-class intervals 1 and 6 could signify death and mourning to Lutosławski. In Funeral Music these intervals appear in transposition, inversion, and in diverse contours. Right from the beginning, Funeral Music captivates the listener by this exclusive intervallic construction. As a result of using only ic 1 and 6, in horizontal lines, there is no ic 3.

Further similarities exist between the two compositions. Slurs in Grave appear in the cello where a melodic line is built from ic 1 and ic 6. Correspondingly, in Funeral Music the same intervals should be performed with slurs, which better emphasize connections between pitches and the mournful character of both compositions. In comparing mm. 3–11 in Grave to

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\(^{58}\) Since the Pelléas theme, represented by (027), opens Grave, and is most essential for the cello, I investigated whether this set class plays an important role in Funeral Music as well. Although unordered pitch-class intervals 2 and 5 can be found vertically, set class (027) occurred only in a short section of Metamorphoses (mm. 132–141). This brief section has a less important intervallic function than in Grave.


the beginning of *Funeral Music* (Ex. 5.6 presents the beginning of *Funeral Music: Prologue*), the solo cello stands out as prominent in both compositions; in *Funeral Music* it begins and ends the composition playing solo, while in *Grave* it ends the composition together with the piano.\(^{61}\)

Example 5.6. Beginning of *Funeral Music*.

![Example 5.6. Beginning of *Funeral Music*.](image)

Both compositions start with a thin texture, then more voices are gradually combined to form a denser construction. In *Grave* the densest texture is around the cadenza (mm. 113–119) and prior to the climax (mm. 126–145). In *Funeral Music* the third movement, *Apogee*, indicates the piece’s climax. In both compositions the expansive texture during highpoints converges into a unison that works as a catalyst of tension (in *Grave* it appears at m. 120 just after the cadenza; in *Funeral Music*, at the last section, or *Epilogue*). The thick texture gradually dissolves into a thin layer at the end of both compositions. Examples of Lutosławski’s chain technique can also be found in both pieces. In this technique, instruments do not build phrases at the same time, but their lines overlap, generating aural and textural continuity.

A large-scale dynamic arch is embedded in the two compositions; both start with soft dynamics, reach a climax with strong dynamics, and finish with extremely soft dynamics. The timing of the climax or a climactic moment appears in a similar place. Most performances of *Funeral Music* have a duration of 13’30.” The climax occurs around 8’30,” which creates a

\(^{61}\) Trochimczyk. “‘Dans la Nuit’: The Themes of Death and Night,” 108.
relation of 0.63 of the overall duration, a proportion very near to the Golden Ratio Conjugate, which is approximately 0.618.\textsuperscript{62} Grave’s average duration is 6’00” and its climactic cadenza occurs around 3’45,” creating a ratio of 0.625, also close to the Golden Ratio Conjugate.

Although Lutosławski did not embed any particular Bartókian themes in Funeral Music, and lacks any strong stylistic similarity with the Hungarian composer, he also chose set class (016) purposely because a semitone and tritone were important intervals in the music of Bartók—–for example, in the Fourth String Quartet.\textsuperscript{63}

Another link between the two composers’ oeuvres can be found at the beginning of Bartók’s Music for Strings, Percussion and Celesta and Lutosławski’s Funeral Music. Both compositions start with a single instrumental line that later expands by a gradual addition of parts, creating a canonic texture.

The Metamorphoses in both Funeral Music and Grave have other melodic traits in common. The second part of Funeral Music and the cello in Grave both use twelve double rows. Thus a single, twelve-tone row appears in prime form, then in inversion a total of twelve times. In Funeral Music, the second row is related to the first at I6, while in Grave it is related to the first at RI11. This procedure is repeated in Funeral Music, starting from a different pitch, twelve times so the double rows appear as many times following the circle-of-fifths counter-clockwise (Grave’s double rows follow the circle-of-fifths clockwise). Pitchwise, the main melodic line in both compositions is determined by a strict rule, while other lines use pitch classes complementary to the main line.

Like Grave, Lutosławski’s Funeral Music, lacks folk melodies and represents an important step in the composer’s lifelong development of his personal compositional style.

\textsuperscript{62} Rae, 71.
\textsuperscript{63} Steven Stucky, Lutoslawski and His Music (New York: Cambridge University Press, 2009), 70–71.
Conclusion

The aim of this dissertation was to explain some of the compositional ideas of Grave: *Metamorphoses for Cello and Piano*, and give performance suggestions for its performance. The cello’s musical content, particularly the use of two set classes (027) and (016), unites the work intervallically. Through the control of intervals Lutosławski achieved two distinct characters.

Other compositional techniques also influence the performance of the work: dynamics, articulation, and tone color, which add to the distinction between the two set classes. Performers should above all understand that the two set classes in the cello are associated with two contrasting approaches of expression that can be achieved by applying various sound colors, articulations, and dynamics.

Performers of *Grave* should be aware of the following compositional ideas and techniques in the score, in order to achieve successful performances of the work. First, the cello’s twelve double rows play a subsidiary performative role for players of *Grave* because they have little influence on performance choices. Thus, while noting these in the score, performers need not alter their performative decisions based on the row’s boundaries.

Second, phrases do not coincide with appearances of new rows as Lutosławski extensively used overlapping phrases. As it is therefore not always possible to distinguish phrases in this piece, performers might consider other ways of distinguishing melodic ideas, such as emphasizing distinctive set classes and their harmonic families. The idea of metamorphoses is related to a constant development and evolution and, therefore, conflicts with the idea of a strict phrase division. Phrasing is suggested at the beginning of *Grave*, where its texture is looser than later in the composition.
Third, echoing the idea of metamorphosis, the development of the composition is a constant evolution of rhythms; therefore, rhythmic (rather than melodic) division forms the boundaries of each successive RN. The evolution of twelve double rows creates an intervallic and melodic unity in *Grave*. However, Lutosławski uses this evolution only as a melodic tool for generating the cello part; it does not influence the composition otherwise.

Numerous technical and performance suggestions were provided in this dissertation to enhance the distinct characters of two set classes. Since accuracy, along with the musical sensitivity of the performer, is a central element of a successful performance, these suggestions should assist in interpreting the work.

As one of the late works of Lutosławski’s oeuvre, *Grave* conveys the hallmarks of his entire style, reflecting his artistic expression and philosophy as a composer.
Appendix

Below is a copy of *Grave* with a twelve-tone count, the rows labeled, and circled tones from the rows. Dotted lines indicate ends of rows in prime form and beginning of rows in retrograde-inversion. Double lines indicate beginnings and endings of the double rows.
GRAVE
Metamorfozy na wiolonczelę i fortepian
Metamorphoses for Cello and Piano

Stefan Jarociński in memoriam

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Bibliography


