

# Dichotomic Aspects in the Final Passacaglia of *Le Grand Macabre* Opera by György Ligeti

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## ABSTRACT

The term *dichotomy* is applicable in the structural as well as the hermeneutical analysis of the final section of *Le Grand Macabre* by György Ligeti. The hermeneutical analysis places its approach on a semiotic level where the meaning of the musical gestures are subordinated to the dramaturgical nuances of the opera. The structural analysis explores the passacaglia variational form and its implications that target the logical division of the formal concept within the constant-variable dichotomic proportion paradigm. For example, the *ostinato* theme, a succession of 24 diades in a mixture of sixths similar to a *cantus gemelus* represents the dimension of a constant, while the level of the 11 variations represents the dimension of a variable. This dichotomy manifests as a multi-layered rhythmic, metric, melodic, harmonic and timbral disjunction, aspects also presented from the perspective of a comparative analysis with reference to the modal-chromatic universe of Carlo Gesualdo da Venosa or to the orchestral elements of the *Crucifixus* from the *Mass in B minor* by Johann Sebastian Bach. This paper analyzes and proposes a synoptic plan of the harmonic evolution that develops rhizomically in the 11 variations by means of intervallic addition towards the chromatic summation at the end.

## KEY WORDS

Passacaglia, musical gesture, rhizomic development, modal-chromatic, crossed-chromaticism

## INTRODUCTION

Passacaglia, along with the Chaconne, are among the continuous polyphonic variation forms relying on the principle of *ostinato*. Derived from *ostinate* which signifies "stubborn" in Italian, *ostinato* refers to repetitive musical syntaxes. These syntaxes can be identified in cells, motifs, phrases or, if we refer to the actual form of Passacaglia, even in thematic units. In the final section of the *Le Grand Macabre* opera, Ligeti employs the *ostinato* technique as a true metalinguistic gesture. At mark 674, the indication *Finale: "Passacaglia" Andantino con moto* is highlighted by the use of the quotation marks. According to Gérard Genette (Genette, 1982), this commentary gesture of critical relation is encompassed in metatextuality, an approach that Ligeti uses with consistency in several sections of this opus.

Ligeti comments the multilayered *ostinato* from what we might call a *fractal* perspective. A term introduced by Benoît Mandelbrot (Mandelbort, 1967), *fractal*

represents a fragmented or fractured geometric figure that can be divided into parts so that each of them is (at least approximately) a miniaturized copy of the whole. Thus, in the final *Passacaglia* of *Le Grand Macabre*, the ostinato manifests in the intervallic-harmonic and rhythmic-melodic as well as the rhythmic-timbral layers, a pursuit detectable both micro-morphologically and syntactically at the level of formal articulation.

Ligeti has also manifested his interest in the passacaglia form in other works such as the *Passacaglia Ungherese* (1978) and the fourth part of the *Violin and Orchestra Concerto* (1990-1992).

**THEME: OSTINATO**

The first layer develops as an intervallic-harmonic ostinato detectable at a microstructural level. The persistence of the harmonic sixth interval transforms it into a double musical gesture, instrumental on one hand, directed towards the compositional material itself and a communication gesture on the other hand. This persistence expresses the dramaturgical idea of the lovers couple Amando-Amanda as a gesture. In the original version premiered at the Stockholm Royal Opera on April 12<sup>th</sup>, 1978, these characters were quite suggestively called “Spermando” and “Clitoridia.” The musical gesture supports the sexual approach of the script by invoking the sixth interval. Knowing that the Catholic and the Lutheran teachings link the Sixth Commandment to adultery, debauchery and sex, a numerological interpretation is unavoidable, even if surprising, that would link the sixth interval to the Old Testament *Decalogue*. Peter Edwards debates the term *diad* (Edwards, 2017, pp. 93-98), thus the intonational material of this passacaglia theme is composed of a 24-diad sequence, as shown in Fig. 1.a.

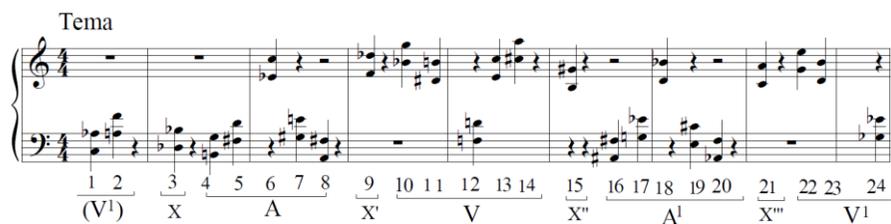


Figure 1.a. Diad sequence

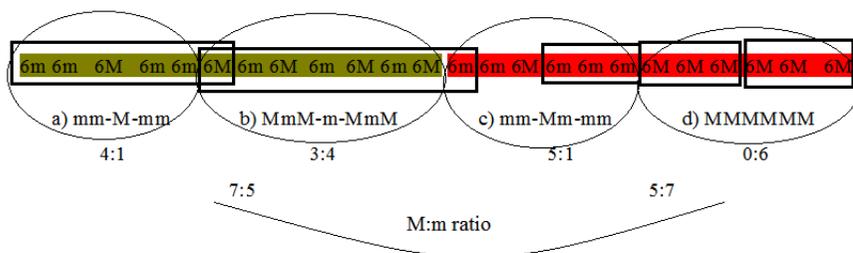


Figure 1.b. The ratio between major and minor sixths

The distribution of the 12 major sixths and 12 minor sixths corresponds to a scheme whose evolution demonstrates a balance of alternation and complementary contrast at

the same time. Thus, the 24 diades are distributed on an 8-measure anacrusis square structure. The first 4 measures include diades 1 to 12 while the following 4 measures include diades 13 to 24. Fig. 1.b describes the ratio between major and minor sixths. For example, 4:1 signifies the ratio between the number of diades represented by the minor sixth and the number of diades represented by the major sixth. In the first 4 measures, the ratio is 7 minor sixths – 5 major sixths, thus in the next 4 measures the ratio will reverse: 5 minor sixths – 7 major sixths.

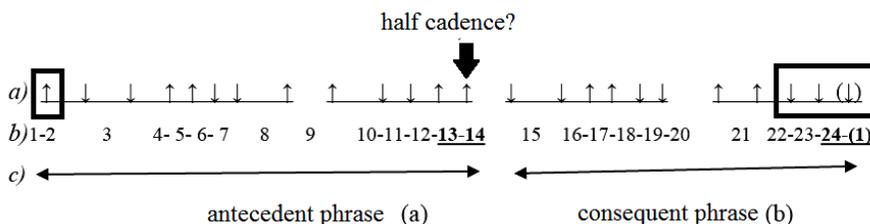
### Aspects of rhythmic disjunction

The rhythmic distribution of pitch-class material develops on a mono-rhythmic structure, in which the distribution of rests disrupts the continuous flow of the diads, which results in the following pattern: rest + 1 (one diade) + rest + 5 (five consecutive diades), a pattern whose repetition generates the theme structure: 1 + 5 + 1 + 5 + 1 + 5 + 1 + 5 (Figure 1.a). The X cell consisting of a single diade and its derivatives alternates with the cell group consisting of five diades that appear in two incarnations: A and V with their variants A<sup>1</sup> and V<sup>1</sup>. A and V represent the same rhythmic quantitative typology, the difference between them being their opposite melodic direction, cell V being an inversed variation of cell A, aspects observed also by Michael Searby (*apud* Edwards, 2017, p. 94).

### Aspects of melodic disjunction

Besides the harmonic aspect, this arrangement of intonational elements also involves rhythmic-melodic aspects. The melodic drawing of the theme presents a broken *cantus gemellus* outline – a mixture of sixths for two voices – rhythmically fractured with rests and orchestrated with the *klangfarbenmelodie* technique. The ascending (↑) – descending (↓) alternation describes a rigorously defined melodic track where the stepwise motion is completely avoided and the intervallic leap becomes the rule.

In Figure 2, the intervallic leaps are represented by arrows: in the a) layer, each arrow represents the relationship between two diades and it is positioned on the graphic in correspondence with the numbers in the b) layer. Regarding the repetition and the difference, we observe the alternation of the formula: two successive descending leaps followed by two successive ascending leaps.



**Figure 2. a) The ascending or descending direction of the leaps; b) Diad numbering; the hyphen indicates the melodic conjuncture of the diads; the lack of hyphenation indicates the fragmentation with rests; c) Phraseology extension.**

The difference, three successive descending leaps, connects the final with the beginning of the theme, a junction that emphasizes the specifics of the passacaglia as a continuous variational form. Based on these preliminary observations, the question arises

as to whether there is a link between the logic of these leaps, these "falls," and the meaning of the notion of cadence as it appears in the theoretical and practical tradition of Western musical practice since Rameau, in the authentic – plagal correlation. The functional relationship is based on the ratio between the main functions of the chords, where the tonic plays a central role: dominant – tonic – subdominant. If D-T = authentic cadence, then T-D = plagal cadence. So, between two different monads T (tonic) and D (dominant), there may be two types of relationships. The difference is given by the direction implied by the axis of succession. Consequently, we can mention two musical gestures indicating a double ascendant (T-D) or descendant (D-T) melodic direction, gestures that could be integrated in a well-defined rhetoric of the *arsis-thesis* relationship. The relationship between the fundamental of the tonic and the fundamental of the dominant describes a descending interval of fifth, meaning a fall – *thesis* – of a fifth (in Latin *cadetia* means "to fall"). The relationship between the fundamental of the tonic and the fundamental of the dominant, rhetorically describes an elevation to the superior fifth, thus an *arsis*.

Regarding this passacaglia, even if it does not respect the quantum rule of the fifth, the leaps fall into their own rhetorical logic that supports the analogy enunciated in the initial hypothesis. Completed by the sequence of quarter-note rests, the leaps' rhetoric strategically contributes to a structural grouping model comparable to that of a bipodal period, composed of 2 phrases with 4 measures (Fig. 2.c). By virtue of this interpretation, the antecedent phrase ends with a half cadence (measure 4, an ascending leap between diades 13-14) and the consecutive phrase ends with an authentic cadence, (measure 8, a descending leap between diades 23-24). The link between the diades 24 and 1 is done in a *thesis* type of authentic cadence gesture.

### **Chromatic disjunction aspects: from cross-chromaticism to *passus duriusculus*.**

Also referred to as *false relation*, cross-chromaticism is specific to bimodality. It is also noticeable in Palestrina's modal polyphonic universe – diatonic *par excellence* – with open chromaticism avoidance as the primary role. Unlike the open chromaticism, where the ascending or descending chromatic melody evolution is manifesting in the same voice, cross-chromaticism proposes a chromatic relationship between two different voices, in a polyphonic context, hence the term "cross." Max Eisikovits (Eisikovits 1966, pp. 257-258) discusses the causality of this phenomenon indicating four circumstances in which the succession of two harmonic entities within the consonant arrangement (Firca, 1966, pp. 91-97) results in a false relation ( $\leftrightarrow$ ):

1. Major triad - minor triad on common fundamental: third  $\leftrightarrow$  third;
2. Major triad- major triad with minor third: third  $\leftrightarrow$  fundamental;
3. Minor triad – minor triad with minor third: fifth  $\leftrightarrow$  third;
4. Major triad - minor triad with tritone: fifth  $\leftrightarrow$  fundamental.

From a harmonic standpoint, Ligeti expands the set of the four circumstances through intervallic addition following the same principle of distance. Technically, during the 11 variational reiterations of the theme, the diads expand their harmonic meaning by adding the inferior and/or superior sixth interval. The result also leads to an increase in ambiguous modality.

Fragmented by leaps, the melodic pattern of the sixths also indicates a convergent dimension, namely diads cohesion, where the minor second becomes the connector. Thus, the latent frame of some fragments of predominantly chromatic melodic motion is outlined, as shown graphically in black and red lines in Figure 3.

**Figure 3. Predominantly-chromatic melodic motion.**

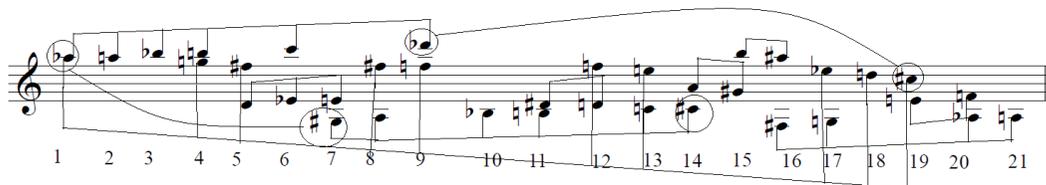
The black lines mark the cross-chromaticism relation between the higher tone of a diad and the lower tone of the next diad or vice-versa while the red lines mark the open chromaticism relation. Diatonic by structure, the connection between diades 9-10 and 21-22-23 is an exception to the chromatic chaining rule, which is framed in red in Figure 3. In the same place (measures 3 and 7), the black arrows indicate the two *caesura* moments of chromatic evolution.

The circles that include, two by two, the numbers of the 24 diades, represent graphically the linkage of diads through *false relation* whenever the case, its chromatic appearance making more appropriate the “cross-chromaticism” terminology. The relationship between diades 4-5 shows an example of cross-chromaticism associated with enharmonic exchange: F# is enharmonic with Gb. Besides cross-chromaticism, there is also the open chromaticism relation between diades 7-8, 12-13 and 14-15. The reductive grouping of these open chromatic relations within the same octave and in the order of their sequence, results in the scheme seen in Figure 4.

**Figure 4. Reductive grouping of open chromatic relations.**

On one hand, the phenomenon of chromaticism manifests in the transcribed melogrammatic formulas of the DEsCH (**D**mitri **S**hostakowitsch) and BACH, well-established as *topos* of the western musical culture. The same topological reference is also distinguished in the evolution of the inverted chromatic formula  $\gamma$  (Figure 4) by repetition and inversion. On the other hand, as a latent polyphony aspect, the chromaticism phenomenon is developing in a scalar manner. Thus, there are many profiles of *passus duriusculus* whose evolution is presented in Figure 5. The multi-layered and complex

framework of this chromatic evolution can also be seen from a concise perspective where the Ab-Db pillars and their enharmonics G# -C # are landmarks, pillars that mark the limits of chromatic evolution of ascending or descending melodic sense, in a reverse line from Ab to Db.



**Figure 5. Profiles of Passus Duriusculus**

A baroque-specific rhetorical figure, *passus duriusculus* can also be found at Renaissance madrigal composers such as Luca Marenzio and Gesualdo da Venosa. This is further specific to ostinato-bass variation forms such as chaconne and passacaglia. As a rule, the *ostinato* bass is based on the diatonic formula of the descending Phrygian tetrachord, a modal reminiscence surviving also Classicism, otherwise observable in the median part of *Lamento della Ninfa*, a madrigal composed by Monteverdi in passacaglia form.

The arrows in Figure 6 suggest the melodic evolution limited between the tonic and the dominant pillars. The example was chosen as a compared analysis to the one shown in Figure 5, where, even though it is presented in a chromatic hypostasis, the musical gesture is similar.



**Figure 6. Claudio Monteverdi, *Lamento della Ninfa***

In fact, the descending melodic direction of the Phrygian tetrachord is actually given by its own configuration containing the semitone at the base, which always showcases a tendency to resolution, hence its function as a leading tone. This *lamento* downwards direction, depressive in expression, has been amplified and "coarsened" using open chromaticism, usually on the extension of a fourth, *passus duriusculus* being translated from Latin as "harsh walking."

Johann Sebastian Bach has frequently exploited the expressive force of this rhetorical figure. The *Crucifixus* from *Mass in B minor* draws particular attention because it is composed of a passacaglia whose bass is repeated 13 times. Bach addresses the theme of Christ's crucifixion through timbre fragmentation and the rhetoric effects of open

chromaticism (*passus duriusculus*). Ligeti ironically takes over this gesture of death, in a postmodern manner, reported to a failed erotic-macabre apocalypse. Other coincidences such as the false-relation issue (in Figure 7, indicated by lines) would require a special analytical approach specifically designed for this topic. In this comparative case, however, it is necessary to emphasize certain aspects of the ostinato technique found in both *Crucifixus* and *Passacaglia*.

Bach contrasts the continuous ostinato line of the bass (*continuo*) with a complementary layer represented by the fragmented blocks by using the rests in the upper orchestration (Figure 7). This second plan shows an ostinato rhythm following the pattern: 5+2+2 (Flute 1 + Flute 2) antiphonally related to the 2+2+2 (violin + viola) scheme, comparable to Ligeti's thematic structure of the *passacaglia* (Figure 2a): 1-5-1-5, as well as its orchestration which presents the same typology of fragmentation.

Based on the pizzicato effect and the *klangfarbenmelodie* technique, this pointillistic net creates a particularly complex sound puzzle (Figure 7) from well-related sound blocks in a layering that results in polymetry. The polymetric aspects are based on the ratio between the variable-meter layer structure and the constant-meter layer structure.

Figure 7. Johann Sebastian Bach, *Mass in B minor BWV 232, Crucifixus*, mm. 8 – 15.

In Figure 8, the variable-meter layer is represented by the three layers distributed to wind instruments: 1) Flutes, 2) Clarinets and 3) Bassoons. The nature of its variability lies in the fact that the relationship between its attack blocks is apparently free. Its structural elasticity encompasses the rest and the way it participates in a complex algorithm of grouping rules, giving these blocks their specific place in the score.

Thus, there is an arithmetic correspondence between clarinets and bassoons, concerning the number of fourths symmetrically grouped by recurrence: clarinet 3-4-5 /

ascending – bassoon 5-4-3 /descending. The dynamic landscape (*ppp-pp-p*) contributes to the transparency effect and the overlapping timbre clarity, symmetrically similar by recurrence. The flutes indicate the alternation of groups: 1-2. These patterns could be pursued as general and structurally-generative elements, however, that approach should be a separate study.

**Figure 8. Relationship between orchestral blocks. Ternary metric plan, second ostinato. G. Ligeti, *Le Grand Macabre*, extract from the general score, mark 675.**

Represented by string instruments and harp, the constant-meter layer represents a rhythmic ostinato structure. Although it is distributed in various timbre hypostases, this second ostinato is maintained throughout the passacaglia according to the pattern: 5 measures pizzicato on the first beat + 1 measure rest + 1 measure pizzicato (Figure 9).

The sequence of notes and rest values outlines the ternary-meter image of this second ostinato layer. Given that the time signature of 4/4 has a dynamic role, this polymeter aspect also indicates a referential gesture towards passacaglia as a form and genre, knowing that passacaglia usually has a ternary metric.

**Figure 9. Passacaglia Pattern**

### Aspects of harmonic disjunction

During each variation of the theme, the diads will be double-reflected ascending and descending, thus creating the premises of a mixture of sixths at 4 voices. Like a mirror that reverses the direction of reading, the minor-sixth theme diads are juxtaposed upwardly by major sixths and, conversely, major-sixth theme diads are juxtaposed downwardly by minor sixths, as shown in Figure 10.

The musical score shows a sequence of chords and bass notes. Above the staff, chords are labeled: Fm, Dm, Gb, Em, Bm, and Ab. Below the staff, bass notes are labeled: Ab, F, Bbm, G, D, and Cm. The bass line is numbered 1 through 6. Intervals between notes are labeled as 6M (major sixth) and 6m (minor sixth). The chords and bass notes are connected by lines, showing the harmonic structure.

Figure 10. Aspects of harmonic disjunction

### DISCUSSION OF FINDINGS

Juxtaposition results in a structure that sums up two parallel harmonic layers that are related by the interval of a third.

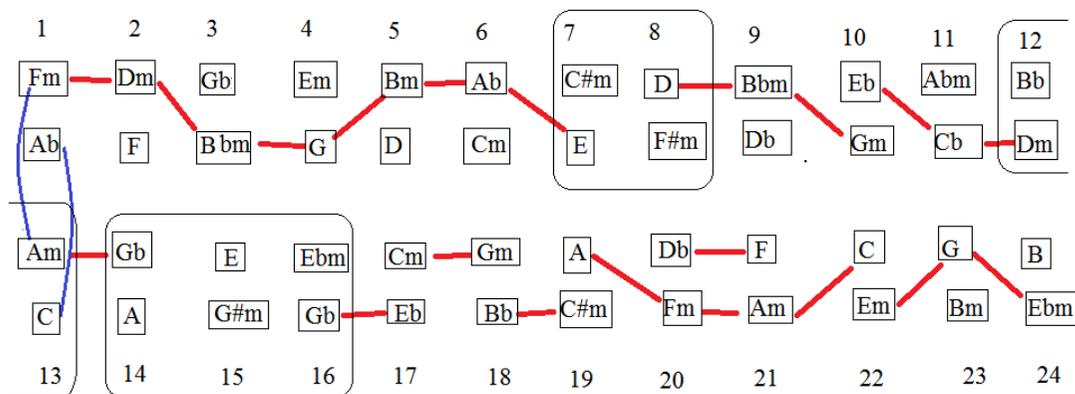
The generic principle of these triads reminds of the theory of Dimitrie Cuclin (Cuculin, 1933) regarding the chord with the upward direction (ascending: C-E-G) and the downward direction (descending: E-C-A), as shown in Figure. 11. According to this theory, the minor triad on the fundamental A originates from the lower harmonics 3, 4 and 5 of E symmetrically with the major triad on the fundamental C, which, as it is well known, is found in the superior resonance of the harmonics with the same serial numbers. Generated in this manner, the two triads are in a *third* or *3<sup>rd</sup> degree* relationship.

The diagram shows two triads on a piano keyboard. The major triad (C-E-G) is on the left, and the minor triad (A-C-E) is on the right. The notes of the major triad are labeled 1, 2, 3, 4, 5, 6. The notes of the minor triad are labeled 1, 2, 3, 4, 5, 6. Dashed lines connect the notes of the two triads, labeled 'inversions'. An arrow points from the major triad to the minor triad.

**Figure 11. From Cuclin's theory to the bi-stratified harmonic structure.**

Surprised by the fact that Ligeti interprets this structure in a bi-stratified manner, Peter Edwards remarks only the monolithic aspect of the structure (seventh chord in third inversion) and the non-functional character of the linkages between the third-inversion chords (Edwards, 2017, p. 98). Edwards however, does not signal the polymodal meaning of these structures invested with a harmonic ambiguity resembling the image of the couple Amando and Amanda. From the mails written between the composer and the librettist, it appears that Ligeti chose these characters to be female voices, soprano and mezzo, insisting on their sexual ambiguity, referring to the erotic drawings of the Austrian painter and illustrator Franz von Bayros (Edwards, 2017, p. 18). This ambiguity of harmonic chaining makes possible an interpretation (Figure 12) according to which between the two layers there is the latency of correspondence by a third relationship both, vertically, synchronously as well as horizontally and diagonally, on the succession axis of the diads.

In Figure 12, the horizontal or diagonal third relation – between two successive arrangements – is marked with a red line. Fm is in third relation with Ab within the same diad 1, at the same time being in third relation horizontally with Dm from diad 2. Dm (2) is in third relation horizontally with Gb (3) and, at the same time as a succession, with Bbm (3).



**Figure 12. The third relation of the harmonic layers.**

The ambiguity is expressed by the simultaneity of these layers and, metaphorically, it is the deceitful nature of the two characters. The modal nature of these third relations refers to the disturbing-chromatic universe of Carlo Gesualdo da Venosa, a Renaissance madrigal composer obsessively preoccupied with the merging of the themes of love and death.

In connection with Gesualdo, the exegesis confirms that he had participated in the killing of his own adulterous wife and lover. Following this murder, repentance would have motivated him to compose the religious cycle *Tenebre Responsorie*. The example from the motet *O omnes omnes* is particularly convincing. The Latin lament of the text "O vos ómnes

qui transítis per víam, atténdite et vidéte: Si est dólór símilis sícut dólór méus” is represented by the harmonic succession of third-related chords, as shown in Figure 13.

The figure displays a musical score for the vocal parts of "O vos omnes" by Carlo Gesualdo da Venosa. The score is written for Soprano I, Soprano II, Alto, Tenor I, Tenor II, and Bass. The lyrics are: "O vos, O vos omnes, qui transi-". Below the score, a harmonic analysis is provided, showing the sequence of chords: Bm, B, G, Em, and E. Red lines connect these chord boxes to the corresponding notes in the vocal parts, illustrating the harmonic progression.

**Figure 13.** Carlo Gesualdo da Venosa, *Tenebrae Responsories, Nr. 5. „O vos omnes”, mm. 1-6.*

The transition "transítis per víam" and the suffering „Si est dólór símilis sícut dólór méus” ("if there is a pain like mine") is shown by the sequence of the consonant triads: Bm – false relation – B – G – E m – open chromaticism – E, aspects shown in Figure 13. The continuation of this moment (measures 7-14) follows the same principle: Am – A – F – Dm – C. The synoptic picture below (Figure 14) shows the evolution of harmonic structures and their path.

Figure 14 presents exclusively the harmonic parameter. Notated on two staves, the variational aspects of the two layers are related to the theme’s ostinato layer. The numbers represent the 24 diads. The synoptic plan of the harmonic evolution develops rhizomically in the 11 variations by intervallic addition to the chromatic total in the end (Variation XI). The rhysonomic feature is introduced gradually, beginning with Variation VI, coinciding with the entrance of two other characters: Prince Go-Go (soprano) and Mescalina (dramatic mezzo-soprano) joining the original couple. The density of the texture is amplified in Variation VIII, after the introduction of four additional male voices and is directly linked to this 8-character coral voice participation.

The image displays a musical score for Figure 14, which illustrates the evolution of harmonic structures and their path over 24 measures. The score is organized into 12 systems, each containing one or more staves. The top staff is labeled 'Tenor' and contains a melodic line with measure numbers 2 through 24. Below it are eleven variation staves, labeled 'Var. I' through 'Var. XI'. Each variation staff shows a different harmonic structure, often represented by chords or dyads, with some measures containing specific markings like '12' and '18'. The score uses various musical notations, including treble and bass clefs, notes, rests, and dynamic markings such as 'p' (piano) and 'sf' (sforzando). The overall structure shows a progression of harmonic ideas across the measures.

Figure 14. The evolution of harmonic structures and their path

## CONCLUSIONS

The final Passacaglia from *Le Grand Macabre* opera is part of the postmodern stylistics of re-evaluating historical musical language elements such as paraphrase, quote, collage, fragmentation and center dissolution. The alternation of triad-type structures with diad

intervals could result in diads being interpreted as elliptical triads, increasing the freedom of harmonic evolution which is de-centered, a dissolution based on two principles of rhizomic development: connection and heterogeneity. Under these conditions, the dichotomy, which logically means splitting a concept into two opposite concepts, is applicable in Passacaglia which, as a result of the analysis, has shown that it is based precisely on the binary concept of disjunction. Ligeti is inspired by Breugel's world (1525-1569) with ever surprising harmonic successions reminding us of Dutch composer Cipriano da Rore's chromatic modality (1511-1565) (Burney, 1789), as shown in Figure 15.

The image shows a musical score for four voices (B1, B2, B3, B4) and a basso continuo line. The lyrics are: "le - vem nu - me - ro, le - vem nu - me - ro, non - num fe - ren - tes si - cu - lo le - vem nu - me - ro, le - vem Ca - lu - mi so - Ca - lu - mi so - num fe - ren - tes si -". The basso continuo line includes figured bass notation: E C Dm F#m G.

**Figure 15. Cipriano da Rore, *Calami sonum*, measures 6-11.**

Same as Breugel, Ligeti "avoids great forms" (Friedlander, 1975, p. 212) and centers on the general dynamism of the whole, where the detail texturally dissolves.

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