

## Interactions between Derivative Teleology and Form in Dušan Bogdanović's Study I

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**Abstract:** The present work aims to display how basic musical ideas (*Grundgestalten*), understood from a teleological perspective, interact with the formal segmentation of Dušan Bogdanović's (1955) Study I, featured in his *Polyrhythmic and Polymetric Studies* series. In order to do so, we apply musical analyses based on the identification of transformational operations that act as possible models for the piece's processes, taking the current state of Carlos Almada's *Model of Derivative Analysis* as theoretical foundations. We notice that Bogdanović's piece formal segmentation is reinforced by the sequential and teleological use of transpositive operations.

**Keywords:** Dušan Bogdanović. Polirhythmics. Polymetrics. Model of Derivative Analysis. Grundgestalt.

### Interações de Teleologia Derivativa e Forma no Estudo I de Dušan Bogdanović

**Resumo:** Este trabalho busca elucidar como variações de ideias musicais básicas (*Grundgestalten*), concebidas a partir de uma perspectiva teleológica, interagem com a segmentação formal do Estudo I da série *Polyrhythmic and Polymetric Studies*, de Dušan Bogdanović (1955). Para tal, utilizamos análises musicais baseadas na identificação de operações transformacionais que, possivelmente, modelam processos da peça, orientando-nos pelo atual estado do *Model of Derivative Analysis* de Carlos Almada. Constatamos que a segmentação formal da peça de Bogdanović é reforçada pela aplicação sequencial e teleológica de operações de transposição.

**Palavras-chave:** Dušan Bogdanović. Polirritmia. Polimetria. Model of Derivative Analysis. Grundgestalt.

### 1. Introduction

*Polyrhythmic and Polymetric Studies* (1990) presents a series of exercises, pieces and brief texts where the Yugoslavian-born composer Dušan Bogdanović (1955) seeks to establish the foundations of performing and improvising in complex metrical situations on guitar (MOREY, 2011, p. 1). After exposing commentaries on the structural and performing elements of his compositions, Bogdanović presents a first group of 25 exercises aimed at a beginner's initial contact with polymetrical practices, followed by a second group of 5 advanced concert studies, which are understood as experimentations upon the structuring of a musical discourse based on such interactions between meters.

Despite its rhythmic intricacy at the bar level, we propose, in the present work, that Study I from the second group articulates its formal segmentation in a rather clear manner — especially on metrical levels higher than the bar unit — and that it does so through derivative processes applied sequentially to a *Grundgestalt*.

## 2. *Polyrhythmic and Polymetric Studies* (1990)

Bogdanović's oeuvre can be understood as a synthesis between many contrasting genres of music, with the composer assuming influences of non-Western rhythmical<sup>1</sup> procedures as a leading aspect for the composition of his *Polyrhythmic and Polymetric Studies*, emphasizing the presence of Balkanic, Balinese and African elements on his compositions (BOGDANOVIĆ, 1990, p. 3). Regarding Study I, particularly, Morey points the influence that a contact between the composer and musical traditions such as those of the Ghana-inhabiting Ewe group, exerted on the piece's elaboration (MOREY, 2011, p. 32).

The distinction between the concepts polymeter and polyrhythm are not explicit Bogdanović's texts, offering a brief description of polymeter models "a combination of at least two different metric patterns" (BOGDANOVIĆ, 1990, p. 3). Morey points that the composer's conceptions seem to confirm Simha Arom's — author of *African Polyphony and Polyrhythm* —, at least in the manner that the author describes polymeters similarly to the composer's citation, stated above, and polyrhythms as the intertwining of diverse rhythmic figures (MOREY, 2011, p. 6).

Although we believe that affirming a distinction between polymeter and polyrhythm in Bogdanović's studies as possible is somewhat disputable<sup>2</sup>, we intend to display that the rhythmic complexity inherent to Study I is manifest exclusively at the level of written and concurrent bars: higher formal levels, based on groupings of multiple bars — in itself more closely related to the cycles between different meters, rather than the repetition of the individual rhythmic cells themselves —, on the other hand, display more or less clear borders between segments of musical ideas. At the transition from a segment to another, the derivative processes of basic musical elements that exhibit some sort "goal oriented" profile reinforce our perceptions of endings and beginnings of sections. In order to elucidate this claim we shall apply, as a primary theoretical reference, the current state of Carlos Almada's *Model of Derivative Analysis*

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<sup>1</sup> It should be considered that, beyond the rhythmical complexity here evaluated, the composer points that the melodic and harmonic vocabulary present in such pieces also has non-Western roots, making use of "polymodal" and "polypentatonic" languages (BOGDANOVIĆ, 1990, p. 3).

<sup>2</sup> A remark should be made about the *perception* of concurrent meters in Bogdanović's piece. On the 1990 publication's text, the composer argues for a possible pedagogy of his studies in a section entitled *Psychology of Polymetric Studies*, where, in a given context that involves two metrical *strata* already "reflexively" assimilated by the player, one can "*focus on both patterns simultaneously*" while observing the interplay" (BOGDANOVIĆ, 1990, p. 3, our italics). Justin London, on the other hand, criticizes the very concept of polymetrics as a perceptible phenomenon, since that, for this author, when faced with a multiplicity of metrical streams, there are two possible cognitive reactions, meaning we can either: 1) extract a resultant pattern through the superimposition of concurrent metrical fluxes or 2) focus on only one of the rhythmical fluxes while treating the other(s) as "noise" (LONDON, 2004, p. 50). As we shall see, this conflict between the perception of multiple metrical layers in Bogdanović's and London's conceptual frameworks — and our preference for the latter — is crucial for a determination of the size of the metrical fluxes and the structuring of our formal segmentation of the analyzed piece.

(MDA), described in a yet to be published manuscript, which we encountered first at a class in Universidade Federal do Rio de Janeiro’s Graduate Program (PPGM-UFRJ).

### 3. Analytical tool: Model of Derivative Analysis

Almada’s Model of Derivative Analysis (further on, MDA) can be described as a systematical approach that aims at a mathematical formalization of the studies on musical variation, having as theoretical foundations

[...] the principles of Grundgestalt (normally translated as "basic shape") and developing variation, both created by Austrian composer Arnold Schoenberg (1874-1951), associated with an organicist conception of musical creation based on a gradual derivation and concentrated economy of means. (ALMADA, 2020, p. 1).

The modeling of compositional processes proposed by the author does not seek to reconstruct a composer’s original thought but emerges as an analytical tool with the identification of the relationships between musical ideas — understood here as small segments, similar to motifs — as a goal, investigating the nature of transformations between a referential idea and its possible derivations while regarding also the means upon which those are applied (ALMADA, *op. cit.*, p. 2). In that manner, the derivative processes can be regarded as an action applied to a musical object/motive that outputs another object/motive somehow related to the first (ALMADA, *op. cit.*, p. 2).

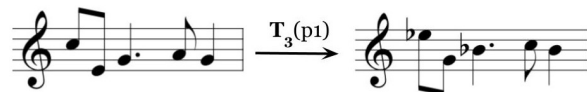
The relationships between objects are described through a series of 27 transformational operations that differ through their interaction with three factors: type, establishing what are “canonical” and “non-canonical” operations; domain, differing operations that act upon pitches (p), time (t) and harmony (h); and, finally, scope, identifying the transformation as acting in normal, mutational or dual<sup>3</sup> fashion. On Table I we present the main operations used in our study and their characteristics.

**Table 1:** Operations from MDA’s lexicon applied in our analysis (ALMADA, *op. cit.*, p. 104).

Operation		Type		Domain		
name	symbol	can.	n-can.	p	t	h
chromatic transposition	<b>T</b>	x		x		
deletion	<b>DEL</b>		x	x	x	
rest-substitution	<b>RST</b>		x		x	
rotation	<b>ROT</b>		x	x	x	
change of register	<b>OCT</b>		x	x		

<sup>3</sup> Operations that affect a single element of the object/motive are called “mutational”; those that act on the object/motive as whole are called “normal”; the operations that can act both in a mutational and a normal fashion, are called “dual”.

The generic notation of a given operation is given by an alphabetical symbol, present on Table 1's second column, alongside the data of which domain attributes<sup>4</sup> and, as necessary, the specific elements of the object/motive it acts upon. The example below displays the notation and musical realization of a chromatic transposition<sup>5</sup> (**T**), when applied to a generic object used extensively as an example on Almada's book first half.



**Figure 1:** Example of chromatic transposition's notation when applied to a musical element.

As stated earlier, MDA intends not only to recognize the transformations applied to referential musical idea, but also the means of its implementation in compositional contexts. Thus, the concept of derivative *teleology* plays a significant role in MDA theory, as it is “based in the belief in the existence of an objective or goal orienting the derivative process” (ALMADA, op. cit., p. 162).

According to the author, however, teleology is a highly context-specific concept, resistant to generalizations and mainly justified through the materials of an individual composition (ALMADA, op. cit., p. 162). In our approach, we aim to demonstrate how teleology is manifest through local transformations of a *Grundgestalt* present in Bogdanović's Study I.

In order to do so, it was necessary do divide our analytical process into three steps: 1) formal segmentation through an attentive and familiarized<sup>6</sup> listening of the piece; 2) identification of “interest points” where there are perceivable teleological processes that reinforce our understanding of the borders between formal segments; 3) identification of operations that, when applied to the *Grundgestalt*, act as possible models of the teleological profile of said “interest points”.

A final methodological regard points toward the debate between “notated” and “expressed” meter. We adopt a reasoning similar to London's in our understanding

<sup>4</sup> As stated earlier, the MDA domains are *pitch* (p), *time* (t) e *harmony* (h). Their attributes are: p1 (MIDI pitches); p2 (pitch classes); p3 (interval classes); p4 (melodic contour); p5 (intervallic ambit); t1 (durations); t2 (inter-onset-intervals); t3 (metric contour); t4 (durational span); h1 (key); h2 (mode); h3 (chordal qualities); h4 (chordal root); h5 (chordal bass).

<sup>5</sup> On the generic notation of the chromatic transposition operation (**T**) one indicates, besides its domain of action p1, how many “units of transposition” are applied to the musical object, taking a half-tone as the smallest value. Thus, the notation for such an operation will often look like  $\mathbf{T}_x(\text{p1})$ , where x stands for the quantity of half-tones to which the referential object is transposed, being a positive value for “upwards” transpositions and negative for “downwards” transpositions.

<sup>6</sup> MDA's analytical process presupposes a step on which one should develop a familiarity with the piece, especially when identifying its *Grundgestalt* (ALMADA, op. cit., p. 137). Our familiarization process with Study I was done mainly through reading and performing the piece and enabled us to not only identify the piece's *Grundgestalt* but also to reinterpret some of its notated meters, in relation to the meters we have felt as expressed.

that the first is what can be seen displayed in sheet music and the latter is what one hears in an actualization of that piece of music (LONDON, 2004, p. 90). This distinction allows us to question, when we find necessary, the metrical fluxes suggested by the bars in Bogdanović's notation, playing a relevant part in our enumeration of bars and the size comparison of formal segments.

#### 4. Analysis of second group's Study I



**Figure 2:** First group's exercise 25 (BOGDANOVIĆ, 1990), identifying the *Grundgestalt* components Gc1 and Gc2, the basic materials for Study I.

The proximity between first group's Exercise 25 and second group's Study I in Bogdanović's 1990 publication is by no means fortuitous, since we believe that Study I *as a whole* can be understood as the development of the rhythmic and melodic ideas presented in this exercise. We shall, as proposed by Almada's theory, treat Exercise 25 as Study I's *Grundgestalt*. Due to the textural complexity inherent to the materials in question, and also to the relative derivative autonomy which each of the voices develops, we chose to dissect the *Grundgestalt* into two components — a possibility also described in Almada's theory (op. cit., p. 133) —, separating Gc1<sup>7</sup> and Gc2 as in Figure 2. Despite the initial superimposition of the 3/4 and 12/16 time signatures, the composer often places dotted and reduced barlines relating exclusively to the voice that exhibits the Gc1 pattern and its variations, which sometimes suggests alternative 2/4 meters, as expressed in Figure 3.



**Figure 3:** Concurrent metrical projections on mm. 3 and 4, opposed to Bogdanović's notation.

When analyzing bars critically placed at the borders of formal segments, we'll refer to the derivative processes acting locally, considering the musical materials

<sup>7</sup> We consider that Gc1 is composed only of the first statement of the rhythmic cell "eight note–sixteenth note–sixteenth note", as opposed to the three appearances notated in the time signature  $\frac{3}{4}$  by Bogdanović, which, we believe, represents the metrical cycle of this component in relation to the other, larger, 12/16 cell.

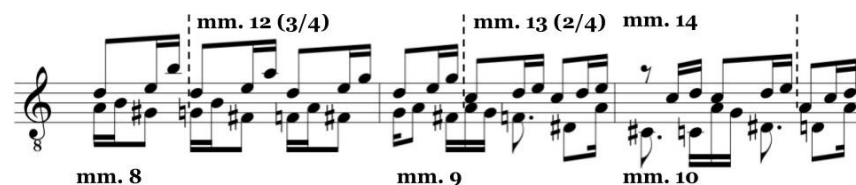
belonging to the first bar of each excerpt as basis for the description through operational transformations of the following bars and melodic-rhythmic cells.

On Table 2, we display the piece’s formal segmentation through diverse bar quantities for each Gc, considering their respective expressed meters.

**Table 2:** Formal segmentation of Bogdanović’s Study I and according to durations of each Gc.

Segment	Gc1 measures	Gc2 measures	Textural Disposition
A1.1	16	11	Gc1/Gc2
A1.2	15	10	Gc1/Gc2
A2	7	4	Gc2/Gc1
A3	12	10	Gc2/Gc1
A1.3	15	12	Gc1/Gc2

Although it seems redundant, the naming of all segments as “A” is necessary in order to express the fact that the piece as a whole derives from different treatments of the same basic musical materials. Indicated by the same number, followed by an auxiliary digit — as in A1.1, A1.2 e A1.3 —, are the segments that present very similar treatments to both Gcs, acting as different iterations of same basic periods<sup>8</sup>. Noticeably different treatments of the Gc’s are represented by distinct numbers. Another relevant data concerning Study I’s form is represented by the textural disposition of each segment: at A1.1, A1.2 and A1.3, Gc1 is expressed mainly in the upper voice while Gc2 appears in the lower one; at A2 and A3 that predominant relationship is inverted.



**Figure 4:** Transition from segment A1.1 to A1.2.

The first “interest point” that articulates teleology, formal segmentation and derivative processes is found at the transition from A1.1 to A1.2, as shown in Figure 4, with a disruption between segments occurring at the C in Gc2’s mm. 10 (lower voice). When we reach Gc2’s mm. 8 the lower voice abandons its characteristic 12 sixteenth-notes pattern and starts displaying what can be understood as a rotation of Gc1’s temporal durations, expressed symbolically as  $\mathbf{ROT}_1(t1)$ . This partial and local suppressing of a textural element implies an intensification of the excerpt’s “derivative rhythm”, through the acceleration of the lower voice’s transformations.

<sup>8</sup> We believe that this is what influenced Morey’s formal analysis of the study as an ABA form, where his “B” would comprehend our segments A2 and A3 (MOREY, 2011, p. 32). A distinction between A2 and A3 is preferred, nevertheless, due to their different usages of Gc1 and Gc2: while A2 stands as a particular case of melodic and rhythmic treatments to both Gc’s amid the other segments, A3, as we shall see, presents a partial recapitulation of Gc2’s first installment in A1.1, making it closer to the A1.x category than A2.

Still regarding the lower voice's mm. 8, one can notice that between the first and second beats two mutational chromatic transpositions expressed as  $\mathbf{T}_2(p1, 1)$  and  $\mathbf{T}_2(p1, 3)$  happen and, in similar fashion, between the second and third beats, a mutational chromatic transposition of the kind  $\mathbf{T}_2(p1, 1:2)$  takes place. The sequential application of transpositions, aligned with the mutational chromatic transpositions — symbolized as  $\mathbf{T}_2(p1, 3)$  — that take place between the upper voice's “eight-note, sixteenth note, sixteenth note” cells, grants this bar a “direction” towards a goal (i.e. teleology). Nevertheless, this first proposed intensification of transformations is interrupted in Gc2's 9<sup>th</sup> bar, weakening its teleological character, which characterizes this first “interest point” as a particularly unclear<sup>9</sup> case, when compared to the following analyzed points.

The following “interest point” we shall analyze deals with the transition between A1.2 and A2, a critical passage for the piece since it exhibits both its highest note and the first major inversion of the textural relationships between Gc's: when we reach A2, Gc2 will, for the first time, manifest itself on the upper voice while Gc1 is executed on the lower one. On Figure 5 the Gc's are displayed on separated staves in order to clarify their distinct — almost autonomous — derivative processes toward that textural inversion.

Figure 5: Both Gc's behavior at the transition from A1.2 to A2.

Although, on the lower voice, Gc2 displays a certain derivative “direction” when moving from a lower register to a higher one, this excerpt's teleological factor is mainly driven by Gc1 through, again, what could be modeled as a sequence of — normal/mutational and diatonic/ chromatic — transpositions. Gc2's “erratic” melodic contour also reinforces our understanding of it as having its derivative processes “subordinated” to the ones present at Gc1.

One may notice that, although acting at different Gc1 elements, a parallel usage of whole-tone transpositions is present from mm. 16 to 18: between mm. 16 and 17 a  $\mathbf{T}_2(p1, 3, 6)$  relationship is evident, if one considers a comparison between the two

<sup>9</sup> It could be argued, however, that Bogdanović's interpretation of the study — registered in a 1999 recording, present on the “Unconscious in Brazil” album (BOGDANOVIĆ, 1999) — seeks to, curiously, “clarify” this segment's teleological factors since, omitting what's written on the original score — here as lower voice's mm.9 —, the composer-performer anticipates the excerpt originally written as the piece's Coda, which, in itself, expresses a stronger teleological derivative orientation that we shall analyze further on.

whole bars; between one of the identical beats in mm. 17 and 18's first beat, the operations  $\mathbf{T}_2(p1, 1:2)$  and  $\mathbf{T}_1(p1, 3)$  takes place; mm. 18's first beat and second beat are related by a  $\mathbf{T}_2(p1, 1:2)$  transformation once again. From mm. 19's first beat until mm. 20's first beat, inclusively, the pitches A and D are fixed: the derivative processes are restricted to Gc1's first eight-note, and could be described as  $\mathbf{T}_1(p1, 1)$ , a process that could arguably stretch itself until mm. 20's second beat B

The transition from segment A2 to A3 — our next “interest point” — happens in a similar fashion to the one from A1.1 to A1.2: the upper voice, that displayed Gc2 since A2's beginning, presents a variation of Gc1's rhythmic cell from mm. 26 onwards, while the lower voice consists of Gc1 in its primary state<sup>10</sup>. The upper voice's rhythmic variation of Gc1 deals, mainly, with a sequence of two operations modeled as a rotation of the kind  $\mathbf{ROT}_1(t1)$  and  $\mathbf{RST}(t1, 1)$ , the substitution of a durational onset by a rest of equal length.

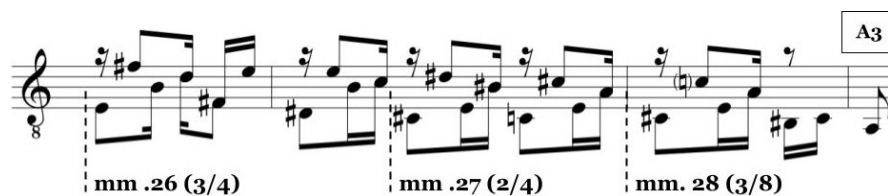


Figure 6: Transition from segment A2 to A3.

From a formal segmentation perspective, the teleology present in this excerpt is partially granted by the whole and half-tone operations  $\mathbf{T}_{-1}(p1)$  and  $\mathbf{T}_{-2}(p1)$ , noticeably at the lower voice's eighth-notes, where one hears the pitches E, D, C, C; transpositions are applied also, in a mutational manner, to every third element of the lower voice's “eighth-note, sixteenth-note, sixteenth-note” cell, creating the pitch sequence D, C (B, A)<sup>11</sup>. When the lower voice displays an upwards transposition, where one could suppose a weakening of the excerpt's teleology — mm. 28 first beat —, the operations  $\mathbf{T}_{-x}(p1, y)$  — “downwards” transpositions appearing in a mutational scope — that were being applied to the upper voice are not interrupted, granting the continuity of a teleological orientation to this critical transitional excerpt, which culminates in the final gesture expressed by the pitches B, C e A.

Although not exclusively a transitional excerpt, we present an integral analysis of segment A3's lower voice due to its ingenious usage of previously exhibited

<sup>10</sup> One could argue that the written textural elements in Bogdanović's score — which we took as reference and reproduce in Figure 6 — prioritize a clear sheet for the reader/performer instead of the actual sounding of the piece, given that the unison encounters between voices does, in fact, consist of a single guitar string sounding, due to natural instrumental constraints. We are not, however, considering this paper's limited scope, questioning such complex relationships between written textures and guitar performance. For an in-depth discussion of such matters, one can refer to Ramos (2017).

<sup>11</sup> With  $\mathbf{T}_{-3}(p1, 3)$  between C (B) and A marked as an exception in terms of x value, amidst the other transpositions featured in this excerpt.



musical materials. From Gc2's mm. 21 to mm. 26's ending we witness an almost literal recapitulation of the pitches and durations exposed in Gc2's first seven bars, in segment A1.1. The subtle pitch differences, circled in Figure 7, are, most probably, due to instrumental adaptations. The main difference between A1.1 and A3 presentations of such Gc2 materials are, however, the inversion of textural relationships exhibited in the latter — which now presents Gc2 on the upper voice — and its change of register, expressed by the operation  $\mathbf{OCT}_+(p1)$ , with a noticeable exception for the first A pitch, which appears at the same register both on A1.1 and A3.

Figure 7: Gc2's presence on segment A3.

One may notice that from mm. 27 and onwards certain elements drive the derivative process' teleological character through “virtual melodic lines”<sup>12</sup>: a first line is suggested by the indirect succession of pitches B, A and D — the highest ones of bars 27, 28 and 29, respectively — and a second line by the pitches F, F, D, C, B, B, A, G and G; both lines, despite the section's textural intricacy, are highlighted due to their placement on extreme points of the voice's intervallic ambit. It is at this point, nevertheless, that Gc2 articulates less clear rhythmic configurations, omitting its characteristic three sixteenth-notes onset at the second beat, which brings a certain instability to its directionality — in a teleological-derivative sense —, possibly compromising the perception of a goal towards the ending of the segment.

This directional instability in Gc2, however, is compensated by the activity displayed by Gc1 at the segment's ending: approaching the transition from A3 do A1.3, the lower voice abandons its almost “static” character<sup>13</sup> that it had been presenting

<sup>12</sup> We named “virtual melodic lines” the parsimonious movements between pitches that highlight themselves amid the polyphonic texture of the excerpt.

<sup>13</sup> It seems to us and could be argued that A3 is somehow reminiscent of a 12-bar blues — though it displays a different quantity of bars—, in the sense that it presents a kind of “distorted” I-IV-I-V-I progression with melodic-harmonic “clashes” typical of this genre, such as the conflict between C and C, minor and major 3rds of the pieces' tonal center A. Such claims need further exploration, as regarding

and begins a sequence of transpositions that, from mm. 39 onwards, grants teleological “direction” for the excerpt.



Figure 8: Gc1's teleological activity towards the end of A3.

Taking the set D, E and G in mm. 38 as reference, it is possible to describe both mm. 39's first beat as a product of the application of  $\mathbf{T}_2(p1, 2)$  to such set, and 39's second beat as a new transposition,  $\mathbf{T}_2(p1, 1)$ , applied to a different element. It is then noticeable that C, F and G, originated in mm. 39, can be transformed into mm. 40's first beat's B, F and G through the very same operation  $\mathbf{T}_1(p1, 1)$ . This beat, on its turn, when subjected to the operations  $\mathbf{T}_5(p1, 2)$  and  $\mathbf{T}_1(p1, 3)$  becomes mm. 40's second beat. Mm. 41's first beat may be modeled as a product of mm. 40's second beat subjected to  $\mathbf{T}_1(p1, 2)$  e  $\mathbf{T}_1(p1, 3)$ . And, finally, the B and E on mm. 41 are understood here as transformations of that same bar's first beat, implying a deletion operation  $\mathbf{DEL}(p1, 2)$  followed by a transposition of the remaining pitches through  $\mathbf{T}_1(p1)$ <sup>14</sup>.

This exhaustive demonstration of our understanding of the excerpt through a sequence of transformations aims to exhibit that a sequence of transpositions with the same direction (“from a higher register to a lower one”) drives Bogdanović's musical discourse, once again granting “direction towards a goal” at a transition between formal segments that, on its turn, is reinforced by the “arrival” at the pitch A, the piece's tonal center, on mm. 42, marking the beginning of A1.3, its final segment.



Figure 9: Study I's coda and segment A1.3's ending.

The Coda at the ending of A1.3, presents similar derivative processes in what regards the use of a sequence of transpositions. This becomes evident through an examination of a “virtual melodic line” that emerges from the lowest pitches featured

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the metrical placement and proportions of each segment of the 12-bar blues that go beyond the scope of the present paper.

<sup>14</sup> The last pitches C and D on mm. 41's ending, although pertaining to Gc1, are better understood as an anacrusis for the next segment's beginning and were, thus, disregarded in our analysis.

at the excerpt; such melodic line articulates a chromatic scale from D to A, at metrically strong points of the 12/16 meter, as represented by the encircled pitches in Figure 9.

## Conclusions

Through our examination we were able to acknowledge the fact that the perception of formal segments in Bogdanović's study is, indeed, reinforced by particular applications of transformational procedures to the *Grundgestalt's* components, with a significant highlight to the role played by sequences of chromatic transpositions with similar orientations — that is, sequences of “downwards” or “upwards” transpositions — featured in bars near transitions between segments, which acts as evidence for a teleological compositional planning, regarding the derivative processes.

We are also capable of pointing that, at each analyzed excerpt, the teleological character of the derivative processes is somewhat clearer in one of the two main textural voices, creating, in a certain way, an “derivative subordination”, where the operations contained in one of the voices has a greater impact on the teleological perception, while the ones present on the “subordinated voice” may be “erratic” and less goal oriented.

We believe that this kind of analysis marks a primary step towards what, regarding Bogdanović's oeuvre in particular, could be extended to pieces that share similar compositional procedures — such as the other studies from the 1990 publication and his *7 Easier Polymetric Studies* (1993) —, creating a deeper understanding of the relationships between derivative processes and teleology. In that manner, we not only enlarge the performing possibilities of Bogdanović's Study I, but also exhibit compositional techniques that may be modeled into original works and analytical processes that may be applied to different pieces.

## References

- ALMADA, Carlos. *Musical Variation: Toward a Transformational Perspective*. 2020. Unpublished manuscript.
- BOGDANOVIĆ, Dušan. *7 Easier Polymetric Studies*. Canada: Les Éditions Doberman. 2018. Sheet Music.
- BOGDANOVIĆ, Dušan. *Polyrhythmic and Polymetric Studies for Guitar*. Ancona, Italia: Bèrben, 1990. Sheet music.
- MOREY, Michael J. *A Pedagogical and Analytical Study of Dusan Bogdanovic's Polyrhythmic and Polymetric Studies for Guitar*. Denton, 2011. 43 p. Dissertation (Doctor in Musical Arts). University of North Texas, Denton, 2011.
- LONDON, Justin. *Hearing in Time: Psychological Aspects of Musical Meter*. New York: Oxford University Press, 2004.

- RAMOS, Bernardo. *Análise de Textura Violonística*: teoria e aplicação. 2017. Dissertation (Master's degree in Music). Universidade Federal do Rio de Janeiro. Rio de Janeiro, 2017.
- UNCONSCIOUS IN BRAZIL. Dušan Bogdanović (composer/ interpreter). United States of America: GSP recordings, 1999.