

A style discussion of *Strange Quartet*, *Wits Trio Tribute*, and *Quin-tête-à-tête*: Three chamber works of Jeanne Zaidel-Rudolph composed between 2000-2019

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Summary

The chamber works of Jeanne Zaidel-Rudolph encapsulate a world of stylised nuances. Yet, little has been written about these works, especially those composed after the year 2000. They portray a period in the composer's compositional career during which she implemented an instinctive approach to composing. However, the composer's compositional fingerprints permeate these works. This present study aims to analyse and present this style-producing syntax to better understand the composer's chamber works and the compositional period during which these works were composed (post-2000). These style aspects are grouped and discussed according to the following topics: structure, melodic content, harmonic content, rhythm, and texture. These discussions provide valuable insights into Zaidel-Rudolph's style, which include melodic writing based on pitch-class sets extracted from non-diatonic scales; interval preference; recurring harmonic structures comprising verticalized tri-, tetra-, and pentachords; quartal and quintal structures; split-member harmonies and added note chords; rhythmic structures expanded and modified to serve as motivic cohesion; and the utilisation of a rich diversity of textures to function as structure-contributing elements. Range and density factors also contribute to structure formation. This study incorporates multiple illustrative music examples and graphics to elucidate the discussed topics and aims to supply analytical information to performers, composers and analysts.

Keywords

Jeanne Zaidel-Rudolph

Chamber music

Style discussion

Set theory

Strange Quartet

Wits Trio Tribute

Quin-tête-à-tête

György Sándor Ligeti

African music elements

Jewish music elements

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Chapter 1

Introduction

1.1 Personal motivation and background to the study

As an aspiring composer, I am always interested in the works of eminent South African composers. One of these composers is Jeanne Zaidel-Rudolph. Her compositions are intellectually stimulating, and she also achieves a striking balance between the intellectual and the gratifying soundscapes of her syntax to satisfy both the listener and the analyst.

Since my undergraduate years, I have enjoyed studying compositions by South African composers, Zaidel-Rudolph included. These sources of inspiration broadened my frame of reference and expanded my understanding of the vast amount of timbral, harmonic and textural possibilities available.

Through this in-depth study, I had the opportunity to examine selected compositions by Zaidel-Rudolph as well as improve my capabilities as a composer while providing other musicians with analytical information. This analytical material can open up further avenues of research or aid performers seeking a comprehensive understanding of the compositions to be performed. Additionally, these analyses can provide composers with valuable information regarding compositional devices that can be both informative and inspirational.

An additional reason for selecting this topic of study is because limited research has been done on Zaidel-Rudolph's chamber music, and therefore, I deemed it essential to devote this thesis to these works. The composer's compositional output from the year 2000 onward, including her chamber works, is especially fascinating not only because of the lack of analytical investigation but also because the composer began a renewed stance on her compositional process.

During an interview by Marie Rosalie Jorritsma (2001:22), Zaidel-Rudolph expressed her thoughts on her development as a composer and how the substantial influences during her compositional career shaped her work. Looking back on her creative output, she groups her compositions into four periods:

[The first period was] the student life, the [studies at] Pretoria University, ... Royal College ... and [with] Ligeti in Hamburg [I spent] a whole year with him and the way I composed there was very Eurocentric [I was] trying to be very avant-garde, very experimental Having said that, in 1972, which was probably still within that period, I ... wrote my first indigenous work, which was *Three Dimensions* for piano [This] had some ethnic elements [My]

second period really began when I started writing very much African-influenced music, and that was towards the end of the 1970s [This period] lasted basically right through the eighties, and more in the nineties was the third period, which was ... delving into religious mysticism, ... [with] some of it from Jewish sources Other sources ... [included] numerology ... [and] the nonmaterial world of mysticism and spiritual elements Having defined those three periods I'm very definitely entering ... a period where I'm not consciously using any styles or specific elements [What] I'm composing in now is a form of really using instinct [I am] distilling all the elements for myself where I far prefer that it comes out as an unconscious revelation of combination of technique, background, talent, life experiences, [and] music experiences [These] have gelled and distilled into a different kind of style which is not a conscious attempt to try and write in a style but [rather an attempt to] write ... with an inner kind of instinct. (Jorritsma 2001:22)

These four periods are discussed at length in Jorritsma's thesis (2001:22-41). This study focuses on selected chamber works from the fourth period of Zaidel-Rudolph's self-categorised arrangement of her compositions. This period started approximately around the year 2000, and I selected three chamber works from this period and examined the stylistic features that she used during her compositional endeavours at the time.

The compositions chosen for this study are *Strange Quartet* (2006) for string quartet, *Wits Trio Tribute* (2013) for piano, violin, and violoncello, and *Quin-tête-à-tête* (2019) for string quartet and percussion. *Strange Quartet* was premiered by the Sontonga String Quartet in October 2006. The composer describes it as a composition with a fresh approach and views it as a revolution in her compositional style (Zaidel-Rudolph n.d.). This statement parallels the basis of this study that examines this renewed composition approach of the composer's fourth period. *Wits Trio Tribute* was commissioned for the composer's Tribute Concert that took place at the University of the Witwatersrand in 2013. The Wits Trio premiered the composition. *Quin-tête-à-tête* which was commissioned in 2019 for the Composers National Collegium and premiered by the Odeion Quartet with Gerben Grooten on percussion.

The reasons for selecting these three compositions from this specific genre are threefold: 1) The chosen works from this specific genre are yet to be examined. 2) Of all the works from this period, chamber music was the only genre that presented a number of compositions with somewhat uniform instrumentation. In my view, the uniformity of instrumentation will allow for easier comparison of parameters across the three pieces since different instrumental palettes often alter how a composer applies the addressed parameters (for example, for

idiomatic purposes). 3) These three chamber works, all composed after the year 2000 and spanning more than a decade, will provide a clear indication of the usage and development of syntax throughout this compositional period.

In summary, these three compositions with relative homogeneous instrumentation and composed during the same period created an opportunity to function as a gauge where the composer's compositional vocabulary, which now functions on an instinctive level, could be examined through the lens of the parameters set out in the methodology section of this document. It was interesting to see how the composer's style from this fourth period retained some of the elements from previous periods irrespective of the instinctive approach.

By selecting only three compositions for this thesis, I was able to conduct a more comprehensive study with pertinent stylistic outcomes that can be applied to other works from the same period.

1.2 Research aim and statement

In alignment with the reasons above, this study aims to find and interpret the unifying stylistic elements in the context of the three selected chamber works: *Strange Quartet* (2006), *Wits Trio Tribute* (2013), and *Quin-tête-à-tête* (2019). Further objectives are to ascertain and delineate distinctive elements in Zaidel-Rudolph's style after 2000 on the basis of an in-depth study of these three chamber works with reference to other compositions from this period. It was essential to establish an appropriate research methodology to succinctly convey the analytical data collected through this study. The following statement fulfils this aim and outlines the theoretical premise of this study:

A stylistic analysis of the compositional techniques and musical idioms used by Jeanne Zaidel-Rudolph in three of her chamber works between the years 2000 and 2019.

Additional research question:

Which aspects are relevant to a discussion of Jeanne Zaidel-Rudolph's *Strange Quartet*, *Wits Trio Tribute*, and *Quin-tête-à-tête*?

1.3 Research methodology

According to Johann Mouton (2001:165), this study can be classified as an empirical study that includes all the facets of the addressed musical elements. Mouton categorises this as content analysis. Sources used in this study include both primary and secondary sources. The primary source are the actual scores of the three chamber works. These scores were examined to organise, classify, discuss, and interpret the musical elements found in these compositions. The secondary sources are studies that have been conducted on selected works by Zaidel-Rudolph and include stylistic discussions. Most of these sources discuss the works composed before the year 2000 but are still deemed valuable as sources of stylistic information regardless of the subsequent changes in Zaidel-Rudolph's compositional viewpoint (Jorritsma 2001:22). Additionally, semi-structured interviews with the composer were used as a form of data collection to enlighten the author further, providing compositional insight into the analysed works.

In light of the description above, the study of these primary and secondary sources signifies elements of a qualitative nature. According to Creswell & Creswell (2017:25), qualitative analysis involves the following:

... an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data.

Based on this explanation, we can conclude that the pure analysis of the score along with the interpretation thereof in light of additional input (secondary sources and the contribution of the composer) were qualitative. Within this sphere of research, I isolated various stylistic constituents that I examined and construed through the lens of the above-mentioned additional input.

The examination of the stylistic parameters of the three chamber compositions formed the main focus of this study. These stylistic frameworks include all structural elements (both macro and micro), melodic content, vertical aspects (including all forms of tonality, modality, and centricity, where applicable), rhythm (including meter), and texture. The analysed data were divided into three chapters. Each chapter is devoted to one chamber work and examines

the stylistic aspects as implemented in each movement. The analytical approaches towards each style aspect are outlined below.

Structure: The structural components are labelled and presented in a tabled format with subsequent discussions of these structural constituents. The labelled sections are the basis of discussions regarding other parameters.

Melodic content: This section examines stylistic features relating to melodic material. The discussion addresses key aspects such as motifs, intervallic preference, scale implementation, and melodic material development throughout the composition. Additionally, although this study does not lend itself to musical set theory analysis, labelling used in this field of analysis facilitates the concise communication of constituents that overlap with this branch of categorising musical objects (for further details see section 1.3.1).

Harmonic aspects: All forms of vertical simultaneities that are deemed stylistically significant as well as tonal/modal centres and pitch-centricities are examined. Construction of these vertical simultaneities, or *vertical dimensions* as coined by Stefan Kostka (2011:46), are studied in relation to synthetic scales and intervallic consistency. These discussions also examine the use of verticalized pitch-class sets.

Rhythm: Key rhythmic motifs, note grouping, and metre are highlighted and discussed in this section. A look at devices used to develop rhythmic motifs form part of the discussion.

Texture: Sections are studied to classify layers in terms of their foreground, middle ground, and background functions (where relevant). Traditional classifications such as monophonic, homophonic, and polyphonic textures are highlighted. This discussion also entails vertical expansion and contraction of density layers. In the texture discussion of *Strange Quartet*, spectrographic images of sections are used to better illustrate vertical expansion and contraction between sections, which in turn has structural implications.

1.3.1 Music set theory labelling

The compositions analysed for this study incorporate compositional devices that germinate and develop from cellular pitch collections. These procedures parallel the devices seen in set theory. As a result, analyses of the parameters from the addressed three compositions involved music set theory classification and labelling to discuss these phenomena

successfully. However, these compositions do not comprise set theory devices exclusively but serve as an additional tool to delineate specific passages in these chamber works.

Valuable terminology and definitions in this study were acquired from Allen Forte's book *The Structure of Atonal Music* (1973), and are provided below.

Pitch-class set: This is a collection of pitch-classes. A pitch-class refers to any pitch and all its octave displacements and enharmonic spellings. Pitches are ordered to the smallest possible arrangement of pitch-classes in ascending order to produce the 'normal order'. Intervallic integers are indicated with square brackets, and '0' represents the lowest pitch in the sequence, as shown in Example 1.

Example 1: Pitch-class set



Pitch-class set [0 3 5 6]

A pitch-class set can be transformed through inversion, retrograde, retrograde inversion, permutation, octave displacement, verticalization, transposition, and fragmentation.

Pitch-class sets comprising three pitches are referred to as triads; four pitches as tetrads; five pitches as pentads; and so forth.

1.3.2 Chord labelling

Chord structures requiring special labelling, as used in the three compositions analysed for this study, are chords with split member, added tone chords and chord structures comprising fixed intervals (for example, quartal and quintal chords). Kostka (2011) provides valuable descriptions and labelling of these chordal structures:

- Added note chords are triadic structures with added tones, usually the 2nd, 4th, or 6th. These added tones can be diatonic or chromatic and, as shown in Example 2, are indicated as 'add2' in brackets and added to the chord symbol.

Example 2: Added note chord labelling

The image shows two musical staves. The first staff is a treble clef and the second is a bass clef. The first chord, C(add2), consists of a C major triad (C, E, G) with an added D note. The second chord, F(add4), consists of an F major triad (F, A, C) with an added Bb note. Below each chord is its label: C(add2) and F(add4).

- Split-member chords are triads, or extended chords, with added tones spaced a semitone away from one of the triad/chord members, yielding an effect of a member being ‘split’. Any of the members within a triad or extended chord can be split, and Kostka (2011:47) indicates these split members with an exclamation mark attached to the member to which this applies (Example 3).

Example 3: Split-member chord labelling

The image shows two musical staves. The first staff is a treble clef and the second is a bass clef. The first chord, C(3!), consists of a C major triad (C, E, G) with a split third (E and Eb). The second chord, C(1! 3!), consists of a C major triad (C, E, G) with a split first (C and C#) and a split third (E and Eb). Below each chord is its label: C(3!) and C(1! 3!).

- Chords comprising fixed interval distances are labelled by Kostka (2011:50) to include the number of pitch-classes (excluding octave doublings), the fixed interval distance, and the pitch on which the chord is built. However, these fixed intervals do not have to be of the same type, for example, comprising perfect 4^{ths} only, but can consist of an array of natures, for example, perfect, augmented, and diminished 4^{ths}. This information is expressed as in Example 4.

Example 4: Fixed interval chord labelling

The image shows two musical staves. The first staff is a treble clef and the second is a bass clef. The first chord, 6x4 on C, consists of a C major triad (C, E, G) with a perfect 4th (F) and a major 6th (A). The second chord, 4x5 on C, consists of a C major triad (C, E, G) with a perfect 4th (F) and a perfect 5th (B). Below each chord is its label: 6x4 on C and 4x5 on C.

1.3.3 Scale formations

All scale types and transpositions are stated in full. The only abbreviations used are for the octatonic scales. This scale consists of two modes—one starting with a whole-tone-semitone configuration and the other initiates with a semitone-whole-tone. These two modes are labelled as (W-S) and (S-W). Example 5 illustrates this.

Example 5: Modes of the octatonic scale

Octatonic scale on C (W-S)

Octatonic scale on C (S-W)

1.3.4 Section labelling

Sections are labelled according to similarities or differences in content. Repeated letter representations indicate sections with similar content, for example, A, B, A, C, etc. In this representation, the A section has similar material. Subscripts will be used to indicate the return of related sections, with the first return marked with a '1', the second a '2', etc.

1.3.5 Enharmonic spelling

In an interview with Wessel van Wyk (2000:18), the composer stressed the use of enharmonic spelling to facilitate the ease of reading for the performers. This was considered to a large extent in this study, and Example 6 illustrates it.

Example 6: Enharmonic spelling in *Wits Trio Tribute*, second movement, bar 7

The image shows a musical score for bar 7. The top staff is a single melodic line in 6/4 time, starting with a half note G4, followed by a quarter note A4, and then two eighth-note triplets: G4-A4-B4 and G4-A4-B4. The piano accompaniment consists of three staves. A red box highlights a chord in the piano part, which is an F major triad (F4, A4, C5). The piano part also includes a dynamic marking 'f' and a chord symbol 'F3^4'. The piano part also includes a dynamic marking 'f' and a chord symbol 'F3^4'. The piano part also includes a dynamic marking 'f' and a chord symbol 'F3^4'.

1.4 Delimitations of the study

Even though this study is solely concerned with the compositions stated in section 1.1, comparisons are drawn to other compositions by the composer as well as works by composers deemed as influential during discussions regarding style influence, consistency and development; however, no comparative study, as a methodological approach, was conducted. The compositions were analysed and interpreted purely according to the set parameters in the methodology section.

Even though some reference has been made to the composer's instinctive approach during her fourth compositional period, no psychological or neurological study concerning instinct was conducted as it exceeds the scope of this thesis. To elucidate the aforementioned aspect's necessary elements, the author used secondary sources and interviews with the composer to collect the needed information.

1.5 Literature review

As previously stated, very few studies have been conducted on the compositional output of Zaidel-Rudolph from the year 2000 to the present. From approximately the year 2000 the

composer changed her stance on her compositional process. This change entails a more instinctive approach through which aspects such as technique, background, talent, life experiences, and music experiences manifest on a subconscious level (Jorritsma 2001:30-33). Studies prior to this pivotal year equipped me with knowledge of the composer's overall compositional style and syntactic preferences. These studies formed the basis for understanding the composer's work. Sources concerned with general analytical aspects, stylistic features, and compositional techniques were also consulted, especially those dedicated to the music of the 20th and 21st centuries.

According to David Beard and Kenneth Gloag (2005:12), analysis is in a broad sense the process of recording the unifying elements that constitute a composition. In the context of the overall structure of the work, these elements are examined in isolation and in relation to one another. To discover the purpose and meaning of these components, an examination of their functional interactions within these works as a whole need to be conducted. Furthermore, these elements are considered and interpreted in light of external influences. These external influences comprise aspects such as the period, political era, cultural milieu and geographical area in which a composition was written. These aspects are combined with the composer's interpretation and viewpoint of these factors (Beard & Gloag 2005:170). Collectively, the study of all these elements constitutes stylistic analysis and consists of technical features such as form, texture, harmony, melody, and rhythm (Pascall 2001:638). Ian Bent and Anthony Pople (2001:527) concur with this idea of style; however, they stipulate that style analysis should keep to factors of an empirical nature where the music itself is used as the starting point rather than any external factors, which are often subjective and undergo numerous paradigm shifts and provoke numerous debates. I agree with Beard and Gloag (2005) that taking external factors into account is important, and this is significant to this study as these factors contribute substantially to the culminating stance from which the composer produced her work during the addressed period. These external factors, such as time period (specifically referring to how the composer transitioned between stages of her compositional career and how developments in the general scope of the music of the time influenced these stages) and cultural milieu (in particular how Jewish mysticism and numerology affected the composer's style), are examples for the validity of this analytical approach. Literary sources for these concepts are discussed later in this section.

Several sources on style analysis and analytical approaches were consulted. In *A Guide to Musical Analysis* (1994), Nicholas Cook discusses the cornerstones of analytical procedures that have been used since the Renaissance. These analytical approaches include the traditional method, the Schenkerian method and its psychological implications to analysis, set theory analysis, serial analysis, and semiotic analysis. These analytical methods were consulted and used as deemed necessary. Newly devised approaches were also implemented. Other sources that were used are the works of Kostka (2011), Berry (1976), Dallin (1974), Lester (1989) and Persichetti (1978). These sources cover a large spectrum of theoretical features that were especially useful and most appropriate for this study. Leon Dallin's book (1974), for example, discusses the following aspects: melody (the contour and organisation of 20th century melodic material and applied modes), harmony (structures of superimposed 3^{rds}, added/omitted notes, polychords, and non-tertian structures), harmonic progression, rhythm and metre, tonality, cadences, thematic metamorphosis, and imitation. These aspects correlate with the treatment of material in Zaidel-Rudolph's chamber works. In Kostka's book (2011) *Materials and Techniques of Twentieth-Century Music*, he discusses vertical and horizontal dimensions formulated in the 20th century and how these features are vital in depicting style. The way in which Zaidel-Rudolph structures her horizontal (melodic/scale formations) and vertical (chord/interval constructions) material are striking and are principal features in the formulation of her compositional language. For example, in an interview with Johnson (2012:58), she explains her thoughts on the dichotomy of major and minor 3^{rds} and 6^{ths}, along with her use of octatonic scales. The study of these types of elements form the crux of this thesis.

However, it is essential to be cognisant that as human beings we are ever-changing as our thoughts and viewpoints are adapted, enriched, and changed. The fourth period of Zaidel-Rudolph's compositional process comprises, in contrast to her other stages, a holistic approach where both previously studied compositional techniques and personal spiritual journeys, which permeated her earlier work, form an integral part of a bigger whole (Jorritsma 2001:30-33). This is achieved through a more instinctive approach where all life experiences are subconsciously used as a part of the compositional process. It was interesting to discover how the core of the composer's stylistic fingerprints remained constant throughout the stages of her compositional career:

I usually look back to the last piece that I've composed, and it is almost like a kind of a life imperative for me to take a thread from something

from the last work that I can carry through and manipulate the material into something new and fresh. So, in a funny way, I borrow from myself. (Johnson 2012:57)

For an in-depth understanding of the compositional and stylistic aspects of the works composed prior to the year 2000, I consulted various sources dedicated to the specific style elements regarding the composer's former compositional stages. Two notable sources that were valuable for this purpose are *South African "Songprints": The Lives and Works of Jeanne Zaidel-Rudolph, Princess Constance Magogo, and Rosa Nepgen* (Jorritsma 2001) and *Jeanne Zaidel-Rudolph: Three Piano Works—Analysed and Edited* (Van Wyk 2000). As already established, in Jorritsma's study (2001:30-33), the four self-assigned periods of Zaidel-Rudolph's compositional career are laid out, and they formed an essential pillar for the research at hand. This broad overview of the compositions from each period forms a valuable compendium to understand the composer's compositional vocabulary. Two significant compositions discussed and interpreted in this study are *Three Dimensions* and *Fanfare Festival Overture*. These two works are also discussed in depth in '*n Analitiese Oorsig van Stefans Grové se Dansrapsodie—'n Afrika-Stad en Jeanne Zaidel-Rudolph se Fanfare Festival Overture met Spesifieke Verwysing na die Aanwending van Afrika-Etniese Elemente*' (Van Graan 2009) and Van Wyk's thesis (2000), respectively. The examination of African elements in *Fanfare Festival Overture* by Carin Van Graan (2009) is valuable as "much has been written about Jeanne Zaidel-Rudolph's use of African elements in her music, and this continues to be a much-studied topic" (Jorritsma 2001:25). This statement is discussed at length in Riette Ferreira's dissertation (1995) *Afrika-Elemente in die Musiek van Jeanne Zaidel-Rudolph* as well as in a paper written by Hans Roosenschoon (1992) titled *Keeping Our Ears to the Ground: Cross-Culturalism and the Composer in South Africa, 'Old' and 'New'*.

Apart from the African elements found in Zaidel-Rudolph's work, other distinctive features include Jewish Cabalistic teachings, which Zaidel-Rudolph described as essentially Jewish mysticism, and 'Gematria' (numerology) (Johnson 2012:57).

These elements are united in the three piano compositions *Sonata no. 1*, *Three Dimensions* and *Virtuoso 1*. As Van Wyk explains:

Zaidel-Rudolph's piano works span the length of her creative career and bear testimony to the significant development of her compositional vocabulary and language. These works highlight her journey from free

atonality and the formal structures and ordering of the neoclassical style (Sonata no.1), through experimentation with the spatial dimensions of sound and trans-cultural elements (Three Dimensions), to a multi-tonal vocabulary which integrates Jewish mysticism and cabbalistic religious elements (Virtuoso 1). (Van Wyk 2008:10)

Van Wyk (2000) focuses intensely on these three aforementioned piano compositions by studying the macro and microstructures in great detail with discussions on pitch-centred structures, intervallic preferences, rhythmic treatments and their permutations, and vertical simultaneities. This in-depth analysis was a significant source to understand the composer's compositional syntax prior to 2000.

The study of Zaidel-Rudolph's composition *Pendulum* by Leandra Dorothy Smith (2015:65) also discusses György Ligeti's (1923-2006) influence on Zaidel-Rudolph's compositional style. In an interview conducted by Alexander Frederick Johnson (2012:57), Zaidel-Rudolph states that Ligeti was one of the most notable influences on her compositional career and that she, similar to Ligeti, considers herself a linear and contrapuntal composer. Ligeti expresses his linear compositional procedure in an interview with Péter Várnai in 1978, quoted by Jonathan Bernard:

Technically speaking I have always approached musical texture through part-writing. Both *Atmosphères* and *Lontano* have a dense canonic structure. But you cannot actually hear the polyphony, the canon. You hear a kind of impenetrable texture, something like a very densely woven cobweb ... The polyphonic structure does not come through, you cannot hear it; it remains hidden in a microscopic, underwater world, to us inaudible. (Bernard 1987:209).

Zaidel-Rudolph also states that Ligeti referred to this linear process as "micro-polyphonic stratification" (Johnson 2012:57). This element is also discussed extensively in a paper by Zaidel-Rudolph and Martin Watt (2006:145):

It is not possible to discuss harmonic procedures in the traditional sense, as vertical states are most often created through the layerings of melodic fragments in the different instruments. The result is a kind of "pan-pentatonicism." As a former student of György Ligeti, one can clearly observe the influence of texture, timbre and tone-colour as form-generating elements in Zaidel-Rudolph's music. Certain sections and sub-sections do utilise parallel harmony, but the compositional devices depend more on the linear movement than on the vertical gestalt; Ligeti-type "micro-polyphonic strata" abound in this music.

Since Ligeti left such a profound imprint on Zaidel-Rudolph's style, it was deemed essential to study the writings on Ligeti's work. For such sources, I consulted the papers written by Bernard, specifically the articles on textural dimensions and structures, such as *Inaudible Structures, Audible Music: Ligeti's Problem, and His Solution* (1987) and *Voice Leading as a Spatial Function in the Music of Ligeti* (1994).

Chapter 2
Strange Quartet

2.1 Structure

Strange Quartet exemplifies a deviation in style wherein the composer takes a minimalistic approach to implement the parameters of this composition. As a result, large sections often constitute repetitive melodic, harmonic, and rhythmic elements with numerous transformations as patterns and figures are systematically overlaid at various junctures. The effect is an ever-evolving organic soundscape that yields changing vertical sonorities resulting from horizontal processes.

Some large sections are subdivided into smaller subsections that substitute phrases and periods. Although subsections are motivically related, the metamorphic implementation of horizontal and rhythmic elements produces new-sounding variations. Subsections are divided by textural and registral shifts and melodic and rhythmic changes. Furthermore, rests and chordal punctuations in the form of bowed *staccato* or *pizzicato* chords function as forms of cadencing.

Example 7 illustrates the textural and material changes between two large sections, and Example 8 shows the chordal punctuation between subsections.

Example 7: Textural and material change between two larger sections

Musical score for Example 7, measures 89-92. The score is for four instruments: Vln. 1, Vln. 2, Vla., and Vcl. The Vln. 2 part features dynamic markings of *sf*. The Vcl. part includes markings for *pizz.* and *arco*.

Musical score for Example 7, measures 93-96. A red box highlights measures 93-94. The tempo is marked *poco meno mosso* with a quarter note equal to 96. The Vln. 1 and 2 parts are silent. The Vla. part has markings for *saltando*, *simile*, and *dolce*. The Vcl. part has a *p* marking.

Example 8: Chordal punctuation between two subsections

Musical score for Example 8, measures 22-25. A red box highlights measure 24. The score shows four staves with complex rhythmic patterns and dynamic markings like *ppp* and *f*.

The macrostructures as well as subdivisions are summarised in Table 1.

Table 1: Structural representation of *Strange Quartet*

	Bar	Section	Comment
A	1-41 ¹	A	This section provides the main cellular material.
	1-8	a1	All these subsections are related since tetrachord [0 2 4 6], used in subsection a1, is expanded to pentachord [0 2 4 6 8] in a2-a3. Furthermore, both the tetrachord and pentachord are derived from the whole-tone scale on C.
	9-23 ²	a2	
	23 ⁵ -41 ¹	a3	
	41-47	Transition	
B	48-93	B	This section is entirely based on the chromatic trichord [0 1 2].
C	94-141 ¹	C	Interjections characterise the C section. Material is derived from the acoustic scale on D with interruptions of chord structures between melodic statements. An interjection of an a1 fragment occurs in bars 122-123.
D	141-243	D	All subsections of the D section are melodically related, and syncopated rhythms dominate the rhythmic parameter. A short fugato divides d3 and d4.
	141-161	d1	
	162-183	d2	
	183 ³ -190 ¹	Transition	
	190-213	d3	
	214-235 ^{3a}	Fugato	
	235 ^{3b} -244 ¹	d4	This subsection functions as a closing section and a transition, leading to A ₁ .
A	244 ² -262	A ₁	
	244 ² -247	a2	Partial statement of a2.
	248-251	d4	Interjection
	252-256 ¹	a1	
	256 ³ -262	a2	Partial statement of a2.
	263-264	Closing section	Closing section consisting of two scale-based bars.

It should be noted that these above-mentioned tri-, tetra- and pentachords are often related through transformations and expansions. Furthermore, pitch-class sets frequently form part of more than one scale formation, creating pivot points around which melodic and harmonic components extracted from central scales can revolve.

Regardless of the fresh approach in style, the composer's compositional stamp still saturates the music.

2.2 Melodic content

The melodic content reflects the minimalistic approach implemented in all other parameters of this work. However, at the core, the style aspects of the composer are still perceptible.

The A section starts with a melodic gesture that expands in content and range over 8 bars, similar to the opening measures of the first movement of *Wits Trio Tribute*. Although this expansion, or cellular growth, is not used to the same extent as in *Wits Trio Tribute*, it is still apparent. The violin ascending opening gesture comprises tetrachord [0 2 4 6] on D as extracted from the whole-tone scale on C. Additionally, this gesture resembles the first four notes of a Lydian mode because of the G \sharp , forming the raised 4th degree. The cello mirrors the violin to create an inverted statement that transposes a major 2nd downwards. These two gestures in the violin and cello, each encompassing a tritone, formulate an entire whole-tone scale on C when merged.

In Example 9, the two tetrachord statements in the violin and cello parts are numbered according to the scale-degree succession they present.

Example 9: Whole-tone-based tetrachords in bar 1

The image displays musical notation for Example 9, illustrating whole-tone-based tetrachords in bar 1. On the left, a piano score shows the violin and cello parts. The violin part features a tetrachord with notes D, E, F \sharp , and G \sharp , numbered 2, 4, 3, 5, and labeled as a tritone. The cello part features an inverted tetrachord with notes G, F, E, and D, numbered 7, 5, 6, 4, and also labeled as a tritone. On the right, a whole-tone scale on C is shown, with notes C, D, E, F \sharp , G \sharp , A, and B, numbered 1 through 7.

Example 10 is presented to further elucidate the tetrachord in the violin and its transposed inversion in the cello.

Example 10: Violin tetrachord and its transposed inversion in the cello part in bar 1

The image shows two musical staves. The top staff is a treble clef (Violin-part) with a tetrachord of four notes: D, E, F#, and G. Above the staff, a bracket spans these notes with the label "Tetrachord [0 2 4 6]". Below the staff, another bracket spans the same notes with the label "Violin-part". The bottom staff is a bass clef (Cello-part) with a tetrachord of four notes: C, B, Bb, and Ab. Above the staff, a bracket spans these notes with the label "Tetrachord [0 2 4 6] inverted & transposed". Below the staff, another bracket spans the same notes with the label "Cello-part".

These two tetrachords are arranged to form broken major 3rd patterns, an essential intervallic structure in the compositions discussed for this study. Additionally, the Lydian structure of both the violin and cello tetrachords is evident in Example 10, illustrating another pertinent stylistic sonority in the composer's work. Also, the minimalism aspect in these bars, and also the majority of the composition, is illustrated by the manipulation of a few pitch-classes at a time, for example, a four- or five-note group of pitches, similar to those seen in Example 10, which undergoes numerous transformations and nearly all possible permutations.

The concept of contrary motion between the tetrachord and its inversion is expanded in the subsequent bars with further pitch additions: First from the whole-tone scale on C and then through loosely applied chromaticism. However, the starting point of these expanding gestures remains the same: D (violin I) and C (cello).

In Example 11, it is evident how the material between the violin and cello expands in content while moving in contrary motion. The red brackets indicate expansions using the whole-tone scale, and the green brackets indicate chromatic expansions.

Example 11: Gesture expansions in bars 1-7

The musical score for Example 11 is divided into two systems. The first system (bars 1-4) features four staves: Violin 1, Violin 2, Viola, and Cello. Each staff begins with a tetrachord [0 2 4 6] in both hands, marked with *fff*. In bar 2, the strings play *pp sul pont.*. In bar 4, the strings play *fff* with 'ord.' markings. The second system (bars 5-7) shows three expansions: Expansion 1 (bars 5-7), Expansion 2 (bars 5-7), and Expansion 3 (bars 5-7). Blue brackets indicate the full tetrachord, and red brackets indicate fragments. Dynamics range from *fff* to *pp*. Performance instructions include 'ord.', 'sul pont.', 'pizz.', and 'arco'.

The chromatic expansions result from directional voice leading as well as from free chromatic transpositions of fragments of the tetrachord and are not scale-specific. However, hints of what resembles Messiaen's 3rd mode of limited transposition can be observed in the violin part of bar 6⁴-7.

Example 12 illustrates how two parts of the tetrachord are used as a means of expansion. Green brackets indicate the use of the full tetrachord, and red brackets indicate the implementation of fragments thereof. These two components are chromatically transposed to formulate the content. The cello part implements the same strategy and mirrors the violin part in contour, but it is not a strict inversion throughout. A comparison between the violin part and Messiaen's 3rd mode of limited transposition can also be seen in Example 12.

Example 12: Expansion of tetrachord [0 2 4 6] in bars 6-7, violin part only

Tetrachord [0 2 4 6]

Messiaen's 3rd mode of limited transposition

Bars 9-22 use an expanded tetrachord with an additional C to construct the horizontal and vertical elements (bars 9-11, using this expanded tetrachord, can be seen in example 13). This expansion produces pentachord [0 2 4 6 8] on C encompassed by an interval of an augmented 5th, and it comprises a near-complete whole-tone scale. The pentachord forms the basis of these bars, and the instruments play fixed intervals extracted from this pitch collection. These intervallic structures exclusively revolve around minor 6^{ths}, falling semitones, and tritones. Furthermore, these bars illustrate the construction of a whole-tone based sound block.

In Example 13, the pentachord is illustrated along with the extracted pitches used in each instrument. As can be seen, rhythmic components dominate this area – a prominent style aspect in the composer's work.

Example 13: Pentachord [0 2 4 6 8] used as source material in bars 9-11

Pentachord [0 2 4 6 8]

The image shows a musical score for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). Above the staves, a pentachord [0 2 4 6 8] is defined with fingerings 1, 2, 3, 4, 5. The score for bars 9-11 features complex rhythmic patterns with triplets and sixteenth notes. Red boxes highlight specific intervals: '1,3' in Vln. 1, '2,4' in Vln. 2, '2,5' in Vla., and '2,4' in Vlc. The score includes markings for 'arco' and 'subito p'.

In bars 15-18^{1b} (bar 15 provided in Example 14), the alternating intervals of a 6th and tritone are arranged to form a dialogue between instruments. Further rhythmic displacements and alterations enrich the passage.

Example 14: Rhythmic displacement resulting in a dialogue between instruments in bar 15

The image shows a musical score for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.) for bar 15. The score features rhythmic displacement and dialogue between instruments. Red boxes highlight specific intervals: '1,3' in Vln. 1, '2,4' in Vln. 2, '2,5' in Vla., and '2,4' in Vlc. The score includes markings for 'arco' and 'subito p'.

From bars 18^{1c}-22, the individual intervals used in instrumental parts of bars 9-18^{1b} are verticalized to form successive relentless chord repetitions.

Bars 23-41¹ continue implementing the whole-tone pentachord; however, intervallic changes in instruments provide sonic variation compared to previous bars. The second violin uses the interval of a major 2nd (D-E), while the viola plays minor 6^{ths} (F[#]-D) and its inversion major 3^{rds} (D-F[#]). Additional C's, E's, and G[#]'s are also added in the viola part and are presented as accented crotchet notes, highlighting permutations of the pentachord's pitches as an additional melodic constituent. The first and second violins and the cello play fixed pitch and rhythmic patterns, although some slight rhythmic fluctuations occur in the cello part.

In Example 15, the members of the pentachord used in each instrument are indicated, and accented crotchet notes in the viola part, constituting the pentachord pitch permutations, are circled in red.

Example 15: Implementation of the pentachord [0 2 4 6 8] on C in bars 29-32

Pentachord [0 2 4 6 8]

1 2 3 4 5

Vln. 1

Vln. 2

Vla.

Vlc.

subito *p*

subito *p*

subito *p*

subito *p*

arco pizz.

arco pizz.

arco pizz.

arco pizz.

subito *p*

While section A primarily used material derived from the whole-tone scale on C, the B section, starting in bar 48, changes source material. A new chromatic trichord [0 1 2] dominates the horizontal pitch material and remains untransposed throughout the entire section. This trichord is mainly used in the second violin and viola and undergoes a slight variation as the section ventures through alternating 9/8 and 7/8 meters. The chromatic trichord effectively contrasts the whole-tone-driven sound-world of the previous section.

Example 16 illustrates the trichord's two different implementations as used in the 9/8 and 7/8 meters and are marked in red. The ordered succession of pitches from the trichord along with their permutations are numbered. These indicated patterns remain constant throughout the entire section, except when the viola changes to playing harmonic material. The pertinent elements producing variation in this section are texture and vertical chord expansions. These aspects will be discussed in sections 2.2 and 2.4.

Example 16: The implementation of trichord [0 1 2] in bars 61-64

Trichord [0 1 2]

1 2 3

Vln. 1

Vln. 2

Vla.

Vlc.

In the relatively short C section that follows (bars 94-141¹), a new scale, the acoustic scale on D, is used for melodic construction. Pentachord [0 2 4 6 8] on C, relating to the A section, also forms part of this scale.

Scale degrees of the acoustic scale and their ordered implementation are indicated in Example 17. The central melodic pitch, D, and the raised 4th degree within the scale (G[#]) result in a striking Lydian sonority. The Lydian quality is also evident in the use of melodic material in combination with vertical constructs in subsequent bars.

Example 17: Usage of the acoustic scale on D in bars 94-97, cello part only

Acoustic scale on D

The image shows two musical staves. The top staff is a treble clef staff showing the 'Acoustic scale on D' with notes D, E, F#, G, A, B, C, D. Fingering numbers 1 through 8 are written above the notes. The bottom staff is a bass clef staff starting at bar 94. It shows a sequence of notes with fingering numbers above them: 2 1 2 1 7, 1 2 1 5 4 2 1, 1 3 4 5 4 6 6, 5 8 7 5 3 4 4 1. The time signature changes from 7/8 to 9/8 and back to 7/8.

The material in bars 94-97 forms the main constituent of bars 98-121, and D remains the central pitch. The D-pedal in the cello part of bars 117-121 also reinforces this centrality. This procedure of focusing on a particular tonal or modal centre before continuing to the next central point is a marked characteristic of the composer's current style of writing.

A two-bar interjection of A section material in bars 122-123 recalls tetrachord [0 2 4 6] on D, instigating further subsequent use of this pitch collection. This is evident in bars 124-134 as material revolves around the expansion of this tetrachord, namely pentachord [0 2 4 6 8] on C. As already mentioned, tetrachord [0 2 4 6] and pentachord [0 2 4 6 8] relate to both the whole-tone scale on C and the acoustic scale on D; therefore, the melodic components of bars 124-134 are related to both aforementioned scales.

Example 18 illustrates this interruption of material from the A section, and by extension, tetrachord [0 2 4 6] on C (marked in red). The green rectangle marks the melodic material based on pentachord [0 2 4 6 8] on C. A textural change from vertical to horizontal also occurs between bars 123-124.

Example 18: Tetrachord [0 2 4 6] interjection in bars 122-123, and pentachord [0 2 4 6] usage in bars 124-126

122 **Con fuoco** *fff* *pp* *mf* *pp* *mf* **poco meno mosso** *non leg.* $\text{♩} = 96$

Vln. 1 *fff* *pp* *mf* *pp* *mf* *non leg.*

Vln. 2 *fff* *pp* *mf* *pp* *mf* *mf*

Vla. *fff* *pp*

Vcl. *fff* *pp*

Bars 124-134 are related to the melodic material of bars 94-97 but are confined to the pentachord's pitches. The similarity lies in the opening of each melodic statement, and the material of bar 94 emerges as a binding motif used to initiate the melodic material starting bar 124. This motif is used in the D section as well.

The similarities are shown in Example 19. The prominent use of the ascending F#-G# melodic interval (marked in green) yields a Lydian quality. The motif used in both melodic fragments is marked in red and referred to as motif A henceforth.

Example 19: Comparison of the melodic material in bars 94-97 and 124-126

Bars 94-97

Bars 124-126

Three sudden interjections are used in bars 127-128, 132-133, and 135-140. These interjections divide the iterations of the melodic material established in bars 124-126. However, these interruptions are not based on the opening material in bars 122-123; they are related to the C section's material extracted from the acoustic scale on D.

Example 20: Interjection in bars 127-129¹

The musical score for Example 20 consists of four staves: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.).

- Vln. 1:** Starts at bar 127 with a *mp* dynamic. It features two *sul pont.* passages. The first passage has fingerings 3, 4, 6. The second passage has fingerings 3, 4, 6, 5.
- Vln. 2:** Also starts at bar 127 with a *mp* dynamic. It features two *sul pont.* passages, each with fingerings 1, 2.
- Vla.:** Features a *ff* dynamic. It has fingerings 2, 1 in the first measure and 5, 5 in the second measure.
- Vlc.:** Features a *ff* dynamic. It has fingerings 2, 1 in the first measure and 5, 5 in the second measure.

To the right of the main score is an inset titled "Acoustic scale on D". It shows an 8-note scale on a treble clef staff: D4, E4, F#4, G4, A4, B4, C5, D5. The notes are numbered 1 through 8 above the staff.

The D section contains four subsections that all have interrelated material. Differentiating factors that are contrasting enough to denote subsections are rhythmic and textural elements.

Example 21 shows the similarities between the melodic content of d_1 - d_4 . Material related to motif A is marked in red, and the green, blue, and purple brackets indicate additional interconnections. Some similarities are pitch specific (green and blue), whereas the purple brackets indicate pitch and contour similarities. The indicated interval in bars 193^{3b}-194 is augmented in bars 238-239, which create similarity when combined with the rhythmic elements.

Example 21: Similarities between melodic constructs of the subsections within the D section

The image displays musical notation for Example 21. At the top, 'Motif A' is shown as a five-note melodic fragment in treble clef. Below it, four subsections are presented:

- Bars 141-144:** A single staff with a red box around the first four notes and a green box around the last four notes.
- Bars 162-165:** A staff with a red box around the first four notes, a blue box around the last four notes, and a green box around the last two notes.
- Bars 192-194:** A staff with a red box around the first four notes and a blue box around the last four notes. A dashed purple box encompasses the entire staff.
- Bars 238-239:** A staff with a dashed purple box around the last four notes.

Example 21 elucidates the similarities between subsections d_1 , d_2 , d_3 , and d_4 , respectively.

The opening measures of d_1 (bars 141-144) present first and second violins and viola in rhythmic unison while playing melodic material in parallel motion, forming a succession of second inversion major triads. Each of the individual instrumental strands in bars 141-144 forms incomplete octatonic scales, which is the main linear component of this section.

In Example 22, the individual melodic strands' pitches in the first and second violins and the viola are numbered according to the octatonic scale degrees on which they are based. The transposition and type of octatonic scale are also indicated.

Example 22: Octatonic scale formations in bars 141-144

141

3 2 3 2 8 6 7 5

9/1 8 9/1 8 6 4 5 3

5 4 5 4 2 8 1 7

Octatonic on C# (S-W)
1 2 3 4 5 6 7 8

Octatonic on C (S-W)
1 2 3 4 5 6 7 8

Octatonic on C# (S-W)
1 2 3 4 5 6 7 8

The melodic statement shown in Example 22 is also a foreshadowing of the material starting in bars 162 and 192.

Following bar 144 is a passage in the cello consisting of broken 3^{rds}, similar to the A section's opening statement. However, unlike this opening statement, which comprised whole-tone gestures, the broken 3^{rds} in bars 145-146 are extracted from the octatonic scale on C (S-W).

Example 23: Octatonic scale in the cello part, bars 145-146

145

Vlc.

Bars 147-161 consist of alternating statements of material seen in bars 141-144 and 145-146. The iterations of bars 141-144 in bars 147-148, 152-155¹, and 157^{1c}-161 are transposed a major 6th downwards. These repetitions are also shortened or lengthened through note deletions or additions. Example 24 illustrates this process where note deletion in statements two and three is evident, while statement four presents material addition. The dotted lines show the ending notes of iterations compared to the material used in bars 141-144.

Example 24: Note additions and deletions in melodic statements of subsection d₁

The image displays four staves of musical notation in treble clef, 4/4 time. Each staff is labeled with a bar range: 'Bars 141-144', 'Bars 147-148', 'Bars 152-155', and 'Bars 157-161'. A red dashed line traces a path through the notes across the staves, starting from a note in the first staff, moving to the second, then the third, and finally the fourth, illustrating the melodic connections between these sections.

The statements shown in Example 24 are connected by ascending octatonic scale passages in broken 3^{rds} situated in the cello part, similar to Example 23. All passages contain the same pitches with rhythmic alterations used for variation.

Subsection d₂, as seen in Example 22, is melodically related to d₁. However, the pitch material of d₁ is primarily octatonic-related, whereas in d₂ the pitches initially conform to the diatonic pentatonic scales on G and E^b. Further on in the section, the melodic content diverges to material related to the octatonic scale on C (S-W).

Bars 166-167 and 183³-190¹ each consists of a scalar passage in the cello, which, similar to d₁, connects the melodic statements. Bars 183³-190¹ also function as a link connecting d₂ and d₃. Unlike d₁, these passages in the cello are not derived from the octatonic scale but are instead a result of successive trichord transpositions. This trichord, comprising three whole tones, can be labelled [0 2 4] and is transposed up a series of minor 3^{rds}. Added together, the series of transpositions create a chromatic scale.

In Example 25, the trichord, spanning a major 3rd, along with its minor 3rd transpositions are illustrated. This minor-major ambivalence characterises the piece and much of Zaidel-Rudolph's music.

Example 25: Scalar passage in bars 166-167



The scalar cello passage of bars 166-167 leads to two iterations based on fragments of the material used in bars 162-165. These two repetitions are expanded by combining the melodic material derived from diatonic pentatonic scales with material partially related to octatonic scales. With the first and second violins and viola playing in parallel 6^{ths}, the following specific scales arise (as illustrated in Example 26):

- First violin: Diatonic pentatonic scale on E \flat and octatonic scale on C (S-W) (Red)
- Second violin: Diatonic pentatonic scale on G and octatonic scale on C \sharp (S-W) (Green)
- Viola: Diatonic pentatonic scale on B \flat and octatonic scale on C \sharp (S-W) (Blue)

The parallel motion between these instruments creates a succession of parallel major triads. A more detailed discussion of the vertical procedures in these bars continues in section 2.3.

Example 26: Melodic constructions in bars 168-175, first violin part only

The image displays two systems of musical notation for Example 26. The first system covers bars 168-175 and features three melodic lines: Vln. 1 (red), Vln. 2 (green), and Vla. (blue). Each line is annotated with a pentatonic scale: Vln. 1 on Eb, Vln. 2 on G, and Vla. on Bb. The Vlc. part is present but mostly rests. The second system covers bars 172-183 and features three melodic lines: Vln. 1 (red), Vln. 2 (green), and Vla. (blue). Each line is annotated with a partial octatonic scale on C (S-W), C# (S-W), and C# (S-W) respectively. The Vlc. part is present, starting with a pizzicato section and ending with an arco section.

An exact repetition of the material in bars 168-175 follows in bars 176-183.

Subsection d₃, resembling motif A to a large extent, comprises various exact and transposed iterations of the opening statement seen in Example 27. These transpositions are all distance-specific and are major 3^{rds}.

Also evident in Example 27 is the parallel motion between the first and second violins and viola. The parallel motion constitutes a succession of parallel moving second inversion major triads. Due to this motion, various forms of chromaticism arise above the C-pedal in the cello. The starting C major triad and C-pedal establishes a C-centricity. These procedures are implemented throughout most of this section.

Example 27: Melodic material in bars 192-193

The image shows a musical score for Example 27, starting at bar 190. The tempo is marked 'poco meno mosso' with a quarter note equal to 96. The score includes staves for Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). A red box highlights 'Motif A' in the upper right. Another red box highlights the melodic material in bars 192-193 for Vln. 1, Vln. 2, and Vla., with performance markings 'legato' and 'mf'.

The significant link between the melodic material of subsections d_2 and d_3 is their relationship with motif A (marked in red in Example 28) combined with the ascending intervallic motion of a 3rd (marked in green) following the statement of material related to motif A. Example 28 illustrates these aspects. Rhythmic alteration is the main device implemented for variation.

Example 28: Melodic similarity between subsections d_2 and d_3

The image shows a musical score for Example 28. At the top, 'Motif A' is shown in a red box. Below, two melodic lines are shown. The first line is labeled 'Bars 162-164¹ etc.' and the second line is labeled 'Bars 192-193'. Both lines have a red box around the first part of the motif and a green box around a 3rd interval.

Bars 195-198 use a near-exact repeat of bars 192-193, except for the introduction of G^\sharp as the last note of the melodic statement. This forms a pivot for the first transposition occurring in bars 199-208. Within these bars, full and partial statements of the material found in bars 192-193 are used, only now beginning on G^\sharp . The once C-pedal now alternates between C and E. In bars 209-213, the tail-end of the opening statement of d_3 is transposed upwards in major

3rd successions, formulating near-complete whole-tone scales on C and C[#] between the first and second violins and the viola.

In Example 29, the black brackets indicate the transposed fragments of the opening melodic statement of *d*₃. The fully formulated whole-tone scale on C in the first violin is marked in red, and the partial whole-tone scales on C[#] are marked in green.

Example 29: Transposition procedures and scale formations in bars 209-213

The image displays two systems of a musical score for Example 29. The first system, covering bars 209-213, features four staves: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vcl.). In the first violin part, a red bracket highlights a 'Whole-tone scale on C' starting in bar 210. In the second violin and viola parts, green brackets highlight 'Partial whole-tone scale on C#' in bars 210-211. The cello part has a *mf* dynamic marking in bar 210. The second system, covering bars 214-216, shows the continuation of the parts. The second violin, viola, and cello parts all have 'accel.' markings in bar 215. The first violin part has a red bracket in bar 214. The cello part has an 'accel.' marking in bar 216.

This leads to the *fugato* section in bars 214-235³, which forms an interjection in the overall D section. The material forming the basis of the *fugato* is seen in bars 214-216² and is followed by a near-exact repetition in bars 216³-220¹, resembling a consequent and antecedent phrase pairing. The ending pitches of the two phrases, F[#] and C, formulate the proverbial question-answer structures. The pitches also bear a significant resemblance to the acoustic scale on C.

For the most part, only rhythmic alterations are implemented between these two repeated phrases.

In Example 30, the two red brackets indicate the material formulating a period configuration. The resemblance of this passage to the acoustic scale is evident through the marked scale degrees, and since this scale also contains a raised 4th degree, a Lydian quality is significantly present throughout the section.

Example 30: Opening material of the *fugato* passage in bars 214-220¹ and its relationship to the acoustic scale on C

The image displays musical notation for Example 30. At the top, the 'Acoustic scale on C' is shown in a treble clef, with scale degrees 1 through 8 marked above the notes: C, D, E, F# (marked with a sharp), G, A, Bb (marked with a flat), and C. Below this, two staves in bass clef show the opening material of the fugato passage. The first staff, labeled '214', contains a sequence of notes with scale degrees 1, 2, 3, 4, 5, 4, 5, 8, 7, 5, 4, 1, 2, 4, and 1 marked above. A red bracket spans from the first '1' to the second '4'. The second staff, labeled '217', contains notes with scale degrees 2, 3, 4, 5, 4, 8, 7, 5, 4, 5, 3, 4, 2, and 1 marked above. A red bracket spans from the first '2' to the final '1'.

In bars 214-220¹, the viola and cello enunciate the material seen in Example 30 in octaves without any contrapuntal entries. In bars 121-228, however, all the string instruments partake in imitative statements of the *fugato*'s opening phrase, with the viola and cello playing in unison. The violin (marked in green in Example 31) plays the second phrase with slight alterations. This procedure is illustrated in Example 31.

Example 31: Imitative contrapuntal procedures in bars 220-224¹

The image shows a musical score for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). The score is for bars 220-224. A green box highlights a melodic phrase in Vln. 1 starting in bar 221. A red box highlights a triplet pattern in Vln. 2, Vla., and Vlc. starting in bar 221. Dashed blue lines indicate the imitation of the Vln. 1 phrase by Vln. 2 and Vla. in bar 221.

All contrapuntal entries in this section are untransposed and are imitated at the unison or octave.

Section d_4 functions as a short closing section for the more extensive D section. The cello plays an *ostinato* triplet pattern based on tetrachord [0 2 4 6] on E. Combined with the *ostinato*, the viola punctuates selected pitches from the tetrachord in the form of *pizzicato* triplet patterns, using E, G \sharp , and A \sharp . The first and second violins play a short melodic statement related to the material from the previous subsections (as illustrated in Example 22) and are extracted from the same tetrachord used for the cello *ostinato*, transposed to C. These two combined tetrachords form a whole-tone scale on C. Additionally, tetrachord [0 2 4 6], as already established, has a distinct Lydian quality due to the raised 4th pitch in the sequence.

Example 32 illustrates the use of these two transposed tetrachords.

Example 32: Tetrachord [0 2 4 6] on C and E as used in bars 239-240

Vln. 1

Vln. 2

Vla.

Vlc.

Tetrachord [0 2 4 6] on C

Tetrachord [0 2 4 6] on E

The A section repeats in bars 244-262. Although it is shortened and some bars are reordered, the content remains the same.

The movement ends with a two-bar closing passage based on the acoustic scale on C with the two violins moving in contrary motion to the viola and cello for the most part. This is illustrated in Example 33.

Example 33: Implementation of the acoustic scale on C in bars 263-264

Vln. 1

Vln. 2

Vla.

Vlc.

arco

pizz.

arco

pizz.

arco

pizz.

arco

pizz.

2.3 Harmonic content

As seen in the previous section on melodic content, the A section comprises mainly material constructed from tetrachord [0 2 4 6] and pentachord [0 2 4 6 8], which are both related to the whole-tone scale on C. Harmonically, it is the same.

Verticalized chord structures comprising pentachord [0 2 4 6 8] are used to divide tetrachord-derived melodic statements in the eight opening bars. These chords consist of mixed intervals. In Example 34, this verticalization is apparent. Furthermore, due to the voicing of the chord on D, it takes on a D-Lydian quality as a result of the G# (or raised 4th degree) in the pentachord.

Example 34: Verticalization of pentachord [0 2 4 6 8] in bar 4

The chords in bars 5 and 7 are similar in structure; however, the chord in bar 5 is unrelated to the whole-tone scale, tetrachord and pentachord. It can best be described as an F minor 11th chord. The final simultaneity in bar 7 is the verticalization of the tetrachord [0 2 4 6] on D. What is dominant here is the distinct linear pattern of rising major 3^{rds} followed by falling major 2^{nds} – forming a rising ‘stepladder’.

Successive expansions of these three chord structures’ ranges in bars 4, 5, and 7 reflect the procedures of the passages in between. These procedures can be described as goal-directed voice leading with the cello mirroring the violin, resulting in outwardly expanding gestures. This process occurs around central pitches C and D. This results in simultaneities during these expansions.

The D-centrality of the eight opening bars is produced through the following three fundamental elements, illustrated in Example 35:

- The opening statement of the tetrachord and all subsequently expanded statements commence on D;
- Persistent repetitions of D in the second violin are used together with C in the viola part; and
- Chord structures dividing iterations of tetrachord statements and expansions thereof are mainly constructed on D. This emphasises the composer's focus on various tonal (or modal) centres – which then shift.

Example 35: D-centrality in bars 1-7

The image displays a musical score for four instruments: Violin 1, Violin 2, Viola, and Cello. The score is divided into two systems, each containing four staves. The first system covers bars 1-4, and the second system covers bars 5-7. The key signature is one sharp (F#) and the time signature is 3/4. The score includes various dynamic markings such as *fff* and *pp*, and articulation markings like *sul pont.*, *ord.*, and *pizz.*. Red boxes highlight specific passages in Violin 2 and Cello, and red circles highlight specific notes in Violin 1 and Cello. The score is annotated with phrasing slurs and articulation marks.

Bars 9-23² (subsection a₂) are based on pentachord [0 2 4 6 8] on C; however, as a simultaneity, it is structured on D to maintain the D-centricity established in the opening bars. This is evident in Example 36.

Example 36: The use of pentachord [0 2 4 6 8] on C in bar 12

The image shows a musical score for four instruments: Vln. 1, Vln. 2, Vla., and Vlc. Each instrument part consists of a sequence of notes with triplet markings. Red brackets on the right side of each staff indicate the notes that form a pentachord. This pentachord is then shown in a separate chord diagram on the right, which consists of the notes C, D, E, F, and G, arranged in a specific voicing across the four staves.

Since the entire a_2 consists of pentachord [0 2 4 6 8] on C exclusively, various explorations of rhythmic devices are implemented to vary the material, which conforms to the minimalist approach. Yet the material remains revitalised.

In subsection a_3 , the composer uses the same pentachord as before; however, different rhythmic devices and added melodic layers in the viola create textural and melodic interest. The pitch centrality of bars 1-41¹ remains D for the reasons presented above and because of the use of the verticalized pentachord structures arranged over D throughout bars 9-41¹. Even with the renewed rhythmic and melodic elements introduced in bars 23⁵-41¹, the music does not stray from this aspect.

In Example 37, the evident use of D around which the linear and vertical material revolves justifies it as central.

Example 37: D pitch centrality in bars 33-34

The transition passage in bars 41-47 sees a shift in chord construction where quintal structures predominate. The cello plays a series of quintal intervals, both melodically and harmonically. Above the cello part, the two violins and viola play repeated inverted quintal chords, which form the upper extension of the quintal series used by the cello. If these two parts are superimposed to form a block chord, the extensive quintal structure becomes evident. Example 38 provides a visual illustration.

Example 38: Quintal structures used in bars 41-43

Bars 45-47 of the transition continue with quintal constructions; however, two distinct plains are created between the cello, and the first and second violin and viola parts. These two plains can be regarded jointly to form semi-quintal structures. Alternatively, when viewed as separate entities, a perfect cadence formation over a D-A bass drone is formulated. Regardless of the analytical viewpoint, the accumulative sonority is one of suspended harmony without finite resolution. The two interpretative scenarios are sketched out in Example 39.

Example 39: Quintal structures used in bars 45-47

Example 39: Quintal structures used in bars 45-47

The score shows four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature has one sharp (F#) and the time signature is 3/8. The cello part (Vlc.) is highlighted with red boxes, indicating the focus of the analysis.

Below the score, two alternative analyses are provided:

OR:

Emaj/D-A Amaj⁶/D-A Amaj⁹/D-A

4x5 on D + G# 3x5 on D + C# 4x5 on D + C#

The B section is permeated with the quintal construct D-A-E. Its use in various inversions and registers can be described as an expanding force as its range and overall texture increases towards the climax at the end of the section. The expansion occurs through octave displacements and the use of increased double stops in the string instruments.

At the beginning of the section, the texture is relatively sparse, using only trichord [0 1 2] on C in the second violin, occasional perfect 5ths in the cello, and scattered *pizzicato* pitches on A in the first violin. The perfect 5ths on D in the cello obscure the tonal/modal intent of the section initially. This changes in bar 58 when the cello diverts to perfect 4ths on E. From this point onwards, the first violin, viola, and cello play dispersed alternating rhythmic patterns involving the intervals of a perfect 5th and 4th on A (including their inversions). Due to the nature of the trichord in the second violin, a sense of bi-modality is created when the C[#]'s and C[♭]'s are combined with the perfect 5ths on A. This creates a duality between A major and A minor, which is the section's overall ambivalence and centrality.

The climax is reached towards the end of the section where its texture and range expand to the apex with double stops in both the first violin and viola and with large intervallic leaps played by the cello. During this climax, the first violin, viola, and cello still exclusively implement the pitches E, A, and D.

In Example 40, an excerpt from the end of the B section encapsulates the aspects addressed above. The following is worth noting:

- Alternating intervals of perfect 4ths and 5ths in the first violin and viola exclusively using pitches A, D, and E. This aligns with the quintal-structure usage throughout the section.
- Large intervallic leaps in the cello part only using pitches A, D, and E.
- Trichord [0 1 2] on C in the second violin, containing both C[#] and C[♭], which creates a sense of bi-modality, especially when combined with the interval of a perfect 5th, A–E.

Example 40: Harmonic and bi-tonal content of bars 89-92

The musical score for Example 40 consists of four staves: Vln. 1, Vln. 2, Vla., and Vlc. The music is in 7/8 time and spans four measures. Vln. 1 plays chords. Vln. 2 plays a melodic line with accents and *sf* markings. Vla. plays chords. Vlc. plays a melodic line with *pizz.* and *arco* markings.

Bars 94-140 present the C section, with both melodic and harmonic components extracted from the acoustic scale on D. The cello plays the melodic material, while rhythmic repetitions of pitches A and D occur in the viola part. The central pitch, D, is enhanced by the melody's revolving contour around this central point. Rhythmic iterations of D as accompaniment and D-pedal notes strengthen this centrality.

In bars 105-107², parallel moving major triads harmonise melodic fragments derived from bars 94-95. The two major triads used are B \flat and A \flat major harmonies. The B \flat major triad has a mediant relationship with D, and the A \flat major triad is the lower auxiliary chord to B \flat . This oscillation between the two triads resolves into a D major 7th chord in bar 107. Furthermore, the viola melodic fragment is disjunct from the upper oscillating harmonies and does not always align with these upper structures' triads, creating a sense of extended or split-member chords.

Example 41 illustrates the B \flat and A \flat major triads in the first and second violins (marked in red), while the viola (marked in green) plays material not consistently aligning with the harmonic procedure.

Example 41: Harmonic procedures in bars 105-107²

The image shows a musical score for Example 41, covering bars 105 to 107. The score is written for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Cello (Vlc.). The key signature is one flat (B-flat major/D minor) and the time signature is 7/8. A red box highlights the first two staves (Vln. 1 and Vln. 2) from bar 105 to bar 107. Above the Vln. 1 staff, the instruction 'sul pont.' is written. Below the Vln. 1 and Vln. 2 staves, the dynamics 'pp' (pianissimo) and 'fp' (fortissimo) are indicated. A green box highlights the Viola staff from bar 105 to bar 107. The Cello staff shows a D-pedal in bar 105.

Following bars 105-107² is another melodic statement of material first seen in bars 94-97; however, the first violin doubles the cello in octaves. This leads to an expansion in texture (bars 117-119) with a succession of C, D, and E major triads harmonising melodic components.

Example 42 illustrates the three chords forming the primary harmonic constituents. The D major triads in various inversions are marked in red, the E major chords, some with extensions, are marked in blue, and the C major triad is marked in purple. These triads are formed by the second violin doubling the first violin melodic pitches in intervals of major and minor 6ths, while the viola completes the triads by playing the remaining notes, resulting in open-voiced chords. Accompanying this harmonic procedure is a D-pedal in the cello (marked in green).

Example 42: Harmonic procedures in bars 117-119

The musical score for Example 42 shows four staves: Vln. 1, Vln. 2, Vla., and Vlc. The music is in 4/4 time and D major. Bars 117-119 are highlighted with red and blue boxes. Dynamics include *p* and *sf*.

The D major and E major triads permeate the remainder of the section.

Chord structures in interjecting passages in bars 127-128, 132-133, and 135-140 are based on one quintal chord – 3x5 on D – used extensively in the B section. This quintal chord is divided into two intervals around A (D-A and A-E) and is almost exclusively used throughout the bars mentioned above. This is evident in Example 43.

Example 43: Quintal harmony in bars 135-138

The musical score for Example 43 shows four staves: Vln. 1, Vln. 2, Vla., and Vlc. The music is in 4/4 time and D major. Dynamics include *mp* and *sul pont.* A red box highlights the Vla. and Vlc. staves.

The diagram shows the 3x5 on D quintal chord and its inversions. The chord is D-A-E, and the inversions are A-E-D and E-D-A.

3x5 on D

Bars 139-140 implement a similar strategy; however, a clear division between two planes is generated by the viola and cello parts. The viola plays intervals of parallel moving perfect 4^{ths}, while the cello plays downward expanding and contracting intervals from A. This creates both quartal and mixed-interval structures, as seen in Example 44.

Example 44: Quartal and mixed-interval chord structures in bars 139-140

The musical score for Example 44 shows two staves: Viola (Vla.) and Cello (Vlc.). Both are in 4/4 time. The Viola staff starts at bar 139 with a *pizz.* marking and plays a sequence of chords: G2-A2-B2, G2-A2-B2, G2-A2-B2, G2-A2-B2. The Cello staff also starts at bar 139 with a *pizz.* marking and plays a sequence of chords: G2-A2-B2, G2-A2-B2, G2-A2-B2, G2-A2-B2.

The D section continues the harmonic procedures initiated in the C section. Bars 141-161 (subsection d₁) implement parallel moving major triads. As illustrated in section 2.1, the violin horizontal material is derived from the octatonic scale on C# (S-W). Since the second violin and viola move in parallel motion to the violin part, different octatonic-based strands of pitches run congruently, formulating the parallel moving major triads in second inversion (see Example 22). This is a common phenomenon in the remainder of the D section. The occasional *pizzicato* pitches in the cello articulate harmonic notes or produce extensions to the aforementioned triadic structures, creating 7th chords.

Example 45 illustrates the parallel succession of triads that are all in second inversion. Extensions produced by the cello are marked in red. It is worth noting that the root motion between these chords is major 2^{nds} and 3^{rds}.

Example 45: Parallel moving major triads in second inversion used in bars 157-159

The musical score for Example 45 consists of four staves: Vln. 1, Vln. 2, Vla., and Vlc. The key signature has one flat (B-flat). The score begins at bar 157. Vertical lines connect the notes of the four staves across measures, illustrating the parallel motion of the major triads in second inversion. The triads are labeled below the cello staff as Eb, Db, Bb, G, and A. The cello part includes dynamic markings *mf* and *pizz.* (pizzicato). Two notes in the cello part are circled in red: a B-flat in the second measure and a G in the third measure.

Subsection d_2 follows the same procedure as d_1 , starting with a thin texture comprising the melodic component in the first violin with the second violin doubling in major 3rds below. This creates implied parallel moving major triads, stated in full in bars 168-183. As in subsection d_1 , the triads are placed in second inversion, and root movement of triads are major 2^{nds} and 3^{rds} mostly. Also, since the melodic statement of the first violin part in the opening bars of d_2 is derived from the pentatonic scale on G, the second violin material will result in the pentatonic scale on E \flat due to the parallel motion between the two instruments. The viola entry in bar 168 results in three strands of congruent parallel moving pentatonic scales on E \flat , G and B \flat . These three scales constitute the parallel moving major triads. Along with the pentatonic scales, two transposed forms of partial octatonic scales on C (S-W) and C \sharp (S-W) also occur.

Example 46 provides a layout of the parallel moving chord structures that are all used in second inversion, except the extended chords that are used in root position.

Example 46: Parallel moving major triads in second inversion, used in bars 157-159

Pentatonic scales

C B \flat C B \flat G B \flat C G B \flat G F G E \flat

Partial octatonic scales

C⁷ C E \flat G \flat e \flat ⁷ E \flat G \flat A f \sharp ⁷ G \flat B \flat D

In subsection d_3 (bars 190-213), a continuation of the harmonic processes used in subsections d_1 and d_2 is used. As a result of the parallel moving major triads, connected by root movements of major 2^{nds} and 3^{rds}, a Mixolydian modal syntax arises. The sense of a Mixolydian mode on C is strengthened by the C-pedal in the cello. A sudden harmonic shift from a C to E \flat major triad in bar 194 deliberately weakens the modal orientation.

The upward major 3rd transposition of melodic content in bars 199-208 results in a modal shift to E Mixolydian mode. This modal inflexion is weakened by a chromatic mediant shift in bar 204 from an E to G major triad. Additionally, the cello pitches, which previously

articulated a C-pedal, alternate between C and E in bars 199-208, further weakening the modal syntax.

In bars 208-213, a succession of ascending major 3rd transpositions of a fragment of motif A is used. Harmonising these melodic fragments are parallel moving major triads connected by intervallic 2nd and 3rd root movements. All triads are used in their second inversion. The striking effect of a chromatic mediant, indicated in red in Example 47, is a phenomenon seen throughout d_3 .

Example 47: Harmonic layout of bars 207-210

The musical score for Example 47 shows four staves: Vln. 1, Vln. 2, Vla., and Vlc. The music is in 2/4 time. Bars 207-210 are shown. The first two bars (207-208) feature a melodic fragment in the violins and a tetrachord in the cello and viola. The last two bars (209-210) feature a chromatic mediant shift from E to G, indicated by red boxes around the notes E and G in the first two bars, and F and G in the last two bars. The score includes dynamics like *mf* and *arco*.

Subsection d_4 comprises two elements: 1) an *ostinato* figure in the cello and viola, based on tetrachord [0 2 4 6] on E; and 2) the first and second violins playing a melodic fragment related to d_3 in unison (the second violin playing *pizzicato*). This leads to the return of the A section, which includes one interjection of d_4 in bars 278-251.

Simultaneities in the closing two bars can be best described as a result of directional voice leading. Scalar passages related to the acoustic scale on C are played in contrary motion between the two violins and the viola and cello parts. These contrary moving parts initiate a compound major 3rd apart and conclude the composition on octaves E. This is illustrated in Example 48.

Example 48: Use of the acoustic scale on C in bars 263-264

The image shows a musical score for Example 48. At the top, there is a diagram of the acoustic scale on C, consisting of two staves: a treble clef staff with notes C4, D4, E4, F4, G4, A4, B4, and C5, and a bass clef staff with notes C3, D3, E3, F3, G3, A3, and B3. A bracket above the treble staff is labeled "Acoustic scale on C", and a bracket below the bass staff is labeled "Compound maj. 3rd". Below this diagram is a full orchestral score for four parts: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vcl.). The score starts at bar 263 and ends at bar 264. The first part of the score (bars 263-264) is marked "arco" and features a complex rhythmic pattern of triplets and quavers. The second part of the score (bars 265-266) is marked "pizz." and features a simpler rhythmic pattern. The score is written in a key signature of one sharp (F#) and a time signature of 3/4.

2.4 Rhythm

The opening 8 bars comprise a core rhythmic unit of a triplet of quavers followed by a quaver. This unit can be seen in the first bar and accompanies tetrachord [0 2 4 6] on D. Throughout these eight bars, this rhythmic unit is fragmented and altered as it accompanies the expanding tetrachord. Partial augmentation occurs by restating fragmented intervallic motions within the tetrachord gesture with augmented note values. The two prominent melodic intervals extracted from the tetrachord gesture are a rising 3rd and descending 2nd in the first violin and a descending 3rd and an ascending 2nd in the viola and cello parts. Example 49 illustrates these two motions as well as their rhythmically augmented iterations.

In Example 49, the ascending and descending 3^{rds} are marked with red brackets, and the ascending and descending 2^{nds} are marked in green. When comparing bars 1 and 2, it is apparent that bar 2 contains the intervals of rising and falling 3^{rds} with augmented note values and that the first quaver of the triplet rhythm in bar 1 is augmented to a crotchet value in bar 2. Similarly, the descending and ascending 2^{nds} in bar 3 contain augmented note values compared to the same intervallic gesture in bar 1. The quavers are augmented to crotchets within the triplet patterns.

Example 49: Rhythmic augmentation in bars 2-4

Violin 1
Violin 2
Viola
Cello

2

fff *pp* *fff* *pizz.*

fff *pp* *fff* *pizz.*

fff *pp* *fff* *pizz.*

fff *pp* *fff* *pizz. arco*

sul pont. *ord.* *ord.* *ord.*

Example 50 shows that in bar 6 an example of a permutation of the crotchet-quaver triplet pattern is evident.

Example 50: Rhythmic permutation in bar 6

6

Vln. 1
Vln. 2
Vla.
Vlc.

arco *arco* *arco* *arco*

Bars 9-14 continue with these two rhythmic units that are triplets of quavers and a triplet consisting of a crotchet and a quaver. Furthermore, a new rhythmic addition is introduced in bar 9, comprising a triplet of two semiquavers and two quavers. As a result, a new strand of rhythmic content is presented in bars 9-10 combined with the previously illustrated rhythmic units.

Example 51 shows the application of fixed horizontal and vertical elements but with rhythmic alterations that yield variety. The triplet patterns comprising three quavers (indicated red) are transformed through augmentation and deletion to generate the crotchet-quaver triplet pattern (indicated green).

Example 51: Rhythmic content in bars 9-10

The image shows a musical score for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). The score is for bars 9 and 10. Each instrument part begins with a fermata and the instruction 'arco'. In bar 9, there are four triplet markings (indicated by a '3' and a bracket) over groups of three eighth notes. In bar 10, there are four triplet markings over groups of three eighth notes. A red box highlights the first triplet in bar 9 for Vln. 1. A green box highlights the first triplet in bar 10 for Vln. 1. The instruction 'subito p' is written below the first triplet in bar 9 for each instrument. The score is written in treble clef for Vln. 1 and 2, and bass clef for Vla. and Vlc. The key signature has one sharp (F#).

Similar to bar 6, the composer uses permutations of the crotchet-quaver pattern in bars 12-14. Furthermore, additional transformations and permutations of accumulative patterns between successive bars are also used.

Example 52 illustrates the reordering of the crotchet-quaver pattern (indicated red) along with rearrangements of their positions within successive bars (indicated green). Additionally, an increase of repeated permutations is also evident.

Example 52: Rhythmic permutations in bars 12-14

The image shows a musical score for four instruments: Vln. 1, Vln. 2, Vla., and Vlc. The score is for bars 12, 13, and 14. Vln. 1 has a treble clef and a key signature of one sharp (F#). It features a complex rhythmic pattern of eighth notes with triplets, some of which are highlighted with red boxes. Vln. 2 has a treble clef and a key signature of one sharp (F#). It features a rhythmic pattern of eighth notes with triplets. Vla. has an alto clef and a key signature of one sharp (F#). It features a rhythmic pattern of eighth notes with triplets. Vlc. has a bass clef and a key signature of one sharp (F#). It features a rhythmic pattern of eighth notes with triplets. The score includes various musical notations such as accents (>), slurs, and triplet markings (3).

Bars 15-17 implement dialogue-like statements in outer and inner voices generated through deletions and rhythmic displacements using rhythmic material from the previous bars. This is illustrated in Example 53.

Example 53: Dialogue-like statements in bar 15

The image shows a musical score for four instruments: Vln. 1, Vln. 2, Vla., and Vlc. The score is for bar 15. Vln. 1 has a treble clef and a key signature of one sharp (F#). It features a rhythmic pattern of eighth notes with triplets, marked with *mp* and *marcato*. Vln. 2 has a treble clef and a key signature of one sharp (F#). It features a rhythmic pattern of eighth notes with triplets, marked with *mp* and *marcato*. Vla. has an alto clef and a key signature of one sharp (F#). It features a rhythmic pattern of eighth notes with triplets, marked with *mp*. Vlc. has a bass clef and a key signature of one sharp (F#). It features a rhythmic pattern of eighth notes with triplets, marked with *mp*. The score includes various musical notations such as accents (>), slurs, and triplet markings (3).

Bars 18³-22 implement the verticalized pentachord [0 2 4 6 8] on C for harmonic purposes. Only the quaver triplet pattern, which includes the two semiquavers, is used in these bars. Varying and sometimes unpredictable accent placements along with the fluctuating positions of the semiquavers create a remarkable rhythmic vitality.

In bars 23-41¹, four rhythmic layers formulate the section. These layers create cross-rhythms, and the complexity thereof resembles György Ligeti's application of micropolyphony¹.

Example 54 illustrates the various forms in which the triplet patterns are used throughout bars 23⁵-41¹.

Example 54: Rhythmic content of bars 23⁵-41¹

Example 54 illustrates the rhythmic content of bars 23⁵-41¹ for four instruments: First violin, Second violin, Viola, and Cello. Each instrument part shows a sequence of notes with triplet markings (a bracket with the number '3' above it) indicating the rhythmic structure. The First violin part consists of six groups of three eighth notes. The Second violin part consists of six groups of three eighth notes. The Viola part consists of six groups of three eighth notes. The Cello part consists of six groups of three eighth notes, with the first three groups grouped together by a bracket below the staff.

Four basic patterns, illustrated in Example 55, can be extracted from Example 54.

Example 55: Rhythmic units constituting bars 23⁵-41¹

Example 55 illustrates four basic rhythmic units extracted from Example 54. Each unit is shown on a staff with a triplet marking (a bracket with the number '3' above it) indicating the rhythmic structure. The first unit consists of three eighth notes. The second unit consists of two eighth notes followed by a quarter note. The third unit consists of two eighth notes followed by a quarter rest. The fourth unit consists of a quarter rest followed by two eighth notes.

¹ Micropolyphony refers to a musical texture in which multiple musical strands are overlaid to form a pitch canon; however, the rhythmic/tempo parameter of each strand is adjusted, resulting in vertical tone clusters. As a result, the canon itself is not necessarily perceptible; instead, the effect is of an impenetrable texture.

These four basic rhythmic units are used to construct bars 23⁵-41¹. These units are superimposed to avoid rhythmic unison, resulting in a dense multi-layered rhythmic texture. The cello does not take part in the implementation of the rhythmic units shown in Example 55. Instead, it plays a pattern that is metrically disjoined from the rest of the ensemble. This asymmetric rhythmic pattern comprises three crotchet beats that cycle throughout the overall 5/4 meter, creating a bi-metric system of 3/4 or 6/4 pitted against 5/4. This adds another layer of complexity to the overall rhythmic texture. The rhythmic cycle used in the cello part takes three bars to complete before returning to its starting position at the beginning of the bar. These bars, however, are not polyrhythmic in a conventional sense, but a play with timbral shifts that highlights certain instrumental colours with greater transparency.

This cyclical repeat in the above-mentioned bars, and also many other sections in this work, echoes the composer's use of African rhythmic devices.

In Example 56, the individual patterns in the cello are indicated (green) along with a complete three-bar cycle (red).

Example 56: Rhythmic patterns in the cello part of bars 30-33

The image shows a musical score for four instruments: Vln. 1, Vln. 2, Vla., and Vlc. The score is for bars 30-33. The Vln. 1 and Vln. 2 parts are marked 'subito p' and feature a rhythmic pattern of eighth notes with a '3' over a group of three notes. The Vla. part is also marked 'subito p' and features a similar rhythmic pattern. The Vlc. part is marked 'subito p' and features a rhythmic pattern of eighth notes with a '3' over a group of three notes. The Vlc. part is highlighted with green and red brackets indicating rhythmic patterns and a three-bar cycle.

The B section's melodic component is accompanied by a rhythmic motif that repeats throughout the section. This rhythmic motif comprises two parts, each being somewhat symmetrical in construction. Furthermore, these two parts are moulded into alternating 7/8 and 9/8 metres, which adds to the rhythmic exuberance of the work.

Example 57 shows the symmetrical structures of the two-bar motif and an example of its use in the second violin part of bars 49-52. Another apparent device seen in Example 57 is the

rhythmically erratic *pizzicato* pitches in the first violin and cello. At first they are seemingly unpredictable and often placed on the off-beat, but as the section approaches the climax, these pitches become fixed repeated patterns.

Example 57: Two-bar rhythmic motif used in bars 49-52

The image displays a musical score for Example 57. At the top, a rhythmic motif is shown on a single staff with a treble clef and a 7/8 time signature. The motif consists of two bars of music. The first bar contains a sequence of eighth notes: G4, A4, B4, C5, B4, A4, G4. The second bar contains: G4, A4, B4, C5, B4, A4, G4. Red brackets group the notes in pairs across the two bars, and green brackets group the notes in pairs within each bar. Vertical dashed lines indicate the bar boundaries. Below this, a four-staff score for bars 49-52 is shown. The staves are labeled Vln. 1, Vln. 2, Vla., and Vcl. The key signature has one sharp (F#) and the time signature is 7/8. Vln. 1 starts with a rest in bar 49 and plays a *pizz.* pattern in bars 50-52. Vln. 2 plays a continuous eighth-note pattern in all four bars. Vla. and Vcl. play a simple eighth-note pattern in bars 49-52.

Example 58 illustrates the fixed rhythmic patterns near the climax of the B section. Similar to a₃, the complexity of rhythmic layers results in a dense contrapuntal texture. The scattered rhythmic quaver patterns that initiated the B section in the first violin and cello (seen in Example 57) now become fixed two-bar patterns spread across the first violin, viola, and cello parts. Together with the central rhythmic motif of the section, the complexity of the four layers creates a vibrant sonic effect. This is achieved, for example by permutation of only three pitches as shown in the second violin.

In Example 58, the four rhythmic layers are marked and the main rhythmic motif is boxed in purple. The transition into the fixed repeating rhythmic patterns of the viola and cello parts can be seen in bars 77-78 and forms a free rhythmic canon with the two violins.

Example 58: Rhythmic layers in bars 77-80

The image shows a musical score for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Cello (Vlc.) across four bars (77-80). The score is in 3/8 time. The Vln. 1 part features a rhythmic motif of eighth notes and rests, with a red bracket highlighting a two-bar pattern. The Vln. 2 part features a rhythmic motif of eighth notes and rests, with a purple bracket highlighting a two-bar pattern. The Vla. part features a rhythmic motif of eighth notes and rests, with a green bracket highlighting a two-bar pattern. The Vlc. part features a rhythmic motif of eighth notes and rests, with a blue bracket highlighting a two-bar pattern. The dynamic markings are *ff* for Vln. 1, *f* for Vln. 2, and *ff* for Vla. and Vlc. The Vlc. part also includes the marking *arco* in bar 78.

There is an increase in rhythmic activity as the B section reaches its climactic peak. A number of quavers within the fixed two-bar rhythmic patterns seen in Example 58 are substituted with semiquavers to heighten the rhythmic drive. This can be seen in the cello part of bars 78-80. It is worth noting that the more complex the rhythmic texture becomes, the more static the pitch structure is.

The C section starts with a sudden reduction in texture with only the melodic component and an accompanying rhythmic motif present. This rhythmic motif, similar to that of the B section, consists of a two-bar pattern (marked in red in Example 59) configured into the continued alternating 7/8 and 9/8 metres. The key feature of the motif is the *saltando* semiquaver quintuplets. Surrounding the quintuplets are permutations and alterations of crotchet and quaver constituents (marked in green).

Example 59: Prominent rhythmic motif in the C section used in bars 94-96

The image shows a musical score for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Cello (Vlc.) across three bars (94-96). The score is in 3/8 time. The tempo is marked *poco meno mosso* with a quarter note equal to 96. The Vln. 1 and Vln. 2 parts are mostly silent. The Vla. part features a rhythmic motif of eighth notes and rests, with a red bracket highlighting a two-bar pattern. The Vlc. part features a rhythmic motif of eighth notes and rests, with a green bracket highlighting a two-bar pattern. The dynamic markings are *p* for Vln. 1, *p* for Vln. 2, *p* for Vla., and *p* for Vlc. The Vla. part also includes the markings *saltando*, *dolce*, and *simile*. The Vlc. part also includes the marking *p*.

Another fascinating feature in the C section is rhythmic elements that resemble the material of the A section. The two main rhythmic components of the A section are the quaver triplet pattern and the crotchet-quaver triplet rhythm (along with its retrograde). These same patterns, written as quavers and crotchets without irregular triplet divisions, are used in bars 117-121. The two primary pattern equivalents (the third being a permutation) are marked in Example 60.

Example 60: Rhythmic patterns resembling A section material used in bars 117-120

The image shows a musical score for four instruments: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). The score is for bars 117-120. Bar 117 is marked with a red bracket above the Vln. 1 staff. Dynamics markings include *p* (piano) for Vln. 1, Vln. 2, and Vla. in bar 118; *sf* (sforzando) for Vlc. in bar 119; and *subito pp* (subito pianissimo) for Vln. 2 and Vla. in bar 120. The Vlc. staff has a *sf* marking in bar 120 with an accent (>) over the final note.

The D section is overall characterised by syncopated rhythms accompanying melodic gestures. Subsection d_1 initiates with slow-moving crotchet, minim and dotted minim gestures, after which a trajectory of increased motion is seen throughout all subsequent subsections. This seems to be a thread running throughout most sections of this composition to increase rhythmic activity or textural density as a section progresses.

Example 61 illustrates the main melodic and rhythmic components of d_1 . Note the syncopation.

Example 61: Melodic and rhythmic components of subsection d_1

The image shows a single staff of music for a melodic line. A bracket above the staff spans four measures and is labeled "Bars 141-144". The melody consists of a series of chords and notes, with a syncopated rhythm.

In d_2 an increase in rhythmic activity and the use of an array of metres is evident. There are also various forms of syncopation present that, as with so many other sections in this composition, seems African in concept and origin. This aspect will be discussed at length in

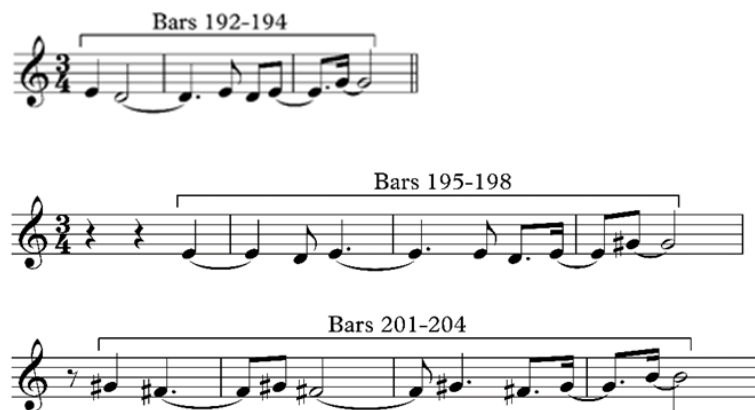
Chapter 5. Additionally, the rhythmic element of the melodic material initiating d_2 can be viewed as an expanding rhythmic statement generated by additive rhythms. This is reflected in the changing metres as well. Example 62 illustrates this procedure.

Example 62: Rhythmic construction of d_2 through additive rhythms



The rhythmic content accompanying the opening melodic statement of subsection d_3 undergoes various transformations. This is partially due to the metric placement of the material within the overall 3/4 metre. Syncopated rhythms are used throughout. This is illustrated in Example 63.

Example 63: Rhythmic transformations of the primary melodic material of d_3



The closing subsection (d_4) reintroduces the triplet quaver pattern implemented in the A section as an *ostinato* in the cello. This forms a link to the returning A section that follows. In the first violin, iterations of a single melodic statement that includes syncopated rhythms are used. These statements are also metrically displaced during repetitions as illustrated in Example 64.

Example 64: Metric displacement of the main melodic statement in d₄



Following the D section is a repeat of the A section.

2.5 Texture

Texture, register and range, and the accompanying density factor of sections are used to a large degree for form construction. Additionally, within macro sections, a gradual increase in instrumental layers that yield the enlarged density with heightened complexity of each horizontal line through increased rhythmic activity create ever-evolving statements of material and a trajectory of constant expansion.

The following pertinent aspects summarise the elements the composer uses in this composition as strategies for structure formation:

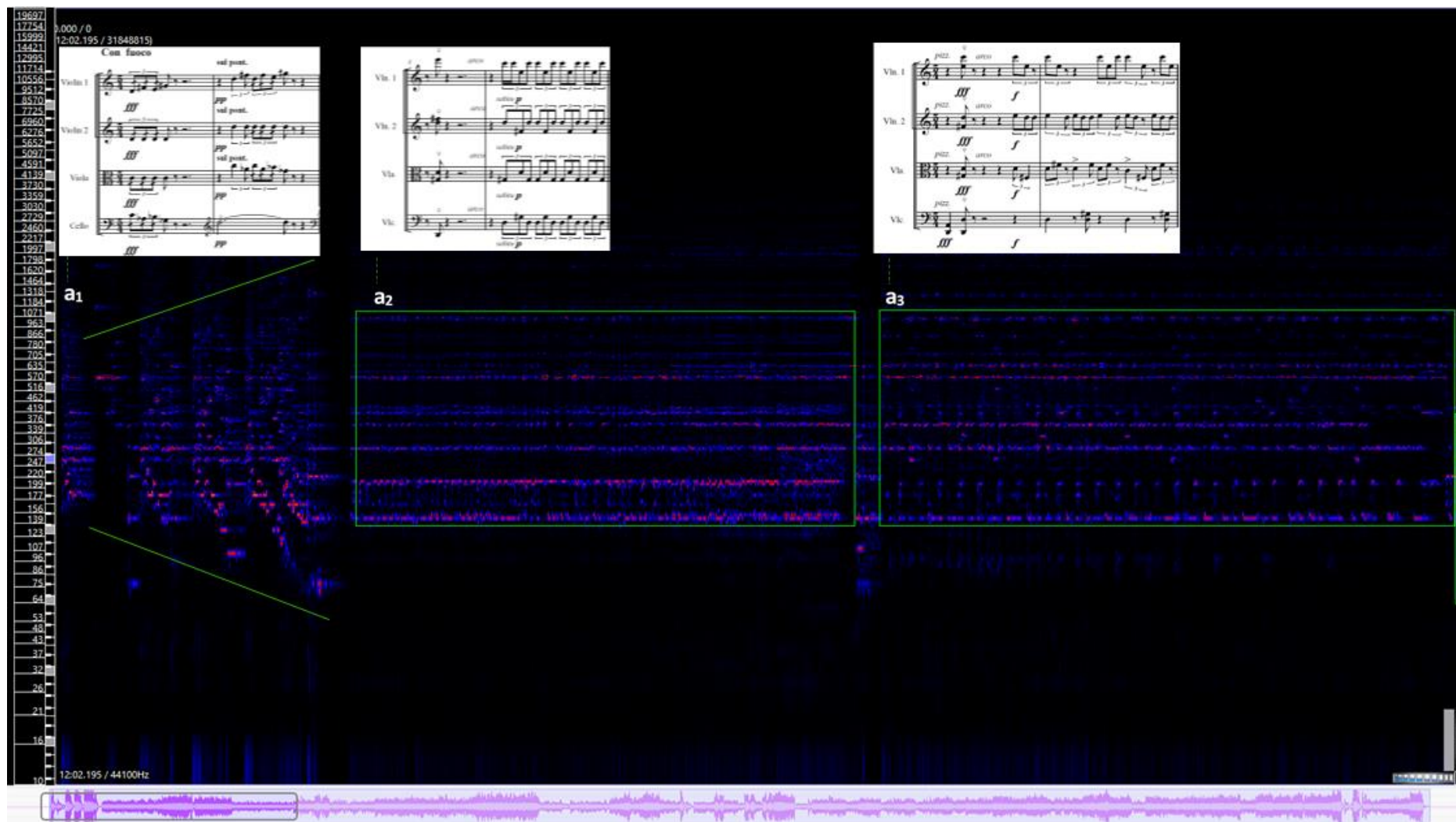
- Sections often start with reduced and simplified textures with minimal instrumental layers (monophonic or homophonic).
- The register of the material is frequently situated in the low to mid-register of the string ensemble with a subsequent upwards or contrary motion expanding trajectory.
- As sections progress, additional layers are added in either rhythmic unison or as a tapestry of complex rhythms.
- Sections are divided through chordal punctuation, rests, density and texture changes, and register shifts.

The A section of this composition illustrates most elements addressed above. Subsection a₁ comprises a gradual range expansion of cellular material in contrary motion around central pitches C and D. Following a₁, a₂ consists of a consistent range and density. For the most part, the four instruments play in rhythmic unison with the addition of the crotchet-quaver triplet patterns and semiquavers. This leads to bars 15-18² where the material is arranged to form rapid dialogue-like statements, yielding increased complexity. Bars 18³-22 include the verticalization of source material (pentachord [0 2 4 6 8] on C) with all instruments playing double stops, resulting in a dense area with heightened tension. In subsection a₃, a polyphonic approach involving the layering of various rhythmic patterns occurs. This resembles György

Ligeti's application of micropolyphony. The growth trajectory in range from a_1 to a_2 with a subsequent increase in rhythmic complexity and density, which reaches the apex of the A section in a_3 , is evident.

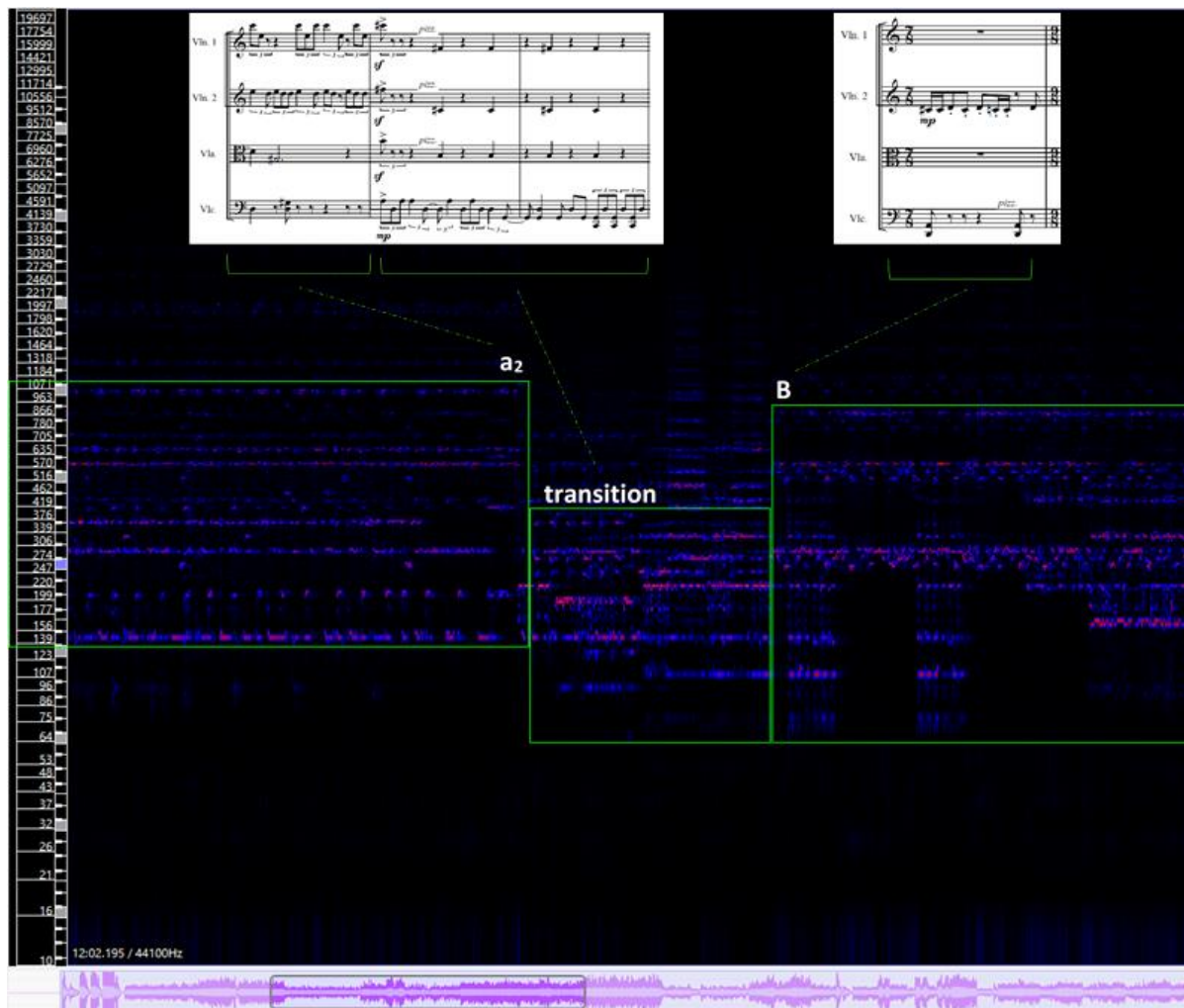
Example 65 illustrates the expanding ranges of subsections through the use of a spectrogram image. The notated opening bars of each section are also provided. It should be noted that the spectrogram image shows both fundamental pitches and overtones. As a result, the outer ranges of the ensemble are illustrated through boxes to better illustrate range expansions.

Example 65: Spectrogram illustrating the expansion in range between subsections a_1 and a_2 and the uniformity of range between subsections a_2 and a_3 and a_3



A reduction in textural density combined with a register shift is evident between the A section and subsequent transition. The transition initiates with the cello playing the main material accompanied by light *pizzicato* first and second violins and viola. This is illustrated in Example 66.

Example 66: Spectrogram illustrating the density reduction and register shift between the end of the A section and the transition leading to the B section

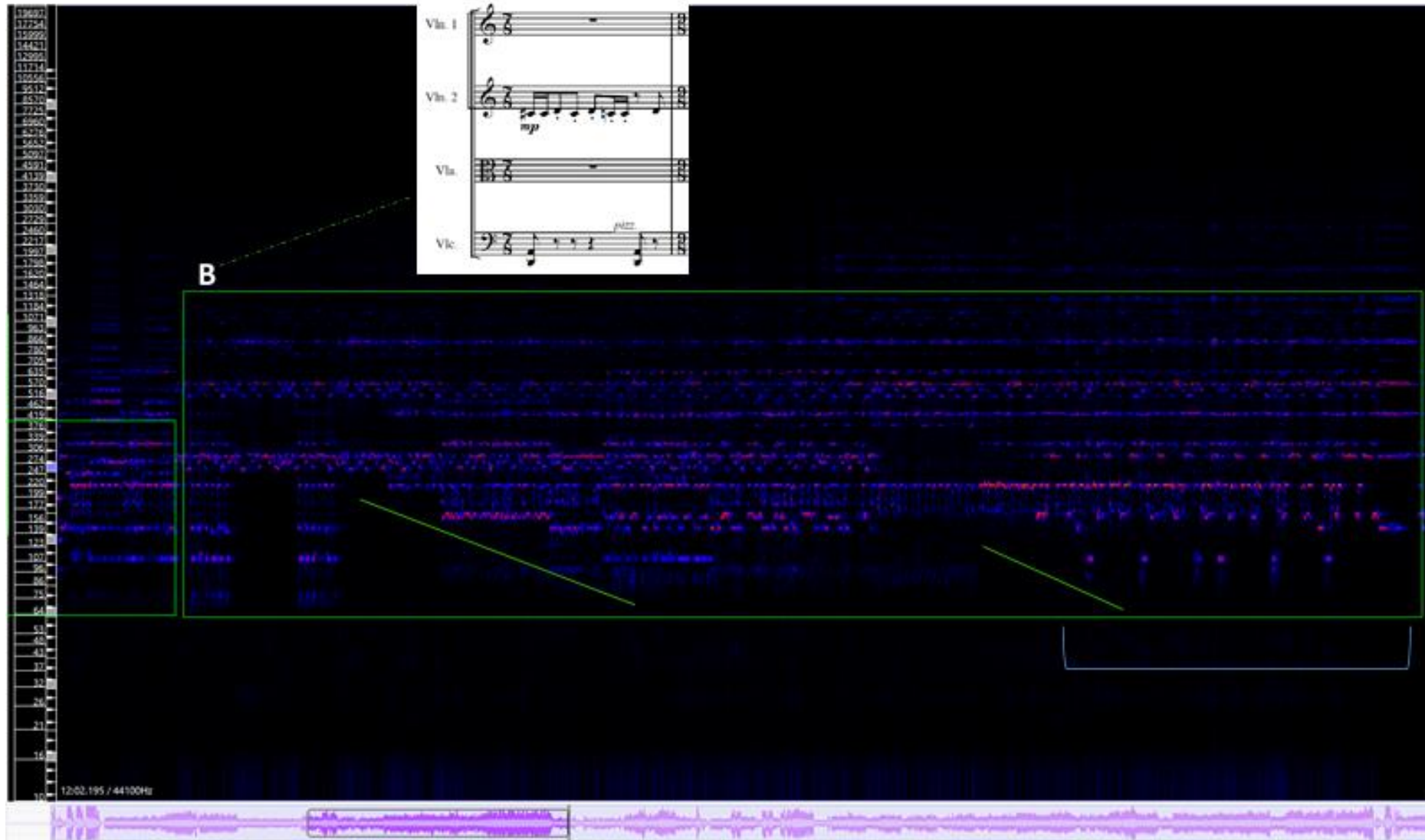


The B section follows a similar strategy of expansion to the A section. Melodic material is placed in the mid-range of the ensemble, with sparse accompanimental *pizzicatos* in first violin and cello, resulting in a relatively thin texture. As the section progresses, additional rhythmic layers are added to enlarge the density and range. These layers' rhythmic activity is systematically increased towards the climax at the end of the section. Unlike the A section where the contrapuntal tapestry rendered a somewhat homogenous texture, the B section is characterised by a persistent two-bar melodic statement based on trichord [0 1 2] on C that

remains in the foreground with a surrounding texture that increases in density, range, and rhythmic activity. These surrounding elements remain in the middle- and background.

Example 67 illustrates areas of range expansion as additional layers are added, resulting in a denser texture. The blue bracket shows the dense, rhythmically active texture at the end of the section rendering a climax.

Example 67: Spectrogram illustrating the range expansions of the B section

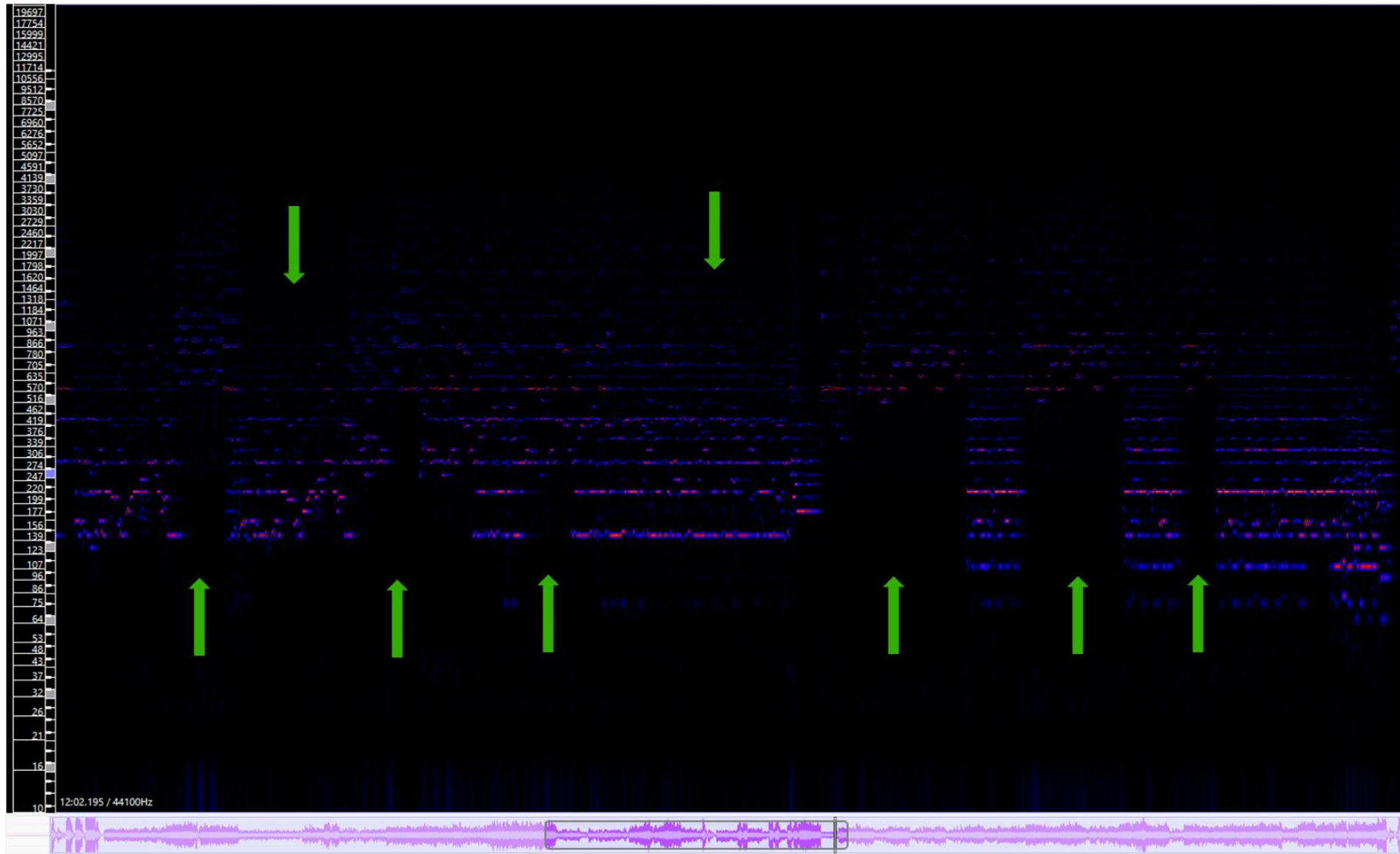


Another sudden decrease in texture and density with a range shift can be observed at the start of the C section. The section initiates with a melodic statement in the cello mid-register and *staccato* and *saltando* rhythmic accompaniment in the viola. With this section being characterised by interruptions, we do not see a single trajectory of increased elements; instead, various interjections of material of different textures, densities, and registers occur.

Textures consist of melodic statements in a single instrument, accompanied by rhythmic motifs and figures (e.g. bars 94-97), melodic statements with octave doubling (e.g. bars 108-109), parallel moving triads (e.g. bars 105-107^{3a}), and sudden register changes (e.g. 131-132). These allocated bars serve as examples of the various textural planes created throughout the section and stand in contrast to the preceding A and B sections where a continuous increase in elements are presented.

In Example 68, the density reductions and register changes used throughout the C section are indicated. Compared to the spectrographic images in Examples 65-67, the approach of range and register application is evidently contrasting. The sudden shifts in these two elements are indicated with arrows.

Example 68: Spectrogram illustrating the range and register variety in the C section



Subsection d₁ comprises slow parallel moving tremolo chords in the high register of the ensemble. Scattered *pizzicato* pitches in the cello provide textural contrast. Dividing these chordal statements are ascending scalar passages starting in the cello low register (evident in Example 69). The texture can be described as homophonic and monophonic, respectively. These clear and pronounced textures contrast the procedures of previous sections.

In subsection d₂, increased rhythmic activity is implemented. The subsection initiates with a melodic statement moving in parallel 3^{rds} between the first and second violins. This is augmented by the addition of the viola in bar 168, yielding parallel moving triads. In bar 172, *pizzicato* pitches in the cello create an additional textured layer. Differentiating subsections d₁ and d₂, excluding melodic content, is increased rhythmic dynamism and articulation that range from tremolo to *non-legato* and *staccato*.

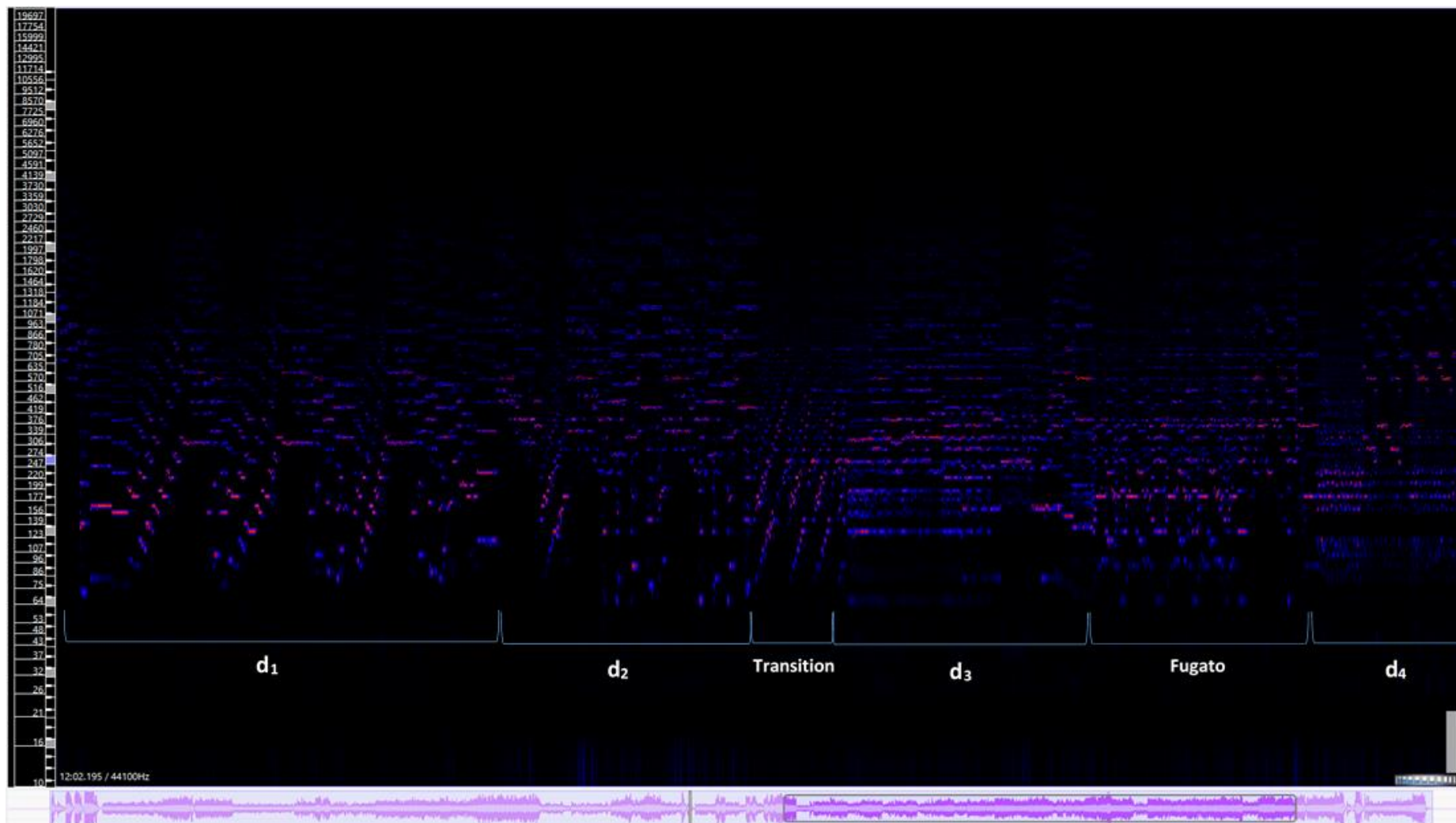
Subsection d₃ has a clear homophonic texture with the cello articulating a C- and E-pedal in quavers and quaver triplets, while the first and second violins and the viola play melodic statements as parallel moving triads. These triads are played with *legato* and *pizzicato* articulations.

The *fugato* section contains contrapuntal imitations at the unison and octave, creating a polyphonic texture. The addition of contrapuntal layers reflects the procedures of the A and B sections, a systematic increase in layers resulting in denser textures that expand in range.

Subsection d₄ concludes the D section. The texture is similar to subsection d₃ with a melodic fragment played in the first violin doubled in unison by the second violin using *pizzicato* articulation. There is an upward register shift in bar 241 with repeated material displaced an octave higher. The cello and viola play an *ostinato* figure as accompaniment, yielding a homophonic texture.

A restatement of the A section follows.

Example 69 provides a holistic view of the entire D section's register and range use, illustrating the above aspects.

Example 69: Spectrogram illustrating the range and register variety in the D section

Chapter 3
Wits Trio Tribute

3.1 Movement I

3.1.1 Structure

The structure of the first movement of *Wits Trio Tribute* can be described as a free rondo form (Zaidel-Rudolph 2013). Within most repeating sections, and the work as a whole, the horizontal, vertical, and spatial elements exemplify organic growth. An example of this can already be seen in the opening bars of the movement. Note the register and gesture expansions in Example 70:

Example 70: Register and gesture expansion in bars 1-8

The image displays a musical score for the first movement of *Wits Trio Tribute*, specifically focusing on bars 1 through 8. The score is written for Violin, Piano, and Violoncello. The tempo is marked "Misterioso" and the time signature is 4/4. The key signature has one flat (B-flat).

Key features of the score include:

- Violin:** Remains silent in the first system.
- Piano:**
 - First system (bars 1-3): Features a right-hand part with triplets of eighth notes, starting in a lower register. The dynamic is *pp*.
 - Second system (bars 4-6): The right-hand part continues with triplets, moving to a higher register. The dynamic is *mf*.
 - Third system (bars 7-8): The right-hand part continues with triplets, moving to an even higher register. The dynamic is *f*.
 - Violoncello: Remains silent throughout the first system.

Annotations in the score highlight specific musical elements:

- Red Annotations:** A red bracket labeled "Gesture expansion" spans the first two systems of the piano part, indicating the expansion of the melodic gesture. A red arrow points to the right in the second system, further emphasizing the expansion.
- Green Annotation:** A green bracket labeled "Range expansion" spans the right-hand piano part across the second and third systems, indicating the upward movement of the register.

This element of growth is also evident in the B section's *ostinato*-like accompaniment (illustrated in Example 71). In the opening bars of the section, the gradual development (or growth) of a melodic motif can be seen. Bars 24-25 contain fragments of the fully formed motif presented in bar 26.

Example 711: Growth of melodic motif in bars 24-26

The musical score for Example 711 is presented in three systems. The top system shows a vocal line starting at bar 24 with a rest, marked *ff*. The middle system shows a piano accompaniment with a '9+4 mainly' pattern, marked *f* in bar 24 and *sf sf* in bars 26 and 27. A red dashed line connects the first *sf* bar (26) to the second *sf* bar (27). A red box highlights the first *sf* bar (26), and a green box highlights the second *sf* bar (27). The bottom system shows a bass line starting at bar 24 with a rest, marked *ff*.

The first fundamental element to justify a rondo structure is recurring material. This usually occurs through repetitions of the A section as the primary repeating constituent, along with one or two digressing sections. These two digressions are typically labelled B and C. In *Wits Trio Tribute*'s first movement, the primary repeated material is the B section, which repeats three times, and the A section that repeats only twice. The placement of the A and B sections and their repetitions are roughly arranged to encapsulate a central C section. The details pertaining to rondo form is discussed at length in Berry's book *Form in Music* (1966).

Table 2 is presented as a comparative summary between the rondo form and the structure of the first movement of the *Wits Trio Tribute*.

Table 2: Comparative table of five-part rondo and the structure of the first movement of *Wits Trio Tribute*

Bar	Structure of the first movement of <i>Wits Trio Tribute</i>	Five-part rondo
1-24 ¹	A	A
24-56 ^{1b}	B	B
56 ² -66 ^{1a}	Transition	A
66-82	B ₁	C or B
83-95 ¹	C	A
95 ² -122	Transition	
123-132 ¹	A+B	
132-149	B ₂	

As shown in Table 2, some structural elements of this movement are distinctly similar to a five-part rondo form: Both recurring material (B) and a central digressing section (C) are present. Certain main sections that establish the overall structure are subdividable. The A section can be divided into three subsections, each representing the organic evolutionary growth of a cell found in the movement's opening bars. This aspect is discussed in section 3.1.2. The subsections of the A section are presented in Table 3.

Table 3: Structural layout of the A section's subdivisions

Bar	Subsection	Comments
1-9 ^{4a}	a ₁	Exposition of the organic material from which a large portion of this movement is derived.
9 ^{4b} -19 ²	a ₂	New material derived from the opening statement through transformation devices is used.
19 ⁴ -23	a ₃	This represents the climax of the A section, which comprises inversions and verticalizations of the opening bars' intervallic structures.

The B section is also subdividable into two sections and these are presented in Table 4.

Table 4: Structural layout of the B section's subdivisions

Bar	Subsection	Comments
24-41 ¹	b ₁	In this subsection, the main melodic and rhythmic material of the B section are provided.
41-56 ^{1b}	b ₂	The second subsection explores further rhythmic, melodic and harmonic possibilities of a fragment from b ₁ .

Sections B₁ and C are not subdividable, and B₂ contains the same structural elements as the initial B section. Bars 123-132¹ consist of melodic elements related to both the A and B sections.

The complete tabled layout of the first movement's structure is presented in Table 5.

Table 5: Structural layout of the entire first movement of Wits Trio Tribute

Bar	Content
1-24 ¹	A
1-9 ^{4a}	a ₁
9 ^{4b} -19 ²	a ₂
19 ⁴ -23	a ₃
24-56 ^{1b}	B
24-41 ¹	b ₁
41-56 ^{1b}	b ₂
56 ² -66 ^{1a}	Transition
66-82	B ₁
83-95 ¹	C
95 ² -122	Transition
123-132 ¹	A+B
132-149	B ₂
132-140 ¹	b ₁
140 ² -149	b ₂

From this layout, it is clear that the focus is on B-section material, with the initial A section supplying the opening cellular material and the digressing C section, and returning A-section material, providing contrasting material relief. Within the B sections, the dominating sonorities are open-structured intervals and chords comprising 4^{ths} and 5^{ths}. This contrasts the dissonant soundscape of the A section and the rich-sounding sonorities of the C section.

Similar to *Strange Quartet*, the composer implements rests, chordal punctuation, and texture and register shifts as section dividers on both macro and micro levels – a distinctly Ligeti-type structural device. These aspects are discussed in the sections on harmonic content (section 3.1.3) and texture (section 3.1.5).

3.1.2 *Melodic content*

The melodic material used in the A section stems from the organic growth of a cell found in the movement's opening bar. Organicism is defined by Beard and Gloag (2005:124) as the idea that similar to an organism, a musical work constitutes parts that function as a whole. Furthermore, embedded in this image is the notion of growth, expansion, and transformation. This is evident in the first movement of this composition, and especially in the A section.

Before examining this aspect, the four central melodic motifs permeating the first movement are highlighted and discussed.

Motif A: This melodic motif can be best described as a cell containing three pitches, namely D-E-E \flat . These three pitches also form the trichord [0 1 2] on D when written in normal order. Various devices are used throughout the A section to transform this trichord. It is presented in the piano part of bar 1¹ in Example 72.

Example 72: Motif A, bar 1¹



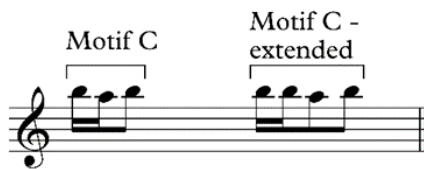
Motif B: This motif (Example 73) is first stated in bars 26-27¹ of the B section and is the fully-developed result of two primordial statements in the previous two bars (24-25). At first, it mainly functions as accompaniment, but then it gains more prominence later in the B section as a primary melodic constituent.

Example 73: Motif B, bar 26-27¹



Motif C: This motif is first seen in bar 29¹⁰ and initially forms part of a more extensive melodic statement in the violin. Later in the movement, it is used more substantially. The two primary forms, the original and the rhythmically extended form, in which this motif appears are illustrated in Example 74. This motif is transformed mainly through transpositions.

Example 74: Motif C, bar 29¹⁰



Motif D: This fourth motif, primarily confined to the C section, has a diatonic pentatonic quality. Similar to the other motifs, motif D is preceded by material from which it grows and is stated in its entirety in bar 88, which is illustrated in Example 75.

Example 75: Motif D, bar 88



The A section is exclusively based on motif A. The notion of organic growth is evident in how melodic material relates to the trichord [0 1 2] on D. This trichord is gradually expanded and developed into larger units and sections through various transformation devices. The relatability of expanded units and sections to each other is discussed next.

In the first three bars of a_1 , trichord [0 1 2] on D and all its possible permutations are employed. Units are lengthened through note addition and divided by crotchet rests. These additions include further permutations. Example 76 illustrates the reorderings of the trichord within each crotchet beat, between beats (marked in red), and across larger units (marked in green).

Example 76: Bars 1-3, piano part only

Remarkably, this approach of expansion through note addition accompanied by successive permutations is also a technique used by György Ligeti, a former mentor of Zaidel-Rudolph. This is most notable in his *Kammerkonzert für 13 instrumentalisten* (illustrated in Example 77). In the opening statement, the composer exclusively uses the pitches within the confines of a diminished 4th, F[#]-B^b. All permutation possibilities are exhausted in each lengthened gesture divided by rests.

Example 77: Opening bars of György Ligeti's *Kammerkonzert für 13 instrumentalisten*, flute part

In *Wits Trio Tribute*, bars 4-9³ implement different transformation techniques to alter the trichord. First, it uses octave displacements between the hands of the piano part (bars 4-5²), and then, octave displacements of an expanded trichord to include F (bars 5⁴-9³). This yields a chromatic tetrachord [0 1 2 3] on D. These octave displacements formulate broken intervals in the right hand, constituting major and minor 7^{ths} as well as octaves. Underpinning these intervallic structures is a D-pedal in the left hand.

Example 78 illustrates the use of both trichord [0 1 2] on D (marked in red) and tetrachord [0 1 2 3] on D (marked in green). Throughout these bars, octave doublings and octave displacements are evident.

Example 78: The use of trichord [0 1 2] on D and tetrachord [0 1 2 3] on D in bars 4-6

The musical score for Example 78 consists of three staves. The top staff is a treble clef with a 4-measure rest followed by a single note on D4 with a forte (f) dynamic and a pizzicato (pizz.) instruction. The middle two staves are a grand staff (bass and treble clefs). The piano part begins in bar 4 with a mezzo-forte (mf) dynamic. A red box highlights the first three bars of the piano part, showing a trichord [0 1 2] on D. This trichord is expanded through note repetitions and octave displacements. A green box highlights bars 4-6, showing a tetrachord [0 1 2 3] on D. The piano part concludes in bar 6 with a forte (f) dynamic and a pizzicato (pizz.) instruction. The bottom staff is a bass clef with a 4-measure rest followed by a single note on D3 with a forte (f) dynamic.

Subsection a_2 begins with newly formed melodic material derived from trichord [0 1 2] using octave displacements and expansions through note repetitions. Transpositions are used extensively.

In Example 79, the trichord, including octave displacements, permutations, and transpositions, are marked in red. Note repetitions and expanding gestures are marked in green. Blue brackets indicate newly formed gestures resulting from the aforementioned transformations of the trichord.

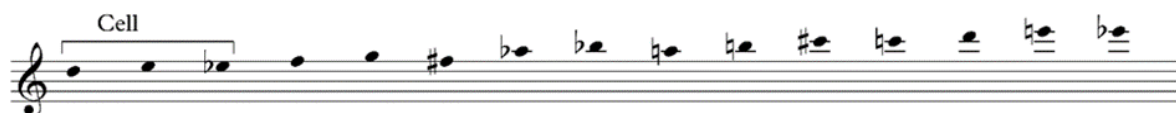
Example 79: Implementation of the expanded trichord [0 1 2] to form new melodic gestures in bars 9-14 (cello part omitted).

The musical score for Example 79 consists of three systems of staves. The first system (bars 9-11) shows a piano part with triplets and dynamics *ff*, *f*, and *sfz*. The upper staff is marked *arco* and *meno mosso*. The second system (bars 12-13) shows a piano part with dynamics *mf* and *f*. The upper staff has a *mf* marking. The third system (bar 14) shows a piano part with a *f* marking. Annotations include red boxes around specific notes, blue brackets under the A_{der} motif, and green circles around downward semitone motions.

These repeated pitches added to the trichord combined with the characteristic rhythm of short-long-short-short create a new motif. This new motif is labelled A_{der} (A-derivative) henceforth. In Example 79, motifs A_{der} is marked in blue. The downwards motion of a semitone within this motif is used more frequently later in the movement.

If the transpositions of these motivic statements are reduced to exclude octave displacements, pitch repetitions (for example, D-E-E^b-D are reduced to D-E-E^b), and repeated motifs, the sequence shown in Example 80 arises.

Example 80: Reduction of bars 9-14



In its reduced form, bars 9-14 constitute transpositions of the cell through all 12 pitches of the chromatic scale.

Intervals implemented until bar 13 primarily comprise simple and compound major and minor 2^{nds}, along with their inversions. In bar 13, the tritone emerges, which is the first prominent interval other than the intervals mentioned above. This interval becomes more prominent as the piece progresses.

The final subsection (a₃) presents the climax of the entire A section. Intervallic use includes the extensive implementation of minor 3^{rds}, which contrasts with the previous subsections' simple and compound major and minor 2^{nds} and tritones. A closer examination of the melodic material reveals that statements are essentially transformations of cells with the interval of a major 2nd, augmented to the aforementioned minor 3rd. Also, cellular growth from fragmented statements (marked in red in Example 81) evolving to complete statements of the transformed cell (marked in green) is evident towards the end of the section.

Example 81: Transformed cell in bars 19⁴-22², violin only



The B section opens with a lively 3-bar accompaniment pattern that displays the same organic growth seen in the A section. Bars 24-25 are fragments of motif B that result in the motif's complete statement in bar 26 when fused. This is illustrated in Example 82. This motif is extensively used in b₂. Bars 24-26 form an *ostinato*-like phrase that underpins the superimposed melodic material throughout bars 27-40.

Example 82: Fusion of fragments to form motif B in bars 24-26, piano only

It is also evident that the latter part of bar 24 (boxed in red) comprises the inverted melodic contour of the transformed cell in bar 21⁴-22². Also, bar 25⁷-25¹³ implements the same contour as the motivic statement in bars 21⁴-22².

In bars 27-30, a new melodic gesture is presented in the violin. This melodic statement is derived from a diatonic pentatonic scale on D, but since it revolves around B, we can say that it is constructed from the 5th mode of the pentatonic scale. The intervallic content of this melody involves 2^{nds}, 4^{ths}, 5^{ths}, and the prominent use of 3^{rds} (along with their inversions).

In Example 83, intervals of 3^{rds} and 6^{ths} are marked with brackets. Additionally, the melody's resemblance to the diatonic pentatonic scale on D is apparent through the marked scale degrees. Motif C is marked in red.

Example 83: Implementation of the diatonic pentatonic scale on D, 5th mode, in bars 27-30, violin only

The cello answers the violin in bars 30-33 with similar melodic material transposed down a compound 5th, resulting in a melodic statement based on the diatonic pentatonic scale on G,

5th mode. The conclusion of this answer contains a chromatic extension (A \flat) that facilitates a modal shift to the Phrygian mode on E \flat .

From bars 33-40, motif C is used to construct most of the melodic material in the violin. This motif is used in both its original and rhythmically extended forms. Transpositions are implemented to construct larger gestures, which include the subtle use of tritones (marked in red in Example 84). There are also two statements of motif B in bars 36 and 40 (marked in green).

Example 84: The use of motifs B and C in bars 34-41¹, violin only

The melodic statements in bars 34-41¹ form a cohesive unity with the following subsection (b₂) starting in bar 41. Bars 41-56² are almost exclusively derived from motif B and initiate with fragmented permutations of the motif. These statements include rhythmic transformations. The complete statement of motif B occurs in bar 47. In Example 85, the red numbers indicate permutations of motif B used in bars 41-47.

Example 85: Permutations of motif B used in bars 41-47, piano only

Example 85 shows the fragmented statement of motif B in bars 41-43¹, the fragmented and permuted statements in bars 43³-46¹, and the complete statement of motif B in bar 47.

Bars 47-56² continue with the procedures illustrated in Example 85, which include fragmented, permuted, and complete statements of motif B. Various transpositions also occur.

An example of a significant transposition occurs in bars 50⁵-52. The material in bar 50²-51⁴ is transposed a tritone higher in bar 52 and is significant in light of the transition that follows. This is illustrated in Example 86.

Example 86: Tritone transposition of motif B in bars 50⁵-52, violin only

The transition passage in bars 56²-65 exemplifies two fascinating aspects: 1) Through octave displacements of melodic pitches, the composer is able to create the illusion of multiple musical lines in a single instrumental part; and 2) the prominence of the tritone creates a contrasting sound-world in comparison to previous sections.

In Example 87, the tritones are marked in red, and the register divisions creating two separate musical lines in one instrument are marked in green. Notice the interactive contours of the separate melodic lines created by register divisions in bars 59-60.

Example 87: Tritone usage and register divisions in bars 56²-60

The image shows a musical score for Example 87, covering bars 55 to 60. The score is written for a violin and piano. The violin part (top staff) begins at bar 55 with a triplet of eighth notes. In bars 56-60, it features a melodic line with tritones (marked in red) and register divisions (marked in green). The piano accompaniment (middle and bottom staves) includes a bass line with a tritone (marked in red) and a right-hand part with a tritone (marked in red). The score includes dynamic markings such as *f*, *mp*, *p*, and *pizz.* (pizzicato).

It is worth noting that apart from the F-pedal in the piano, all other material in bars 56²-60 is derived from the whole-tone scale on C. The pitches used in each instrument are illustrated in Example 88.

Example 88: Whole-tone scale use in bars 56²-60

The image shows a musical score for Example 88, illustrating the whole-tone scale on C. The score is written for a cello and violin. The cello part (left staff) shows scale degrees used in bars 56-60. The violin part (middle staff) shows scale degrees used in bars 56-60. The whole-tone scale on C (right staff) is shown as a sequence of notes: C, D, E, F, G, A, B, C.

Example 88 shows that limited pitches are chosen for the violin and cello parts and are for the most part arranged to form intervals of tritones, 7^{ths}, and 9^{ths}.

These interval structures continue in bars 61-63; however, the pitch organisations form statements related to motif A_{der} but with rhythmic alterations. Semitone transpositions yield chromatic and dramatic gestures. This is illustrated in Example 89.

Example 89: Chromatically transposed fragments of motif A_{der} in bars 61-63

The image displays a musical score for three staves. At the top, a small staff labeled 'Motif A_{der}' shows the sequence of notes: G4, A4, B \flat 4, C5, D5, E5, F5, G5. Below this, the main score consists of three staves. The top staff is for the violin, the middle two staves (piano and cello) form the piano accompaniment, and the bottom staff is for the cello. The score covers bars 61, 62, and 63. The violin part features chromatically transposed fragments of the motif. The piano accompaniment consists of a steady eighth-note pattern in the right hand and a similar pattern in the left hand. The cello part also features chromatically transposed fragments of the motif.

Section B₁ does not contain any subsections and comprises the *ostinato*-like accompaniment figure, based on motif B, in combination with motif C-based melodic constructs. As already discussed, the opening two bars of the accompaniment of b₁ (bars 24-25) function as the primordial form of motif B. Bars 66-71 implement this primitive form of the motif in conversation-like statements between the violin and piano (illustrated in Example 90). Underpinning this dialogue is the primordial form of motif B used in the cello part, forming the characteristic 13/8 accompaniment figure.

Example 90: Implementation of motif B in bars 66-70

From bars 72-78, the cello continues with the accompaniment figure, while the violin plays material constructed from both motifs B and C. Motif C undergoes various transformations in these bars, including interval augmentations, inversions, and octave displacements.

In Example 91, the splicing of motifs B and C and the transformations mentioned above are evident. The red brackets indicate the usage of motif C along with all its alterations, and the green brackets indicate the iterations of motif B with modifications.

Example 91: Combination of motifs B and C in bars 75-82, violin part only

The C section starts in bar 83 with a contrasting serene character. Similar to the opening bars of the B section, the C section initiates with primordial material from which the primary material of the section systematically grows. This fully-developed material, also forming motif D, is stated in the cello part of bar 88 and has an almost folk-like quality. This is in part due to the underlying scale formation used for melodic construction. The scale in use seems to be a diatonic pentatonic scale on E with the omission of the 5th degree-C#.

Example 92 illustrates the gradual development of material extracted from the inner voice of the chordal piano accompaniment in bars 83-84 and 87 to form motif D in bar 88. The pitches of motif D and their use in the bars mentioned above are numbered to elucidate this evolutionary process.

Example 92: Development of motif D in bar 88 throughout bars 83-84 & 87

During these same opening bars (83-87), the violin states a free rhythmic augmentation of the material played by the inner voice of the piano chordal accompaniment in bars 83-84.

However, as can be seen in Example 93, it is merely the contour of the violin part that resembles the piano material.

Example 93: Violin part compared to the piano part in bars 83-87

The image shows a musical staff in 6/4 time. The first four bars are labeled 'Bar 83-84, piano:' and contain piano accompaniment. The next five bars are labeled 'Bar 83-87, violin:' and contain a violin line. The violin part starts with a forte (*f*) dynamic. The first two bars of the violin part feature a slur over two notes, with a sharp sign above the first note. The following three bars consist of single notes, with a sharp sign above the first and the last notes.

From bars 88-90, motif D receives three iterations forming an outwardly expanding range between the violin and cello parts, with the piano doubling the violin part in 3rds. The notion of texture and range expansion (or growth) is a significant element that mirrors the idea of growth in the opening section of this movement. This aspect is discussed in greater detail in the discussion on texture (section 3.1.5).

In bars 91-92, an interruption in the serene sound-world of the C section occurs. A pointillistic approach is applied within this interjection where scalar gestures are dispersed between the violin and piano parts. The violin material bears a striking resemblance to the Lydian mode, a favourite mode of the composer, while the piano material is similar to the Pelog pentatonic scale on A, providing an exotic colour. If the two scales are combined, they constitute Messiaen's 7th mode of limited transposition. This is illustrated in Example 94.

Example 94: Scalar constructions of bars 91-92

91

pp

pp

pp

92

pp

pp

pp

Scalar passage in bars 91-92, violin: Lydian mode on A

Scalar passage in bars 91-92, piano: Pelog pentatonic scale on A:

Combined scalar passages in bars 91-92, violin & piano: Messiaen's 7th mode of limited transposition, starting on A:

A similar interjection occurs in bars 94-95 based on the same scale formations as bars 91-92. However, expansions of these scalar fragments in both the violin and piano are implemented.

Bars 95²-122 present a transition that combines and explores material from several sections in the movement. Bars 95²-112 are similar in melodic content to the transition in bars 56²-66^{1a}.

The section starts with pedal tones on A \sharp in the violin and piano, while the cello plays the melodic material heard in the first transition. This material is still extracted from the whole-tone scale on C; however, rhythmic alterations and permutations occur. Intervallic arrangements accommodate interval distances other than the tritone, 7th, and 9th, which is primarily used in the first transition. These procedures are apparent in Example 95 that compare the violin part of bars 58-60 with bars 96-99.

Example 95: Comparison between bars 58-60 and 96-99, violin and cello parts only

Through this comparison, the following is evident:

- The same whole-tone scale is used from which to derive melodic material;
- If the upper notes of each melodic line are compared, we see the use of the same three pitches, B \flat , C, D (marked in red); however, bars 96-99 include permutations of these pitches;
- Rhythmic alterations through free augmentation and rhythmic addition are used in bars 96-99; and
- The cello part in bars 96-99 includes interval distances of a 6th (E-C), which are not present in bars 58-60.

Bars 100-104, seen in Example 96, continue to develop the material discussed above while involving the piano in dialogue-like statements with the violin and cello. Additional permutations of material seen in bars 96-99 are used and marked in blue. Further rhythmic alterations also occur, which include a rhythmic element of motif C (marked in purple). The material is still partially related to the whole-tone scale on C (marked in red), except for bars 104-106¹ (marked in green). In these bars, the piano starts introducing chromaticism in preparation for the chromatic gesture in bars 106²-112.

Example 96: Permutations and scale usage in bars 100-104

Whole-tone derived

14

100

Rhythmically related to motif C

Examples of permutation with accompanying rhythmic alterations

103

More chromatic

Bars 106²-112, illustrated in Example 97, are based on a fragment of motif A_{der} (marked in red). The application of the material is similar to bars 61-63. The fragment of the motif used in the cello is transposed downwards chromatically (bars 106²-109). In bars 110-112, the same material is inverted and transposed chromatically upwards.

Example 97: Directional use of a fragment of motif A_{der} in bars 106²-112

The image shows musical notation for Example 97. At the top, two short musical phrases are shown: 'Motif A_{der}' and 'Motif A_{der} altered and expanded'. Below these are two staves of music. The first staff has a red bracket under the first three notes, with red arrows pointing right from the first and second notes. The second staff has a red bracket under the first three notes, with red arrows pointing right from the first and second notes. Green dashed lines with arrows at the end connect the brackets between the two staves, indicating the expansion of the motif.

In bars 113-122, a continued exploration of motif A_{der} occurs. Transformation devices used in these bars are mainly rhythmical; however, a new scale formation is implemented from which melodic material is extracted, including motif A_{der} . In previous bars, the whole-tone and chromatic scales predominated. However, in bars 113-122, the octatonic scale on E (W-S) is used as the primary source material.

Example 98 illustrates the various transpositional and rhythmically modified treatments of motif A_{der} (marked in red). Subsequent transpositions of material result in the octatonic scale on E (W-S).

Example 98: Implementation of motif A_{der} and the octatonic scale on E (W-S)

The image shows musical notation for Example 98. It consists of three parts. The first part is 'Bars 116-117, violin part:' with a staff of music. The first three notes are boxed in red. Fingerings 5, 4, 7, 6, 1, 8 are indicated above the notes. The second part is 'Bars 118-119, cello part:' with a staff of music. The first three notes are boxed in red. Fingerings 1, 8, 3, 2, 5, 4, 7, 6, 1, 8 etc. are indicated above the notes. The third part is 'Octatonic scale on E (W-S)' with a staff of music showing the notes E, F#, G, A, Bb, C, D, Eb. Fingerings 1, 2, 3, 4, 5, 6, 7, 8 are indicated above the notes.

In bars 123-131, material from both the A and B sections are combined (illustrated in Example 99). The piano plays gestures derived from trichord [0 1 2] on A as continuous expanding cycles (marked in green). These expansions occur through various permutations of the trichord (similar to the opening bars of the movement). On the other hand, the violin and cello articulate motif B three octaves apart in combination with the expanding trichord material (marked in red). As a result, the opening material of the movement now becomes accompaniment for motif B.

Example 99: Combination of trichord [0 1 2] on A with motif B in bars 124-125

This leads to B₂ that concludes the movement. Both subsections (b₁ and b₂) are presented; however, they are shortened.

3.1.3 Harmonic content

As seen in the section on melodic content, a₁ exemplifies cellular growth of motif A. This notion is reflected in the complexity of vertical constructions. The movement opens with the piano playing motif A in octaves between the right- and left-hand parts (bars 1-3). This expands to double octaves in bars 4-5² and melodic intervals in the right-hand part of bars 5⁴-9³. A broken octave pedal on D underpins these superimposed melodic intervals. The pedal notes in the piano contribute to the centralisation of the opening section around D. Other contributing factors are motif A's revolvment around D and interval punctuations by the violin and cello in bars 5³, 7², and 8⁴ constructed on D. This pitch centrality anchors the music in the sea of chromaticism used throughout the A section. However, it seems that the

linear horizontal parameter is the focus rather than the vertical harmonic results. Also, even though motif A revolves around D, the chromatic nature of the opening 5 bars still has the effect of a blurred locus or tonal centre.

Intervallic punctuations consist of major 9th intervals and are used to divide trichord gestures in the piano part. These interval distances reflect the sound-world of the melodic intervals of the piano in bars 6-9, consisting of major and minor 7^{ths} as well as octaves. These open-spaced structures lessen the harsh dissonant result of surrounding tight cluster material.

In Example 100, the D-centrality of motif A (marked in red), string punctuation (marked in green), and the piano pedal tones in the left hand (marked in blue) are illustrated.

Example 100: D-centrality of bars 1-6

The musical score for Example 100 is presented in three systems. The first system shows the Violin, Piano, and Violoncello staves. The Violin staff is marked 'Misterioso'. The Piano staff is marked 'pp' and includes a tempo marking of quarter note = 132. The Violoncello staff is marked 'f'. The score is annotated with red circles around specific notes in the Piano part, a green circle around a note in the Violoncello part, and a blue box around a group of notes in the Piano part. A text box in the first system reads: "Revolvement around D, yet the centre is still blurred at first." The second system shows the continuation of the Piano and Violoncello parts, with the Piano part marked 'mf' and the Violoncello part marked 'f' and 'pizz.'. The third system shows the continuation of the Piano and Violoncello parts, with the Piano part marked 'mf' and the Violoncello part marked 'f' and 'pizz.'.

In the subsection (a₂) that follows, the music evolves to more complex chromatic material and loses the opening's D-centrality. The gesture dividing punctuations are transferred to the piano and presented as more complex chordal structures. These denser chords surrounded by

an increased chromatic vocabulary exemplify the notion of growth (simplicity to complexity). The chordal punctuations in bars 10⁴ and 11⁴ can be analysed in several ways:

- As a mixed-interval chord comprising a minor 9th, major 6th, major 3rd, diminished 4th, and major 2nd, respectively (illustrated as a-e in Example 101);
- As a B \flat major 11th chord with a split 5th;
- As a whole-tone chord with all its members extracted from the whole-tone scale on C, except F \sharp ; or
- As a colouring device comprising punctuation of a ‘milder’ dissonance to offset the harshness of the tight cluster material.

These are illustrated in Example 101.

Example 101: Analytical interpretations of the chord formation in bar 10⁴

The image shows three musical notations illustrating the chord formation in bar 10⁴.
 1. A piano score with a treble and bass clef. The treble clef has notes G \sharp , A, B, C, D, E. The bass clef has notes G, F, E, D, C. Labels 'a' through 'e' are placed next to the notes: 'a' under G, 'b' under F, 'c' under E, 'd' under D, and 'e' under C.
 2. A single chord in treble clef with notes G \flat , A, B, C, D, E. Labeled 'B \flat maj.¹¹ (5!)'.
 3. A whole-tone scale on C in treble clef: C, D, E, F \sharp , G \sharp , A \sharp . Labeled 'Whole-tone scale on C:'.

The chord illustrated in Example 101 is also used in bar 11⁴; however, it is transposed a minor 3rd upwards.

The chords used in bars 20-23 contain prominent voicings used in most sections of this movement. The violin and cello play motif A_{der} related material against an E-pedal, which are expanded and adapted towards the conclusion of the section. The piano part supplements the violin and cello structures by implying a V⁹(v⁹)-iv6/4-i_(add2) progression in A minor (or A Aeolian mode). However, the 3^{rds} of the dominant and tonic chords are omitted not to impose a direct tonality or modality on the music. Furthermore, the voicing of most of these harmonies, especially upper structures, are quartal and quintal, partially due to the omission of the 3rd of selected chords.

Example 102 illustrates the progression mentioned above. The quartal structures in the right-hand part of the piano and the E-pedal are evident. The violin and cello continue with triplet

patterns related to motif A_{der} and are arranged to form dissonant intervals of mostly major 7^{ths} and minor 9^{ths} against the pedal tone.

Example 102: Chord formations and E-pedal in bars 20-24

a: V^9 iv_4^6 i

The last chord in the piano part of Example 102 illustrates a harmonic procedure frequently implemented by the composer in this composition: The additions of non-triadic notes to a chord. In this example it is the added 2nd.

In b_1 , the simultaneities in the piano part are entirely dominated by quintal structures. Similar to the chord structures in Example 102, this is due to the omission of 3^{rds} from harmonies. Occasionally, notes are added to these quintal structures in the form of 2^{nds} and 4^{ths}, giving these sonorities suspended qualities. These added note chords can also be analysed as inverted quartal harmonies (e.g. E-A-B = B-E-A or 3x4 on B). Quintal structures are apparent in Example 103, and added note chords are marked in red.

Example 103: Quintal structures and added note harmonies in bars 24-26, piano only

The musical score shows three measures (bars 24, 25, and 26) in 13/8 time. The right hand (treble clef) has a melodic line with accents and dynamic markings *sf sf*. The left hand (bass clef) has a bass line with a forte (*f*) dynamic. Two red boxes highlight specific chordal structures in the right hand: one in bar 24 and one in bar 25.

Although bars 20-23 alludes to an A-centrality, bars 24-33⁹ are E-central, especially when considering the piano accompaniment revolving around E. Additionally, a bimodal process seems to be applied with the implementation of both F[#] and F[♮]. This implies the alternate use of E Phrygian and E Aeolian modes.

The examination of this movement's melodic content established that the melody in bars 27-30 and 30-33⁹ are based on diatonic pentatonic scales on D and G, respectively. Both pentatonic scales can be extracted from the E Phrygian and E Aeolian modes, substantiating the bimodal process.

In Example 104, the violin and cello melodic statements based on the two pentatonic scales are indicated in red and the dual use of F[#] and F[♮] in green. Also, notice the E-centricity of the piano accompaniment.

Example 104: Bimodal implication in bars 27-33⁹

The musical score for Example 104 consists of three systems of staves. The first system (bars 27-29) shows a piano accompaniment with a bass line and a right-hand part. The right-hand part has a melodic line with a red box around it in bar 27, and a red box around it in bar 30. The bass line has a red box around it in bar 30. The score includes dynamic markings such as *mf*, *f*, and *subito p*. The second system (bars 30-32) shows the piano accompaniment continuing. The bass line has a red box around it in bar 30 and bar 33. The score includes dynamic markings such as *p* and *mf solo*. The third system (bar 33) shows the piano accompaniment continuing. The bass line has a red box around it in bar 33. The score includes a tempo marking of quarter note = 160 and dynamic markings such as *f*.

Bars 33¹⁰-40 use the Phrygian mode on G for melodic and harmonic construction. The same quintal structures seen at the beginning of b_1 are used throughout bars 33¹⁰-40, the essential distinction being the octave doubling in the right-hand part of the piano.

Bars 41-50² continue implementing quintal accompaniment structures in the piano part, with rhythmic alterations from quavers to quaver triplet figures. In Example 105, the quintal chord structures and the rhythmic transformation are evident.

Example 105: Quintal structures involving rhythmic transformations in bars 42-43

Bars 50⁴-56¹ introduce a new sound-world. Melodic doubling between instrumental parts before bar 50 comprised simple or compound 5^{ths} and octaves for the most part. This reflects the vertical simultaneities chiefly used from the beginning of this movement. However, from bars 50⁴, the composer doubles melodic pitches using parallel moving compound major 3^{rds} in the violin and cello (some enharmonically spelt as diminished 4^{ths}).

Tertian chords with members arranged to form open-5th upper structures create punctuated divisions between melodic cycles in bars 50⁴-56¹. The chords in bar 53-54, illustrated in Example 106, are a D minor 9th chord in first inversion followed by a similar structure transposed a major 2nd down, forming a C dominant 9th chord in first inversion.

Example 106: Chord structures in bars 53-54

Dm⁹/F C⁹/E

The transition is melodically derived from the whole-tone scale on C. However, this is superimposed over an F-pedal in the piano that is unrelated to the whole-tone scale used for

melodic purposes. This contributes to the tension created in the transition, which leads back to the reiteration of the B section. The parallel motion between the violin and cello, consisting of compound major 3^{rds}, continues throughout the transition.

Section B₁ recommences with quintal structures as the main vertical construct. Harmonically, this section returns to the E Phrygian mode for harmonic purposes while being melodically centred around the diatonic pentatonic scale on G, 5th mode. The significant modal difference between bars 66-71 and 72-78 is the addition of a C-pedal in the cello part during the latter bars, creating a fusion between the Phrygian mode on E and C major. The *ostinato*-like accompaniment figure remains primarily the same between the initial B section and B₁. Example 107 illustrates the addition of the C-pedal in bar 72.

Example 107: Modal shift between bars 71 and 72

The image shows a musical score for three instruments: Violin, Piano, and Cello. The score is in 3/4 time. Bar 71 shows the beginning of a section. Bar 72 shows a modal shift. The Cello part in bar 72 is highlighted with a red box, and the C-pedal notes are circled in green. The word "solo!" is written above the Cello part in bar 72.

A repeated harmony in the piano part of bars 75 and 79-82 constitute an open-5th quintal structure on E with an added 4th. The voicing in the upper structure, illustrated in Example 108, can also be interpreted as two interlocking perfect 5^{ths} or an inverted quartal chord (3x4 on B). This is the same chord used in bar 25⁴ (Example 103).

Example 108: Chord structure in bars 75 and 79-82

The image shows a musical score for two instruments: Violin and Piano. The score is in 3/4 time. A red box highlights the upper structure of a chord in the Violin part. A red arrow points from this box to a separate staff showing the chord structure in a different voicing.

A shift towards a richer and fuller harmonic syntax is used in the C section, creating another contrasting soundscape. The tonality is A major, prepared by the return of the E-pedal tones in bars 80-82. However, this section is loosely crafted around this tonality and can be described as pandiatonic. Kostka (2011:108) describes this practice as “a passage that uses only the tones of some diatonic scale but does not rely on traditional harmonic progressions and dissonance treatment”. Similarly, the tonality of this section is not generated through traditional means, and all notes within A major are treated equally. Example 109 illustrates this in bars 87-88 where the leading tone, G#, is treated freely.

Example 109: Free treatment of the leading tone of A major in bars 87-88

The musical score for Example 109, bars 87-88, is presented in 7/4 time and A major. It consists of three staves. The top staff (treble clef) contains a whole rest. The middle staff (grand staff) shows chords in the treble clef and triplets in the bass clef. The bottom staff (bass clef) shows triplets. Red circles highlight the G# notes in the grand staff, and red ovals highlight the G# notes in the bottom staff.

The harmonic structures of the opening 6 bars (83-88) of the C section can be best described as the process of repeating chord structures with added pitches formulating motif D in its primitive form. The added notes in these bars include the added 2nd, 4th, 6th, and 7th. Furthermore, the repeated harmonies are situated on an A-pedal, further enhancing the notion of A-centrality.

Indicated in Example 110 are the repeated A major triads combined with the bass pedal (top and middle staves). Additionally, the notes from motif D forming the added tones are indicated on the bottom staff. The two marked harmonies can be analysed as D major triads with added 2^{nds}. This repeating A major triad with its added notes expands and contracts as these opening bars progress, resulting in increasing and diminishing textures.

Example 110: Harmonic layout of bars 83-88

83

87

83

A major chord

add2 add6 add7 add 2&6

add2 add 4&6

add7 add 2&6 4&6 6&7

add: 2 6 7 6 2 7 2 6 7 6 2 7 6

In bars 89-90, the violin and cello play iterations of motif D in octaves. The piano doubles the violin and cello in major and minor 3^{rds}, forming complete major and minor triads moving in parallel motion. The parallel motion of triads resembles diatonic planning, similar to the harmonic practices in *Strange Quartet*. Kostka (2011:86) describes this procedure as harmonic parallelism using the pitches of a diatonic scale only.

As already established, the key of A major is central to these bars, and the strong dominant-tonic bass movement in the piano left-hand part in bars 89-90 strengthens this notion.

The parallel moving triads and dominant-tonic bass movement are illustrated in Example 111.

Example 111: Harmonic formations in bars 89-90

The image displays two musical staves for Example 111, covering bars 89 and 90. The upper staff is a piano score consisting of three staves: a treble clef staff, a grand staff (treble and bass clefs), and a separate bass clef staff. The piano part features a complex rhythmic pattern of eighth notes with triplets, marked with a piano (*p*) dynamic. The lower staff shows a violin part in the treble clef and a piano accompaniment in the bass clef. The violin part is annotated with the text "Violin part forming 1st inversion triads with the piano right hand". Below the violin staff, a series of chords are listed: Amaj, Bmin, C#min, Bmin, Emaj, Cmin, Bmin. A red line is drawn under the piano accompaniment in the lower staff, indicating the E-pedal in the piano left hand.

In the transition that follows the C section (bars 95²-122), vertical sonorities are treated similarly to bars 56²-66^{1a} (first transition). Melodically, both transitions implement the whole-tone scale on C apart from the pedals. The first transition implements an F-pedal not forming part of the whole-tone scale, creating heightened tension. However, in the second transition, the pedal shifts to an A# in the violin and partially the piano, creating less tension since the A# is part of the underlying whole-tone scale.

This A#-pedal returns in bars 106²-112 and is combined with an E-pedal in the piano left hand. These two pedal tones result in a tritone relationship, increasing the tension as the transition concludes. The tail-end of the transition implements a rhythmically altered fragment of motif A_{der} in parallel major 3^{rds} between the violin and cello. In between the violin and cello parts, the piano enters with an E-pedal in the left hand (indicated red in Example 112) and parallel moving perfect 5^{ths} in the right hand. The combination of the violin, cello and piano parts yields parallel moving triads, namely E minor and D# minor (indicated in green).

Example 112: Harmonic procedures in bars 120-121

Emin⁶-D#min⁶

Bars 123-131 contain elements from both the A and B sections and are mainly centred around Eb. Trichord [0 1 2] in the piano part is transposed to A and not D as in the movement's opening bars, and accompanies motif B played by the violin and cello in compound octaves.

Bars 128-131 hint at B \flat major with the introduction of A \natural . The melodic material in these bars moves in parallel minor 3^{rds}, contrasting the major 3^{rds} primarily used in the movement.

This leads to the concluding section of the movement (B₂) that is similar in content to the first B section. Melodic and harmonic content is derived from the G Phrygian mode and revolves around motifs B and C. Vertical sonorities focus on quintal structures. The movement ends with repetitions of a quintal structure on G, namely 3x5 on D. This is illustrated in Example 113.

Example 113: Harmonic structure in the concluding bars of the movement

The image displays a musical score for Example 113, focusing on the harmonic structure in the concluding bars. The score is written for four staves: Violin I, Violin II, Cello, and Double Bass. The key signature has two flats (Bb and Eb), and the time signature is 4/4. The score begins at measure 147, marked with a '3' over the first note of each staff, indicating a triplet. The first four staves (Violin I, Violin II, Cello, and Double Bass) all play a complex rhythmic pattern of quaver triplets. A red box highlights the final four bars (measures 151-154), which are marked 'pizz.' and 'arco'. Above the score, a single treble clef staff shows a chord consisting of a quarter note G4 and a half note Bb4, with a downward arrow pointing to the start of the highlighted section.

3.1.4 Rhythm

In the A section, the notion of cellular growth associated with this opening section is also evident in the rhythmic content. Although the metre is a simple quadruple metre, motif A moves through expanding cycles that do not align with bar lengths. Cyclic divisions are enunciated by crotchet rests and *pizzicato* crotchet intervals in the violin and cello. Rhythmic cycles comprise quaver triplet figures exclusively. The expanding cycles of varying amounts of crotchet beats consist of the following lengths: 2+4+5+4+6. This is illustrated in Example 114.

Example 114: Illustrating the expanding cycles of motif A in bars 1-7

The musical score for Example 114 is presented in three systems. The first system (bars 1-3) shows the Violin, Piano, and Violoncello staves. The Piano part features three cycles of motif A, each longer than the last, marked with red brackets and numbers 2, 4, and 5. The first cycle (bars 1-2) is marked *pp*. The second cycle (bars 3-4) is marked *mf*. The third cycle (bars 5-6) is marked *f* and includes a *pizz.* (pizzicato) instruction. The Violoncello part is mostly silent, with a few notes in bar 7. The second system (bars 4-6) continues the Piano part with the same motif A cycles, marked with red brackets and numbers 4 and 6. The third system (bar 7) shows the continuation of the Piano and Violoncello parts.

Section a_2 exhibits significant rhythmic transformations that are implemented considerably throughout this movement. Motif A_{der} is stated in bars 9^{4b} - 10^3 . The rhythm of short-long-short-short is altered through three devices: 1) rhythmic contraction, 2) rhythmic addition and alteration, and 3) fragmentation. These three treatments are evident in bars 12, 13, and 16 and illustrated in Example 115.

Example 115: Rhythmic transformations implemented in bars 12-16

Not only does the composer implement rhythmic transformations between iterations of the motif, but the space between statements are also contracted. Crotchet chord divisions between repetitions of motif A_{der} in bars 9^{4b} - 12^{4a} are evident. Subsequently, the crotchet beat punctuation is omitted, and a rhythmically contracted version of the motif follows in bar 12^{4b} -14.

In Example 116, motif A_{der} is marked in red, the rhythmically contracted statement of motif A_{der} is marked in green, the crotchet beat punctuations are marked in blue, and the subsequent omission is marked with a blue arrow.

Example 116: Rhythmic contraction between statements of motif A_{der} in bars 9^{4b} -14

In bars 19⁴-22³, rhythmic and melodic expansion through addition is implemented. The expansion is realised through the addition of a crotchet value to each subsequent iteration of the gesture. Accompanying the expansion principle are accented chordal punctuations placed on varying metric beats to divide statements. These combined elements obscure the 4/4 metre. In Example 117, the length of each expanding gesture is indicated in crotchet beats (marked in red); chord divisions in the piano are marked in green.

Example 117: Expanding rhythmic gestures in bars 19⁴-22³

This leads to the energetic B section with a 13/8 metre that is subdivided into 9+4 quaver groups. The group of 9 quavers is further subdivided to form quaver groups of 3+3+3 or 3+4+2, as illustrated in Example 118. The opening three bars provide the complete sequence of rhythmic divisions that formulate the *ostinato*-like material used throughout b₁.

Example 118: Metric divisions of bars 24-26, piano only

The violin melodic line in bars 27-33 for the most part uses note values of the same length as the underlying cumulative quaver groups in the piano accompaniment. These sustained

itches create a stark contrast against the rhythmically driven piano part. This is illustrated in Example 119.

Example 119: Rhythmic usage in the melody of bars 27-29

Bars 34-35 and 38-39 illustrate additional examples of space contraction between motivic statements to enrich the rhythmic vitality of the passages. As illustrated in Example 120, the final note of motif C's first statement is tied to a dotted crotchet, after which the next repetition commences, and in the next bar, the contraction takes place by rearranging the rhythmic elements. The dotted crotchet is replaced by a rest and moved to the beginning of the bar, bringing the iterations of motif C closer together.

Example 120: Rhythmic contraction between statements of motif C in bars 34-35

Three permuted and rhythmically transformed statements of motif B are implemented in the initial bars of b_2 . Bars 41³-46 are based on fragmented statements of motif B that undergo permutations and rhythmic alterations and develop to a complete statement of the motif in bar 47. The rhythmic structures used for the three statements are presented in Example 121.

Example 121: Rhythmic alterations of motif B in bars 41³-48

The musical score for Example 121 is presented in a grand staff with a treble and bass clef. It is in 3/4 time. Section A (bars 41-44) shows a series of chords in the bass clef. Section B (bars 45-48) features a melodic line in the treble clef with triplets. Section C (bars 49-52) features a melodic line in the treble clef with eighth notes and triplets.

If the upper pitches of each gesture in Example 121 are considered, the reduced representation in Example 122 becomes apparent as a melody.

Example 122: Rhythmic reduction of Example 121

The musical score for Example 122 is presented in a single staff with a treble clef. It is in 3/4 time. Section A (bars 41-44) shows a series of notes. Section B (bars 45-48) features a melodic line with triplets. Section C (bars 49-52) features a melodic line with eighth notes and triplets.

Example 122 shows how irregular beat divisions and note repetitions are implemented as forms of rhythmic modification. The diminution of note values creates a sensation of increased forward motion.

During the final bars of the B section (bars 55-56¹), the composer implements note deletion to create rhythmic interest. Example 123 shows how the second note of each triple figure in bars 55-56¹ (marked in green) is deleted to form a new rhythmic pattern compared to bars 52-54 (marked in red). Notice that chordal divisions are still used to divide gestures.

Example 123: Example of note deletion in bars 55-56¹

The image displays a musical score for Example 123, consisting of two systems of music. The first system, enclosed in a red border, covers bars 52 to 54. It features a violin part with triplets and an 'arco' marking, and a piano accompaniment with chords and dynamics like 'f sf' and 'sf'. The second system, enclosed in a green border, covers bars 55 to 56. It shows a similar structure with triplets and dynamics like 'sf'.

Another rhythmic device is used in bars 56²-60 of the transition. The violin and cello play in rhythmic unison during these bars, first as dotted crotchets (bars 56²-58) and then as crotchets only (bars 59-60), rendering a hemiola, illustrated in Example 124.

Example 124: Hemiolas in bars 58-59

The image displays a musical score for Example 124, consisting of two systems of music. The first system, enclosed in a red border, covers bars 58 to 59. It features a violin part with dotted crotchets and a piano accompaniment with eighth notes. The second system, also enclosed in a red border, covers bars 60 to 61. It shows a similar structure with eighth notes.

Section B₁ contains similar rhythmic procedures as in bars 24-56^{1b}. The section opens with the 13/8 accompaniment figure in the cello comprising the series of 9+4 quavers groupings. The violin material is based on the same material as the cello; however, it includes deletion and simplification of the cello part's rhythm. In Example 125, the patterns created through note deletion are marked in red and rhythmic simplifications are marked in green.

Example 125: Example of deletion and simplification in bar 66

The musical score for Example 125, bar 66, is presented in three staves. The top staff is the Violin part in treble clef, the middle is the Piano part in grand staff, and the bottom is the Cello part in bass clef. The time signature is 13/8 and the tempo is marked as quarter note = 150. The Violin staff shows a sequence of notes with a red box highlighting a deletion of notes and a green box highlighting a simplification. The Piano staff shows a sequence of notes with a red arrow pointing to a deletion and a green arrow pointing to a simplification. The Cello staff shows a sequence of notes with a red arrow pointing to a deletion and a green arrow pointing to a simplification. The dynamics are marked 'p' for piano and 'mf' for mezzo-forte.

The procedure illustrated in Example 125 continues throughout bars 67-71 as a dialogue between instruments. Bars 71-82 focus on motifs B and C with pitch transformations as the primary modification device.

The C section, starting in bar 83, illustrates examples of hemiolas, diminutions, and augmentations within the first five bars of this section. These are illustrated in Example 126. Bars 83-84 contain two dotted minims per bar in the right-hand part of the piano, and in bars 85-86, three minims per bar are used. This is a typical example of a hemiola. Rhythmic diminution occurs in bar 87, with the minims of bars 85-86 reduced to crotchets in bar 87. The violin and cello parts contain free augmentation of the piano part's material in bars 83-84.

Example 126: Application of hemiola, diminution and free augmentation in bars 83-88

The musical score for Example 126 is presented in two systems. The first system covers bars 83-88. It begins with a tempo marking of $\text{♩} = 140$ *Meno mosso*. The score is in 6/4 time. The upper staff (treble clef) contains a melodic line with a fermata over the first two bars. The middle staves (piano) show a complex texture with chords and moving lines. A red bracket labeled "Hemiola" spans across bars 84 and 85. The lower staff (bass clef) features a steady eighth-note accompaniment. The second system covers bars 87-88. It starts with a time signature change to 7/4. A red bracket labeled "Diminution" spans across bars 87 and 88. The upper staff has a melodic line with a fermata. The middle staff features a series of triplets in the bass clef. The lower staff continues with triplets in the bass clef.

The transition starting in bar 95² contains similar rhythmic devices used in the first transition and can be summarised as follows:

- Hemiolas in bars 95²-99.

Example 127: Example of a hemiola in bar 97, cello part only

The musical notation for Example 127 shows a single staff in treble clef. The key signature has one flat (B-flat). The notation consists of a half note followed by a quarter note, then a quarter note followed by a half note, illustrating a hemiola rhythm.

- Diminutions in bars 100-103 and 109.

Example 128: Example of diminution in bars 99-100, cello part only



- References to the rhythmic element of motif C in bars 102-103 (marked in red).

Example 129: Rhythmic application of motif C in bar 102, cello part only



The rhythmic fluctuations caused by the hemiolas and diminutions are intensified by the irregular placements of the semiquavers related to motif C. Consider the two consecutive bars in Example 130.

Example 130: Irregular semiquaver pattern placements in bars 101-102

In bars 104-113, the material of the previous bars, mainly comprising quavers, are transformed to triplet quavers, and in bars 114-122, the triplet rhythms are exchanged for semiquaver figures. Accompanying these semiquaver figures are dotted quaver-semiquaver statements reminiscent of motif A_{der} . If the statements of this partial motif in bars 116 are compared to its use in bars 118-121, a rhythmic modification becomes apparent. Not only is the dotted quaver divided into repeated semiquavers in bars 118-121, but the metric placement of the second note of the motif's fragment is also different. This yields three variants of the fragment of motif A_{der} .

Consider Example 131 and note the placement of the second pitch (a semitone lower than the starting note) when comparing the two statements of the fragment of motif A_{der} (marked in red).

Example 131: Comparative rhythmic treatment of a fragment of motif A_{der} in bars 116-117¹ and 120

Violin-part, bar 116-117¹:

Bar 120:

In bars 120-122, the transition closes with an E-pedal in the left-hand part of the piano. This pedal is assigned the dotted rhythm associated with motif A_{der}.

Bars 123-131 show the quaver triplet rhythm associated with motif A as accompaniment for motif B in the violin and cello. The statements of motif B are augmented to minims in bars 124-126, after which diminutions revert the values to crotchets in bars 128-129.

This short section leads to B₂, containing the similar rhythmic devices used in the previous B sections.

3.1.5 Texture

The textural density and range of the ensemble expand throughout the A section, initiating with the piano and concluding with the entire ensemble playing expansive chords. This expansion reflects the notion of growth discussed in sections on melodic and harmonic content. For the most part, a homophonic texture ensues and melodic material is played in rhythmic unison by the instruments at various octaves apart.

Example 132 illustrates the section's opening and concluding bars to show the range and density expansions.

Example 132: Comparison of density and range between bars 1-2 and 20-23

The musical score for Example 132 is presented in three systems. The first system shows the opening of the piece, marked 'Misterioso' with a tempo of quarter note = 132. It features three staves: Violin, Piano, and Violoncello. The Violin and Violoncello staves are mostly silent, while the Piano staff plays a series of triplets. The second system shows bars 20-23, marked 'cresc.' and 'sfz'. The Violin staff plays a dense series of triplets, while the Piano and Violoncello staves play a series of triplets. The score concludes with a 6/4 time signature change and a final bar (23).

The apex of the A section is reached in bars 20-23, followed by the B section starting in bar 24. A reduction in density and range occurs as the new section commences, illustrating a common device used by the composer to divide sections. Similar to the A section, the B section starts with the piano only, unfolding motif B within the first three bars.

Example 133 shows the range and density reduction at the start of the B section and can be compared to Example 132.

Example 133: Range and density reduction in bar 24

The musical score for Example 133 is presented in three systems. The first system (bars 24-25) is in treble clef, 13/8 time, with a tempo marking of quarter note = 176 and a dynamic of *ff*. The second system (bars 26-27) is a grand staff with piano accompaniment in both treble and bass clefs, with dynamics of *sf* and *sf*. The third system (bars 28-29) is in bass clef, 13/8 time, with a tempo marking of quarter note = 176 and a dynamic of *ff*.

This is followed by a homophonic texture with the piano accompanying melodic statements in the violin and cello, implementing material initiated in bars 24-26. The *staccato* piano accompaniment used in the piano part contrasts the violin and cello sustained pitches.

Subsection b_2 comprises fragmented and imitative statements, in part creating a contrapuntal predisposition. In bars where instruments play together, the material is stated in rhythmic unison and parts are doubled in octaves. However, in bars 50⁵-56^{1b}, the violin and cello play in parallel 3^{rds} with the piano punctuating chordal divisions between statements. A sudden reduction in textural density involving the omission of the inner part of a texture is common in the three compositions studied for this thesis. This is a typical textural technique, namely the ‘dropping out’ of middle pitches, as found in Ligeti’s early music, for example in *Atmospheres*. Example 134 illustrates such an example.

Example 134: Density reduction by omitting the middle textural constituent in bars 49-51

The transition in bars 56²-66^{1a} consists of a full texture with all three instruments partaking. The violin and cello play *pizzicato* pitches throughout the section against pedal notes situated in the piano low register.

Section B₁ commences with scattered motif B-related statements between the violin and piano parts, resembling imitations. This process is superimposed over an *ostinato*-like accompaniment in the cello. In bar 72, another sudden reduction in textural density occurs, resulting in the solo cello continuing with the 13/8 accompaniment figure. Bars 75-78 comprise a homophonic texture with the violin stating the melodic component above the cello accompaniment. In bars 79-82, a thicker texture representing the climax of the section is presented. All three instruments contribute to the texture, with the piano marking off-beat chord structures and the violin and cello thickening the texture with tremolo motif B-related statements.

Unlike the previous section, the C section initiates with a thick texture covering an extensive range between the three instruments. Bars 83-87 comprise three components:

- Thick chord structures in the piano right-hand part;
- Rhythmic pedal notes in the left hand of the piano; and
- Sustained melodic pitches in the violin and cello.

An introduction of motif D in bar 88 is accompanied by chord structures and pedal tones similar to the material that initiated the section. Without the continuation of the violin part,

this yields a slight reduction in textural density. A range expansion occurs in bars 89-90 where a statement of motif D in the violin is followed by a repetition in a higher register. Two interjections containing imitative scalar passages in bars 91-92 and 94 create a stark contrast to the surrounding material.

Two primary aspects characterise the transition section in bars 95²-122:

- Material reminiscent of bars 56²-66^{1a}, layered above or below single or double pedal tones, are used. This occurs in bars 95²-101 and 107-112.
- Imitative statements of material related to the transition section in bars 56²-66^{1a} infused with elements of the B section occur in bars 102-106.

In bars 123-127, elements of both the A and B sections are presented as superimposed layers. The opening piano figures are used as an accompaniment for a rhythmically augmented motif B, resulting in a primarily homophonic texture.

Section B₂ is texturally similar to the initial B section.

3.2 Movement II

3.2.1 Structure

The structure of this movement comprises two sections, both based on the same melodic material. As a result, the structure can be labelled a mono-thematic binary form consisting of A and A₁.

Table 6: Structural layout of movement II

Bar	Section	Comment
1-27 ¹	A	This section is constructed using two melodic units: 1) A 5-bar melodic statement seen in bars 1-5 in the cello, and 2) a melodic motif first implemented in bar 6 in the violin part.
27-40	A ₁	A ₁ consists of the same two melodic units; however, the material is varied and the section is shortened.

As illustrated in Table 6, the movement's opening bars present the two central melodic units that permeate the work. The first five bars present a fully-formed thematic statement that is immediately followed by a motivic gesture of one bar's length. The 5-bar statement will be referred to as the primary theme and the motif in bar 6 as motif A. This motif is mainly

presented in two forms, the original form, as seen in the violin part of bar 6, and an extended form, seen in the violin part of bar 7. This extended form of the motif will be labelled motif A_{der} . The extensions and variations of these two statements will be discussed at length in the section on melodic content (section 3.2.2).

The movement comprises an exploration of motifs A and A_{der} through dialogue imitations between instruments. For the most part, traditional phrase structures are absent, and continuous strands of the two motifs are spliced, varied, and transformed to form larger units.

Specifics regarding theme and motif relations and how this material is used to construct the entirety of this movement are discussed in the next section.

3.2.2 *Melodic content*

The melodic content of this movement comprises two primary units. Bars 1-5 present the opening thematic statement and is labelled the primary theme. Bar 6 contains motif A that is implemented through dialogue imitations throughout most of the movement along with its derivative seen in bar 7, labelled A_{der} . The labelling is because of the striking resemblance to motif A, and therefore, it can be interpreted as a derivative.

Examples 135-137 present the three melodic units used predominantly throughout this movement.

Example 135: The primary theme, bars 1-5, cello part only

$\text{♩} = 60$ molto espressione

The musical score for Example 135 is written in bass clef with a 6/4 time signature. It begins with a mezzo-forte (*mf*) dynamic and a fermata over the first note. The melody consists of several phrases, including a triplet of eighth notes in the second measure. The piece concludes with a change to 5/4 and then 6/4 time signatures, ending with a forte (*f*) dynamic and a triplet of eighth notes.

Example 136: Motif A, bar 6, violin part onlyExample 137: Motif A_{der}, bar 7, violin part only

The second movement of the composition is described by the composer as “an elegiac and plaintive lament of a time and place long gone, its longing character yearning for a return to a bygone era with distinctly Jewish nostalgic overtones” (Zaidel-Rudolph 2013). The cello opens the movement with a statement of the primary theme that portrays these features. Distinct Jewish nuances are created through pertinent scale and intervallic use. The material in bars 1-2¹, for example, reflects the structure of the *Ahavah Rabbah* mode, which is closely associated with Jewish music. This mode is also referred to as the Phrygian dominant scale. A fundamental interval structure from this mode is the augmented 2nd, frequently implemented throughout the movement. Furthermore, this interval of an augmented 2nd forms part of the double harmonic scale, which largely dominates the melodic parameter and emphasizes the typical sound of the Middle East – emotively depicting the nostalgic yearning in this movement.

In Example 138, the degrees of the *Ahavah Rabbah* mode on A and their use in the theme are indicated. Note the characteristic augmented 2nd in the mode and its use in the theme (marked in red).

Example 138: Similarity between the *Ahavah Rabbah* mode and bars 1-2¹

In bars 4-5, illustrated in Example 139, the interval of an augmented 2nd is used twice, enhancing the character of the opening statement and illustrating the significance of the interval structure.

Example 139: Employment of the interval of the augmented 2nd in bars 4-5



Another relevant observation regarding the primary theme is the possible segmentation of the statement and the prominent aspects that each of these parts exemplifies. Segment 1 & 3 are similar because of their intervallic similarities and content. Both are related to the *Ahavah Rabbah* mode and contain augmented 2^{nds}. Apart from these intervals, they also contain major and minor 2^{nds} and a minor 7th placed near the beginning of each segment, followed by a stepwise motion downwards. Segment 2, on the other hand, contains additional intervals such as a minor 3rd, major 6th, and a perfect 4th. No augmented 2^{nds} are used in this middle segment. Also, each segment rises higher in supplication.

Example 140 illustrates this.

Example 140: Segmentation of Theme A

The interval of a major 7th is a significant structure in motif A and forms a vital link with the primary theme. Example 141 illustrates this relationship. The ascending interval F-E (major 7th) occurs in both segment 1 & 3 of the primary theme, and the entire motif A comprises the retrograde of this specific interval preceded and followed by its inversion.

Example 141: Intervallic construction of motif A

Motif A_{der}, used in bar 7, is an expansion of motif A and uses material extracted from the primary theme between the core pitches of motif A as an elaboration. This procedure is illustrated in Example 142.

Example 142: Construction of motif A_{der}, as derived from motif A and bars 4 and 5 of the primary theme

It is also worth noting that the material used in motif A_{der} is strikingly similar to the double harmonic scale on E.

A prominent feature in this movement is the complete or partial imitative dialogue of motifs between instruments. This is initiated in bar 8 and continues throughout most of the movement. The material used to construct imitations is motifs A and A_{der}.

In Example 143, it is evident how motifs A (green) and A_{der} (red) are imitated at various time and vertical interval distances to establish the notion of dialogue. The time distance between imitative statements yields both overlapping and disjunct imitations. This aspect is discussed in the section on rhythmic content (section 3.2.4). Furthermore, both full and partial motivic statements are used as imitative constituents; for example, in bars 10^{2c}-11¹, the cello imitates

only a fragment of the violin part. Vertical imitation distances are also varied to accommodate harmonic and melodic variety as the motifs are transposed and displaced through various registers. Another pertinent observation is that intervals in motifs are occasionally altered through augmentation or diminution to align with underlying harmonies or to form extensions and added notes to chords. This is apparent in bar 10 (marked in blue).

Example 143: Imitations of motif A & A_{der} in bars 7-13

The image displays a musical score for Example 143, illustrating imitations of motif A and A_{der} in bars 7-13. The score is in 6/4 time and features a violin part and a piano accompaniment.

Bar 7: The violin part plays a motif (A) consisting of a quarter note followed by an eighth-note triplet. A red box highlights this motif, and a red arrow points to a piano accompaniment part in the same bar, labeled "Imitation at the unison".

Bar 10: The violin part plays a modified motif (A_{der}) with a blue circle around a specific interval. A red box highlights this motif, and a red arrow points to a piano accompaniment part in the same bar, labeled "Imitation at the octave". A green box highlights a piano accompaniment part in the same bar, labeled "Imitation at the 7th".

Bar 13: A green box highlights a piano accompaniment part, labeled "Imitation at the octave".

There are also instances where all three instruments partake in overlapping canonic statements. An example of this occurs in bars 15⁵-16^{2a}.

In Example 144, the imitations at the octave in bars 15⁵-16^{2a} are indicated in red. All three instruments' statements overlap due to the time interval between imitations. The material used for these imitations is an extension of the retrograde of motif A. Rhythmical alterations are also present. This newly formed material is used in bar 14 (marked in blue), followed by a complete statement of motif A in the violin (marked in purple).

Example 144: Canonic imitation and motivic adaptation procedures in bars 14-16

The musical score for Example 144 consists of four staves: Violin, Violoncello, Double Bass, and Piano. The key signature is one flat (B-flat), and the time signature is 6/4. The score begins at bar 14. In bar 14, the Violoncello and Double Bass play a triplet of eighth notes, marked in blue. The Violin plays a complete statement of motif A, marked in purple. In bars 15 and 16, there are overlapping imitations of a triplet in the Violin, Violoncello, and Double Bass, marked in red. The score includes dynamic markings (*f*, *ff*), articulation (*pizz.*, *arco*), and performance instructions (*Ped.*, ** Ped.*). Below the score, a diagram illustrates the 'Retrograde of motif A' and its 'Extension' with interval analysis.

In bars 20-22¹, a continuation of the dialogue imitations based on a fragment of motif A_{der} is evident. However, the structures of intervals are altered through several augmentations and diminutions.

In Example 145, motif A_{der} is illustrated with an intervallic analysis of the tail-end of the motif. The red bracket shows the bars in which the fragment of the motif is used. Green brackets illustrate interval augmentations and diminutions from original intervals comprising augmented 2^{nds}, minor 2^{nds}, and tritones to minor 2^{nds}, perfect 5^{ths}, and min. 6^{ths}/aug. 5^{ths},

respectively. The blue brackets also show augmentations and diminutions from the original intervals displayed in motif A_{der} to minor 2^{nds}, tritones, diminished 4^{ths}, and minor 3^{rds}.

Example 145: Interval augmentation and diminution of motif A_{der} in bars 20-22¹

In Section A₁, a return of the primary theme is presented in the violin and cello, played two octaves apart. Only a fragment of the theme (segment 1 and partial segment 2) is implemented before it leads off to different material, as illustrated in Example 146.

Example 146: Fragment of the primary theme used in bars 27-29^{1b}

Material related to the second half of segment 2 from the primary theme follows the fragmented statement in Example 146. If we discard the rhythmic components of both segment 2 and the material in bars 29^{1c}-30^{1b}, the resemblance becomes apparent.

In Example 147, the red brackets indicate contour similarities between segment 2 (excluding the A) and the material of bars 29^{1c}-30^{1b}. The interval distances in bracket A are altered from a major 6th and perfect 5th (in segment 2) to a minor 9th and tritone, respectively (indicated by

the blue brackets). Brackets B and C are fragmented transpositions of bracket A. These three labelled brackets become exponentially shorter as the material progresses.

Example 147: Comparison of the melodic material in bars 29^{1c}-30^{1b} to segment 2 of the primary theme

Bars 30^{1c}-31³ are based on the same material as illustrated in Example 147, just transposed a major 3rd upwards (marked in red in Example 148).

Example 148: Melodic content of bars 30^{1c}-31³

Following these bars is an insertion of motif A in bar 33³ (marked in red in Example 149), before segment 3 of the primary theme is presented in bars 34-35⁴ (marked in green). This is

followed by overlapping imitations at the double octave and unison, using the tail-end of segment 3 in bar 35⁴ (marked in blue).

Example 149: Melodic procedures in bars 32-34

The textural flux, as in bars 31-32 and 32-34, creates an effect of ebb and flow as the movement progresses, which in turn results in areas of varying tension levels.

In bars 35-37, motif A and A_{der} are stated in their original forms, as seen in bars 6 and 7-8. This is followed by three closing bars based on motif A that conclude the movement.

3.2.3 Harmonic content

In the first movement, the vertical simultaneities are centred around quartal and quintal constructions with additional extended and added note chords (especially in the C section). Parallel moving parts in 3^{rds}, resulting in triadic major and minor structures, are also implemented. The second movement continues applying these chords; however, there is a clear focus on two structural formations. These two harmonies permeate the vertical aspects and are associated with motifs A and A_{der}, as seen in bars 6 and 7.

In Example 150, it is evident that the vertical structure used to harmonise motif A in bar 6 is a B \flat major triad (marked in red). The motif contains an E \natural (marked in purple), creating an added raised 4th when combined with the B \flat major triad. This results in a harmonic structure with a Lydian quality. The E \natural is considered part of the chord due to the consistent pairing of major triads and this melodic constituent. Additionally, later on in the movement, the

sharpened 4th is implemented as part of the vertical simultaneities. In bar 7, the composer uses a mixed-interval chord to harmonise motif A_{der}, resulting in a half-diminished 7th chord on F when enharmonically spelt. The spelling used in the score is because of the relationship of motif A_{der} and the underpinning harmony to the double harmonic scale on E. Note the partial quintal voicing of this chord.

Example 150: Harmonic structures used in bars 6-7

The image displays a musical score for Example 150, focusing on bars 6 and 7. The score is written for piano and includes a grand staff. The top staff shows the melodic lines for Motif A (bar 6) and Motif A_{der} (bar 7). The piano accompaniment is shown in four staves: two inner staves and a bass staff. A red box highlights the piano accompaniment in bar 6, and a green box highlights it in bar 7. Below the piano part, a grand staff shows the harmonic structures: B^b6(add4) and F[#]3 in bar 6, and F[#]4₃ in bar 7. An arrow labeled "Enharmonic spelling" points from the F[#]4₃ chord to a chord with a natural 4th. At the bottom, a "Double harmonic scale on E" is shown with fingerings 1-8 and a final chord with fingerings 2, 5, 7, 3.

These two harmonic structures are the primary vertical constituent of this movement and are mainly used in combination with motifs A and A_{der}, as illustrated in Example 150.

In bars 8-10, motif A_{der} is used as the main melodic component. A restatement of the motif in bar 7 is used in bar 8; however, it is harmonised with three harmonies constructed on B: B^{o7}-B⁷-3x4 on B. This reharmonisation of motif A_{der} results in different pitches of the motif being

non-harmonic to the underlying harmonies. Bar 10 presents a transposition of motif A_{der}, with both motivic and harmonic elements extracted from the double harmonic scale on C. In between these two bars, a D minor 7th chord is implemented to form a mediant relationship with the preceding bar and a semitone relationship with the subsequent bar. Along with quintal relationships, these are the primary transpositional relations between chord structures in this movement. These progressions are illustrated in Example 151. Note also the quartal and quintal voicings used in bars 8 and 10.

Example 151: Harmonic structures in bars 8-10

The musical score for Example 151 consists of three systems. The first system shows a vocal line (treble clef) and a piano accompaniment (treble and bass clefs). The piano accompaniment features complex voicings, including triplets and quartal structures. The second system continues the piano accompaniment and adds a bass line (bass clef). Red brackets connect the piano accompaniment to a chord chart below. The chord chart shows the following chords: B⁶₅, B⁷, 3x4 on B, Dm⁶₅, and D^b₃⁴.

In bars 11-13, three statements of motif A are used, harmonised by three accompanying major triads. The merging of motivic statements and triads yields a Lydian sonority. These three harmonies are A major, B major, and E^b major triads, creating mediant and secundal root relationships. This is illustrated in Example 152, where the raised 4th degrees are marked in green.

Example 152: Harmonic structures in bars 11-13

The musical score for Example 152 consists of three staves. The top staff is the melody, the middle staff is the piano accompaniment, and the bottom staff is the bass line. The score is in 7/4 time and marked *mf*. The piano part shows a sequence of chords: $A^6(\text{add}\sharp 4)$ in bar 11, $B^6_4(\text{add}\sharp 4)$ in bar 12, and $E\flat(\text{add}\sharp 4)$ in bar 13. The bass line features a triplet in bar 11 and a retrograde statement of motif A in bar 12. The lower voice part shows the harmonic structure for each bar, with red lines connecting the chords to the corresponding notes in the piano part.

Bars 14-16 continue with harmonic procedures seen earlier in the movement. In bar 14, an inverted quartal harmony in the piano left-hand part is used; however, the simultaneous use of $B\flat$ and hints of $B\sharp$ in the retrograde statement of motif A results in a split-member chord sonority. This resolves to three chords with mediant, semitone and tritone root relationships. These are A major with an added raised 4th, $A\flat$ major with hints of a 7th extension, and a brief resolution to a D diminished chord in bar 16. This is illustrated in Example 153.

Example 153: Harmonic structures in bars 14-16

3x4 on F A(add#4) Ab⁷ D[°]

Bars 17-19 see motifs A and A_{der} return with the harmonic pairings associated with these motivic statements, except bar 17. In this bar, the composer uses a C major triad with subsequent extensions to harmonise motif A_{der}, which relates to the double harmonic scale on F#. This creates an elevated level of dissonance since only the G is common between the scale and chord. Subsequently, the expected harmonisations of motifs A and A_{der} with C# diminished 7th and G major chords are used.

In bars 20-23, all but one pair of chords have mediant root relationships and are used to underpin the expanding fragments of motif A_{der}. These bars also illustrate the doubling of melodic pitches using distances other than the octave. The violin motivic material in bars 20-21¹ is doubled in major and minor 6^{ths} in the piano and cello parts. With melodic material extracted from the augmented scale on G#, the D minor and F major triads used to harmonise these statements form various dissonances, resembling split members, added notes, and extensions.

In Example 154, all the pitches from motivic statements forming split-member sonorities when combined with underlying harmonies are marked in green; those that form added tones are marked in blue; and extensions are marked in purple.

Example 154: Harmonic structures in bars 20-21

The musical score for Example 154 consists of four staves. The top staff is a vocal line in treble clef, marked *mf*, with a melodic line featuring triplets and various accidentals. The second staff is the piano right hand in treble clef, also marked *mf*, with a similar melodic line. The third staff is the piano left hand in bass clef, marked *mf*, with a bass line. The bottom staff is a harmonic structure diagram in treble clef, showing six chords: Bb^6 , Dm^6 , D_5^6 , F^6 , Fm^6 , and Ab^6 . A red bracket labeled "enharmonic spelling" spans the first three chords. The score includes various musical notations such as triplets, accidentals, and dynamic markings.

In bars 22-23, no motivic material is used, and there is a clear shift in focus to the harmonic procedures. Triadic structures with mediant and secundal relationships are implemented. These are illustrated in Example 155.

Example 155: Harmonic structures in bars 22-23

$$\begin{array}{cccc} Ab^6 & E_4^6 & F\sharp^6 & A^7 \\ \underbrace{\quad \quad \quad} & \underbrace{\quad \quad} & \underbrace{\quad \quad} & \\ 3rd & 2nd & 3rd & \end{array}$$

Bars 24-26 state various transpositions of motif A accompanied by major triads with added raised 4ths, creating Lydian chord structures. The harmonic constituents in the cello and the piano right-hand part are voiced to form quartal and quintal structures. Chord-root relationships comprise a series of descending mediant.

Example 156 illustrates the harmonies used in bars 24-26. It is evident in these bars that sharpened added 4ths form part of vertical structures and are not merely a result of the horizontal motion of motif A, as seen earlier in the movement. Here, the pitches of the motif, circled in green, form extended and split-member sonorities.

Example 156: Harmonic structures in bars 24-26

The image displays a musical score for Example 156, covering bars 24 to 26. The score is written in 7/4 time and includes a piano (p) dynamic marking. The top system shows the melodic line with green circles highlighting specific notes. The middle system shows the piano accompaniment with red brackets indicating harmonic structures. The bottom system shows the harmonic structures in chord notation: C(add#4), Ab(add#4), F(add#4), Db(add#4), A(add#4), and F(add#4).

In bars 27-34, the primary theme returns in a fragmented and extended form, underpinned by an E-pedal (bars 27-32¹). Bars 35-37 are similar to bars 6-8 in melodic and harmonic construction.

The movement ends with a three-bar closing section based on three harmonic constructs, illustrated in Example 157.

Example 157: Harmonic structures in bars 38-40

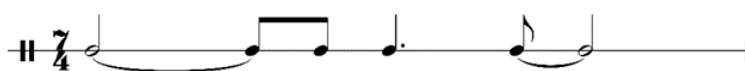
The image displays a musical score for Example 157, focusing on bars 38-40. The score is presented in three systems. The first system shows the piano part with a 'rit.' (ritardando) marking. The second system shows the same piano part with a 'rit.' marking. The third system shows a separate staff with chord diagrams for each bar, connected to the piano part by red lines. The chords are: Dm⁶, Dm/E (Or Dm⁶/₂), Dm⁹, B^{b6}/₄, and 3x5 on E.

Key centres in this movement are mainly absent. Non-traditional chord functions and frequent transpositions of motivic material steer the material away from any fixed tonality or modality. However, the E-centrality of the opening and closing material is apparent, which is reinforced by the E-pedal towards the close of the movement. Furthermore, the E-pitch is a definitive pitch centre throughout the movement.

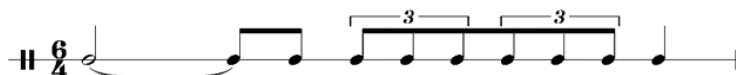
3.2.4 *Rhythm*

The rhythmic content of the opening bars enhances the plaintive atmosphere of the cello melodic statement. A variety of regular and irregular beat divisions with accompanying metre changes create a pliable rhythmic feel – almost improvisatory. After the opening statement, the two motifs used to construct most of the movement are presented consecutively. These two motifs, A and A_{der}, comprise essential melodic and rhythmic information.

Example 158 illustrates how Motif A and its related statements are rhythmically configured.

Example 158: Rhythmic structure of motif A

Similarly, motif A_{der} has a specific rhythmic structure that accompanies most of its statements. This is illustrated in Example 159.

Example 159: Rhythmic structure of motif A_{der} 

These two motifs are moulded into two different metric bars, $7/4$ and $6/4$, respectively. Apart from the opening 5 bars, which includes a $5/4$ measure, the metre changes in this movement primarily comprise alternations between $7/4$ and $6/4$ bars, which enhance the improvisatory feel. Most motivic statements involve dialogue imitations of motifs A and A_{der} , and the time interval between imitations is usually a bar's length. However, there are also instances where time intervals are shortened to accommodate overlapping imitative statements. Both these scenarios can be observed in bars 7-13.

In Example 160, statements of motif A are marked in red and statements of motif A_{der} green. Time intervals between entries are marked in blue with an accompanying description of the interval's length. It is evident how time intervals are shortened in bars 12-13, resulting in overlapping *stretto*-like entries.

Example 160: Time intervals between imitative entries of motifs A and A_{der} in bars 7-13

7

Time interval = a bar or 6 x ♩ beats

3

10

Time interval = shortened to 5 x ♩ beats

Time interval = a bar or 6 x ♩ beats

Time interval = shortened to 4 x ♩ beats

3

13

Time interval = shortened to 3 x ♩ beats

Overlapping motivic entries are also used in bars 15⁵-16. In Example 161, the overlapping entries of motif A's extended retrograde are evident. The time intervals between these three statements are 1 and 2 crotchet beats, respectively.

Example 161: Time intervals of imitative entries of the motif in bars 15⁵-16

The musical score for Example 161 spans bars 14 to 16. It is written in 6/4 time. The top staff is for the violin, and the bottom three staves are for the piano. The violin part begins in bar 14 with a forte (*f*) dynamic and a triplet of eighth notes. In bar 15, it continues with a fortissimo (*ff*) dynamic and a triplet of eighth notes. In bar 16, it plays a forte (*f*) dynamic with a triplet of eighth notes. The piano part features a bass pedal (Ped.) in the left hand, with dynamics *f* and *ff*. Red brackets and a dashed blue line highlight imitative entries of a motif: one in the violin part (bars 14-15), one in the piano right hand (bars 15-16), and one in the piano left hand (bars 15-16). The score includes markings for 'pizz. arco', 'Ped.', and asterisks.

In bars 17-26, the time interval between imitative statements of motifs revert to one bar's length, for the most part.

Bars 27-32¹ see the return of the primary theme; however, it sounds rhythmically less improvisatory because of the ongoing crotchet iterations of the E bass pedal in the piano part.

In bars 29²-31, a fragment of the primary theme is rhythmically altered and expanded to form the melodic material. This fragment, first stated in bars 3-4¹, undergoes free rhythmic diminution to formulate the material comprising a series of quavers. This along with the imitation of the newly formed material are indicated in Example 162.

Example 162: Rhythmic alteration of a fragment of the primary theme to serve as source material for bars 29²-31

The image displays a musical score for Example 162, consisting of three systems. The first system covers bars 29 to 31. The top staff is for the violin, the middle for the piano, and the bottom for the bassoon. A red box highlights a rhythmic motif in the violin part of bars 29-31, with the word "arco" above it. The piano part has a "pizz." (pizzicato) marking and a "ff" (fortissimo) dynamic. The bassoon part has a "f" (forte) dynamic. A blue dashed arrow points from a motif in bar 31 to a detail of bars 3-4. The second system shows bars 31 to 32, with a red box highlighting a motif in the violin part. The third system shows a detail of bars 3-4, with a red box highlighting a motif in the bassoon part. The text "Bars 3-4¹:" is placed above the detail.

Bars 32-37 repeat material stated earlier in the movement, followed by a closing section involving statements of a rhythmically altered and permuted motif A. In Example 163, the permutation is indicated with a red line and the arrows indicate omitted tied note values. Bar 39 follows the same rhythmic structures as bar 38 with an additional rhythmic modification (indicated in green).

Example 163: Rhythmic alterations in bars 38-39

Musical notation for Example 163. The top staff shows 'Motif B' starting with a forte (*f*) dynamic. The bottom staff shows bar 38 with a 'rit.' (ritardando) marking. A red line connects the start of Motif B to the first note of bar 38. A green dashed line underlines the first two notes of bar 38, labeled 'Further rhythmic alterations'.

3.2.5 Texture

The opening of this movement begins with a single thematic statement in the cello, constituting a monophonic texture. In bars 6 and 7 motifs A and A_{der} are introduced in the violin part and provide insight into these motifs' accompaniment used throughout the movement. The primary focus of this movement is imitative dialogue; however, while one instrument plays motivic material, the other two instruments supply harmonic support and contain relatively little motion. This applies if two or three instruments do not double material in unisons, octaves, 3^{rds}, or 6^{ths}, or if they do not overlap imitative statements of motifs. These scenarios render homophonic textures that are evident in bars 6-7, illustrated in Example 164.

Example 164: Homophonic texture of bars 6-7

Musical notation for Example 164 showing a homophonic texture in bars 6-7. The score is in 7/4 time and consists of four staves: Violin, Piano (right hand), Piano (left hand), and Cello. The Violin part has a forte (*f*) dynamic. The Piano part has a forte (*f*) dynamic. The Cello part has a mezzo-forte (*mf*) dynamic. The score shows a change from 7/4 to 6/4 time between bars 6 and 7. The Piano part includes a 'Ped.' (pedal) marking and 'ped sim.' (pedal sostenuto) marking.

Apart from the monophonic texture in the opening bars and the subsequent homophonic texture in bars 6-7, a thicker polyphonic texture is created with overlapping statements of motifs in bars 11-16. In these bars, it is apparent that increased complexity and activity between parts steer the music towards climactic moments. Imitations become more frequent and overlap with increasingly shorter time interval distances between statements as the climax is approached. Doublings of motivic material in octaves and compound octaves are used as reinforcement. Example 165 shows increased overlapping of motivic material as the section progresses; motifs are indicated in red.

Example 165: Polyphonic textures in bars 11-16

The musical score for Example 165 consists of two systems of staves. The first system covers bars 11 to 13, and the second system covers bars 14 to 16. The score is written for violin, piano, and bass. The violin part begins in bar 11 with a motif highlighted in red. The piano part provides accompaniment in bars 12 and 13. The second system (bars 14-16) shows a more complex polyphonic texture with overlapping motifs in the violin, piano, and bass. The violin part in bar 14 has a motif, and the piano part in bar 15 has a motif. The bass part in bar 16 has a motif. The score includes dynamic markings such as *mf*, *f*, and *ff*, and performance instructions like *pizz. arco* and *Ped.*

The first climax of the movement, illustrated in Example 166, occurs in bars 17-18 and has a homophonic texture. This contrasts with the preceding bars.

Example 166: Climactic moment in bars 17-18

The musical score for Example 166 consists of four staves. The top staff is a single treble clef staff containing a melodic line. The second and third staves form a grand staff with treble and bass clefs, representing piano accompaniment. The bottom staff is a single bass clef staff. The score begins at bar 17. In bar 17, the melodic line has a half note followed by two eighth-note triplets. The piano accompaniment has a half note chord in the right hand and a half note chord in the left hand. A 'Ped.' marking is below the piano part. In bar 18, the melodic line has a half note followed by an eighth-note triplet and a sixteenth-note triplet. The piano accompaniment has a half note chord in the right hand with a double triplet of eighth notes, and a half note chord in the left hand with a double triplet of eighth notes. An asterisk is below the piano part. The bottom staff shows a half note followed by a quarter note triplet.

Another increase in imitative statements occurs in bars 20-23, including melodic doubling other than the octave or double octave. The material in bars 20-21 is doubled in minor 6^{ths}, major 3^{rds}, and octaves, respectively, leading to the largest climax of the movement in bars 24-25. At the climactic point, the texture once again becomes less active in comparison to the preceding bars, constituting homophony. However, the registers, range, and density of chord structures are increased. This is illustrated in Example 167.

Example 167: Increase in motivic activity as the climax in bar 24 is approached

The musical score for Example 167 consists of three systems. The first system (measures 20-24) is in 6/4 time and marked *mf*. It features a piano accompaniment with a cello part. The piano part includes a left hand with a pedal (Ped.) and a right hand with harmonic intervals. The cello part is marked *mf* and features a melodic line with triplets. Red boxes highlight specific passages in the piano and cello parts. A green box labeled "Climax" highlights the final measure (bar 24).

The opening theme is reiterated in bars 27-34.

Example 168 illustrates the remarkable texture created in bars 27-29¹ where the cello plays the primary theme while the violin doubles the material two octaves higher as *pizzicato* pitches. The piano accompanies this texture with an E-pedal in the left hand and harmonic intervals in the right hand.

Example 168: Primary theme material doubled as *pizzicato* pitches in the violin in bars 27-28

An increase in instrument range and activity occurs in bars 29²-31 before it dissolves back to a monophonic statement of thematic material in the cello (bars 32-34³). This leads to repeated material and a homophonic three-bar closing section in bars 38-40.

3.3 Movement III

3.3.1 Structure

The structure of this movement resembles a free rondo form comprising the frequent return of a mechanical figure heard in the opening two bars that constitute the A section. The B and C sections are related to this opening figure to a large extent; however, they are contrasting enough to function as alternating sections. Variation is mainly created through transpositions and metamorphoses of the opening two bars' material within repeating A sections.

Throughout the movement, especially in A sections, traditional phrase structures are substituted by musical units divided by chordal punctuations or ascending tetrachord figures. Furthermore, units in A sections mainly comprise transpositions of the opening two bars. Example 169 illustrates the opening two-bar unit with its chordal punctuation, concluding the statement (marked in red).

Example 169: Musical unit in bars 1-2 with chordal punctuation that concludes the statement

The musical score for Example 169 consists of three staves. The top staff is for the violin, marked with a tempo of quarter note = 96, 'pizz.', and 'High energy'. The middle two staves are for the piano, with 'ff' and 'sf' markings. The bottom staff is for the cello/bass, marked with 'pizz.' and 'ff'. A red box highlights the final measure of the unit in all three parts, showing a strong dynamic 'sf'.

Even though the form of this movement is related to the rondo, the sectional layout does not conform to the rondo's traditional structure. Instead, it is based on the concept of recurring material alternated with digressing sections. Table 7 provides a complete layout of the structure of this movement.

Table 7: Structural layout of movement III

Bar	Section	Comment
1-9	A	This section comprises a series of transpositions of the material from the opening two bars.
10-23	Transition	All transition sections are related and consist of broken chord figurations and tetrachord transpositions.
24-35	A ₁	
36-37	Transition	
38-41	A ₂	Substantially shortened.
42-44	Transition	
45-48	B	Although primarily related to the A section, the material is contrasting enough to be labelled a B section.
49-54	C	This section contains a contrasting melodic statement superimposed above an <i>ostinato</i> in the piano part.
55-60	A ₃	A relatively short A section.
61-63	Transition	
64-68	B ₁	Shortened B section.
69-75	Coda	The coda is based on material from the A section.

Continuous forward motion is created towards the end of the movement by shortening sections, resulting in an exponential increase of energy. This is enhanced by the increased tempo in the coda, concluding the movement with a surge of excitement.

3.3.2 *Melodic content*

The sound-world created in this movement primarily flows from three pertinent elements. The first element is the interval of the augmented 2nd, which is often associated with scales such as the Phrygian dominant, double harmonic and harmonic minor. All of these scales are implemented in the compositions analysed for this study. The application of the augmented 2nd is already evident in opening two bars (1²-2⁴), formulating the primary constituent of all A sections. Secondly, Lydian chord structures accompany the opening two bars' melodic gestures. Both these two aforementioned aspects also dominate the second movement. The third element is broken augmented 6th chord structures used to formulate most transition passages.

These three elements are also related to a tetrachord first used in the opening bars (tetrachord [0 1 4 5]). This tetrachord constitutes three intervals: a minor 2nd, augmented 2nd, and another minor 2nd. Three intervallic expansions of this tetrachord are also extensively implemented and justify most harmonic and melodic applications in this movement. If verticalized, the first expansion (tetrachord [0 2 6 7]) produces a Lydian-sounding chord structure, and if enharmonically spelt and rearranged, the third expansion (tetrachord [0 2 6 8]) creates a French augmented 6th chord when verticalized.

In Example 170, tetrachord [0 1 4 5] and its subsequent systematic inner and outer interval expansions are illustrated. Note how the middle interval of a major 3rd is maintained while the other intervals gradually expand. For labelling purposes, the tetrachord will be labelled T₁ and its subsequent expansions T₂, T₃, and T₄. It is worth noting that T₃ is essentially a transposed retrograde inversion of T₂.

Example 170: Illustration of tetrachord [0 1 4 5] and its intervallic expansions

These tetrachords are used to formulate the harmonic structures in the opening two bars through partial verticalizations. The melodic content of these same bars is directly related to the underlying piano figures, as illustrated in Example 171. Two motifs emerge with assigned rhythmic components to the melodic extractions, motifs A and B.

Example 171 illustrates the use of tetrachords T_2 and T_3 in the piano part (including their transpositions). This example also shows how motifs A and B in the violin part relate to the piano figures and, by extension, the tetrachords (in other words, the violin is used to emphasise the melodic contour). Upon further inspection, it is also evident that the violin part's pitches, although extracted from T_2 and T_3 , also state tetrachord [0 1 4 5] (T_1) horizontally. The cello plays a transposed, partially inverted statement of the violin part in bar 1 and a transposition of the violin part in bar 2.

Example 171: Motifs A & B in bars 1-2

If the melodic statements of the violin and cello in bars 1-2 are considered, a striking resemblance to the E harmonic minor and double harmonic scale on E becomes apparent. This, however, is primarily because of the transposition of the underlying tetrachords in the piano part from which melodic material is extracted. Example 172 illustrates the scale degrees of the two scales used in the violin and cello parts.

Example 172: Scale usage in bars 1-2, violin and cello parts only

The entire A section (bars 1-9) is formulated around transpositions of the harmonic and melodic content of bars 1-2, harmonically comprising tetrachords T₂ and T₃ and melodically comprising motifs A and B (T₁). When motifs A and B are combined, they form one musical unit, equivalent to a phrase. This unit is expanded in bar 3 by repeating motif B, yielding a three-bar unit. Subsequently, unit lengths of the A section are 2+2+1+1 bars in length. Bars 8 and 9 are reduced to two one-bar statements related to motif B.

The 2nd and 3rd musical units (bars 4-5 and 6-7, respectively) contain the same content as bars 1-2; however, each repeated statement is transposed a major 2nd downwards. Another key difference in the 3rd unit is the exclusion of the violin motif and cello bassline, leaving the piano as the carrier of motivic material through a continuation of the semiquaver figures. The violin and cello mark the beat with crotchet pitches from the underlying harmonic structures.

The transition in bars 10-22 constitutes numerous transpositions of tetrachord T₃. These statements are arranged to formulate broken French augmented 6th chord figurations. The broken chord figures are paired with a plethora of rhythmic patterns to form the content. Bar 10 initiates this process by arpeggiating transposed French augmented 6th chords (T₄) on D^b,

C, Eb, F, and G in the piano. From these broken chords, pairs of tritones are extracted and used in the cello part. This procedure is extended throughout the entire transition passage.

In Example 173, the transposed augmented 6th chords and extracted pitches used as melodic constituents in the cello are indicated. The notes in the cello part consist of a sequence of transposed tritones. This exact sequence of tritones (numbered in Example 173) is implemented on numerous occasions throughout the transition and is treated through various transformation devices.

Example 173: French augmented 6th broken chords in bar 10

The image shows a musical score for bar 10. The top staff is a treble clef with a whole rest. The middle staff is a grand staff (piano) with a piano (*p*) dynamic. It contains five French augmented 6th chords: Fr^{+6} on $D\flat$, Fr^{+6} on C, Fr^{+6} on $E\flat$, Fr^{+6} on F, and Fr^{+6} on G. The bottom staff is a bass clef (cello) with a piano (*p*) dynamic, showing a sequence of tritones. A red bracket underlines the first five notes of the cello part, which are connected by a red line to a separate diagram of the tritone sequence. This diagram shows eight notes in a bass clef, numbered 1 through 8, representing the sequence of tritones extracted from the chords above.

The violin and piano parts in bars 11-12 use the same melodic and harmonic material as in bar 10; however, comparing bars 11 and 12, it becomes apparent that they form a partial mirror image, with bar 12 being the retrograde of bar 11. In bar 11, the cello, with a new rhythmic impetus, plays the pitches from the augmented 6th chords not used by the violin. This is illustrated in Example 174.

Example 174: Retrograde of bar 11 in bar 12

The musical score for Example 174 is in 4/4 time. It consists of three staves: Treble, Piano (Grand Staff), and Cello. A vertical blue line marks the beginning of bar 12. A red bracket above the Treble staff spans from bar 11 to bar 12, indicating a retrograde. A green box highlights the piano accompaniment in both bars. Dynamics include *mf*, *cresc.*, and *f*.

In bar 15, each tritone pair in the cello part is inverted compared to bar 10. This is followed by partial permutations of the sequence in bar 16, as illustrated in Example 175.

Example 175: Tritone inversion and permutation in bars 15-16

The musical score for Example 175 is in 4/4 time. It consists of three staves: Treble, Piano (Grand Staff), and Cello. A red bracket under the Cello staff in bar 15 is labeled "Inverted pairs of tritones". A green bracket under the Cello staff in bar 16 is labeled "Permutations". A sequence of numbers (1-8) is written above the Cello staff in bar 16, with some numbers in red and some in green.

In bars 18-20, the sequence of tritones is omitted, and only the arpeggiated French augmented 6th chords, transposed and distributed through dialogue imitations among the violin and piano parts, are used, while the cello rhythmically articulates a D-pedal in semiquavers.

Although the transition consists of a single transposed harmony, the metric shifts, constantly fluctuating rhythms, and unexpected accent placements create a dramatic and even frenetic feel and are the driving forces behind the passage.

This leads to section A₁ in bars 26-35, announced by an oscillating figure of alternating pitches in the violin and cello. In this repeated section, the same musical content and procedures seen in the opening A section are implemented; however, the dotted rhythms of motifs A and B are excluded, dispersing the semiquaver figures between the violin and cello parts. Melodic units remain two bars in length, with each unit being transposed a perfect 5th upwards instead of a major 2nd. Semiquaver triplet figures in the piano part, based on T₃, divide units. This contrasts the chord structures used in the opening A section. The melodic material used in each unit relates to a harmonic minor scale (violin) and Phrygian mode (cello). T₁ is also embedded in the violin part's melodic material because of its relationship to the harmonic minor scale. As a result of the transpositions, the scales used for the violin material are D and A harmonic minor scales, with the Phrygian modes on D and A used for the material in the cello. Example 176 illustrates these procedures.

Example 176: New presentation of A section material in bars 26-28

The musical score for Example 176, bars 26-28, is presented in three staves: Violin (top), Piano (middle), and Cello (bottom). The Violin part begins with a melodic unit in D harmonic minor (bars 26-27), which is then transposed a perfect 5th to A harmonic minor (bar 28). A yellow box highlights the first unit, and a red arrow labeled "Perfect 5th transposition" points to the second unit. The Piano part features semiquaver triplet figures in the right hand, with a green box highlighting a triplet in bar 27 labeled "T₃". The Cello part features semiquaver figures in the Phrygian mode on D (bars 26-27) and Phrygian mode on A (bar 28). Dynamics include *mf* and accents.

A dance-like rendition of the semiquaver figures in the piano part of bars 32-35 concludes A₁, with the violin and cello dividing units with T₃ semiquaver triplet figures.

The transition in bars 36-37 is solely based on dialogue imitations of T₃ that are directly linked to the punctuations used to divide melodic units in A₁. Tetrachord statements for the most part comprise semiquaver triplet patterns transposed major 2^{nds} upwards. In Example 177, secunda transpositions are indicated in red.

Example 177: Dialogue iterations of T_3 patterns in bar 36

T_3 semiquaver triplet patterns

Section A_2 is similar in melodic content to A_1 . The subsequent transition implements imitative statements of the same T_3 patterns used in the transition of bars 36-37. However, transpositions are now ascending semitones and not major 2^{nds}.

The B section opens with a two-bar statement reminiscent of A section material, specifically motifs A and B, with only the rhythmic components altered. From a melodic perspective, these opening two bars relate to the double harmonic scale on G. In bars 47-48, new material is created, resulting from rhythmic alterations of the previous two bars' material. In these bars, the material is related to the Hungarian minor scale on E. This is illustrated in Example 178.

Example 178: Relationship between melodic material of bars 45-47

The image displays three musical staves for Example 178. The top two staves represent the violin and piano parts for bars 45 and 46. The bottom staff represents the piano part for bar 47. In bar 45, a red bracket highlights the violin's melodic line, labeled 'Motif A (altered), bar 45'. In bar 46, a green bracket highlights the violin's melodic line, labeled 'Motif B, bar 46'. In bar 47, a red box highlights the first half of the violin's melodic line, and a green box highlights the second half, both labeled 'New material, bar 47'. The piano accompaniment consists of chords in the right hand and a rhythmic pattern in the left hand. The dynamic marking *ff* is present throughout.

The C section presents new melodic material extracted from the 4th mode of the B harmonic minor scale, creating an E-centricity. Melodic material used in bars 50-51 can be divided into three components, illustrated in Example 179. The first component consists of a dotted crotchet on E followed by a triplet of semiquavers forming a *cambiata* motion. The second component comprises the same rhythmic material as the first; however, the contour of the triplet figure is inverted. The third component is similar in melodic contour to the first component but lengthened with two parallel 5^{ths} extracted from motif A. Accompanying this melodic statement in the violin is an *ostinato* constituting scale degrees 4-7 of the B harmonic minor scale. These elements are repeated in bars 52-53, with the primary difference being the *ostinato*'s material that uses degrees 3-6 of the B harmonic minor scale.

Example 179: Melodic and accompanimental constituents of bars 50-51

50 *mf* Component 1 Component 2 9

mp Ostinato comprising degrees 4-7 of the B harmonic minor scale

51 Component 3

Related to motif A

arco

The melodic material of section A_3 is similar to A_1 , with additional chordal accompaniment in the piano part. This aspect is discussed in the section on harmonic content (section 3.3.2).

B_1 uses the same content as the initial B section; however, the section initiates by dispersing the material related to motifs A and B between instruments to form dialogue statements. Further sporadic transpositions of material, mostly mediant related, occur. The last note of each transposed fragment and the first note of the following statement form a tritone.

In Example 180, the red and green boxes indicate material related to motifs A and B, respectively. Tritone relationships are marked with blue lines and mediant relationships with purple lines.

Example 180: Melodic construction of bars 64-66

The coda consists of elements from the A, B, and transition sections and is initiated by a dotted rhythm in bar 69 related to motif A. In bars 69-70, the cello plays an inversion of a melodic fragment's contour found in the B section (see bar 64³). This is followed by the semiquaver tetrachord figure of the A section. The coda concludes with a triplet figuration in the piano part, reminiscent of the transitions in bars 36-37, 42-44, and 61-63.

In Example 181, areas marked in red are related to the A section, bars marked in green are related to the B section, and the blue marked area is related to the transitions mentioned above.

Example 181: Melodic construction of bars 69-72

12

67

f 3 3

rit.

100

ff

70

72

3.3.3 *Harmonic content*

The central harmonic component of this movement is the verticalization of the tetrachords laid out in the melodic content discussion. In bars 1-9, the A section mainly consists of the partial verticalization of T₂ and T₃. T₂, which is more often used than T₃, has a Lydian quality because of the tritone relationship between the 1st and 3rd pitches in the tetrachord (or seen differently, the raised 4th within the tetrachord).

The verticalizations of these tetrachords are structured to form idiomatic piano figures comprising intervals of a perfect 5th followed by a major 3rd. These two intervals alternate to form the semiquaver figures used in the piano part. Furthermore, the figures are transposed upwards and downwards in 2^{nds} and 3^{rds} to constitute musical units. The material of the violin and cello parts are extracted from the piano material.

Additionally, chords used to divide units are related to T₂ but do not contain the interval of a tritone. This creates a suspended chord quality that stands in contrast to its surroundings. The movement also opens with such a chord. Kostka (2011:56) interprets these formations as inversions or rearrangements of quartal and quintal chords. Through this understanding, these dividing chords can be analysed as 4x4 on A (bar 1), 4x4 on G (bar 4), 4x4 and F (bar 6). Also, a striking resemblance between the chord punctuation in bar 2⁵, comprising a tritone, and Ligeti's quasi-cadential separation, is evident (especially compared to Ligeti's *Kammerkonzert für 13 instrumentalisten*).

Example 182 illustrates these elements.

Example 182: Vertical simultaneities in bars 1-4

The image displays a musical score for Example 182, focusing on vertical simultaneities in bars 1-4. The score is written for violin and piano. The tempo is marked as $\text{♩} = 96$ and the style is *pizz.* (pizzicato) with *High energy*. The dynamics range from *ff* (fortissimo) to *sf* (sforzando). The score includes a *gliss.* (glissando) marking and a *7* (seventh) chord marking. The piano accompaniment features arpeggiated chords in the right hand and a bass line in the left hand. Two diagrams at the top illustrate transposed units: T2 (Major 2nd, Major 3rd, Minor 2nd) and T3 (Minor 2nd, Major 3rd, Major 2nd). A diagram at the bottom shows 'T2 related' and 'OR: 4x4 on A'.

As already seen in the discussion on melodic content, musical units are transposed a major 2nd downwards with each repetition to form A, G, and F centred statements. The violin is there to emphasise the melodic contour.

The transition in bars 10-23 is primarily based on transposed French augmented 6th chords (T₄). This chord is transposed in 2^{nds} and 3^{rds} to state arpeggiated chords on D \flat , C, E \flat , F, and G in bar 10.

This transposed sequence is again used in bar 11 with a subsequent retrograde in bar 12.

Bars 13-19 contain transpositions of the same French augmented 6th chord (T₄). Through these transpositions, secundal or mediant related root motions are formulated, with occasional tritone relationships occurring. The following layout illustrates all root note relationships of transposed chords as they occur throughout bars 13-19:

Bar 13-14: (C)-E^b-F-G^b (T₄ on C is only used in bar 13)

Bar 15: C-E^b-F-G

Bar 16: F-G-B-D^b

Bar 17: G-B-D^b-F^b

Bar 18: A^b-B-C[#]-D

Bar 19: C-E^b-A-G

Bar 20: F-G-B-C

An underpinning D-pedal in the cello part is combined with the transposed French 6th augmented chords in bars 18-20 to establish a D-centricity.

In bars 26-31 (A₁), only the highest and lowest notes of the semiquaver tetrachord figures of the opening A section are used, forming intervals of perfect 5^{ths} and major 3^{rds} between the violin and cello parts. Bars 32-35 see the piano re-emerging with the partially verticalized tetrachord figures. These figures are used in the piano right-hand part only, with the left hand implementing diatonic triads. The underpinning triadic structures are all mediant related. This is illustrated in Example 183.

Example 183: Triads used in bars 32-33

The musical score for Example 183 shows three staves. The top staff is a treble clef with a piano part. The middle staff is a grand staff (treble and bass clefs) with a violin/cello part. The bottom staff is a bass clef with a piano part. The piano part is marked 'arco' and 'f'. The violin/cello part is marked 'exaggerated dance-like' and 'f'. The triads used in bars 32-33 are labeled as f: i, 6/4, 5/3, III, i, and VI.

Two iterations of the musical unit illustrated in Example 183 are presented in bars 32-35: The first statement is centred around F minor, and the second unit is transposed to C minor.

Imitative transposed statements of T_3 are used to formulate the transition in bars 36-37. In instances where instruments play together, octave doublings are used.

A_2 is reminiscent of A_1 . The semiquaver tetrachord figures are harmonised with the same mediant related triads seen in A_1 . However, the key centres of both units are A and G minor.

In bars 42-44, another transition implementing imitative transpositions of T_3 , similar to bars 36-37, is presented. Octave doublings are again implemented when pairs of instruments play the same material.

The short B section for the most part uses unison and octave doublings of melodic content.

Bars 49-54 primarily comprise linear procedures. A newly formed melodic component supported by a triplet *ostinato* figure in the piano constitutes the C section. The *pizzicato* cello articulates pitches extracted from the melodic statement and *ostinato* figure to form a bass line. An E-centrality in these bars is created through the melodic component and bass line's revolving contours around E. The *ostinato* figure in the piano part is based on the 4th mode of the B harmonic minor scale in bars 49-51 and the 3rd mode in bars 52-53; however, the E-centrality remains constant. In bars 52-54, the violin and cello play the melodic material in compound octaves.

A₃ is similar to A₁ in construction, with the addition of chordal accompaniment supporting the outer notes of the tetrachord semiquaver figures played by the violin and cello. These chord structures in the piano part are reminiscent of the punctuating chords used in the opening A section to divide musical units. Suspended sonorities are created by rearranging the members of quintal harmonies. These structures are implemented throughout A₃ and are transposed with the melodic content to form F and C centralities, yielding 3x5 on F and C. In Example 184, the underpinning chords and transpositions are illustrated.

Example 184: Suspended harmonies used in bars 57-59

The image displays a musical score for Example 184, covering bars 56 to 59. The score is written in 4/4 time and consists of three staves: a violin part (top), a piano part (middle), and a cello/bass part (bottom). The piano part features a 3x5 chord structure on F (bars 57-58) and a 3x5 chord structure on C (bars 58-59). The score is annotated with 'F-centred' and 'C-centred' labels. The piano part also includes a 3x5 chord structure on F (bars 57-58) and a 3x5 chord structure on C (bars 58-59). The score is annotated with 'F-centred' and 'C-centred' labels.

From the example above, it is evident that although the music is non-tonal, the composer grounds the music in a strong tonic-dominant relationship – here, the strong pull between F and C as pitch-centres is apparent. This is seen often in Zaidel-Rudolph's work.

Section B₁ contains the same melodic material as the first B section; however, instrumental doubling occurs in minor 6^{ths} and not octaves as in B₁. Parallel moving melodic components

in 3rds and 6ths are common phenomena in the works analysed for this study. In Example 185, melodic constituents moving in parallel minor 6ths are marked in red.

Example 185: Parallel moving melodic fragments in bars 64-65

The image shows a musical score for Example 185, consisting of three staves. The top staff is a single melodic line in 4/4 time, starting at bar 64. It has a tempo marking of quarter note = 100 and a dynamic of *mp*. The middle two staves are a piano accompaniment, with a dynamic of *mf*. The bottom staff is a bass line, also in 4/4 time, with a dynamic of *mp*. Two melodic fragments in the piano part and one in the bass part are highlighted with red boxes. These fragments show parallel motion of a minor sixth interval between two notes.

The coda, containing elements of the A, B and transition sections, concludes the movement. The A section material uses partial verticalizations of T_2 and T_3 in the piano part and ends with semiquaver triplet figures resembling the transition sections. However, the triplet figures articulate a suspended chord on G, similar to the punctuating chords of the A section. This structure can be analysed as a rearranged quartal harmony, 4x4 on A. This is illustrated in Example 186.

Example 186: Suspended chord usage in bars 73-75

The musical score for Example 186 consists of three staves. The top staff is a single melodic line with triplets and a forte (*sf*) dynamic marking. The middle and bottom staves are a piano part, with the middle staff in treble clef and the bottom staff in bass clef. The piano part features a relentless semiquaver figure in the right hand and a similar figure in the left hand. A red box highlights a specific chord in the piano part, and a red arrow points to it from above. A red dashed line connects this chord to a diagram below. The diagram shows two chord options: a triad and a dyad, both labeled 'OR:' and '4x4 on A'.

3.3.4 Rhythm

The key feature of this movement is the forward motion created by the relentless mechanical semiquaver figure presented in the piano part in section A (marked in red in Example 187). The melodic components of the violin and cello parts, extracted from the piano figures, have accompanying dotted rhythms—a dotted quaver followed by a semiquaver (marked in green). This rhythm plays a central part in the movement and is associated with motifs A and B. From a metrical point of view, the A section material is primarily moulded into a 4/4 meter (marked in blue); however, the crotchet chord punctuations that divide musical units extend the meter to 5/4 (marked in purple). This rhythmical addition gives an exciting instability to the natural flow of the pulse established by the material proposed as forming 4/4 metric units. Example 187 illustrates the two main rhythmical constituents as well as the metrical divisions of material.

Example 187: Key rhythmical constituents of the A section in bars 1-4

The transition in bars 10-23 comprises transpositions of one chord. Apart from melodic transformation devices, rhythmic alterations are implemented to supply a plethora of variation. The following list provides insight into all the note values and rhythmic combinations used in this transition:

- Bar 10: Quavers and semiquavers.
- Bar 11: Quavers and quintuplets of semiquavers.
- Bar 12: Quavers, quintuplets of semiquavers, and syncopated rhythms constituting a semiquaver-quaver-semiquaver pattern. These elements create cross-rhythms.
- Bar 13: Only quavers and the abovementioned syncopated rhythm.
- Bar 14: Quaver-semiquaver dotted rhythms, quavers, and semiquavers.
- Bars 15-17: Primarily quaver-semiquaver dotted rhythms and semiquavers.
- Bars 18 and 20: Semiquavers and quintuplets of semiquavers.
- Bar 19: Semiquavers.

From this list, it is apparent that an extensive amount of rhythmic variation and pattern combinations are present in the transition. The constant exploration of rhythmic material generates momentum that is enhanced towards the end of the transition in bars 18-20 by imitative dialogues. At first, imitated fragments are minim beats in length (bars 18-19), after which the imitated material is contracted to crotchet beats (bar 20).

A₁ contains two contrasting rhythmic elements compared to the opening A section. The first is the absence of dotted rhythms associated with motifs A and B. The semiquaver tetrachord figure forms the central rhythmic component. Additionally, the material is now firmly rooted in a 4/4 meter. Unit divisions are now integrated into the meter, and metric extensions are no longer present. The unit divisions comprise triplet patterns, substituting chordal punctuations. Example 188 illustrates the through-running semiquaver figures moulded into a fixed 4/4 meter (marked in green) with the triplet pattern dividing musical units (marked in red).

Example 188: Rhythmic and metric elements in bars 26-28

Bars 32-35, illustrated in Example 189, see the return of semiquaver tetrachord figures in the piano part with the addition of a dance-like quaver pattern in the left hand, depicting a Lithuanian dance (Zaidel-Rudolph 2013).

Example 189: Dance-like pattern in the piano part of bars 32-33

The musical score for Example 189 shows three measures (bars 31-33) in a piano part. The score is written in a grand staff with a treble clef on the top line and a bass clef on the bottom line. The key signature has one flat (B-flat). The time signature is 3/4. The piano part is marked 'arco' and 'f' (forte). The score includes a triplet of eighth notes in the piano part, marked 'exaggerated dance-like'. The score is numbered 31 at the beginning.

In contrast to bars 10-23, the transition in bars 36-37 mainly contains semiquaver triplet patterns dispersed through imitative dialogue between the instruments. Imitative statements are one crotchet beat in length throughout the transition.

A₂ contains the same rhythmic content as A₁, especially bars 32-35.

The transition in bars 42-44 is similar in rhythmic content and imitative dispersedness to bars 36-37 with more octave doublings of triplet figures present.

The B section uses two rhythmic elements reminiscent of the opening A section. These two elements comprise the mechanical semiquaver figure (marked in red in Example 190) and dotted quaver-semiquaver pattern associated with motifs A and B (marked in green).

Example 190: Rhythmic elements of the B section

The C section in bars 49-54 is primarily based on two rhythmic constituents: An *ostinato* comprising semiquaver triplets and a melodic statement consisting of three repetitions of the rhythm in Example 191.

Example 191: Rhythmic motif used for melodic constituents in the C section

The rhythmic motif illustrated in Example 191 has three consecutive repetitions, and the third iteration is lengthened with two crotchet beats.

Example 192 illustrates the *ostinato* in the piano part (marked in green) and the repeating rhythmic pattern in the violin part (marked in red). The extension of the third repetition is also evident.

Example 192: Rhythmic elements of the C section

The musical score for Example 192 is presented in two systems. The first system covers measures 50 to 59, and the second system covers measures 51 to 60. The music is in 4/4 time. The violin part (top staff) begins at measure 50 with a melodic line marked *mf*, featuring a trill and triplet figures. The piano accompaniment (middle and bottom staves) is marked *mp* and consists of a complex rhythmic pattern of semiquaver chords, which is highlighted by a green box. The cello part (bottom staff) features a simple bass line marked *arco*. The piano part is enclosed in a green box, and the violin part is enclosed in a red box.

A₃ presents a newly formed chordal accompaniment, supplying a new dimension to the semiquaver tetrachord figures in the violin and cello parts. These accompanying chords are rhythmically augmented retrograde statements of the dotted rhythm seen in the opening A section, as illustrated in Example 193.

Example 193: Rhythmic augmentations of the dotted rhythm's retrograde associated with motifs A and B

Section B₁ contains the same rhythmic elements as the first B section.

The coda concludes the movement with rhythmic material resembling the tetrachord semiquaver figures with subsequent semiquaver triplet patterns reminiscent of the transition sections.

3.3.5 *Texture*

The texture of this movement is primarily homophonic, with one or two layers serving as either the melodic constituent or accompaniment. Octave doublings of melodic material thicken the texture. Imitative and more polyphonic material is mainly confined to the transitions and B sections.

The A section consists mostly of the semiquaver tetrachord figure in the piano, with the violin playing motifs A and B as *pizzicato* pitches. A bass line, extracted from the piano figures, is played by the cello in rhythmic unison with the violin, also as *pizzicatos*. The combination of *legato* and *pizzicato* articulations is seen on several occasions throughout the compositions analysed for this study – a form of music punctuation. A consistency in texture is created throughout the section.

The transition that follows is more polyphonic, with layers of equal importance superimposed. This layering results in cross-rhythms that add to the polyphonic nature of the

section. Imitations in bars 18-20 also contribute, especially when combined with the D-pedal, which create another distinct layer.

A₁ sees a reduction in textural density compared to the opening A section. The violin and cello play the outer notes of the semiquaver figures presented in the opening section, while the piano plays the unit divisions comprising triplet rhythms, yielding a thinner texture. In bars 32-35, the piano returns to playing the tetrachord figures and the violin and cello state the unit divisions. This results in a slightly thicker texture than the preceding bars.

A short transition explores further imitative possibilities of T₃. Octave doubling also occurs, expanding the range of the section, as illustrated in Example 194. Notice the range expansion and contraction between imitative statements (indicated in red).

Example 194: Range expansion and contraction in bar 37

A short, repeated A section (A₂), similar in content to bars 32-35, follows the transition. The section opens with the piano playing the tetrachord figures in bars 38-39, after which the violin and cello partake in the subsequent statement, transposed a major 2nd downwards. In this second statement, the piano plays only the quaver dance-like accompaniment, with the two string instruments enunciating the tetrachord figures. The low bass notes in the piano create a weighted texture, which is illustrated in Example 195.

Example 195: Weighted texture in bars 40-41

Musical score for Example 195, bars 40-41. The score is in 4/4 time and features a weighted texture. The top staff (treble clef) has a melody starting on G4, moving through A4, B4, C5, and ending on B4. The middle staff (piano) has a bass line with chords and a triplet in bar 41. The bottom staff (bass clef) has a rhythmic pattern of eighth notes. Dynamics include *mf* and *mp*.

The transition in bars 42-44 contains similar textural procedures as bars 36-37.

In bars 45-48, the B section's material is primarily presented in melodic and rhythmic unison. Bars 47 and 48, however, are exceptions, and the violin and cello play repeated perfect 5^{ths}, encapsulating the melodic content in the piano part. Imitative statements also occur in these bars, contributing to an array of textures.

The C section explores the low range of the ensemble, with the piano presenting an *ostinato* pattern in the low range of the piano. This accompanies the melodic statements in the violin, with the cello producing a bass line, forming a homophonic texture. This is illustrated in Example 196. In bar 52-54, the violin and cello play the melodic material in octaves.

Example 196: Homophonic weighted texture in bar 50

Musical score for Example 196, bar 50. The score is in 4/4 time and features a homophonic weighted texture. The top staff (treble clef) has a melody starting on G4, moving through A4, B4, and ending on G4. The middle staff (piano) has a bass line with chords and a triplet in bar 50. The bottom staff (bass clef) has a rhythmic pattern of eighth notes. Dynamics include *mf* and *mp*.

A sudden reduction in density occurs in bar 55 with the reintroduction of the A section's material. A₃ contains the same material content as A₁, with similar density distributions between instruments. The only addition is the chordal accompaniment in the piano part, creating a thicker texture than A₁.

Section B₁ presents imitative statements of material, similar to the preceding transition passage. Octave doublings are still present; however, parallel motion of parts in minor 6ths also occurs. A range expansion culminates in bar 68 in preparation for the coda.

The coda expands the range of the ensemble as it presents the ecstatic climax of the movement. Although still primarily homophonic, large leaps in parts reflect the imitations found in previous sections. Bar 72 echoes the rhythmic content of the transitions sections, creating an authentic homophonic texture. The movement ends with the excitement of arpeggiated chords, using semiquaver triplet patterns presented in all three instruments to constitute a thick, rhythmically active texture.

Chapter 4

Quin-tête-à-tête

4.1 Structure

The structure of *Quin-tête-à-tête* vaguely resembles sonata form. In this composition, sections often comprise small cellular motifs that are expanded, transformed, spliced, and treated through various devices to construct larger units and sections.

Similar to the other compositions analysed for this study, most notably *Strange Quartet* and the first movement of *Wits Trio Tribute*, musical units are divided by texture, density, range and colour changes. This results in fragmentary units that constitute larger macro sections, which perfectly reflects the description of the composition's title: An intimate conversation between two personas, where the conversation ventures through various stages, from friendly interaction to quite intense discussions (Zaidel-Rudolph 2019).

Similar to both *Strange Quartet* and the first movement of *Wits Trio Tribute*, cellular material is presented in the opening section of the composition and grows to more substantial musical statements as the work progresses. Example 197 illustrates this opening material from which the work grows.

Example 197: Opening cellular material in bars 1-3

Jeanne Zaidel-Rudolph

$\text{♩} = 68$ *espress.*

Violin I *mp* *mf*

Violin II

Viola

Violoncello *p* *mf*

Djembe/
Temple blocks

Crash Cymbals

Snare Drum *mf* *mf* *mf*

$\text{♩} = 68$

Marimba

Table 8 provides the macro sections of the composition.

Table 8: Structural layout of *Quin-tête-à-tête*

Bar	Section	Comment
1-14	A	Cellular material used to construct large portions of the composition is presented in this section.
15-18	Transition	
19-24 ⁴	B	In this section, germinal material is stated that will undergo further development in bars 37-54.
24 ⁵ -36	Transition	
37-54	B ₁	This section uses the material of the initial B section as source material to construct further expanded material.
55-59	Transition	

Bar	Section	Comment
60-86 ¹	C	Motivically, this section is related to B ₁ ; however, the material is transformed to take on a new character, yielding a new section.
86 ² -101 ¹	D	The D section for the most part contains scalar passages.
101-104 ^{2b}	Transition	
104 ^{2c} -147	Development	This section contains elements of the A, B ₁ , and C sections combined with new material.
148-153	A+B	This short section serves as an introductory transition in preparation for the metamorphosis of the following B section.
154-178 ²	B ₂	Although the material from B ₁ is evident, the overall character and sound-world of this section are entirely new.
178 ⁴ -185	Transition	
186-196	B ₃	Similar in content to B ₁ .
197-202	Coda	

4.2 Melodic content

The opening three bars of this composition provide the germinal information used by the composer to construct large portions of the work. When considering the opening excerpt in the first violin part (bars 1-3), several prevailing phenomena become apparent:

- The almost exclusive use of intervallic distances of 2^{nds} and 3^{rds}. These close intervals contrast significantly with the large interval leaps found in the *Wits Trio Tribute*.
- The distinctive combination of minor 2^{nds} and 3^{rds}, which in a set arrangement contributes to the augmented hexatonic scale quality. This arrangement can also be extracted from the octatonic scale, which is extensively used in this composition.
- The duality of major and minor 3^{rds}, which is implemented linearly and vertically to create bimodal areas.
- This musical statement can be divided into three units, divided by the two minims located in bars 2 and 3.

In Example 198, an intervallic analysis exemplifies the interval preferences that are widely used in this work. Also, the two symmetrical scale-like passages (marked in red), primarily comprising minor 2^{nds} and 3^{rds}, provide the material from which transition sections are

constructed. These two scalar passages resemble the augmented hexatonic scale on B \flat and Messiaen's 4th mode from his modes of limited transposition. Additionally, the rhythmic element that permeates the work is marked in green.

Example 198: Melodic constituents in bars 1-3, violin part only

The image shows a musical score for the violin part in 5/4 time, covering three bars. Above the staff, intervals are labeled: 1/2, M3, 1/2, m3, M7, 1/2, 1/2, m3 1/2, 1/2, m3, M3, P4, 1/2, m3, 1/2, m3 1/2, M3. The first bar is marked *mp* and contains a triplet of eighth notes. The second bar is marked *mf* and contains a triplet of eighth notes. The third bar is marked *mf* and contains a triplet of eighth notes. Three units are identified: Unit 1 (bars 1-2), Unit 2 (bars 2-3), and Unit 3 (bar 3). Below the main score, four constituent scales are shown: 'Scalar passage in bar 2', 'Messiaen's 4th mode of limited transposition', 'Scalar passage in bar 3', and 'Augmented scale on B \flat '.

The specific arrangement of intervals of 2^{nds} and 3^{rds} (both major and minor) evident in the three units of the opening bars dominate this composition. This interval collection can be ordered in several ways, and when combined with the rhythmic component of a dotted quaver-semiquaver, prominent motifs emerge. As a result, we can derive three core motifs with accompanying variants from these intervallic and rhythmic elements.

The first motif, labelled A₁, comprises an interval of a minor 3rd preceded by a preparation note, usually a major 2nd below. The first variant (A₂) augments the interval of a minor 3rd to a major 3rd, and the second variant (A₃) combines both intervals in the same motivic statement. This is illustrated in Example 199.

A motif with two variants seen in the B section shares remarkably similar features with all the variants of motif A. All the motifs start with a preparation tone, a major 2nd below the motif. Additionally, the interval of a descending major or minor 3rd is present and treated in the same manner as within the variants of motif A. In between the preparation tone and the descending 3^{rds}, an interval of a minor 7th (the inversion of the major 2nd) is used.

Lastly, motif C₁, primarily used in the transition sections, comprises a minor 2nd followed by a minor 3rd in either an ascending or descending direction. Motif C₂, which augments the interval of a minor 3rd to a major 3rd, is not frequently implemented.

In Example 199, the core motifs are labelled A₁, B₁, and C₁, with the variants labelled A₂, A₃, etc. Preparation tones are marked in green and not considered part of the motifs since they are not consistently presented alongside motivic statements.

Example 199: Significant melodic motifs used in this composition

The image displays nine musical motifs in a single treble clef staff, arranged in three rows. Each motif is shown with its constituent intervals and includes a green dot representing a preparation tone.

- Row 1:**
 - Motif A1: A green dot, followed by a minor 3rd (m3).
 - Motif A2: A green dot, followed by a major 3rd (M3).
 - Motif A3: A green dot, followed by a minor 3rd (m3) and then a major 3rd (M3).
- Row 2:**
 - Motif B1: A green dot, followed by a minor 7th (m7) and then a minor 3rd (m3).
 - Motif B2: A green dot, followed by a minor 7th (m7) and then a major 3rd (M3).
 - Motif B3: A green dot, followed by a minor 7th (m7), then a minor 3rd (m3), and finally a major 3rd (M3).
- Row 3:**
 - Motif C1: A green dot, followed by a minor 2nd (m2) and then a minor 3rd (m3).
 - Motif C1 inv.: A green dot, followed by a minor 2nd (m2) and then a minor 3rd (m3) in descending order.
 - Motif C2: A green dot, followed by a minor 2nd (m2) and then a major 3rd (M3).
 - Motif C2 inv.: A green dot, followed by a minor 2nd (m2) and then a major 3rd (M3) in descending order.

Based on Example 199, it is apparent that the green rectangles in Example 198 present motifs A₁ and A₃, respectively.

In bars 8⁵-14, unit 1 from the melodic statement in the opening bars is restated with subsequent imitative iterations of motif A₁. The motif is stated with free rhythmic augmentations in the first violin and includes the preparation tone (marked in red in Example 200), followed by imitative statements with the assigned dotted rhythm in the second violin and cello (marked in green). Bars 11-12 and 13-14 implement the same material, with the latter bars transposed a semitone lower.

Example 200: Motif A₁'s implementation in bars 13-14, percussion part excluded

The image shows a musical score for four staves. The first staff (Treble Clef) has a red box around the notes in bar 13. The second staff (Treble Clef) has a green box around a passage in bar 14. The fourth staff (Bass Clef) has a green box around a passage in bar 14. The fourth staff is marked 'arco' in bar 13 and 'pizz.' in bar 14.

A transition follows in bars 15-18 that implements octatonic scales on C (S-W) and (W-S), and C# (S-W). The material derived from these scales is arranged to generate motif C₁ and is transposed downwards in minor 3^{rds} to form sequential passages. These passages are imitated between the string instruments.

In Example 201, the two forms of the octatonic scale and their transpositions are indicated. Motif C₁ is marked in red, and the subsequent minor 3rd transpositions can be observed. Pairs of instruments state the same scalar material; however, parts are doubled in minor 6^{ths}. This results in the simultaneous use of two transpositions or two types of octatonic scales. Imitations between dialogue statements are at the 13th.

Example 201: Octatonic scale usage in bars 15-18

The musical score for Example 201 illustrates octatonic scale usage in bars 15-18. The score is divided into two systems. The first system (bars 15-18) features a complex texture with multiple staves. Annotations include "Imitation at the 13th" with a blue dashed line, and various scale names such as "Octatonic scale on C (S-W)", "Octatonic scale on C# (S-W)", "Octatonic scale on C (W-S)", and "Octatonic scale on C# (S-W)". A red arrow points from the first staff to the second. Dynamics include pizz., sf, and mp. The score is divided into two systems, with the first system covering bars 15-18 and the second system covering bars 17-18.

Bars 19-20 of the B section present melodic material based on an obscure/modified version of motif B₁ combined with hints of motif A₁. This is followed by imitative statements of motifs B₁ and B₂; however, the initial interval of a minor 7th is augmented to a major 7th. The section is concluded with a brief reference to motif C's contour, as seen in bars 15-18. The primary difference is the intervallic augmentation of the minor 2nd to a major 2nd and the diminution of the minor 3rd to a major 2nd. This disconnects the material's relationship with the octatonic scale. Bar 24 uses an inverted motif B₂ as a concluding thought.

The centrality of the melody is D because of its revolvment around this central pitch. Furthermore, the melodic statements waver between D major and the Dorian mode on D, caused by the parallel motion between the two violins. This creates a modal duality.

The impact of the accompaniment is discussed in the section on harmonic content (section 4.3).

Example 202 illustrates the material related to motifs B₁ and B₂ in bars 19-24 and is marked in red, while material related to motif A₁ is marked in green. The reference to motif C is marked in purple. All areas creating pitch-dualities are marked in blue.

Example 202: Melodic procedures in bars 19-24, first and second violin parts only

The image shows two systems of musical notation for violin parts. The first system covers bars 19 and 20. The second system covers bars 22 and 23. Annotations include red circles and brackets around notes in bars 19 and 20, a green bracket around a group of notes in bar 20, a purple bracket around a group of notes in bar 22, and blue circles and brackets around notes in bars 19, 20, 22, and 23. Dynamic markings include 'arco', 'pizz.', 'mf', and 'ff'. Articulation markings include 'v.' and '3'.

The transition that follows commences with a scale-like passage combining the two scale formations seen in the opening three bars, the augmented hexatonic scale and Messiaen's 4th mode from his modes of limited transpositions. This is illustrated in Example 203.

Example 203: Scale usage in bar 25, second violin part only

The image shows a single system of musical notation for the second violin part in bar 25. The score is annotated with 'Augmented scale on G' and 'Messiaen's 4th mode of limited transposition'. Dynamic markings include 'mf' and 'f'. Articulation markings include '3' and '5'.

In Example 203 the fusion of the two scale constructions is evident, with the bracketed A_b being part of the preceding augmented scale and not Messiaen's 4th mode. The first violin in bar 25⁵ states a tetrachord extracted from the augmented scale, forming one of the main

constituents used in the remainder of the transition section. This tetrachord is labelled [0 1 4 5].

Example 204: Tetrachord [0 1 4 5] usage in bar 25⁵, first violin part only



In bar 26, this tetrachord with its retrograde is repeated in the first violin to form rising and falling figures, while the second violin enters with the same material on the second quaver of the first beat, an octave lower. This creates contrary motion between the two parts (marked in red in Example 205). The 4th and 5th beats of the bar see transpositions of the tetrachord, a major 2nd higher in the first violin and a minor 3rd lower in the second violin. This creates two outward moving plains of transposed statements (marked in green).

Example 205: Tetrachord [0 1 4 5]'s implementation in bar 26, first and second violin parts only

In bars 27-28, further transpositions of the tetrachord occur in the first violin, while the second violin plays harmonically generated material. Dialogue imitations, similar to the first transition, occur in bar 28. These imitations use an expanded tetrachord and are melodically adapted to incorporate repeated notes. These expanded tetrachords, labelled as pentachord [0 1 2 5 6] in Example 206, are used in inversion in the viola and cello parts.

Example 206: The use of pentachord [0 1 2 5 6] in bar 28

The image shows a musical score for four instruments: Violin I, Violin II, Viola, and Violoncello. The score is for bar 28. The key signature has one flat (B-flat). The time signature is 3/4. The score is marked with *ff* (fortissimo) and *rit.* (ritardando). The pentachord [0 1 2 5 6] is highlighted in red in the Violin I part. The Viola and Violoncello parts show an inversion of the pentachord, highlighted in green. The score includes triplets and slurs.

This imitative process culminates in bar 29 with a statement of tetrachord [0 1 4 5], followed by scalar passages in contrary motion, resembling Messiaen's 4th mode.

Section B₂, starting in bar 37, is predominantly based on motif B and all its variants. Imitative statements are used to create larger musical units that constitute the section. The section is initiated by the dual-modality encapsulated by motif B₃ and creates a sensation of rapid shifts between D major and the Dorian mode on D. Statements of all forms of motif B are transposed and rhythmically altered to produce bars 37-40.

In Example 207, the variants of motif B are indicated. The red brackets indicate complete statements of motif B₁'s variants, of which the first three include the preparation note. Green brackets indicate partial statements of motif B₁, while blue brackets illustrate retrograde inversions of the same motif. The second blue bracket in the marimba part shows motif B₁ treated through a retrograde inversion, octave displacements, and a permutation.

Example 207: Statements of all the variants of motif B₁ in bars 37-40

37 *più mosso*
♩ = 88

Vln. I
Vln. II
Vla.
Vc.
Mar.

Motif B₁
Motif B₁
Motif B₁
Motif B₃
Motif B₂ *mf*
Motif B₂
Motif B₁
Motif B₁
Motif B₁
Motif B₁

p
mf
mp
mf
ff

Bar 41 continues with imitative statements of motif B₂ and initiates with a broken D major triad that follows the contour of an inverted fragment of motif B₂. This is followed by two imitative statements of motif B₂, which include F[♯]'s as part of their design, further enhancing the duality. Example 208 illustrates the imitative statements of motif B₂ (indicated in red). The duality generated by the F[♯] and F[♮] is also marked.

Example 208: Use of motif B₂ in bar 41

41

Vln. I
Vln. II
Vla.
Vc.

mf espress.
pizz.
mf espress.
ff
ff
mp

A short transition follows in bars 55-59. This section introduces the material that the C section broadly implements. Consisting mainly of vertical components treated through rhythmic devices, the top notes of the chord structures in these bars comprise motif B₁.

In Example 209, bar 55 consists of a rhythmically adapted motif B_1 in the first violin (marked in red), followed by two bars using a fragment of bar 55 as source material (marked in green). Besides the harmonic implications, the second violin part uses permutations of motif B_1 to formulate the upper notes of its double stops (marked in blue).

Example 209: Use of motif B_1 in bars 55-57

The C section exemplifies continuous transformations of a pitch collection related to motif B_1 . During the opening bars, the core pitch and rhythmic material are presented in the cello part (bars 60-61), followed by an interjection reminiscent of the preceding transition (bars 62-63). This is continued by expanding the material that initiated the section through transformation devices as more instrumental layers are added to join in imitative dialogue.

Example 210 illustrates the material used in bars 60-61 and, by extension, the entire section. The circled notes of the pitch collection exemplify the similarity between the C section's material and motif B_1 ; however, the initial interval of this pitch collection is augmented to a major 9th, compared to the minor 7th in motif B_1 . These four pitches are treated through permutations (marked in blue), octave displacements (marked in green), fragmentations (marked in yellow), and note deletions (marked in purple). The final observation is the fractured nature of the material in the cello part, where quaver rests are used to divide the material into smaller constituents of various lengths.

Example 210: Melodic content in bars 60-61

The image shows a musical staff in bass clef. At the top, a pitch collection is shown with three notes circled in red: G2, B1, and D2. A red bracket above them is labeled "Pitch collection Reminiscent of motif B₁". Below the staff, a bracket labeled "M9" spans the same three notes. Below this, a sequence of five bars of music is shown, starting with a bar number "60". Each bar contains a melodic line with eighth notes and rests. The bars are color-coded and labeled: the first bar is yellow and labeled "Fragmentation"; the second bar is green and labeled "Permutation of a fragment"; the third bar is blue and labeled "Octave displacement of fragment"; the fourth bar is green and labeled "Pitch deletion"; and the fifth bar is purple and labeled "Pitch deletion".

In bar 66-69^{1a}, a fixed melodic pattern is articulated through imitations between the first and second violins. This melodic pattern is reminiscent of the pitch collection in bars 60-61 but is transposed a 5th higher, with an additional note added, A. This forms a linear expression of an incomplete D minor 9th chord. Underneath the imitative statements of the two violins, the viola and cello present a fixed rhythmically simplified pattern extracted from the untransposed pitch collection.

In Example 211, the imitations at the unison between the first and second violins are evident. The imitative statement in bar 71 consists of the retrograde of a fragment from the first violin part in bar 70, which is repeated in its original form in bar 72 (marked in red). The viola and cello parts' material is derived from the untransposed pitch collection of bars 60-61 (marked in green). Bar 71 illustrates rhythmic augmentation and pitch deletion in the viola and cello parts compared to bar 70 (marked in blue).

Example 211: Melodic construction in bars 70-72

Transposed
pitch collection

Vln. I
Vln. II
Vla.
Vc.

Bars 76-85 see three statements of melodic material similar in conception to the previous bars. The material uses the same expanded pitch collection illustrated in Example 211, yielding material confined to a horizontal expression of an incomplete D minor 9th chord. Similar to the previous bars, the material is presented as fragmented and permuted statements. The first two statements in bars 76-79 are two bars in length each, with an extended third iteration. In effect, bars 60-75 act as a gradual build-up towards the main focal point, occurring in bars 76-85. The sudden reduction of textural density in bar 80^{4b} highlights the third repetition and reinforces the notion of it being the central melodic component of the section. This third statement of melodic material, placed in the marimba, is lengthened by a bar and two crotchet beats, allowing further development of material.

The implementation of minimal permutations between the three statements discussed above is evident when examining Example 212. These permutations are coloured red. All material is derived from the incomplete D minor 9th chord, and these bars can essentially be considered a strategic ordering of only four pitches, D-A-C-E (the F \sharp is present in harmonic constituents). Notes marked in green illustrate the start of each statement and are similar to motif A₁. The third extended iteration includes more rhythmic variety than the previous two statements, and the tail-end does not include quaver-rest-induced segmentations. Note that intervals of a 7th and 9th reflect the initial intervallic distance of motif B₁ (and its variants).

These intervals are mainly formed between D, as the bottom note, and C or E, as the top note, of double stops. The presence of the insistent D solidifies the section's D-centricity.

Example 212: Melodic content of bars 76-83, reduced

First statement, first violin, bars 76-78

Second statement, second violin, bars 78-79

Third statement, marimba, bars 80^d-83

Extension

Note the absence of minor 2nd, major 7th and minor 9th harsh dissonances in the example above. This effectively draws attention due to its sonic contrast to the surroundings.

This leads to the D section in bars 86-104 that is primarily based on scalar constructions. For the most part, scale-like passages in one instrument are doubled by a parallel moving part in a second instrument, utilising the same scale transposed a major 6th lower. The implementation of these two parts creates a duality of two transposed scales used simultaneously. These two scales are the acoustic scales on D and F. The second scale, as pointed out, results from parallelism and not necessarily a deliberate choice of dual scale application. This procedure constitutes bars 86-104.

Throughout the analyses of the compositions at hand, it is evident that melodic gestures are often segmented by rests, chords, or other forms of punctuation. The D section is not different. Example 213 illustrates such dividing punctuations (marked in red) as well as the simultaneous scale use (marked in green).

Example 213: Scale and dividing punctuation usage in bars 86-88

The musical score for Example 213 consists of four staves: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The score is divided into two systems, starting at bar 85 and bar 87. A red box highlights a specific passage in the first system, and a green box highlights another passage in the second system. Below the score are two acoustic scale diagrams: one for D (first violin, bars 86-88) and one for F, 5th mode (second violin, bars 86-88).

Acoustic scale on D,
first violin, bars 86-88

Acoustic scale on F, 5th mode,
Second violin, bars 86-88

The conclusion of the D section in bars 97-100 partially reverts to the use of the octatonic scale on C (W-S) and C \sharp (S-W), capitalising on the tritones available in these scales. In Example 214, the passage based on the octatonic scale on C (W-S) is marked in red, while the green rectangle indicates the use of the octatonic scale on C \sharp (S-W). All melodic intervals are tritones. Note that all melodic constituents move in parallel major 3^{rds}.

Example 214: Octatonic scale usage in bar 98

The image displays a musical score for bar 98. The staves are labeled as follows: Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. The Vln. I and Vln. II parts are highlighted with red and green boxes respectively, showing an octatonic scale. The Mar. part is also highlighted with a red box, showing a similar octatonic scale. The Vla. and Vc. parts show a rhythmic pattern of eighth notes.

The development section starting in bar 104^{2b} commences with material stated in bars 4-8⁴ of the A section. Rhythmic exploration of sonorities in percussion instruments of indefinite pitch follows. Bars 116⁴-120 implement the dotted rhythmic pattern associated with motif A. The viola and cello articulate this rhythm through dialogue imitations a tritone apart. Superimposed above this dialogue is an oscillating figure consisting of C-B and B^b-A, used in the first and second violins, respectively. The vertical interval distance between the two parts is a major 2nd. When collated, the oscillating figure resides within the tritone interval distance established between the viola and cello parts, creating a partial chromatic configuration (illustrated in Example 215). The overall soundscape is one of heightened dissonance and tension, creating an ominous atmosphere. Example 215 illustrates the oscillating figure in the first and second violins and the rhythmic pattern in the viola and cello parts.

Example 215: Melodic constructions in bars 117-119

The image shows a musical score for Example 215, covering bars 117 to 119. The score is arranged in a standard orchestral format with staves for Violin I, Violin II, Viola, Cello, Trombone, Cymbal, Snare Drum, and Maracas. A red box highlights the violin parts, which are marked with 'sul pont.' and 'accel.'. A green box highlights the cello part, which is marked with 'pp' and contains triplet markings. A dashed green line connects the two boxes to a small melodic excerpt at the top of the page, which shows a chromatic scale: G4, A4, Bb4, Bb4, A4, G4.

The cello echoes the chromatic nature of the excerpt in Example 215 through its ascending chromatic scales in bars 120⁵-121¹ and 122^{2c}-123¹. *Staccato* chords reminiscent of bars 62-63 in the C section, and by extension motif A₂, are used in between the scalar passages of the cello in bars 121³-122^{2b} and 123^{1c}-124. Material reminiscent of the C section is implemented in bars 125-147 – the sudden jolting *fortissimo* interruptions enhance the overall dark atmosphere.

In Example 216, the chromatic scales played by the cello are all marked in red. The green rectangles illustrate the chord structures reminiscent of bars 62-63. Furthermore, the blue rectangle exemplifies fragmented statements similar to the C section's material. The difference between the C section and material used in the development is the exploration of numerous transposition possibilities, the implementation of linear interval augmentations and diminutions, and the use of different source material for melodic extractions other than the D minor 9th chord exclusively used in the C section.

Additional observations regarding Example 216 are:

- The material marked in green is derived from the whole-tone scale on C.

- When the first violin part of the green and blue rectangles are considered, it becomes apparent that the trichord [0 4 6], partially verticalized, is used for material construction. In bars 123^{2c}-124¹, the trichord is transposed a major 2nd higher.
- Further development of the trichord through permutations, octave displacements, and transpositions occurs in bars 125-132.
- The dominant intervallic distances used in Example 216 are tritones and minor 7^{ths}.

The vertical aspects of these bars are discussed in the section on harmonic content (section 3.4).

Example 216: Melodic construction procedures in bars 120-125

The image displays a musical score for Example 216, focusing on melodic construction procedures in bars 120-125. The score is written for a full orchestra, including Violins I and II, Viola, Violoncello (Vc.), Trombone (T. Bl.), Cymbals (Cym.), Snare Drum (S. D.), and Maracas (Mar.).

Key annotations and markings include:

- Trichord [0 4 6]:** A diagram at the top right shows the trichord [0 4 6] in a treble clef.
- Trichord [0 4 6] transposed:** A diagram at the bottom left shows the trichord [0 4 6] transposed.
- Trichord [0 4 6] transposed & developed:** A diagram at the bottom right shows the trichord [0 4 6] transposed and developed.
- Performance markings:** *nat.* (natural), *ff* (fortissimo), *pizz.* (pizzicato), *arco* (arco), and *poco piu mosso* (a little more motion).
- Tempo and dynamics:** The tempo is marked $\text{♩} = 100$. Dynamics include *sf* (sforzando) and *ff* (fortissimo).
- Bar numbers:** The score is divided into two systems, with bar numbers 120-125 and 123-125 indicated.

Bars 137-141 use an intervallic diminution of the retrograde of trichord [0 4 6], yielding trichord [0 1 4] – a typical Webern trichord. An example can be seen in his *Symphony* Op. 21.

Here Webern uses the tone row A–F♯–G–G♯–E–F–B–B♭–D–C♯–C♭–E♭ from which he extracts the following trichords: [0 3 1] (F♯–G–A); [0 1 4] (E–F–G♯); [0 1 4] (B♭–B–D); and [0 1 3] (C–C♯–E♭). Similar trichord extractions from a tone row can be seen in his *Konzert* Op. 24.

The melodic statements in bars 137-141, based on trichord [0 1 4], echo the material seen in the C section in the form of transposed imitations of semiquaver patterns (marked in red in Example 217). Due to the construction of trichord [0 1 4] and its transpositional use, imitated statements are not related to the whole-tone scale as with the implementation of trichord [0 4 6] in bars 121³-132; rather, a more chromatic sound-world results.

Example 217: Trichord [0 1 4]’s use in bars 138-139

The image displays two trichord diagrams at the top and a musical score below. The first diagram, labeled 'Trichord [0 4 6]', shows a treble clef staff with notes G, B, and D. Brackets below indicate intervals of a major third (M3) between G and B, and a major second (M2) between B and D. The second diagram, labeled 'Trichord [0 1 4]', shows a treble clef staff with notes E, F, and G♯. Brackets below indicate intervals of a minor second (m2) between E and F, and an augmented second (Aug. 2) between F and G♯. A red dashed line connects the [0 1 4] trichord to the musical score. The score shows four staves: Vln. I, Vln. II, Vla., and Vc. Bars 138 and 139 are marked. Red boxes highlight semiquaver patterns in each staff: Vln. I (bar 139), Vln. II (bar 138), and Vla. (bar 138). The dynamic marking *mp* is present in each of these highlighted sections.

The return of A and B sections material in bars 148-135 functions as an introductory transition in preparation for the metamorphosis of the B section material in bars 154-178². The section comprises two bars (148-149) reminiscent of the composition’s opening statement, followed by another two bars (150-151) of statements increasingly resembling motif B₁ and its variants, concluding with imitative iterations of motif B₂ in bars 152-153. Example 218 illustrates the similarities between this section’s material and bars 1-2³ as well as motifs B₁ and B₂.

forming an *ostinato* period that continually repeats throughout the section. The *ostinato*'s pitches are extracted from the Dorian mode on A. Both *ostinato* phrases start similarly, after which they veer off with different permutations of the mode. The xylophone highlights some of the melodic contours of the *ostinato*.

Example 219 shows the two *ostinato* phrases constituting the *ostinato* period, with the first and third red brackets illustrating the similarity of the two phrases and the second and fourth brackets indicating material contrasts. Additionally, the ordering of the pitches of the mode used in the *ostinato* is indicated.

Example 219: *Ostinato* period in bars 154-157, cello part only

The melodic content, specifically in the first and second violins, comprises a repeating pitch pattern. This pattern consists of elements from both motifs A and B and is four bars in length. Rhythmic material resembling an augmented motif A (marked in red) and imitative statements of motif B₁ (marked in green) are evident in Example 220. The four bars in Example 220 are repeated throughout the section with an additional transposition in bars 166-172.

Example 220: Melodic statement in bars 157-160, first and second violin parts only

The transition in bars 178⁴-185 is largely Lydian-based in both melodic and harmonic material. It begins with two transposed Lydian tetrachords played in octaves throughout the string ensemble (bars 179-180²), after which the first and second violins repeat a fragment of the Lydian statement.

In Example 221, the Lydian tetrachord [0 2 4 6] on E \flat and C are marked in red and green, respectively. The repeating fragment, extracted from the Lydian mode on B \flat , is marked in blue. Note the parallel motion between the violins in bar 180, separated by an interval of a major 6th.

Example 221: The use of tetrachord [0 2 4 6] in bars 179-180

The image shows a musical score for four string instruments: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The score covers bars 179 and 180. In bar 179, a red box highlights the first four notes of the Violin I and II staves, representing a Lydian tetrachord on E \flat . In bar 180, a green box highlights the first four notes of the Violin I and II staves, representing a Lydian tetrachord on C. A blue box highlights a repeating fragment of the Lydian mode on B \flat in the Violin I and II staves. The score includes dynamics like 'sub p' and various articulation marks.

Section B₃ (bars 186-202) is similar in content and procedures to B₁, and both sections have the same D-centrality.

The closing section in bars 197-202 is based on material from the B section, specifically motifs B₁ and B₂. This material's rhythmic components are continuously altered to generate larger units. Example 222 illustrates these modifications (marked in red). Bar 199 presents an inverted statement of the motif B-related material superimposed in the violins (marked in green).

Example 222: Rhythmic alterations of motifs B₁ and B₂ in bars 197-199

The image displays a musical score for Example 222, focusing on bars 197-199. At the top, a diagram illustrates the intervallic structures of Motif B₁ (minor 7th, minor 3rd) and Motif B₂ (minor 7th, Major 3rd). The score itself is arranged in four systems, each containing staves for Violin I, Violin II, Viola, and Cello. In the first system (bars 197-198), Motif B₁ is highlighted in red in the Violin I and II parts. In the second system (bar 199), Motif B₂ is highlighted in red in the Violin I and II parts, while the Viola and Cello parts are highlighted in green. Dynamics include *ff* and *mf*, and a *cresc.* marking is present in bar 199.

4.3 Harmonic content

Vertical simultaneities used in this composition are diverse. However, one of the key features is the doubling of melodic content in 3^{rds} and 6^{ths}, often creating a duality of scale or mode usage.

The opening three bars comprise a melodic statement in the first violin superimposed above contrapuntal material in the cello. For the most part, the cello statement doubles the violin in compound 3^{rds} and 6^{ths}.

In Example 223, the red lines indicate intervallic structures of compound minor 6th, while the green and blue lines indicate a compound major 6th and major 3rd, respectively. Due to

material mainly moving in parallel moving 6ths, a sense of modal duality is created, as illustrated by the purple circles. This is a significant feature in this composition.

Example 223: Harmonic interval use in bars 1-3, first violin and cello parts only

The vertical simultaneities in bars 4-14 continue the concept of duality in the form of split-member chords. These bars comprise several transpositions of a fixed split-member harmonic structure, namely a major triad with a split 5th. Example 224 provides the entire harmonic layout of bars 4-14. Enharmonic spellings, as used in the score, are written in brackets.

Example 224: Harmonic structures in bars 4-14

The transition in bars 15-18 consists of imitative iterations of motif C₁-based material. These repeated transpositions of the motif formulate octatonic scales on C (S-W) and (W-S) and C# (S-W). Imitations are stated by pairs of instruments, a minor 6th apart, and move in parallel motion. The parallel motion between the instruments results in the simultaneous use of two transpositions or two types of octatonic scales.

In bars 17-18, the *pizzicato* first and second violins play the chord in Example 225.

Example 225: Harmonic structures in bar 17

This harmony is an incomplete E major 7th chord in first inversion. However, the voicing resembles a structure frequently seen in the compositions already discussed in this study, namely inverted quartal and quintal chords, formulating suspended sonorities. It can be compared to Example 226.

Example 226: Comparison between a quartal structure and an incomplete and inverted dominant 7th chord

In Example 226, the first chord represents a quartal chord on E (3x4 on E), which is inverted and presented as chord 2. Chord 2 is frequently used by the composer. Lastly, chord 3 comprises a tritone and superimposed major 2nd that resembles the structure of chord 2. Furthermore, this incomplete inverted E major 7th harmony is transposed in bar 17 to form an incomplete B major 7th chord. As shown in Example 227, chord members undergo octave displacements in bar 18, with the upper notes arranged to formulate dissonant intervals of 7^{ths} and 9^{ths} within the structures.

Example 227: Harmonic structures in bars 17-18

The pedal chord in the B section, played by the viola and cello, reflects the chord's voicing in Example 225; however, the intervallic structures are different. This harmony can be interpreted as an incomplete and inverted C major triad with an added 2nd, C major(add2) in first inversion. Alternatively, it can be seen as a verticalized trichord [0 2 4] on C. This is illustrated in Example 228.

Example 228: Pedal chord in bars 19-24, viola and cello



As discussed in the section on melodic content (section 4.2), the horizontal parameter of this section resides in a duality centred around D. The duality is due to the parallel motion generated by the second violin doubling the first violin in varying major 3^{rds} and major and minor 6^{ths}. This causes the melodic material to shift between D major and the Dorian mode on D. Another layer of tonal/modal complexity is added by using the chord structure in Example 228, played by the viola and cello parts, to form a pedal. The pitches and voicing of this chord do not contribute to the melodic component's D-centrality. Instead, a polytonal or polymodal soundscape is produced where the horizontal material suggests D major and the Dorian mode on D's dual use, while the low string pedal chord represents a verticalized trichord [0 2 4] on C, including an octave displacement. This trichord can be extracted from the D Dorian mode and, as a result, enhances this modality in part. Furthermore, the inclusion of a C♭ in the trichord creates sonic conflict with the C♯s in the first and second violin.

Example 229 shows the first and second violin playing melodic material, which leans towards D major and the D Dorian mode (marked in blue). The viola and cello (marked in green) play the verticalized trichord [0 2 4] on C, resulting in split-member chords when combined with the melodic statement (marked in red).

Example 229: Polymodality in bars 19-20

The transition in bars 24⁵-36 sees numerous transpositions of the chord structure played by the viola and cello in Example 228. This chord accompanies tetrachord [0 1 4 5] played by the first and second violins. The combination of these two elements generate moments of split-member sonorities.

Example 230 illustrates the verticalized trichord [0 2 4] played by the viola and cello (marked in red) and tetrachord [0 1 4 5] used in the first and second violin parts for melodic construction (marked in green). The split-member sonorities are marked in blue.

Example 230: Vertical constructs in bar 26

The image shows a musical score for bar 26, marked with *poco accel* and *poco a poco crescendo*. The score includes parts for Vln. I, Vln. II, Vla., and Vc. The Vln. I and II parts are marked with a green box, indicating the tetrachord [0 1 4 5]. The Vla. and Vc. parts are marked with a red box, indicating the verticalized trichord [0 2 4]. Blue vertical lines connect notes across the staves, marking split-member sonorities. A legend below the score shows a trichord [0 2 4] and a tetrachord [0 1 4 5] with a plus sign between them, indicating their combination.

In bars 31-34¹, pentachord [0 1 2 5 6], first encountered in bar 28 to formulate the horizontal material, is altered through pitch deletion to form a new tetrachord [0 2 5 6]. This tetrachord is verticalized in the abovementioned bars for harmonic purposes.

Tetrachord [0 2 5 6], illustrated in example 231, comprises two significant elements: The inclusion of an augmented 2nd and the use of D \flat and D \sharp , creating a split-member chord quality.

Example 231: Verticalized tetrachord [0 2 5 6] in bars 32-33

The image shows a musical score for four instruments: Violin I, Violin II, Viola, and Violoncello. The score covers bars 31, 32, and 33. A red rectangular box highlights the musical material in bars 32 and 33. In bar 32, the strings play a tetrachord [0 2 5 6] with a forte (ff) dynamic. In bar 33, the same tetrachord is repeated, but with a subito piano (pp) dynamic. The Viola and Violoncello parts have 'sub' markings, likely indicating sub-octave notes. The Violin I part has a fermata in bar 31.

Harmonic structures in bars 34-36 can be analysed as extended and altered chords, or a polychordal approach can be used, which involves verticalizations of two tetrachords. Both interpretations are provided in Example 232. The numbered chords in the first example align with the numbers in the second interpretative illustration.

Example 232: Chord structures in bars 34-36

The image shows three chords in a grand staff. Chord 1 is Bmin⁷(add4), Chord 2 is E₅, and Chord 3 is B^baug⁷(add#4). Below the chords, there is a note: 'Mixed interval chord based on the octatonic scale on C (W-S)'. The chords are numbered 1., 2., and 3. above them.

1. Dmaj₄⁶ + E⁷(add4)
2. Tetrachord [0 2 5 6] + Tetrachord [0 1 4 6]
on E^b on B
3. Dmaj₄⁶ + B^bmaj(add#4)

Both interpretations align with the harmonic practices already seen in the three works analysed for this study.

The section that follows (B₁) explores imitative possibilities of motif B in all its forms. Underpinning this melodic procedure is an interval of a perfect 4th, forming a drone that continues throughout the section. This perfect 4th, outlining the outer interval of a D major or D minor triad in second inversion, enhances the section's D-centrality and allows seamless

interaction between the D major tonality and D Dorian mode in the upper string instruments. An added B *pizzicato* pedal in the cello (bars 42-45 & 47-48), which later changes to an E (bars 49-51¹), modifies the underpinning interval to imply a B minor or B diminished chord. With the B substituted with an E, the underlying chord changes to a D major or minor triad with an added 4th. As seen in the other analysed pieces, pedal tones and fixed pitch centres are significant style elements in the composer's music.

In Example 233, the pedal in the cello (marked in green), drone in the marimba (marked in red), and the bimodal interaction (marked in blue) can be observed.

Example 233: Pedal & drone usage in bars 41-42

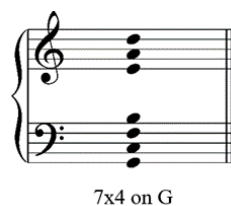
The image shows a musical score for Example 233, covering bars 41 and 42. The score is arranged in a standard orchestral format with the following staves from top to bottom: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Cello (Vc.), Trombone (T. Bl.), Cymbal (Cym.), Snare Drum (S. D.), and Marimba (Mar.).

- Violin I and II:** Both parts feature a triplet of eighth notes in bar 41, marked *mf espress.* A blue circle highlights a note in the Violin II staff in bar 42.
- Viola:** Plays a triplet of eighth notes in bar 41, marked *ff*.
- Cello:** Plays a triplet of eighth notes in bar 41, marked *ff*, and a single note in bar 42, marked *ff*. A green box surrounds the bar 42 note, with the annotation "pizz. You are the metronome".
- Marimba:** Plays a continuous rhythmic pattern of eighth notes in both bars, marked *ff* in bar 41 and *mf* in bar 42. A red box surrounds the Marimba staff, with the annotation "simile".
- Other instruments:** Trombone, Cymbal, and Snare Drum have rests in both bars.

In the short transition that follows (bars 55-59), motif B₁ forms the primary melodic component, while harmonically, block chords based on a quartal structure form the main constituent.

The harmonic structure in Example 234 is essentially a verticalized Mixolydian mode on G, arranged to comprise a quartal structure, 7x4 on G.

Example 234: Primary chord structure used in bars 55-59



Various omissions and octave displacements within the above-illustrated chord are used to construct the entire transition. Motivic statements in bars 55-59 are still centred around D, similar to B₁; however, the reharmonisation with the quartal structure on G provides a smooth transition to the new G-centred C section.

The C section is primarily contrived from horizontal and rhythmical procedures, with the opening melodic material derived from a pitch collection situated on G (see Example 210). This pitch collection is transposed and expanded to form a linear expression of an incomplete D minor 9th chord in bars 66-83. A bass pedal on D in bars 83-85 reinforces the D-centrality.

Scale formations are the primary constituent of the D section and are stated by pairs of instruments moving in parallel motion. The intervallic distance between the parallel moving parts is a major 6th, resulting in the simultaneous use of different transpositions of a scale, namely the acoustic scale on D and F. Dividing scalar gestures are *pizzicato* chords that resemble the tetrachord verticalization seen in bars 31-34¹ when reduced. These chords, however, are arranged as superimposed or interlocking major and minor 7^{ths}. This is illustrated in Example 235.

Example 235: Chord structure in bar 89

Chord structure in bar 89 Reduced

A procedure for harmonic construction can be derived from Example 235. This procedure involves two plains of intervals, in this instance major and minor 7^{ths}, which are positioned to interact. These intervals are either arranged to form a superimposed construct where the intervals of a 7th are a specific distance from each other (as in Example 235), or they interlock to overlap at various junctures, which can be seen in Example 236. These overlapping intervals are used to create various harmonic structures, which can be interpreted in several ways. Possible interpretive labelling are provided in brackets in Example 236.

Example 236: Chord structures in bars 93-96

The image shows three measures of music, labeled Bar 93, Bar 95, and Bar 96. Each measure consists of a treble clef staff and a bass clef staff. In Bar 93, the treble staff has a whole note chord (A4, C5, E5) and the bass staff has a whole note chord (A2, C3, E3). In Bar 95, the treble staff has a whole note chord (A4, C#5, E5) and the bass staff has a whole note chord (A2, C#3, E3). In Bar 96, the treble staff has a whole note chord (A4, C#5, E5) and the bass staff has a whole note chord (A2, C#3, E3, G#3). Below the bass staff of Bar 93 and 95, there is a bracketed chord symbol '4x5 on A'. Below the bass staff of Bar 96, there is a bracketed chord symbol 'D⁹'.

In addition to using the acoustic scales on D and F, the D-centrality of this section is further enhanced by the majority of chords constructed on D. Harmonic structures that initiate and end sections are also D oriented.

The closing passage of the D section (bars 97-100) returns to the octatonic scale on C (W-S) and C# (S-W), with the first and second violins playing in parallel major 3^{rds} and the viola and cello in parallel major 6^{ths}.

The development section, starting in bar 104^{2c}, sees a departure from the sound-world created in the preceding sections. Prior to the development, horizontal material comprised of melodic gestures and scalar passages are doubled in unisons, octaves, 3^{rds}, and 6^{ths} between pairs of instruments. In this section, however, parallel moving parts for the most part explore intervals such as major and minor 2^{nds}, 7^{ths}, and tritones.

In Example 237, oscillating simultaneities consisting of major 2^{nds} (marked in red) and tritones (marked in green) are evident.

Example 237: Simultaneities in bars 117-118

These constructions described above continue until bar 120⁴.

In bars 121-137¹, both the horizontal and vertical fabric of the soundscape is dominated by the whole-tone scale on C. Chord formations comprise interlocked and stacked tritones using all members of the whole-tone scale, combined with an additional G in the bass. A rearrangement of these pitches yields a condensed quintal structure.

In Example 238, only two chords are used in the marked bars. The quintal structure of the first chord is evident when rearranged, and all pitches marked in red form part of the whole-tone scale on C. The condensed version of the harmony is used in the score. The second chord in this passage is similar in structure to the first chord, with selected members repositioned. These dense dissonant chords enhance the tension of the section.

Example 238: Chord structures in bars 121^{1c}-122^{2a}

The image displays a musical score for Example 238, focusing on bars 121 and 122. The score is written for a full orchestra, including Violin I and II, Viola, Violoncello (Vc.), Trombone (T. Bl.), Cymbal (Cym.), Snare Drum (S. D.), and Maracas (Mar.). The tempo is marked as $\text{♩} = 100$. The time signature is 6/4. A red box highlights the chord structures in bars 121 and 122. Below the score, a 'Condensed' diagram shows the chord structures in a simplified format, labeled '7x5 on G'.

Bar 125 presents two additional vertical formations that dominate the development section in conjunction with the chords in example 238.

In Example 239, the harmonies marked in red are two incomplete major triads with added 2^{nds} (the viola part's notes are displaced an octave lower). These two vertical structures are B \flat major(add2) and E major(add 2) chords and are reminiscent of the harmonic structure implemented in B $_1$ as a pedal-chord (Example 233). Additionally, both these harmonies are extracted from the whole-tone scale on C. The simultaneity marked in green is an enharmonic incomplete French augmented 6th chord in inversion.

Example 239: Chord structures in bar 125

125 *poco piu mosso*

Vln. I *poco piu mosso*

Vln. II *poco piu mosso*

Vla. *poco piu mosso*

Vc. *poco piu mosso* pizz. *sf*

T. Bl.

Cym.

S. D.

Mar. *poco piu mosso*

sf

B \flat maj. (add2) E maj. (add2) Incomplete Fr $^{+6}$

Bars 138-145¹ continue with the procedures of harmonic construction used in bars 121^{1c}-124. Intervals of major and minor 7^{ths}, extracted from the whole-tone scale on C \sharp , are superimposed to formulate chords.

Example 240 illustrates a chord purely created from intervallic distances of 7^{ths}, yielding 4x7 on C \sharp . This chord dominates bars 138-145¹ and is an extension of the dissonant soundscape that initiated the development section.

Example 240: Chord structure in bars 138-139

138

Vln. I *mp*

Vln. II *mp*

Vla. *mp*

Vc. *mp*

4x7 on C \sharp

Bars 148-153 constitute two main chord structures in the string ensemble, augmented triads and incomplete French augmented 6th chords. The succession of these structures is initially achieved through parallel motion between instrumental parts. Underneath this procedure, the marimba plays unrelated French augmented 6th chords. These two elements create polychordal structures. Also, the triadic harmonic approach creates temporary relief from the previous dissonant tension-bearing bars.

Example 241 illustrates the augmented triads (marked in red) and incomplete French augmented 6th chords (marked in green). The marimba, playing mostly unrelated French augmented 6th chords, is marked in purple.

Example 241: Polychord structures in bars 148-150

The image shows a musical score for Example 241, focusing on bars 148-150. The score is written for a string ensemble and a marimba. The instruments listed are Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), Trombone (T. Bl.), Cymbal (Cym.), Snare Drum (S. D.), and Marimba (Mar.). The time signature is 6/4. The key signature has one sharp (F#). The score is marked with dynamics: *p*, *mf*, *ff*, and *f*. The Marimba part is highlighted with a purple box, and specific chord structures in the string parts are highlighted with red and green boxes. The red boxes highlight augmented triads, and the green boxes highlight incomplete French augmented 6th chords. The Marimba part is marked with *sf* and *mp*.

Bars 154-178² re-envision motifs A and B, which is stated over an *ostinato* derived from the Dorian mode on A, and later D. Although the section is mainly constructed through the process of superimposing motivic gestures over an *ostinato*, striking simultaneities occur. These simultaneities comprise a large variety of intervals and chords ranging from 2^{nds}, 7^{ths} and tritones, to 3^{rds} and major triads.

This leads to section B₃, which implements similar harmonic procedures compared to B₁. Bimodal processes result from multiple shifts between D major and the Dorian mode on D.

The coda in bars 197-202 initiates with an arpeggiated incomplete D minor 9th chord, resembling motif B₁, and functions as a melodic constituent. Underneath, the second violin, viola, and cello play alternating pitches that expand the upper structure to a D minor 11th chord.

Bars 199-200³ are primarily based on the whole-tone scale on C (marked in red in Example 242), and the primary chord formation in these bars is a B^b augmented triad with an added 2nd (indicated in green). Additionally, parallel motion between the two violins results in bimodal sonorities (marked in blue). The composition concludes in bars 201-202 with two alternating chords over a C-pedal. These two harmonies are G major and B minor triads (indicated in purple), and when combined with the pedal, result in an incomplete C major 9th chord followed by an inverted dominant 13th chord on D. The final harmony of the composition is a G major triad with an added 6th over a C-pedal (indicated in orange).

Example 242: Harmonic procedures in bars 199-202

Whole-tone based

199

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

201

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

41

mf *cresc.* *mf* *cresc.* *mf* *cresc.* *mf* *cresc.* *mf* *cresc.* *sf* *cresc.* *sf*

ff *ff* *ff* *ff* *ff* *pizz.* *pizz.* *pizz.* *pizz.*

ff

4.4 Rhythm

Similar to the melodic content, the main cellular rhythmic components are provided within the opening three bars of the composition. Four elements, illustrated in Example 243, within these bars can be highlighted as pertinent: 1) The dotted rhythm consisting of a dotted quaver and semiquaver (marked in green); 2) the triplet pattern comprising quavers (marked in red); 3) the semiquaver pattern (marked in purple); and 4) the diminution of the quaver triplet patterns used in the percussion part (marked in blue).

Example 243: Rhythmic components in bars 1-3

Various adaptations of these four rhythms are implemented throughout the composition. It is clear, as in many other works of the composer, that this composition is rhythmically driven, for the most part.

The first free rhythmic augmentation occurs in bars 11-14. Motif A₁'s pitches are stated in the first violin part; however, the augmented note values do not relate to the dotted rhythm associated with motif A.

In Example 244, the cello and second violin iterate motif A₁ (marked in green), while the first violin states the same motif with freely augmented note values (marked in red).

Example 244: Free rhythmic augmentation of motif A₁ in bars 13-14

The transition that follows comprises imitative passages based on the octatonic scale on C and C#. The rhythmic component assigned to these passages resembles the quaver triplet pattern seen in bar 1. However, the quavers are divided to include repeated semiquaver pitches. The sudden change in pace is drastic when compared to the slower opening section. This is illustrated in Example 245.

Example 245: Rhythmic content of bars 16-17

The rhythms associated with motif B in all its forms are numerous, but most of them are related through diminutions, augmentations, or slight alterations. The layout in Example 246 presents motif B as implemented in the B section with all its rhythmic configurations.

Example 246: Rhythmic forms of motif B and all its variants

Bar 53 Bar 49 Bar 38 Bar 159 Bar 38 Bar 22 Bar 21

1. 2. 3. 4. 5. 6. 7.

Example 246 shows the rhythms assigned to motif B arranged so that note values systematically shorten (free diminution). These presentations are not all implemented in a single B section and are not illustrated in chronological order.

Larger musical units are formulated through successive imitative statements of motif B, most of which are assigned a different rhythm.

The B section in bars 19-24⁴ includes several transformations of the dotted quaver-semiquaver rhythm seen in the opening bars of the composition. The section initiates with hints of motif B₁ and the rhythmic component of motif A.

The dotted rhythm associated with motif A is marked in green in Example 247. Motifs B₁ and B₂ with altered rhythmic presentations are marked in red. Another prominent rhythmic component, which is also used to a large degree in the transition section in bars 24⁵-36, is the semiquaver triplet pattern (marked in blue).

Example 247: Rhythmic modifications of motifs in bars 19-24

19 arco pizz. arco

22 arco pizz.

mf *ff* *mf*

As part of the accompaniment to the material illustrated in Example 247, *staccato* quavers are combined with retrograde statements of the dotted quaver-semiquaver rhythm. This is shown in Example 248.

Example 248: Retrograde statements of the dotted quaver-semiquaver rhythm in bars 23-24

The image shows a musical score for four instruments: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The score is divided into two systems, bars 23 and 24. In bar 23, the Violin parts feature melodic lines with triplet markings. The Viola and Violoncello parts play a rhythmic accompaniment of dotted quaver-semiquaver pairs. Two red boxes highlight these accompaniment figures in the Viola and Violoncello staves, respectively, showing retrograde statements of the dotted quaver-semiquaver rhythm. In bar 24, the Viola and Violoncello parts continue with similar rhythmic patterns, with another red box highlighting a specific figure in the Violoncello part.

The transition in bars 24⁵-36 is mainly based on a semiquaver triplet rhythm (marked in green in Example 249). In bar 26, the first two semiquavers of the triplet patterns are fused into a quaver to resemble the dotted quaver-semiquaver rhythms. This rhythm forms the accompaniment figure (marked in red). Bar 228 combines the two rhythms into one statement to formulate an imitative dialogue between instruments (marked in blue).

Example 249: Fusion of rhythmic patterns in bars 27-28

8

27 $\text{♩} = 76$

Vln. I

Vln. II

Vla.

Vc.

28 rit.

Vln. I

Vln. II

Vla.

Vc.

The end of the transition sees another common phenomenon frequently implemented by the composer: rhythmic fragmentation combined with metric unpredictability. This occurs in bars 34-36. The vibrancy resulting from these combined aspects provides exhilarating moments throughout the composition.

The asymmetry of the two statements in bars 34-36 is marked in Example 250. In the first statement, crotchet rests are rearranged compared to the second statement, causing irregularity. Also note the excessive use of rests, resulting in fragmented-sounding units.

Example 250: Rhythmic asymmetry in bars 34-36

The image shows a musical score for Example 250, focusing on bars 34-36. The score is written for a string quartet (Vln. I, Vln. II, Vla., Vc.) and includes parts for Tuba (T. Bl.), Cymbals (Cym.), and Snare Drum (S. D.). The key signature is one sharp (F#) and the time signature is 5/4. The score is marked with dynamics such as *fff* and *sf*. A red box highlights a motif in the Vln. I and Vln. II parts, and a green box highlights a syncopated rhythmic figure in the Vln. I and Vln. II parts. The Vc. part features pizzicato crotchet notes (marked in blue). The S. D. part features a syncopated rhythmic pattern (marked in green).

Section B₁ is dominated by statements of motif B and all its variants. Accompanying these statements are two rhythmic components formulating a polyrhythm. In bar 41, a syncopated rhythmic figure is stated and repeated throughout most of the section. This rhythm comprises a semiquaver, quaver, and dotted quaver (marked in green in Example 251). Superimposed above this syncopated rhythmic pattern in the marimba part are *pizzicato* crotchet notes in the cello, articulating the pulse of the 5/4 metre (marked in blue). These two elements create the polyrhythm. In Example 251, the motivic statements relating to motif B (marked in red) can be observed along with the two polyrhythmic constituents.

Example 251: Polyrhythmic elements in bars 41-42

The image shows a musical score for Example 251, focusing on polyrhythmic elements in bars 41-42. The score includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. A red box highlights bars 41-42 in the string parts. A blue box highlights the cello part in bar 42 with the text "pizz. You are the metronome". A green box highlights the maracas part in bars 41-42, with a callout box below showing a rhythmic motif: a quarter note, an eighth note, and a dotted quarter note.

In bars 52⁴-54, the retrograde dotted rhythm, consisting of a semiquaver-dotted quaver, forms a prominent accompaniment figure in the viola and cello parts.

The transition in bars 55-59 implements fragmented chordal statements resembling bars 34-36 of the first transition. As seen in Example 252, a focus on off-beat rhythmic placements combined with unpredictable and varying rest lengths create rhythmic vitality. The silences, however, are for the most part occupied by percussion colours.

Example 252: Rhythmic unpredictability in the string parts of bars 55-57

The musical score for Example 252 shows six staves: Violin I, Violin II, Viola, Cello, T. Bl., and Cym., and S. D. The time signature is 5/4. The string parts (Vln. I, Vln. II, Vla., Vc.) feature complex rhythmic patterns with dynamic markings such as *f sf*, *sf*, *sub. sf*, and *pp*. The percussion parts (T. Bl., Cym., S. D.) include T. Bl. (Timpani), Cym. (Cymbal), and S. D. (Snare Drum) with dynamic markings like *sf*.

The C section is characterised by note patterns grouped in twos and threes. Some of these groups are divided by rests, while others are simply evident through note beaming, yielding groups with quaver lengths of 2+3+2+3+3+3. Example 253 illustrates this principle.

Example 253: Semiquaver group lengths in bars 60-61

The musical score for Example 253 shows a single staff with semiquaver groups in bars 60-61. The groups are marked with red brackets and labeled with numbers 2, 3, 2, 3, 3, 3.

Additionally, when the larger groups divided by quaver rests are observed, it is evident that a gradual increase in length occurs. This produces group lengths of 2+5+3+6 quaver beats.

These two levels of grouping are implemented throughout the section.

In bars 68-70, repeating fragments of the semiquaver groups discussed above are used; however, semiquavers are fused to produce groups comprising quavers only, yielding pattern lengths of 2+3+2+3+3+2 quaver beats (marked in red in Example 254). These quaver note groups used in the viola and cello parts are implemented in combination with semiquaver groups in the two violins and percussion (marked in green).

Example 254: Semiquaver and quaver groups in bars 67-69

The musical score for Example 254, bars 67-69, is shown. The score includes parts for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Bars 67-69 are highlighted with a green box. The Viola and Cello parts in bars 68-69 are highlighted with a red box. Dynamics include *mp*, *p*, *mf*, and *f*. Performance instructions include *arco* and *pizz.*

The note groups marked in red in Example 254 are rhythmically augmented compared to bars 60-61. Additionally, note deletions are combined with the rhythmic alteration to constitute the viola and cello parts in bars 67, 71, and 73.

Bars 76-85 consist of three melodic statements, each containing fixed rhythmic patterns generated from the procedures of the preceding bars. All three melodic statements comprise quaver beat group lengths of 3+5+3+3 (marked in red in Example 255). Dividing each group is a quaver rest. As part of the accompaniment, the viola plays a two-bar cycle consisting of alternating crotched *pizzicato* intervals and crotchet rests (marked in green). This takes place in a 5/4 metre, resulting in the viola part not consistently aligning with the first beat of each bar and implying a regular simple metre.

Example 255: Rhythmic groups in bars 76-78

The D section is chiefly derived from scalar passages consisting of semiquavers and demisemiquavers. Each scalar passage in bars 86-95 is punctuated by *staccato* or *pizzicato* chords. The length of each scale-like statement reflects the notion of expansion (or growth) seen in the C section, with unit lengths equating to 6+8+10+6+9 crotchet beats in length. The majority of the units also start with upbeats of a quaver value.

The transition in bars 101-104^{2b} implements the dotted quaver-semiquaver rhythm as the main rhythmic component.

This leads to the development section that incorporates most of the rhythmic elements already encountered in the composition. Bars 117-120 involve the dotted quaver-semiquaver rhythm as an imitative figure between the viola, cello, and snare drum parts. The temple blocks state a semiquaver triplet pattern, and the two violins play oscillating quaver figures. Bars 121^{1c}-124 implement a fragmentary chordal statement similar in content to the transition in bars 55-59 that focuses on off-beat placements of chord structures. In bars 125-132, a continuation of the fragmented statements occurs; however, the preceding chord structures are broken up into semiquaver figures to form the primary melodic constituents. The semiquaver figures resemble the material of the C section. These aspects are evident in Example 256.

Example 256: Chord structures transformed to semiquaver patterns in bars 123-125

The musical score for Example 256, bars 123-125, is presented in a multi-staff format. The instruments are Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), Violoncello (Vc.), Trombone (T. Bl.), Cymbal (Cym.), Snare Drum (S. D.), and Piano (Mar.). The score begins at bar 123 with a double bar line and a key signature change to two sharps (F# and C#). The time signature is 5/4. The first two bars (123 and 124) feature a 5/4 time signature, while the third bar (125) changes to 6/4. The score includes dynamic markings such as *ff*, *sf*, and *p*, and performance instructions like *poco piu mosso*, *pizz.*, and *arco*. A sextuplet of sixteenth notes is marked with a '6' in bar 123. The piano part (Mar.) shows a transition from a 5/4 time signature to a 6/4 time signature in bar 125.

Apart from triplets and sextuplets, no other unequal divisions of the pulse have been used in the composition so far. In bar 144, however, the preceding semiquaver figures are transformed into a quintuplet of semiquavers.

Bars 148-153, containing elements of both the A and B sections, use free rhythmic augmentation of the material in bar 1-2³. The augmentation is in part implemented to accommodate the metric shift from an irregular 5/4 metre to a compound 6/4 time signature. Example 257 illustrates the note similarities between the two passages in bars 1-2³ and 148-149.

Example 257: Free rhythmic augmentation in bars 148-149

The image shows two staves of music. The top staff is for Violin I, in 2/4 time, with a tempo marking of ♩ = 68. It starts with a dynamic of *mp* and includes the instruction *espress.* A triplet of eighth notes is marked with a '3'. The bottom staff is for Vln. I, in 6/4 time, with a dynamic of *mf*. Red lines connect notes between the two staves, showing how the 2/4 rhythm is augmented to fit the 6/4 time signature. A green bracket highlights a specific rhythmic pattern in the Vln. I part.

Section B₂ comprises an *ostinato* with superimposed melodic material related to motif B₁. Material is moulded into a 10/8 metre with palindromic quaver groupings of 3+2+2+3. This grouping is apparent in the *ostinato* in Example 258.

Example 258: Palindromic quaver grouping in the *ostinato* of bars 154-155

The image shows a single staff for Violoncello (Vc.) in 10/8 time, starting at bar 154. The music consists of a repeating ostinato pattern of eighth notes, illustrating the palindromic quaver grouping of 3+2+2+3.

The *ostinato* period, being four bars in length, repeats throughout the section. This *ostinato* does not align with the superimposed repeating melodic material, which is two bars in length. The melodic material only enters in the third bar of the *ostinato* period, causing repeating material to recommence and conclude at varying junctures.

Section B₃ presents the same rhythmic procedures and content as B₂.

The coda concludes the composition by summarising some of the core rhythmic elements used in the composition. The retrograde of the dotted quaver-semiquaver rhythm forms the initial primary accompaniment figure for iterations of motif B₁, after which imitative semiquaver patterns are used as a vehicle for statements of motif B₂. A continuation of semiquaver statements resembling C section material concludes the composition.

4.5 Texture

The opening three bars of the A section commences with a large register division between the violin and cello, each with equally important melodic content, forming a contrapuntal texture. This is illustrated in Example 259.

Example 259: Register division between the violin and cello parts in bars 1-3

The musical score for Example 259 shows four staves: Violin I, Violin II, Viola, and Violoncello. The time signature is 5/4 and the tempo is quarter note = 68. The key signature has one sharp (F#).
 - Violin I: Starts in bar 1 with a melodic line in a high register, marked *mp* and *espress.*. It features a triplet of eighth notes. The dynamics change to *mf* in bar 3.
 - Violin II: Remains silent throughout the three bars.
 - Viola: Remains silent throughout the three bars.
 - Violoncello: Starts in bar 1 with a low register line, marked *p*. It moves to a higher register in bar 3, marked *mf*.
 A red double-headed arrow is drawn between the Violin I and Violoncello staves in the first measure, indicating the register division.

A thicker texture with sustained pitches occurs in bars 4-8 where each string instrument plays in a relatively high range. This is followed by imitative statements of motif A₁, generating a contrapuntal texture in bars 11-14.

The transition in bars 15-18 comprises imitative statements of motif C-based material, forming octatonic scale-like formations. Accompanying these passages are *pizzicato* chords, creating an additional layer in combination with the dialogue statements.

The B section is characterised by homophonic texture. A verticalized trichord is played as repeated chords in the viola and cello to function as a pedal-drone. The melodic material, stated in the first and second violins, are played in rhythmical unison and contrasts the *staccato* chords in the low strings. During only one stage of this relatively short B section, a contrapuntal texture ensues. This occurs in bars 21⁵-22, where motifs B₁ and B₂ are used in dialogue between the first and second violin.

The transition in bars 24⁵-36 initiates with dialogue imitations of tetrachord statements, similar to the structures of the transition in bars 15-18. These statements are played *legato* against a backdrop of a *staccato* chordal accompaniment layer in the low string instruments and percussion part (bars 25-27). In bar 28-30¹, the *legato* melodic passages are substituted for rapid imitative exchanges between the high and low string instruments. These brief statements between instruments enhance the accumulated tension as the section nears its apex. Furthermore, as the section progresses, a clear trajectory of *legato* articulations in parts are transformed to *non-legato* and ultimately sharp accented *staccato* chords. The temple

blocks and snare drum are used to either contrast the *legato* passages or enhance *staccato* articulations. Bars 29-33 comprise the following three textural elements used successively:

- *Non-legato* and *staccato* layers (marked in red in Example 260);
- Sustained notes (marked in green); and
- Systematic stacking of tremolo pitches (marked in blue).

Additionally, rapid increases and decreases in the ensemble's range can be observed in bars 29-33. In part, this is due to imitations used in these bars. These range contours are illustrated in Example 260 with purple lines.

Example 260: Contrasting textures and rapid increased and decreased ranges in bars 29-33

Musical score for Example 260, bars 29-33. The score includes parts for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. The tempo is marked "Broad" and "A tempo" with a metronome marking of 72. Dynamics include "tenuto", "subito p", "p", and "mf". A red box highlights bars 29-32, and a green box highlights bars 30-33. A purple line indicates a rapid increase in range from bar 29 to 30, and another purple line indicates a rapid decrease in range from bar 30 to 31.

Musical score for Example 260, bars 31-33. The score includes parts for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Dynamics include "ff", "subito pp", and "p". A red box highlights bars 31-32, and a blue box highlights bars 32-33. A purple line indicates a rapid increase in range from bar 31 to 32, and another purple line indicates a rapid decrease in range from bar 32 to 33.

Bars 34-36 stand in stark contrast to the elements heard earlier in the transition. The string quartet plays accented *staccato* chords in rhythmic unison, covering a substantial range. All the string instruments play double stops to intensify this climactic moment.

It is evident that elements of both homophonic and polyphonic textures are used in this transition section, considering all the textures used.

Section B₁ is mainly polyphonic, with two distinct layers comprising a pedal chord and a superimposed contrapuntal layer of imitative statements of motif B in all its forms. These two distinct layers are also distinguishable by their articulation. The pedal chord, initially played by marimba and *pizzicato* cello, stands in contrast to the *legato* articulation of the melodic component in the upper strings. Example 261 shows the two layers, marked in red and green. Note the *pizzicato* cello entry underneath the long note values in the first and second violin. The shorter articulation will draw more attention, pushing the violins slightly backwards into the dimensional soundscape. This is a phenomenon created throughout the section where musical units initiate with contrapuntal statements of the various forms of motif B, followed by sustained pitches, allowing the rhythmically interesting pedal elements to speak. However, these pedal structures, being polyrhythmic, still function as accompaniment.

Example 261: Distinctive layers in bars 41-42

The image displays a musical score for Example 261, covering bars 41 and 42. The score is arranged in a system with the following parts from top to bottom: Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. The Vln. I and Vln. II staves are marked with a red line above them, indicating a melodic layer. The Vc. and Mar. staves are marked with a green line below them, indicating a pedal layer. The Vc. part features a *pizz.* entry in bar 41, marked *ff*, and a *ff* entry in bar 42. The Mar. part features a *ff* entry in bar 41, marked *mf* with the instruction "Hard sticks-bright sound", and a *simile* entry in bar 42. The Vln. I and Vln. II parts feature *mf espress.* markings and triplet markings in bar 41. The Vln. II part also features a *pizz.* marking in bar 41. The Vln. I and Vln. II parts are marked with a red line above them, and the Vc. and Mar. parts are marked with a green line below them. The T. Bl., Cym., and S. D. parts are marked with a red line above them and a green line below them, indicating they are part of the melodic layer.

The transition in bars 55-59 is similar to bars 34-36; however, the range of chord structures are smaller, and the snare drum and cymbal occupy most of the silences between chords played by the string quartet.

Bars 60-75 of the C section can be divided into three textural areas. In bars 60-61, a non-*legato* cello statement provides the main melodic content from which the rest of the section grows. These two bars are surrounded by areas with considerably denser textures covering a more extensive range, especially bars 62-63 (second chordal textured area). These abrupt texture changes resemble sound blocks. Example 262 illustrates such an example.

Example 262: Contrasting textured sound blocks in bars 61-63

The image shows a musical score for Example 262, covering bars 61 to 63. The score is arranged in a system with the following staves from top to bottom: Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Bar 61 is marked with a '61' above the Vln. I staff. A red rectangular box highlights the Vc. and S. D. staves for bars 61, 62, and 63. A green rectangular box highlights the Vln. I, Vln. II, Vla., and Mar. staves for bars 62 and 63. The Vc. part in bar 61 features a melodic line with slurs and accents. The S. D. part in bar 61 has a rhythmic pattern. The Vln. I and Vln. II parts in bars 62-63 are marked with *sf* and have a crescendo hairpin. The Vla. part in bars 62-63 is marked with *sf* and has a crescendo hairpin. The Mar. part in bars 62-63 is marked with *sf* and has a crescendo hairpin. The T. Bl. and Cym. parts have rests in bars 62 and 63.

The third contrasting textured area occurs in bars 64-75 and is polyphonic in nature. Multiple strands of melodic-bearing content form a tapestry constituting a thick, active texture. The snare drum and temple blocks enhance the *non-legato*, *staccato*, and *pizzicato* articulations predominantly used in these bars.

A sudden texture change occurs in bars 76-83, where the dense, busy texture gives way for a more homophonic texture comprising *non-legato* melodic statements combined with pedal tones, *pizzicato* pitches, and temple block timbres.

A clear goal-directed trajectory of textural events is apparent throughout this C section that can be summarised as follows:

- Bars 60-61 provide the main melodic components from which the section germinates.

- Bars 64-75 develop the material of bars 60-61 through various devices to create a dense polyphonic area.
- Bars 76-85 present fully-developed melodic material that grew from the material in bars 64-75 and is highlighted by a sudden texture change.

Example 263 illustrates bars from each of these three areas.

Example 263: Trajectory of goal-oriented textures in bars 61, 67-69, and 76-77

The image displays a musical score for Example 263, enclosed in a red rectangular border. The score is for a full orchestra and is divided into three systems of staves. The first system includes Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. The second system includes Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. The third system includes Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. The score is marked with the number 61 at the beginning of the first system. The Vc. part features a prominent rhythmic pattern of eighth notes. The Cym. part features a pattern of eighth notes. The S. D. part features a pattern of eighth notes. The Mar. part features a pattern of eighth notes. The Vln. I, Vln. II, Vla., T. Bl., and Mar. parts are mostly silent, indicated by horizontal lines with a dash.

16 67

Vln. I *mp* *pizz.* *f* *mf* arco

Vln. II arco *p* *mf* *f* *pizz.*

Vla. *p* *mf*

Vc. *p* *mf*

T. Bl.

Cym.

S. D. *p*

Mar.

Detailed description: This musical score covers measures 16-18, 67-69. It features a full orchestra. The Violin I part starts with a *mp* dynamic, followed by a *pizz.* section at *f*, and then a *mf* section with an *arco* marking. The Violin II part begins with an *arco* marking and *p* dynamic, then moves to *mf* and *f* dynamics, ending with a *pizz.* marking. The Viola and Violoncello parts play a steady eighth-note pattern, with dynamics ranging from *p* to *mf*. The Trombone, Cymbal, Snare Drum, and Maracas parts are mostly silent or have minimal activity, with the Snare Drum playing a light *p* pattern.

76 *detache*

Vln. I *ff*

Vln. II *mp* *pizz.*

Vla. *mf*

Vc. *mf*

T. Bl. *mf*

Cym.

S. D. To B. D.

Mar.

Detailed description: This musical score covers measures 76-78. The Violin I part features a *detache* marking and a *ff* dynamic. The Violin II part has an *mp* dynamic and a *pizz.* marking. The Viola and Violoncello parts play a steady eighth-note pattern with a *mf* dynamic. The Trombone part has a *mf* dynamic. The Cymbal, Snare Drum, and Maracas parts are mostly silent, with the Snare Drum marked 'To B. D.'.

The D section is relatively thin in texture, comprising scale-like passages in pairs of instruments a 6th apart. Underpinning these passages are *pizzicato* pitches in the opposing string instruments combined with the bass drum highlighting the beat. As discussed in the

section on melodic content (section 4.2), *pizzicato* or *staccato* intervals and chords divide units in this section. Accompanying these dividing mechanisms are occasional register shifts. This is most evident in bars 91-92, illustrated in Example 264.

Example 264: Register shift between bars 91 and 92

The image shows a musical score for Example 264, illustrating a register shift between bars 91 and 92. The score is written for a full orchestra, including Violin I, Violin II, Viola, Cello, Trombone, Cymbal, Snare Drum, and Maracas. The key signature is one sharp (F#) and the time signature is 5/4. The score is divided into three measures. The first measure (bar 91) features a *ff* dynamic for the violins and a *pp* dynamic for the strings. The second measure (bar 92) features a *sf* dynamic for the violins and a *pp* dynamic for the strings. The third measure (bar 93) features a *ff sf* dynamic for the violins and a *sf* dynamic for the strings. A green box highlights the register shift in the first two staves, and a red line indicates the shift in the Viola part.

Within this D section, there are also numerous instances of interlocking instrumentation between the string instruments, allowing greater sonic interaction.

The development section initiates with sustained pitches, reminiscent of bars 4-8⁴ from the A section. Bars 111-116³ explore percussion timbres with rhythmic material dispersed among the temple blocks, cymbal, and snare drum in a pointillistic manner. These percussion timbres are situated underneath sustained notes in the string instruments. The bars that follow (116⁴-120) emulate this process, with the viola and cello forming a dialogue of *staccato* rhythms combined with the continued percussion pointillistic statements. The juxtaposition of this material with the oscillating *legato* figures in the first and second violins is striking.

Sudden dense *staccato* chords are presented in bars 121^{1c}-122⁵, preceded by a rapid reduction in texture with a single chromatic scale passage played by the cello. This abrupt texture and register changes resemble blocks of sound seen at the beginning of the C section.

Example 265 illustrates the sudden reduction of texture followed by dense *staccato* chords.

Example 265: Swift texture changes in bars 120-122^{2a}

The musical score for Example 265 shows a transition from a complex texture to a sparse one and then back to a dense one. At the start of bar 120, a red diagonal line descends from the top left, indicating a reduction in texture. The score includes staves for Violin I, Violin II, Viola, Cello, Trumpet B1, Cymbal, Snare Drum, and Maracas. The tempo is marked as quarter note = 100. Dynamics include *sf*, *ff*, *nat.*, and *pizz.* Fingerings 5 and 6 are indicated in the cello part. A vertical red line marks the beginning of the dense *staccato* chords at bar 122.

The statement of dense accented *staccato* chords preceded by a chromatic scale in the cello continues throughout bars 123-132; however, in bars 125-132, the *staccato* chords are exchanged for linear semiquaver expressions of chord structures, and chromatic scales in the cello are exchanged for glissandi (most notably in bars 130⁵-131¹ and 132⁵-133¹).

Bars 138-147 implement a gradual increase in textural density through superimposition. The stacking of motivic elements emerges from imitations ending on sustained pitches. This process allows for overlapping chord structures, as illustrated in Example 266.

Example 266: Gradual increase of textural density with an overlap of chord structures
through imitation, bars 138-140

The image shows a musical score for four staves: Vln. I, Vln. II, Vla., and Vc. The score is divided into two sections by a double bar line. The first section, bars 138-139, is enclosed in a red box and contains a homophonic texture. The second section, bars 139-140, is enclosed in a green box and shows a gradual increase in textural density through imitation. Dynamics are marked as *mp* (mezzo-piano) and *mf* (mezzo-forte).

The section in bars 148-153 initiates with three bars consisting of a homophonic texture. The melodic material is accompanied by marimba tremolo chords and cello *pizzicato* pitches. This leads to numerous imitative statements of motif B and its variants, generating a polyphonic texture in preparation of section B₂. Bars 151-153 increase in textural density as imitative statements are superimposed.

Section B₂ comprises the following three distinct layers:

- The *ostinato* in the cello part.
- Fragmented melodic statements, highlighting selected pitches and contours of the *ostinato*. This occurs in the xylophone.
- A third contrapuntal layer in the first and second violins and viola using elements of motifs A and B. Imitation also occurs.

These three layers generate the polyphonic texture of the section, as illustrated in Example 267. The *ostinato* is marked in red, the xylophone pitches are marked in green, and the upper contrapuntal layer is marked in blue.

Example 267: Polyphonic layers in B₂

The image shows a musical score for Example 267, focusing on polyphonic layers in section B₂. The score is divided into three measures. The instruments and their markings are as follows:

- Vln. I:** Treble clef, marked *arco* and *mf*. The first measure contains a triplet of eighth notes, followed by a half note and a quarter note in the second measure, and a quarter note, eighth note, and quarter note in the third measure.
- Vln. II:** Treble clef, marked *arco* and *mf*. The first measure contains a quarter note, eighth note, and quarter note, followed by a half note and a quarter note in the second measure, and a quarter note, eighth note, and quarter note in the third measure.
- Vla.:** Bass clef, marked *f*. The first measure contains a quarter note, eighth note, and quarter note, followed by a half note and a quarter note in the second measure, and a quarter note, eighth note, and quarter note in the third measure.
- Vc.:** Bass clef, marked *f*. The first measure contains a quarter note, eighth note, and quarter note, followed by a half note and a quarter note in the second measure, and a quarter note, eighth note, and quarter note in the third measure.
- T. Bl., Cym., S. D.:** These instruments are marked with a double bar line, indicating they are silent during this section.
- Xyl.:** Treble clef, marked *f*. The first measure contains a quarter note, eighth note, and quarter note, followed by a half note and a quarter note in the second measure, and a quarter note, eighth note, and quarter note in the third measure.

Color-coded boxes highlight specific layers: a blue box around the Vln. I, Vln. II, and Vla. staves; a red box around the Vc. staff; and a green box around the Xyl. staff.

Section B₃ contains the same textural elements as B₁.

The coda in bars 197-202 ranges from a homophonic to a polyphonic texture. Bars 197-198 contain statements reminiscent of motifs B₁ and B₂, accompanied by figures consisting of dotted rhythms in the cello, viola and second violin. In bars 199-200, imitations of semiquaver patterns formulate a contrapuntal texture. Tremolo chords in the marimba accompany these imitations. The composition concludes with a statement reflecting the imitative semiquaver figures of bars 199-200.

Chapter 5

Conclusion

Numerous discussed parameters of the three analysed compositions align with stylistic features seen in other compositions by Zaidel-Rudolph. This chapter gives an overview and summary of these style features pertaining to *Strange Quartet*, *Wits Trio Tribute*, and *Quin-tête-à-tête*.

Zaidel-Rudolph implements developmental structures in these compositions. She uses the principle of repetition and contrast and occasionally arranges sections to resemble known forms. However, repeated sections are constantly in a state of evolution, and they rarely return in an exact form. Usually, one or multiple parameters are adjusted, altered or modified when repeated. The relatability of sections is often through core motivic elements or pitch-class sets that are transformed by techniques found in set theory. This is especially true in *Strange Quartet*, the first movement of *Wits Trio Tribute*, and in *Quin-tête-à-tête*. In these works, large portions of the composition (or movement) are related to the material stated in the opening bars. This material is mostly melodic, harmonic, or rhythmic in nature, though often textural.

James Tenney's discussion on form in an article bearing the same title in the *Dictionary of Twentieth-Century Music* (1974) provides information aligning with the findings of the previous paragraph. He discusses two key principles used to examine form, namely shape (morphology) and structure. Shape is defined as "the changes in some attribute or parameter of sound, in time", and structure as "the disposition of parts, relations of part to part, and of part to whole" (Tenney 1974:233). These two aspects exist at various hierarchical levels in music.

Tenney (1974:235) labelled the hierarchical levels 1) elements, 2) clangs, 3) sequences, and 4) larger structures (such as a movement or an entire multi-movement piece). These terms are relatable to labels such as motifs, sub-phrases, phrases, and sections but required new descriptions to accommodate the various musical developments during the 20th century. The numbering above presents the hierarchical levels from the smallest to the largest structures.

This study, however, uses middle ground terminology to best suit the addressed compositions. The following labels are used to describe the hierarchical levels:

1. Motifs and pitch-class sets, specifically tri-, tetra- and pentachords
2. Musical units (instead of phrases and sub-phrases)
3. Sections

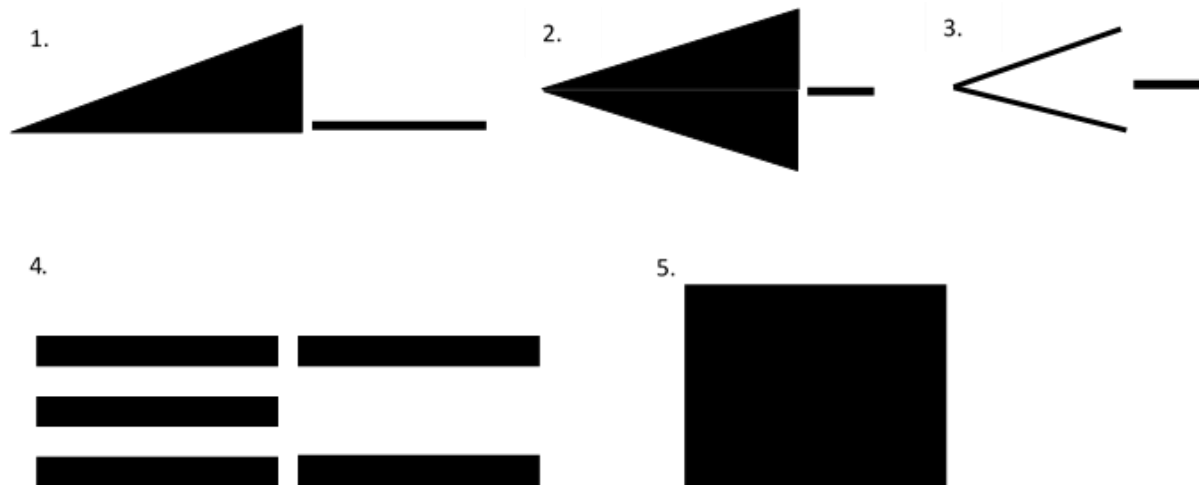
4. Movements

Similar to how large parts of these three works relate to the composition's (movement's) opening bars, sections are also crafted by stating the primary elements followed by a developmental exploration of this core material. However, contrasting interjections or splicing of different material also occurs. Furthermore, sections are frequently related by sound-worlds created through vertical constructs, rhythmic structures, and textures.

Sections and units, whether similar or contrasting, are divided primarily using two devices:

- Punctuating intervals, chords, or short figures, which are used in place of traditional cadence formations; and
- Texture, density, and range shifts.

From the information summarised above and further analytical data attained through the analyses, the following instrumental range and density shapes are presented as typical between sections and units in the three pieces analysed for this study:



These shapes can be interpreted as follows:

1. An upwards swell in range with an accompanying density increase, followed by a sudden reduction in these elements.
2. An outward range and density increase from a single point. This is also usually followed by a sudden diminishment.
3. Similar to shape 2, but the middle register in between the expanding ranges is left bare.

4. An area with a consistent density and range followed by a sudden omission of the middle register.
5. Densely textured sound blocks followed by a rapid reduction in density and range.

Melodic constructions that stem from granular elements involve pitch-class sets that include tri-, tetra-, and pentachords. These pitch collections are implemented throughout multiple related and unrelated sections. After examining hierarchical levels 2 and 3 of the compositions, it became clear that units comprising these pitch-class sets are transformed through shape variation (metamorphism) and are developmental. The shape variations include permutations, interval expansions and contractions, extensions and truncations (vertical and horizontal), insertions and deletions (vertical and horizontal), ornamentation, inversion, retrograde, retrograde inversion, octave displacements, and distortions that preserve only the general topological features of the unit's/section's shape. This aligns with Tenney's findings regarding motivic use in 20th century music in general (1974:246).

Pitch-class sets, motifs and melodic statements are often related to specific scale structures. The scales primarily used in these three compositions are the whole-tone, octatonic, pentatonic, augmented, double harmonic, and harmonic minor scales. Modes are also frequently implemented, and the Lydian mode dominates this category. The Lydian quality often found in these compositions can be attributed to Jewish influences (Zaidel-Rudolph 2013). The *Ahavah Rabbah* mode, also used by the composer to evoke Jewish nuances and containing the interval of an augmented 2nd (a prominent interval in the composer's style), is used in the second movement of *Wits Trio Tribute*. Passages resembling Messiaen's 4th mode of limited transposition are also implemented. These are the principle scales and modes used in these compositions and characterise much of Zaidel-Rudolph's writing.

Style-defining intervals commonly used in these three works are tritones and major and minor 3^{rds} (including their inversions). I found that parallelism involving 3^{rds} and 6^{ths} is considered a key element in the composer's style. In contrast, open and suspended qualities generated by perfect 4^{ths} and 5^{ths} are also frequently seen throughout the compositions. Other intervallic distances are combined with the abovementioned intervals and adapted to conform to the tension or dissonance level required for a section.

In a similar way, chord constructions are extracted from scales or comprise verticalization of pitch-class sets. Vertical structures used throughout *Strange Quartet*, *Wits Trio Tribute*, and *Quin-tête-à-tête* are:

- Quartal and quintal chords
- Split-member chords
- Added note chords
- Open-5th and suspended chords
- Extended and altered chords
- Augmented 6th chords
- Traditional triadic structures (often placed in 2nd inversion)

Triads are mainly formed as a result of doubled melodic parts moving in parallel motion. This parallel motion is often engineered to create bi-modality. Similar to melodic and intervallic practices, chords are formulated to enhance the soundscape or tension level of a section.

Tonality is primarily absent, and sections or areas revolving around a central pitch are favoured. Sections are also often centred around one or multiple scales or modes, creating hints of bimodal areas, as discussed above.

Rhythmic elements are frequently treated as unifying motifs stated during the initial bars of a work and subsequently altered, transformed, or modified throughout the piece. Rhythmic transformation devices include addition, deletion, augmentation, diminution, retrograde, permutations, and splicing of different rhythmic motifs.

Rhythmic layering is often used to formulate dense textures, resulting in polyrhythms. This is especially true in *Strange Quartet*. Another technique used by the composer is to overlay different rhythmic cycles, not necessarily conforming to the overall metre, to imply multiple metric structures and metrical shifts. Also, the repeating overlaid cycles occasionally have different lengths and recommence and conclude at different junctures.

The use of unpredictable rests and accents or the rearrangement of pitches and silences of repeated material creates instability and provides rhythmic vitality to the music.

Syncopated rhythms and irregular divisions of the pulse are implemented to enrich the rhythmic vocabulary of these compositions. Hemiolas are also often used, especially in

transition sections. Irregular grouping of notes, regardless of the time signature, often divided by rests, are frequently implemented. An overall rhythmic drive dominates the works examined for this study – a style characteristic not only present in these three pieces but also in many other compositions by Zaidel-Rudolph.

The composer uses various textures in these three compositions, ranging from monophony, homophony, and polyphony. These textures are employed to contribute to the overall structure of units and sections, as discussed earlier. A general trajectory where sections commence with a relatively thin texture with increased layering as the section progresses often occurs. Sudden range and density reductions are used between sections; however, similar swift changes between textures within a section are also used to resemble sound blocks. The composer often uses pedal tones or pedal chords as an additional textural layer, either conforming with the superimposed melodic or scalar constructs or deviating in favour of tension enhancement. This is commonly implemented in transition passages.

Prominent influences in *Strange Quartet*, *Wits Trio Tribute*, and *Quin-tête-à-tête* include African ethnic elements such as polyrhythmic layering, a plethora of call-and-response imitative statements, *ostinato* usage, pentatonic scale application, quartal and quintal structures, and successive triads in second inversion. Some of these elements are not exclusively African, but the manner in which the composer implements them creates distinctly African flavours.

Furthermore, apparent influences by Zaidel-Rudolph's mentors, most notably Grové and Ligeti, include:

- Sound block creation;
- Thick, dense textural layers resembling Ligeti's micropolyphony;
- The articulation of melodic lines in unisons or octaves played *legato* and *staccato* or *pizzicato* simultaneously; and
- Parallelism.

These influential factors have clearly been internalised by the composer and re-envisioned to form part of her unique style.

I consider *Strange Quartet*, *Wits Trio Tribute*, and *Quin-tête-à-tête* true gems and valuable contributions to South African music.

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Scores:

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Zaidel-Rudolph, J. 2013. *Wits Trio Tribute*. Provided by composer.

Zaidel-Rudolph, J. 2019. *Quin-tête-à-tête*. Provided by composer.

Strange Quartet

Con fuoco

Jeanne Zaidel-Rudolph

The musical score is divided into three systems. The first system (measures 1-4) features a 5/4 time signature. Violin 1 and Violin 2 play a melodic line with triplets, while Viola and Cello provide a rhythmic accompaniment. Dynamics range from *fff* to *pp*. The second system (measures 5-7) changes to a 3/4 time signature. It includes performance instructions such as *arco*, *pizz.*, and *ord.* (ordered). The third system (measures 8-11) returns to a 5/4 time signature and features a *subito p* dynamic change. The score is written for Violin 1, Violin 2, Viola, and Cello.

String Quartet

12

Vln. 1

Vln. 2

Vla.

Vlc.

marcato mp

marcato mp

mp

mp

16

Vln. 1

Vln. 2

Vla.

Vlc.

19

Vln. 1

Vln. 2

Vla.

Vlc.

mf

f

pizz. arco

mf

f

pizz.

mf

f

pizz. arco

f

pizz. arco

String Quartet

22

Vln. 1

Vln. 2

Vla.

Vlc.

pizz. *arco*

fff *f*

25

Vln. 1

Vln. 2

Vla.

Vlc.

29

Vln. 1

Vln. 2

Vla.

Vlc.

subito p

arco pizz. *arco pizz.* *arco pizz.* *arco pizz.*

subito p

String Quartet

33

Vln. 1

Vln. 2

Vla.

Vlc.

arco *pizz.* *arco* *pizz.* *arco* *arco*

37

Vln. 1

Vln. 2

Vla.

Vlc.

pizz. *arco*

41

Vln. 1

Vln. 2

Vla.

Vlc.

sf *pizz.* *sf* *pizz.* *sf* *mp*

String Quartet

45

Vln. 1 *arco*
mf

Vln. 2 *arco*
mf *pizz.* *arco*
mp

Vla. *arco*
mf *pizz.* *arco*

Vlc. *pizz.*

49

Vln. 1 *pizz.*
mp *sf*

Vln. 2 *sf* *sf*

Vla.

Vlc.

53

Vln. 1 *sf*

Vln. 2

Vla. *pizz.*
mp

Vlc.

String Quartet

57

Vln. 1

Vln. 2

Vla.

Vlc.

sf

sf

pizz. marcato

mf

61

Vln. 1

Vln. 2

Vla.

Vlc.

sf

mf

sf

65

Vln. 1

Vln. 2

Vla.

Vlc.

sf

sf

arco

String Quartet

69

Vln. 1

Vln. 2

Vla.

Vlc.

arco

f

sf

f

f

73

Vln. 1

Vln. 2

Vla.

Vlc.

mf

mf

mf

sf

sf

f

77

Vln. 1

Vln. 2

Vla.

Vlc.

sf

sf

ff

ff

ff

arco

ff

String Quartet

81

Vln. 1

Vln. 2

Vla.

Vlc.

sf

sf

pizz. arco

pizz. arco

85

Vln. 1

Vln. 2

Vla.

Vlc.

sf

sf

pizz. arco

pizz. arco

89

Vln. 1

Vln. 2

Vla.

Vlc.

sf

sf

pizz. arco

pizz. arco

poco meno mosso ♩ = 96

93

Vln. 1

Vln. 2

Vla. *p dolce* **saltando** *p* **simile** **simile**

Vlc. *p*

97

Vln. 1 *pp* **sul pont.** *sf p*

Vln. 2 *pp* **sul pont.** *sf p*

Vla. **simile** *p*

Vlc. *p*

101

Vln. 1

Vln. 2

Vla. *dolce* **saltando** **simile** **simile** **simile**

Vlc.

117

Vln. 1
Vln. 2
Vla.
Vlc.

p
p
p
p

sf
sf

subito pp
subito pp

121

Con fuoco **sul pont.** **poco meno mosso** ♩ = 96

Vln. 1
Vln. 2
Vla.
Vlc.

fff
fff
subito pp
sf

pp
pp
pp
pp

mf
mf
mf
pp

non leg.

126

Vln. 1
Vln. 2
Vla.
Vlc.

mp
mp
ff
ff

mp
mp
ff
ff

mf
mf
ff
ff

non leg.

String Quartet

130

Vln. 1

Vln. 2

Vla.

Vlc.

subito p

mp

ff

ff

sul pont.

sul pont.

134

Vln. 1

Vln. 2

Vla.

Vlc.

ord.

ord.

mp

mp

sul pont.

sul pont.

139

Vln. 1

Vln. 2

Vla.

Vlc.

pp

pp

pp

mf

ord.

ord.

ord.

ord.

pizz.

pizz.

sul pont.

arco 8^{va}

arco

String Quartet

145

Vln. 1

Vln. 2

Vla.

Vlc.

p

p

p

sf p > pp

pizz.

arco

149

Vln. 1

Vln. 2

Vla.

Vlc.

sf p > pp

153

Vln. 1

Vln. 2

Vla.

Vlc.

mf

pizz.

arco

sf > p

String Quartet

157

Vln. 1

Vln. 2

Vla.

Vlc. *pizz.*
mf

160

poco piu mosso ♩ = 100

Vln. 1 *mp*

Vln. 2 *mp*

Vla. *8va*

Vlc. *arco*

164

Vln. 1

Vln. 2

Vla.

Vlc. *mp*

String Quartet

168

Vln. 1 *mf*

Vln. 2 *mf*

Vla. *mf*

Vlc. *mf*

172

Vln. 1

Vln. 2

Vla.

Vlc. *pizz.* *arco*

176

Vln. 1

Vln. 2

Vla.

Vlc.

String Quartet

180

Vln. 1

Vln. 2

Vla.

Vlc. *pizz.* *ff* *arco* *mf*

185

Vln. 1

Vln. 2

Vla.

Vlc.

190 *poco meno mosso* ♩ = 96 *legato*

Vln. 1 *mf* *legato*

Vln. 2 *mf* *legato*

Vla. *mf*

Vlc. *mf*

String Quartet

195

Vln. 1

Vln. 2

Vla.

Vcl.

199

Vln. 1

mf

Vln. 2

mf

Vla.

mf

Vcl.

203

Vln. 1

pp

pizz.

Vln. 2

pp

pizz.

Vla.

pp

pizz.

Vcl.

mp

arco

String Quartet

207

Vln. 1

Vln. 2

Vla.

Vlc.

arco

mf

arco

mf

arco

mf

mf

211

Vln. 1

Vln. 2

Vla.

Vlc.

accel.

accel.

accel.

accel.

215

Vln. 1

Vln. 2

Vla.

Vlc.

String Quartet

219

Vln. 1
Vln. 2
Vla.
Vlc.

This system contains measures 219 through 222. It features four staves: Violin 1 (Vln. 1), Violin 2 (Vln. 2), Viola (Vla.), and Violoncello (Vlc.). The music is in a key with one sharp (F#) and a common time signature. Measures 219 and 220 show a steady eighth-note accompaniment in the lower strings. Measures 221 and 222 feature a melodic line in the upper strings, including a triplet of eighth notes in measure 222.

223

Vln. 1
Vln. 2
Vla.
Vlc.

This system contains measures 223 through 226. The key signature changes to one flat (Bb). Measures 223 and 224 continue the eighth-note accompaniment. Measures 225 and 226 feature a melodic line in the upper strings, including a triplet of eighth notes in measure 226.

227

Vln. 1
Vln. 2
Vla.
Vlc.

deliberando
f
deliberando
f
deliberando

This system contains measures 227 through 230. The tempo marking *deliberando* is present at the beginning of the system and above the second and third staves. The dynamic marking *f* (forte) is placed below the first and second staves. The music continues with the eighth-note accompaniment and melodic lines, including triplets in measures 228 and 230.

String Quartet

231

Vln. 1

Vln. 2

Vla.

Vlc.

ff

pizz.

arco

235

Vln. 1

Vln. 2

Vla.

Vlc.

ff

ff

pizz.

mf

mp

239

Vln. 1

Vln. 2

Vla.

Vlc.

String Quartet

arco

243

Vln. 1

Vln. 2

Vla.

Vcl.

arco

pizz.

247

Vln. 1

Vln. 2

Vla.

Vcl.

pizz.

ff

arco

ff

ff

Con fuoco

251

Vln. 1

Vln. 2

Vla.

Vcl.

fff

pp

sul pont.

ord.

fff

ord.

fff

ord.

fff

pp

sul pont.

fff

fff

pp

pizz.

arco

fff

String Quartet

255

Vln. 1 *pizz.* mf *arco* *mf* *marcato mp*

Vln. 2 *pizz.* mf *arco* *mp* *marcato*

Vla. *pizz.* mf *arco* *mp*

Vlc. *pizz.* mf *arco* *mp*

258

Vln. 1

Vln. 2

Vla.

Vlc.

261

Vln. 1 *ff* *pizz.*

Vln. 2 *ff* *pizz.*

Vla. *ff* *pizz.*

Vlc. *ff*

String Quartet

263

Vln. 1 *arco* *pizz.*

Vln. 2 *arco* *pizz.*

Vla. *arco* *pizz.*

Vlc. *arco* *pizz.*

WITS TRIO TRIBUTE

Jeanne Zaidel-Rudolph

Dedicated to Malcolm, Zanta and Maciej

WITS TRIO TRIBUTE

Jeanne Zaidel-Rudolph

♩ = 132

Misterioso

Violin

Piano

Violoncello

4

f pizz.

mf

pizz.

f

7

f

9 arco ♩ = 116 meno mosso

f *sfz* *sfz*

arco ♩ = 116 meno mosso

12

mf *mf*

14

f *sfz* *arco* *mf*

f

4 17

pizz. arco pizz. arco

mf

3 3 3 3 3

3 3 3 3 3

20

cresc.

sfz

cresc.

3 3 3 3 3 3 3 3

3 3 3 3 3 3 3 3

24

$\text{♩} = 176$

9+4 mainly

ff

f

sf sf

$\text{♩} = 176$

ff

$\text{♩} = 176$

35

gliss.
non-legato

37

f *ff*

39

marcato allarg.
non-legato marcato allarg.
ff
marcato allarg.
ff

42

pizz.

46

arco

mp

subito mp

49

pizz.

sf *sf* *mf*

arco

mf

pizz.

arco

52

arco

sf *f* *sf*

55

pizz.

sf *mp* *f*

58

61 *rit. arco*

mf

rit. arco

65 $\text{♩} = 150$

p

f

mf

$\text{♩} = 150$

68 *mf*

mf

10
71

musical score for measures 71-73. The system includes a single treble clef staff, a grand staff (treble and bass clefs), and a separate bass clef staff. The single treble staff has a melodic line with a slur and a fermata. The grand staff has a rhythmic accompaniment with chords and eighth notes. The separate bass staff has a bass line with a "solo!" marking and a fermata.

74

musical score for measures 74-76. The system includes a single treble clef staff, a grand staff, and a separate bass clef staff. The single treble staff has a melodic line with a slur and a fermata. The grand staff has a rhythmic accompaniment with a "f" dynamic marking. The separate bass staff has a bass line with a fermata.

77

musical score for measures 77-79. The system includes a single treble clef staff, a grand staff, and a separate bass clef staff. The single treble staff has a melodic line with a slur and a fermata. The grand staff has a rhythmic accompaniment with eighth notes. The separate bass staff has a bass line with a fermata.

80

mf *sf*

83

♩ = 140 *Meno mosso*

f *f*

87

f

Musical score for measures 1289-1292. The score is written for three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. The key signature has one sharp (F#). The top staff begins with a piano (*p*) dynamic and contains a sequence of chords and eighth notes, with triplets of eighth notes starting in the second measure. The grand staff features a piano (*p*) dynamic. The right hand of the grand staff plays chords and eighth notes, while the left hand plays a continuous eighth-note triplet pattern. The bottom staff continues the eighth-note triplet pattern with a piano (*p*) dynamic.

Musical score for measures 1291-1292. The score is written for three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. The key signature has one sharp (F#). The top staff begins with a pianissimo (*pp*) dynamic and contains eighth-note patterns with rests. The grand staff features a pianissimo (*pp*) dynamic. The right hand of the grand staff plays eighth-note patterns with rests, including quintuplets of eighth notes. The left hand of the grand staff plays a single note. The bottom staff continues the single-note pattern with a pianissimo (*pp*) dynamic.

Musical score for measures 1292-1293. The score is written for three staves: a single treble clef staff at the top, and a grand staff (treble and bass clefs) below. The key signature has one sharp (F#). The top staff begins with a pianissimo (*pp*) dynamic and contains eighth-note patterns with rests. The grand staff features a pianissimo (*pp*) dynamic. The right hand of the grand staff plays eighth-note patterns with rests, including quintuplets of eighth notes. The left hand of the grand staff plays eighth-note patterns with rests, including quintuplets of eighth notes. The bottom staff continues the single-note pattern with a pianissimo (*pp*) dynamic.

Musical score for measures 93-94. The system includes a vocal line with eighth-note triplets, a piano accompaniment with chords and bass line, and a separate bass line. Dynamics include *mf* and a fermata.

Musical score for measures 94-95. The system includes a vocal line with sixteenth-note runs and a trill, a piano accompaniment with sixteenth-note runs and chords, and a separate bass line. Dynamics include *f*, *subito ff*, and *p*.

Musical score for measures 96-97. The system includes a vocal line with a trill and sustained notes, a piano accompaniment with sustained chords, and a separate bass line. Dynamics include *pp* and *p*.

(tr)~~~~~

100

Musical score for measures 100-102. Measure 100 features a treble clef with a whole note G4 marked with a trill (tr) and a fermata. A piano accompaniment begins in measure 101 with a forte (f) dynamic, consisting of eighth-note patterns in both hands. A separate bass line starts in measure 100 with a forte (f) dynamic, playing eighth notes.

103

Musical score for measures 103-104. Measure 103 has a treble clef with eighth notes marked with a forte (f) dynamic. Measure 104 features piano accompaniment with triplets in both hands and a bass line with eighth notes.

105 pizz.

Musical score for measures 105-106. Measure 105 features a treble clef with dotted eighth notes marked with a forte (f) dynamic and a pizzicato (pizz.) instruction. Measure 106 features piano accompaniment with triplets in both hands and a bass line with eighth notes.

107

Musical score for measures 107-108. The system consists of three staves. The top staff is a treble clef with a whole rest. The middle staff is a grand staff (treble and bass clefs) with a treble clef. It features a trill in the treble clef and a piano accompaniment in the bass clef. The piano part consists of eighth-note triplets in the right hand and quarter notes in the left hand. Dynamics include *p* and *mf*. The bottom staff is a treble clef with a piano accompaniment of quarter notes, marked *mf*.

109

Musical score for measures 109-111. The system consists of three staves. The top staff is a treble clef with a whole rest. The middle staff is a grand staff (treble and bass clefs) with a treble clef. It features a trill in the treble clef and a piano accompaniment in the bass clef. The piano part consists of eighth-note triplets in the right hand and eighth-note chords in the left hand. Dynamics include *mp*. The bottom staff is a treble clef with a piano accompaniment of quarter notes, marked *mf*.

112

Musical score for measures 112-114. The system consists of three staves. The top staff is a treble clef with a whole rest. The middle staff is a grand staff (treble and bass clefs) with a treble clef. It features a trill in the treble clef and a piano accompaniment in the bass clef. The piano part consists of eighth-note triplets in the right hand and quarter notes in the left hand. Dynamics include *f*. The bottom staff is a treble clef with a piano accompaniment of quarter notes, marked *f*. A time signature change to 5/4 is indicated at the end of the system.

16 115

pizz. arco

mp

118 ♩ = 120 Meno mosso

mf

p cresc. *mf*

120

f

f

f

122

Mysterious piano score for measures 122-123. The score is in G major and 3/4 time. It features a vocal line and a piano accompaniment. The piano part consists of a steady eighth-note bass line in the left hand and a more complex melody in the right hand, including triplets. The tempo is marked *Misterioso*. Dynamics include *vdso*, *subito p*, and *pp*.

♩ = 138 Più mosso
Molto vibrato cantabile

124

Musical score for measures 124-125. The score is in G major and 3/4 time. It features a vocal line and a piano accompaniment. The piano part consists of a steady eighth-note bass line in the left hand and a more complex melody in the right hand, including triplets. The tempo is marked *♩ = 138 Più mosso* and the style is *Molto vibrato cantabile*. Dynamics include *mf*.

Molto vibrato cantabile
♩ = 138 Più mosso

126

Musical score for measures 126-127. The score is in G major and 3/4 time. It features a vocal line and a piano accompaniment. The piano part consists of a steady eighth-note bass line in the left hand and a more complex melody in the right hand, including triplets. The tempo is marked *♩ = 138 Più mosso* and the style is *Molto vibrato cantabile*. Dynamics include *mf*.

18₁₂₉

f

131

rit. $\text{♩} = 144$ A tempo

ff

rit. $\text{♩} = 144$ A tempo

133

f

gliss.

135

non-legato

f *sf* *sf*

137

f

139

ff *ff* *pizz.*

non-legato

ff *pizz.*

143

arco

Musical score for measures 143-146. The score is written for three staves: Treble, Grand Staff (Treble and Bass), and Bass. The time signature changes from 3/4 to 4/4, then 3/4, and finally 6/4. The key signature has one flat. The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. The Grand Staff contains several triplet markings (indicated by a '3' above the notes). The Bass staff includes 'arco' markings above the notes.

147

pizz.

arco

Musical score for measures 147-150. The score is written for three staves: Treble, Grand Staff (Treble and Bass), and Bass. The time signature is 6/4. The key signature has one flat. The music features a variety of rhythmic patterns, including eighth and sixteenth notes, and rests. The Grand Staff contains several triplet markings (indicated by a '3' above the notes). The Bass staff includes 'pizz.' and 'arco' markings above the notes.

II

$\text{♩} = 60$ molto espressione

mp

$\text{♩} = 60$ molto espressione

mf *f* *f*

5

f *f* *f*

con pedale Ped. Sim.

mf *f*

8

f *f*

Ped.

11

Musical score for measures 11-13. The piece is in 7/4 time. The first system consists of three staves: a vocal line, a grand staff (treble and bass clefs), and a bass line. The vocal line starts with a melody in G major, marked *mf*. The grand staff features chords and textures, with a *Ped.* marking in the bass clef. The bass line has a triplet of eighth notes. Measure 13 ends with a *** marking.

14

Musical score for measures 14-16. The piece changes to 6/4 time. The vocal line has a triplet of eighth notes, marked *f*, followed by a *pizz.* and *arco* marking, and then *ff* and *f*. The grand staff features a triplet of eighth notes in the treble clef, marked *f*, and a *ff* marking in the bass clef. The bass line has a triplet of eighth notes, marked *f*. Measure 16 ends with a *** marking.

17

Musical score for measures 17-19. The piece changes to 7/4 time. The vocal line has a triplet of eighth notes, marked *subito p*. The grand staff features a triplet of eighth notes in the treble clef, marked *subito p*, and a *Ped.* marking in the bass clef. The bass line has a triplet of eighth notes, marked *subito p*. Measure 19 ends with a *** marking.

20

mf

mf
Ped.

mf

mf

23

f

f

f

26

mf

f

mf

f
mp

f

ff

pizz.

29 arco

ff

ff

pizz.

f

arco

solo

31

ff

3

34

mf

3

mf

3

mf

3

f

3

3

3

sf

Ped.

3

37

rit.

The musical score consists of four staves. The top staff is a vocal line in treble clef, starting with a half note G4, followed by quarter notes A4, B4, and C5, then a half note G4. The second staff is the piano right hand in treble clef, featuring a triplet of eighth notes (F#4, G4, A4) and another triplet (B4, C5, B4), followed by quarter notes A4, G4, and F#4. The third staff is the piano left hand in bass clef, with a whole note chord (F#3, C4) marked with an asterisk (*), followed by quarter notes B2, C3, and D3. The bottom staff is a bass line in bass clef, with quarter notes G2, F#2, E2, and D2, followed by a half note C2. The word "rit." is written above the vocal staff and below the piano left hand staff, with a dashed line extending across the measures. The piece concludes with a double bar line and repeat dots.

III

♩ = 96 pizz.
High energy

The first system of the musical score consists of three staves. The top staff is a single melodic line in 5/4 time, starting with a forte (*ff*) dynamic and ending with a sforzando (*sf*) dynamic. The middle two staves are a grand staff (treble and bass clefs) with a complex, rhythmic accompaniment of chords and eighth notes, marked with *sf* and *ff* dynamics. The bottom staff is a single bass line in 5/4 time, also marked with *ff* and *sf* dynamics.

3

The second system begins with a measure marked '3'. The top staff features a melodic line with a glissando (*gliss.*) and a sforzando (*sf*) dynamic. The middle grand staff continues the complex accompaniment, with a '7' marking above the treble clef staff. The bottom staff continues the bass line, marked with *ff* dynamics.

5

The third system begins with a measure marked '5'. The top staff features a melodic line with a glissando (*gliss.*) and a sforzando (*sf*) dynamic. The middle grand staff continues the complex accompaniment, with a '7' marking above the treble clef staff. The bottom staff continues the bass line, marked with *ff* dynamics.

7

gliss.

mf

mp

arco

mp

Detailed description: This system contains measures 7 and 8. Measure 7 features a melodic line in the treble clef with a glissando (gliss.) over a whole note. The piano accompaniment consists of a dense texture of chords in the right hand and a rhythmic pattern in the left hand. Measure 8 continues the piano accompaniment with a dynamic marking of *mf*. A double bass line is introduced in measure 8, marked *arco* and *mp*, playing a series of eighth notes.

9

p

p

Detailed description: This system contains measures 9 and 10. Measure 9 has a treble clef line with a whole rest. The piano accompaniment continues with a dynamic marking of *p*. Measure 10 features a melodic line in the treble clef and piano accompaniment in both hands, with a dynamic marking of *p*. The double bass line continues with eighth notes.

11

mf

cresc.

mf

mf

f

Detailed description: This system contains measures 11 and 12. Measure 11 has a melodic line in the treble clef with a dynamic marking of *mf*. The piano accompaniment features a complex texture with many five-finger chords (marked with '5') in both hands, with a dynamic marking of *mf*. Measure 12 features a melodic line in the treble clef with a *cresc.* (crescendo) marking. The piano accompaniment continues with five-finger chords. The double bass line has a dynamic marking of *mf* and includes accents (>) over several notes. The system concludes with a dynamic marking of *f*.

13 arco

mf

mf marcato

15

p

8^{vb}

p

17

mf

mf

19

f *ff* *ff* *ff*

sim

23 rit. . . . $\text{♩} = 84$ Meno mosso

p *mp* *mp* *pp*

26

mf *mf* *mf* *mf*

29 *sim bowing*

f cresc.

Musical score for measures 29-30. The top staff (violin) features a melodic line with eighth notes and triplets, marked *f cresc.*. The middle staff (piano) has a bass line with triplets, marked *f*. The bottom staff (cello) has a melodic line with eighth notes, marked *sim bowing* and *f pizz.*.

31

exaggerated dance-like

Musical score for measures 31-33. The top staff (violin) has a melodic line with eighth notes and triplets, marked *f*. The middle staff (piano) has a complex accompaniment with triplets and sixteenth notes, marked *f*. The bottom staff (cello) has a melodic line with eighth notes, marked *arco* and *f*.

34

Musical score for measures 34-36. The top staff (violin) has a melodic line with eighth notes and triplets. The middle staff (piano) has a complex accompaniment with chords and eighth notes. The bottom staff (cello) has a melodic line with eighth notes and triplets.

36

Musical score for measures 36-37. The score is in 6/4 time. It features a vocal line and a piano accompaniment. The piano part consists of a grand staff (treble and bass clefs) and a separate bass line. The vocal line contains two measures of music, each with a triplet of eighth notes. The piano accompaniment also features triplet patterns in both hands. The key signature has one flat (B-flat).

37

Musical score for measures 37-38. The score is in 6/4 time. It features a vocal line and a piano accompaniment. The piano part consists of a grand staff (treble and bass clefs) and a separate bass line. The vocal line contains two measures of music, each with a triplet of eighth notes. The piano accompaniment also features triplet patterns in both hands. The key signature has one flat (B-flat). Dynamics include *ff* (fortissimo) and *f* (forte).

38

Musical score for measures 38-39. The score is in 4/4 time. It features a vocal line and a piano accompaniment. The piano part consists of a grand staff (treble and bass clefs) and a separate bass line. The vocal line contains two measures of music, each with a triplet of eighth notes. The piano accompaniment features a steady eighth-note accompaniment in the right hand and a bass line in the left hand. The key signature has one flat (B-flat). Dynamics include *mf* (mezzo-forte).

40

Musical score for measures 40-41. The score is in 5/4 time and features a treble clef and a bass clef. The key signature has one sharp (F#). The music consists of eighth-note patterns in the treble and bass staves, with some triplets. Dynamics include *mf* and *v* (accents). A fermata is present over the final measure of the system.

42

Musical score for measures 42-43. The score is in 5/4 time and features a treble clef and a bass clef. The key signature has one sharp (F#). The music consists of eighth-note patterns in the treble and bass staves, with some triplets. Dynamics include *pp* and *mf*. A fermata is present over the final measure of the system.

44

Musical score for measures 44-45. The score is in 5/4 time and features a treble clef and a bass clef. The key signature has one sharp (F#). The music consists of eighth-note patterns in the treble and bass staves, with some triplets. Dynamics include *f* and *ff*. A fermata is present over the final measure of the system.

8 46

Musical score for measures 46-47. The score is in 6/4 time, changing to 4/4 at measure 47. It features four staves: a single treble staff and a grand staff (treble and bass). The music is marked *ff* (fortissimo). Measure 46 contains a melodic line in the treble and a bass line with a descending eighth-note pattern. Measure 47 features a complex texture with multiple voices in both hands, including a dense chordal texture in the right hand and a rhythmic bass line.

48

Musical score for measures 48-49. The score is in 5/4 time. It features four staves: a single treble staff and a grand staff (treble and bass). Measure 48 shows a melodic line in the treble and a bass line with a descending eighth-note pattern. Measure 49 features a complex texture with multiple voices in both hands, including a dense chordal texture in the right hand and a rhythmic bass line.

49

Musical score for measures 49-50. The score is in 5/4 time. It features four staves: a single treble staff and a grand staff (treble and bass). Measure 49 shows a melodic line in the treble and a bass line with a descending eighth-note pattern. Measure 50 features a complex texture with multiple voices in both hands, including a dense chordal texture in the right hand and a rhythmic bass line. The music is marked *mf* (mezzo-forte) and *pizz.* (pizzicato).

50

Musical score for measures 50-51. The system includes a treble clef staff with a *mf* dynamic, a grand staff with two bass clef staves, and a separate bass clef staff. The grand staff features continuous eighth-note triplets in both hands. The treble staff has a melodic line with eighth-note triplets. The bottom bass staff has a simple bass line with quarter notes.

51

Musical score for measures 51-52. The system includes a treble clef staff, a grand staff with two bass clef staves, and a separate bass clef staff. The grand staff continues with eighth-note triplets. The treble staff has a melodic line with eighth-note triplets. The bottom bass staff has a simple bass line with quarter notes and is marked *arco*.

52

Musical score for measures 52-53. The system includes a treble clef staff with a *ff* dynamic, a grand staff with two bass clef staves, and a separate bass clef staff. The grand staff features sixteenth-note triplets in both hands, with a dynamic change from *f* to *p*. The treble staff has a melodic line with sixteenth-note triplets. The bottom bass staff has a simple bass line with quarter notes and is marked *ff*.

1054

Meno mosso

Musical score for measures 1054-1056. The system consists of three staves: Treble, Grand Staff (Treble and Bass), and Bass. Measure 1054 features a treble staff with eighth-note triplets and a bass staff with eighth-note triplets. Measure 1055 shows a change in time signature to 6/4 in the treble and bass staves, with a piano (*p*) dynamic. Measure 1056 returns to 4/4 time, with a piano (*pp*) dynamic in the grand staff and a piano (*p*) dynamic in the bass staff.

56

f

Musical score for measures 56-58. The system consists of three staves: Treble, Grand Staff (Treble and Bass), and Bass. Measure 56 features a treble staff with eighth-note patterns and a bass staff with eighth-note patterns. Measure 57 shows a change in dynamics to forte (*f*) in the treble and bass staves. Measure 58 features a mezzo-piano (*mp*) dynamic in the bass staff and a forte (*f*) dynamic in the grand staff.

58

Musical score for measures 58-60. The system consists of three staves: Treble, Grand Staff (Treble and Bass), and Bass. Measure 58 features a treble staff with eighth-note patterns and a bass staff with eighth-note patterns. Measure 59 shows a change in dynamics to mezzo-forte (*mf*) in the grand staff and mezzo-forte (*mf*) in the bass staff. Measure 60 features a mezzo-forte (*mf*) dynamic in the grand staff and mezzo-forte (*mf*) in the bass staff.

60

6/4

pizz. arco

62

6/4

ff

♩ = 100

64

4/4

mp *mf*

♩ = 100

mp *mf*

73

The musical score for measures 73-75 is written for four staves. The top staff, in treble clef, contains a sequence of six eighth-note triplets. The second and third staves, forming a grand staff with treble and bass clefs, feature a complex texture of eighth-note triplets in both hands. The bottom staff, in bass clef, contains a sequence of six eighth-note triplets. The score includes dynamic markings such as *sf* (sforzando) and a fermata over a chord in the second measure of the grand staff.

Quin-tête-à-tête

for string quartet and percussion

Jeanne Zaidel-Rudolph

Instrumentation

Vln 1

Vln 2

Viola

Cello

1 Percussionist

*[Djembe drum, temple blocks, Crash cymbals, maracas,
snare drum, bass drum, marimba, xylophone]*

Quin-tête-à-tête

Jeanne Zaidel-Rudolph

$\text{♩} = 68$ *espress.*

Violin I

Violin II

Viola

Violoncello

Djembe/
Temple blocks

Crash Cymbals

Snare Drum

Marimba

$\text{♩} = 68$

mp *cresc.* *mf*

p *mf*

snare off *mf* *mf*

Musical score for measures 4-7. The score includes staves for Vln. I, Vln. II, Vla., Vc., Djembe, Cym., S. D., and Mar. Vln. I starts with *fp* and a triplet of eighth notes. Vln. II has *mp* LH pizz. and *f* simile pizz. markings. Vla. and Vc. have *mp* and *sf* markings. S. D. has *mf* and *p* markings. The Mar. staff is empty.

Musical score for measures 8-11. The score includes staves for Vln. I, Vln. II, Vla., Vc., Djembe, Cym., S. D., and Mar. Vln. I has *f* and *espres* markings. Vln. II has *mp* and *f* markings. Vla. and Vc. have *mp* and *f* markings. S. D. has *f espress.* and *p* markings. The Mar. staff is empty.

12

Vln. I *f* *ff* *mf*

Vln. II *f* *ff* *mf*

Vla. *f* pizz. arco *ff* pizz. *ff* arco

Vc. *sf sf* *ff* *ff*

Djembe to Djembe *f*

Cym.

S. D. *f*

Mar.

Detailed description: This is a page of a musical score for a string quartet and a percussion ensemble. The score is divided into seven staves. The first four staves are for string instruments: Violin I (Vln. I), Violin II (Vln. II), Viola (Vla.), and Violoncello (Vc.). The last three staves are for percussion: Djembe, Cymbal (Cym.), and Snare Drum (S. D.). The Maracas (Mar.) staff is present but contains no notation. The music is in 3/4 time. The first measure is marked with a dynamic of *f*. The second measure has *sf sf* dynamics. The third measure has *ff* dynamics. The fourth measure has *ff* dynamics. The fifth measure has *mf* dynamics. The sixth measure has *ff* dynamics. The seventh measure has *ff* dynamics. The string parts feature various dynamics, including *f*, *ff*, *mf*, *sf sf*, and *ff*. Performance instructions include *pizz.* (pizzicato) and *arco* (arco). The percussion parts include triplets and a specific instruction 'to Djembe' for the Djembe part. The Maracas part is marked with a dynamic of *f*.

16 *ff* pizz.

Vln. I *ff* pizz. *sf sf sf*

Vln. II *ff* pizz. *sf sf sf sf*

Vla. *mf*

Vc. *mf*

Djembe *mf*

Cym.

S. D.

Mar.

17 *arco*

Vln. I *sf sf mp* *arco*

Vln. II *sf sf mp* *arco*

Vla. *mp*

Vc. *mp*

Djembe *mp* To Temple Blocks

Cym.

S. D. snares off *mp* *mp*

Mar.

Detailed description: This musical score page contains measures 16 through 27. It is divided into two systems. The first system (measures 16-17) features a string quartet (Vln. I, Vln. II, Vla., Vc.), Djembe, Cym., S. D., and Mar. The strings play a rhythmic pattern of eighth notes with triplets, starting with a forte (ff) pizzicato dynamic. The Djembe plays a similar eighth-note pattern with triplets at a mezzo-forte (mf) dynamic. The second system (measures 18-27) continues the string quartet, Djembe, Cym., S. D., and Mar. The strings transition to arco playing, with Vln. I and II dynamics shifting from sf to mp. The Vla. and Vc. continue with their eighth-note patterns. The Djembe has a brief melodic phrase at the start of measure 18. The S. D. part has a section labeled 'snares off' starting in measure 18, with a dynamic of mp. The Mar. part remains silent.

6

21

Vln. I pizz. arco *mf* *ff* 3

Vln. II pizz. arco *ff* 3

Vla. *f* *mf*

Vc. *f* *mf*

Djembe

Cym.

S. D. *mf* 3

Mar.

23

Vln. I 3 3

Vln. II 3 3

Vla.

Vc.

Djembe

Cym.

S. D. 3 3

Mar.

25 *poco a poco crescendo* 7

Vln. I *mp* 3 3

Vln. II *mf* 3 5 *f*

Vla. *mp*

Vc. *mp*

T. Bl. Temple Blocks

Cym.

S. D.

Mar.

26 *poco accel.*

Vln. I 3 3 3 3 3 3 3 3 3 3 3 3

Vln. II *poco a poco crescendo* *mp* 3 3 3 3 3 3 3 3

Vla. *poco a poco crescendo*

Vc. *poco a poco crescendo*

T. Bl. *mp* 3 3 3 3

Cym.

S. D. *poco accel.*

Mar.

27 $\text{♩} = 76$

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

28 *rit.*

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D. snare on

Mar.

29 *Broad* $\text{♩} = 72$ *A tempo*

Vln. I *tenuto* *subito p* 3 3 3 3

Vln. II *Broad* *subito p* 3 3 3 3 *mf*

Vla. *Broad* *p* 3 3 3 3

Vc. *Broad* *p* 3 3

T. Bl. Cym. S. D. Mar.

31

Vln. I *subito pp*

Vln. II *ff* 3 3 *subito pp*

Vla. *ff* 3 3 *sub pp*

Vc. *ff* 3 3 *subito p*

T. Bl. Cym. S. D. Mar.

10

34

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

37

più mosso
♩ = 88

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

41

Vln. I *mf espress.*

Vln. II *pizz. mf espress.*

Vla. *ff* ³

Vc. *ff* ³ *mp* *ff* *pizz. You are the metronome*

T. Bl.

Cym.

S. D.

Mar. *ff* *mf* Hard sticks-bright sound *simile*

43

Vln. I *f*

Vln. II *f*

Vla. *arco*

Vc.

T. Bl.

Cym.

S. D.

Mar.

Musical score for measures 45-46. The score includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Measure 45 features a Vln. II *sfz* dynamic and a Vc. *arco* instruction. Measure 46 features a Vln. II *f* dynamic, a Vc. *f* dynamic, and a *3* triplet in both Vln. II and Vc. The Mar. part consists of a rhythmic accompaniment of eighth notes.



Musical score for measures 47-48. The score includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Measure 47 features a Vln. I *pizz.* instruction and a Vc. *non-legato secco marcato* instruction. Measure 48 features a Vc. *simile* instruction. The Mar. part continues with a rhythmic accompaniment of eighth notes.

49 arco legato 13

Vln. I *mf*

Vln. II *mf*

Vla. *mf*

Vc. *mf*

T. Bl.

Cym.

S. D.

Mar. *mf*

52

Vln. I *p*

Vln. II *p*

Vla. *p*

Vc. *p*

T. Bl.

Cym.

S. D. snares ON *f*

Mar. *p*

Vln. I *f sf sf sf sf sf sf sf sf* *sf sf* *sf* *sub. pp*
echo

Vln. II *f sf sf sf sf sf sf sf sf* *sf sf* *sf* *sub. pp*
echo

Vla. *f sf sf sf sf sf sf sf sf* *sf sf* *sf* *sub. pp*
echo

Vc. *f sf sf sf sf sf sf sf sf* *sf sf* *sf* *sub. pp*
echo

T. Bl. *5/4*

Cym. *5/4*

S. D. *5/4 sf sf sf sf sf sf*

Mar. *5/4*

Vln. I *f sf sf sf*

Vln. II *f sf sf sf*

Vla. *f sf sf sf*

Vc. *f sf sf sf f*

T. Bl. *5/4*

Cym. *5/4*

S. D. *sub p f sf sf mf*

Mar. *5/4*

61

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

sf sf sf sf sf sf

sf sf sf sf sf

sf sf sf sf sf

mf

sf sf

64

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

pizz.

pizz.

mf

Non legato

f

pizz.

arco

mp

16

67

Vln. I *mp* *pizz.* *f* *mf* arco

Vln. II arco *p* *mf* *f* *pizz.*

Vla. *p* *mf*

Vc. *p* *mf*

T. Bl.

Cym.

S. D. *p*

Mar.

Detailed description: This system covers measures 67, 68, and 69. Vln. I starts with a half note chord at 67, then pizzicato chords at 68 and 69. Vln. II has a rhythmic pattern of eighth notes, switching to arco at 67 and pizzicato at 69. Vla. and Vc. play a similar eighth-note pattern with accents. T. Bl. and S. D. have a steady eighth-note accompaniment. Cym. and Mar. are silent.

70

Vln. I *mf* *pizz.* *mp* *pizz.* *ff*

Vln. II *f* arco *mp*

Vla. *p* *mf*

Vc. *mp*

T. Bl. *mf*

Cym.

S. D.

Mar.

Detailed description: This system covers measures 70, 71, and 72. Vln. I has a rhythmic pattern of eighth notes, switching to pizzicato at 71 and 72. Vln. II has a half note chord at 70, then a rhythmic pattern of eighth notes with arco at 71. Vla. and Vc. play a similar eighth-note pattern with accents. T. Bl. has a steady eighth-note accompaniment. Cym. and S. D. are silent. Mar. is silent.

73 arco

Musical score for measures 73-75. The score includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Vln. I and II play sustained notes with *mf* dynamics. Vla. and Vc. play rhythmic patterns with *mf* and *f* dynamics. T. Bl. plays a continuous eighth-note pattern with *f* dynamics. Cym. and S. D. play rhythmic patterns. Mar. is silent.

76 *detache*

Musical score for measures 76-78. The score includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Vln. I plays a *detache* eighth-note pattern with *ff* dynamics. Vln. II plays sustained notes with *mp* dynamics and pizzicato. Vla. plays sustained notes with *f* dynamics and pizzicato. Vc. plays sustained notes with *mf* dynamics and arco. T. Bl. plays a rhythmic pattern with *mf* dynamics. Cym. and S. D. play rhythmic patterns with *sf* dynamics. Mar. is silent. A double bar line is present at the start of measure 76.

18

79

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

sf

sf

arco

Bartok

pizz.

f

sf

f

f

f

82

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

mf arco

mf

mf

mf

mf

Bass Drum

ff

marcato

85 19

Vln. I *sul tasto* *f*

Vln. II *sul tasto* *f*

Vla.

Vc.

T. Bl.

Cym.

B. D. *sf mp*

Mar.

87

Vln. I *sf*

Vln. II *sf*

Vla. *pizz.* *ff sf*

Vc. *pizz.* *ff sf* *arco* *p*

T. Bl.

Cym.

B. D. *ff sf*

Mar.

89

Vln. I *sf f* nat.

Vln. II *sf f* nat.

Vla. simile

Vc. *ff sf* pizz. *sf* simile

T. Bl.

Cym. *sf*

B. D.

Mar.

91

Vln. I *ff* pizz. *ff sf*

Vln. II *ff* *sf* arco pizz. *ff sf*

Vla. *pp* arco *sf*

Vc. *pp* *sf*

T. Bl.

Cym.

B. D. *p* *sf* *sf*

Mar.

94

Score for measures 94-95. The piece is in 5/4 time. The first system includes Vln. I and II (both silent), Vla. (5/8 time signature, *sf*), Vc. (5/4 time signature, *sf*), T. Bl. (5/4 time signature, silent), Cym. (5/4 time signature, silent), B. D. (5/4 time signature, *sf*), and Mar. (5/4 time signature, silent). The second system includes Vln. I and II (both silent), Vla. (5/8 time signature, *ff sf*), Vc. (5/4 time signature, *ff*), T. Bl. (5/4 time signature, silent), Cym. (5/4 time signature, *simile*), B. D. (5/4 time signature, *To S. D.*), and Mar. (5/4 time signature, silent).

96

Score for measures 96-97. The piece is in 5/4 time. The first system includes Vln. I (5/4 time signature, *sim*), Vln. II (5/4 time signature, *sim*), Vla. (5/8 time signature, *sf*), Vc. (5/4 time signature, *sf*), T. Bl. (5/4 time signature, silent), Cym. (5/4 time signature, *Snare Drum*), S. D. (5/4 time signature, silent), and Mar. (5/4 time signature, *f sf*). The second system includes Vln. I (5/4 time signature, *sf*), Vln. II (5/4 time signature, *sf*), Vla. (5/8 time signature, *sf*), Vc. (5/4 time signature, *sf*), T. Bl. (5/4 time signature, silent), Cym. (5/4 time signature, silent), S. D. (5/4 time signature, silent), and Mar. (5/4 time signature, *f sf*).

Vln. I *ff sf*

Vln. II *ff sf*

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar. *f*

100

poco rit.

Vln. I

Vln. II

Vla. *pp*

Vc. *pp*

T. Bl.

Cym.

S. D.

Mar. *poco rit.*

101 $\text{♩} = 64$
poco meno mosso

Vln. I *f* *ff*

Vln. II *f* *ff*

Vla. *f*

Vc. *f*

T. Bl.

Cym.

S. D.

Mar. *ff*

102

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

24

103

Musical score for measures 103-104. The score includes parts for Violin I, Violin II, Viola, Violoncello, Trumpet, Cymbal, Snare Drum, Maracas, and a double bar line. The key signature is one sharp (F#) and the time signature is 6/4. The strings are marked 'arco'. The Maracas part features a rhythmic pattern of eighth notes in the right hand and quarter notes in the left hand, with a dynamic marking of *p* starting in measure 104.

Musical score for measures 104-105. The score includes parts for Violin I, Violin II, Viola, Violoncello, Trumpet, Maracas, Snare Drum, and a double bar line. The key signature is one sharp (F#) and the time signature is 6/4. The Violin parts are marked 'sul pont.' with dynamics of *pp*. The Viola and Violoncello parts are marked *mp*. The Maracas part is marked *f*. The Snare Drum part is marked *f* and includes the instruction 'LH pizz.' with a triplet of eighth notes. A double bar line is present at the beginning of the system.

106 25

Vln. I arco

Vln. II LH pizz.

Vla.

Vc.

T. Bl.

Mrcs. *mf*

S. D.

Mar.

109 ♩ = 88

Vln. I arco

Vln. II LH pizz.

Vla.

Vc. *ppp*

T. Bl. Temple Blocks

Mrcs. *mf* To Cym. Cymbals *mf*

S. D. *mp* S.D. *mp*

Mar. ♩ = 88

Vln. I

Vln. II

Vla.

Vc. arco pizz. arco

T. Bl.

Cym.

S. D.

Mar.

129

Vln. I

Vln. II

Vla.

Vc. *sf* *sfz* *sf* *subito pp*

T. Bl.

Cym.

S. D.

Mar.

133 *mf* nat. *pp*

Vln. I
Vln. II
Vla.
Vc.
T. Bl.
Cym.
S. D.
Mar.

138 *mp* *mf*

Vln. I
Vln. II
Vla.
Vc.
T. Bl.
Cym.
S. D.
Mar.

141 *sf*

Vln. I *mf* *ff*

Vln. II *ff*

Vla. *ff*

Vc. *ff*

T. Bl. *mp* *ff*

Cym.

S. D.

Mar.

144 *sf*

Vln. I *sf*

Vln. II *sf*

Vla. *sf* pizz. arco *sf*

Vc. *sf* pizz. arco *sf*

T. Bl.

Cym.

S. D. *p* *sf*

Mar.

147

Vln. I *p* *mf* *f*

Vln. II *p* *mf* *f*

Vla. *p* *mf* *f*

Vc. *ff* *pizz.*

T. Bl.

Cym.

S. D.

Mar. *sf* *mp*

151

Vln. I *pizz.* *arco*

Vln. II *ff* *pizz.* *arco*

Vla. *f* *pizz.* *arco*

Vc. *arco* *ff*

T. Bl.

Cym.

S. D.

Mar. *To Xyl.* *Xylophone*

160

Vln. I
Vln. II
Vla.
Vc.
T. Bl.
Cym.
S. D.
Xyl.

f *mp* *f* *sfz* *f* *f*

Detailed description: This system of musical notation covers measures 160, 161, and 162. It includes staves for Violin I, Violin II, Viola, Violoncello, Trombone, Cymbal, Snare Drum, and Xylophone. The Violin I and II parts feature melodic lines with dynamic markings of *mp* and *f*. The Viola part has a dynamic marking of *sfz*. The Violoncello part plays a rhythmic accompaniment with a dynamic marking of *f*. The Xylophone part has a dynamic marking of *f*. The Trombone, Cymbal, and Snare Drum parts are marked with a dash, indicating they are silent in these measures.

163

Vln. I
Vln. II
Vla.
Vc.
T. Bl.
Cym.
S. D.
Xyl.

p *pizz.* *mf* *p* *mf*

Detailed description: This system of musical notation covers measures 163, 164, and 165. It includes staves for Violin I, Violin II, Viola, Violoncello, Trombone, Cymbal, Snare Drum, and Xylophone. The Violin I and II parts feature melodic lines with dynamic markings of *p*. The Viola part has a dynamic marking of *mf* and a *pizz.* marking. The Violoncello part has a dynamic marking of *p*. The Xylophone part has a dynamic marking of *mf*. The Trombone, Cymbal, and Snare Drum parts are marked with a dash, indicating they are silent in these measures.

166

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Xyl.

mf

mf

f

mf

169

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Xyl.

ff

ff

ff

ff arco

p

Subito ff

172

Vln. I
Vln. II
Vla.
Vc.
T. Bl.
Cym.
S. D.
Xyl.

Detailed description: This system contains measures 172, 173, and 174. The Vln. I part starts with a quarter rest, followed by a quarter note G4 with an accent (>), a quarter note A4 with a sharp sign (#), and a quarter note B4. The Vln. II part starts with a quarter rest, followed by a quarter note G4 with an accent (>), a quarter note F4 with a flat sign (b), and a quarter note E4. The Vla. part has a continuous eighth-note pattern. The Vc. part has a quarter note G2 with an accent (>), a quarter note F2 with a flat sign (b), and a quarter note E2. The woodwinds (T. Bl., Cym., S. D.) are silent. The Xyl. part has a continuous eighth-note pattern.

175

Vln. I
Vln. II
Vla.
Vc.
T. Bl.
Cym.
S. D.
Xyl.

Snare on

p
p
p
p
f

Detailed description: This system contains measures 175, 176, and 177. The Vln. I part has a quarter rest, followed by a quarter note G4, a quarter note A4, and a quarter note B4. The Vln. II part has a quarter note G4 with a sharp sign (#), a quarter note F4 with a flat sign (b), and a quarter note E4. The Vla. part has a quarter note G4, a quarter note F4 with a flat sign (b), and a quarter note E4. The Vc. part has a quarter note G2, a quarter note F2 with a flat sign (b), and a quarter note E2. The woodwinds (T. Bl., Cym., S. D.) are silent. The Xyl. part has a quarter rest, followed by a quarter note G4, a quarter note A4, and a quarter note B4. Dynamics include *p* (piano) and *f* (forte). A 'Snare on' instruction is placed above the Xyl. staff in measure 177.

♩ = 108

178

Vln. I *sf*

Vln. II *sf*

Vla. *ff sf*

Vc. *ff sf*

T. Bl.

Cym.

S. D.

Xyl.

To Mar. *ff*

sub p

181

Vln. I

Vln. II *f*

Vla. *f*

Vc. *f*

T. Bl.

Cym.

S. D.

Xyl.

f

38

188

Musical score for measures 188-191. The score includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Vln. I and Vln. II play sustained notes with long hairpins. Vla. has a rest followed by a note marked 'arco'. Vc. plays a steady bass line of chords. Mar. plays a rhythmic accompaniment of chords. T. Bl., Cym., and S. D. are marked with rests.



189

Musical score for measures 189-192. The score includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Vln. I and Vln. II play sustained notes with long hairpins. Vla. plays sustained notes. Vc. plays a steady bass line of chords. Mar. plays a rhythmic accompaniment of chords. T. Bl., Cym., and S. D. are marked with rests.

191 pizz. 39

Score for measures 191 and 192. The system includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Measure 191 shows Vln. I with a whole rest, Vln. II with a half note, Vla. with a half note, and Vc. with a half note. Measure 192 features a *pizz.* instruction, with Vln. I playing chords, Vln. II and Vla. playing triplets, and Vc. playing a triplet. The Maracas part consists of a steady eighth-note pattern.

193

Score for measures 193 and 194. The system includes staves for Vln. I, Vln. II, Vla., Vc., T. Bl., Cym., S. D., and Mar. Measure 193 features *ff* dynamics, with Vln. I playing chords, Vln. II a half note, Vla. a half note, and Vc. a half note. Measure 194 features *ff* dynamics, with Vln. I playing chords, Vln. II a half note, Vla. a half note, and Vc. a half note. The Maracas part features a triplet of eighth notes in the right hand and a steady eighth-note pattern in the left hand.

arco

Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.



Vln. I

Vln. II

Vla.

Vc.

T. Bl.

Cym.

S. D.

Mar.

