REPETITION AS COMPOSITIONAL METHOD (PORTFOLIO OF COMPOSITIONS AND COMMENTARY)

by

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ABSTRACT

The submission consists of a portfolio of eight compositions and a written commentary upon the works. The compositions for various instrumentations were made during my studies in Birmingham between 2017 and 2020. The compositions demonstrate my attempts to explore different types and degrees of repetition and their role in creating various musical outcomes. Alongside this, the commentary details my contextual observations about the uses of repetition in a wide range of music, stretching back to the 18th century but concentrating especially on 20th century developments. The categories I gleaned from these observations have informed the way I developed various uses of repetition in the presented compositions. In addition, the use of repetition in my music also takes into account a number of connections with other disciplines including music psychology, visual art, and Deleuzian philosophical ideas.

CHAPTER 1: INTRODUCTION

Exploring new possibilities in music making is one of my main motivations as a composer. Through what I write and how, I endeavour to understand not only the complex and abstract musical meaning that appears in my practice, but more importantly how it connects to us in tangible form through simple means. In this PhD, I am pursuing this motivation through focus on musical repetition and the power it has to generate various musical meanings and expression.

My interest in repetition grew out of a different musical goal that developed during the early stages of my composition studies in Jakarta. My aim at that time was to create new compositions based on the evaluation and incorporation of both gamelan and European modernist musical elements. In the process, a focus on repetition started to arise as I attempted to find overarching musical elements which can be connected to repetition within these different musical styles. My interest became much clearer toward the end of my studies in Germany as I discovered the essays by Ulli Götte and Elisabeth Margulis. Götte's presentation on his theoretical essay, *Wiederholung – eine fundamentale (ästhetische) musikalische Kategorie,* gave me the idea of how various forms of music across the globe are connected by repetition.[1] Margulis's article, '*One more time*' and her book, *On Repeat,* meanwhile suggest furthermore that repetition not only exists throughout different musical styles, but it is also a core aspect that transforms our

[1] Ulli Götte: *Wiederholung – eine fundamentale (ästhetische) musikalische Kategorie*. (Unpublished manuscript: January 24, 2015), PDF file.

perception and attention towards something musical.[2] Margulis concludes it this way: "Repetition draws us into music, and repetition draws music into us".[3]

Both studies suggest to me the importance of repetition in shaping our perception in hearing various musical elements, structures, forms, and style. Our understanding of the most basic musical elements such as pitches, rhythms, and sound colour emerges from our categorical perception towards various shapes, speeds, and lengths of repeating soundwaves[4]. Repetition also plays an important role in shaping our perception of unmusical sounds into what we consider as musical. Diana Deutsch's Speech-Song illusion experiment shows us that a fragment of speech can become musical when it is being repeated.[5] Indeed, beyond sound material, repetition of visual elements can even suggest a particular connection to musical elements, for example rhythmic pattern, as can be seen in one of my composition inspirations, Paul Klee's *Rhythmic Rhythmical*. All this provides me an initial ground to explore various ways of dealing with listening perception on a different level to develop my own use of repetition.

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[2] Elisabeth H. Margulis: *One more time* (Aeon: 7 March 2014), https://aeon.co/essays/why-repetition-can-turn-almost-anything-into-music, accessed 5 April 2016; Elisabeth H. Margulis: *On Repeat: How Music Plays the Mind* (New York: Oxford University Press, 2014)

[3] Margulis, *On Repeat,* 180

[4] W.A. Sethares: *Rhythm and Transform* (London, UK: Springer Verlag, 2007), 6-9

[5] This link demonstrates the experiment I mention: http://philomel.com/asa156th/mp3/Sound_Demo_1.mp3, accessed 5 August 2017.

Ex.1: *Rhythmic Rhythmical* by Paul Klee

Regarding structure and form, repetition can, evidently, be found at all levels, and the vocabulary used to analyse Western art music has developed an array of terms that help us to conceive and describe it. We can identify repetitions at the smaller musical scale such as themes, motives, sequences, rhythmical patterns, and harmonic progressions, while at a greater scale, all the musical forms such as sonata form, theme and variation, rondeau, strophic form – are rooted in the relationship between repetition, contrast, and variation (development). All this provides background to 20th century developments and responses and my own in the 21st century.

Nevertheless, these things said, and despite the pervasive and arguably inevitable use of repetition in music, its significance – how and why it is used (or not) – is too often taken for granted. Indeed, with repetition being unquestionably accepted as part of early compositional processes, it was not until the late 19th century that this acceptance became challenged through Praeger's provocative and significant essay *On the Fallacy of Repetition of Parts in the Classical Form*, which raised question whether repetition of

the exposition is functional to the whole coherence of sonata form.[6] Apart from his central argument[7], the essay also provides ground for a discussion on how the most literal forms of repetition (repeating the same thing) can create a greater complexity of musical discourse. From a larger context, it also played an important role raising musical repetition up as a viable topic for discussion.

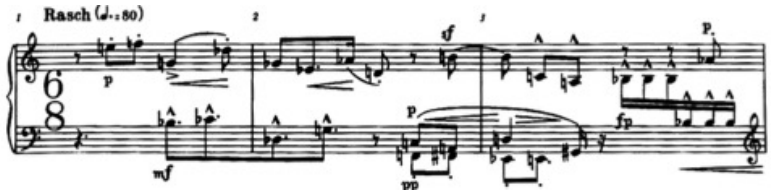
Yet since then, within the 20th century, there has still been, perhaps surprisingly, quite limited research and discussion focusing specifically on the role of repetition in music, the isolated studies in psychology notwithstanding. This is not, it seems to me, because it has been neglected in composition itself. Indeed, we can see that the relation between extensive non-repetition and extensive repetition has no less than created style and reaction to style. And yet, there is still room for considerably more studied focus, especially in relation to what I see as hidden possibilities that lie between the creative mixtures of simplicity and complexity of repetition – and it is this that has served as significant subject for my PhD study.

Here below is a brief snapshot of a few examples of the 20th century background that has led towards my thinking, and I will go into more theoretical details in subsequent chapters.

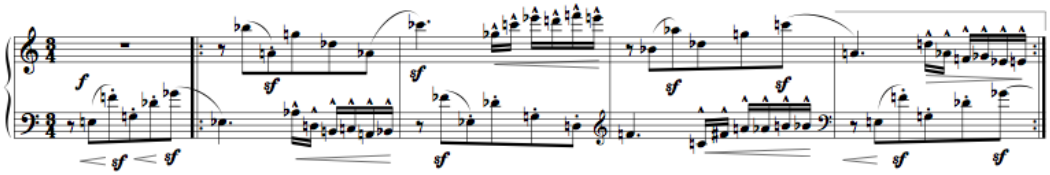
[6] Ferdinand Praeger: 'On the fallacy of the repetition of parts in the classical form', *Proceedings of the Royal Music Association, 9th Session,* 1-16.

[7] Praeger suggested that the exact repetition of a sonata's exposition seems to contradict the musical narrative and flow in comparison with the repetition of a section of literature. Further discussion around this argument can be found in Kivy *The Fine Art of Repetition (1993)* and Margulis *On Repeat (2014)*.

A significant aspect of complexity in the early 20th century, it seems to me, is the way in which – as tonality broke down and pitch became (at least superficially and aurally) much less repetitive – the leading avant-garde (Schoenberg, Berg, and Webern) – relied to a great degree on repetition of rhythmic patterns. In contrast to some, who consider this as being over-tied to tradition, I see it rather as a new combination of materials, and how repetition can exist outside its common 'accepted' practice in earlier music. The use of repetition takes on a new role in creating syntax and development, no longer being bound by any tonal and metrical rules. And this continued, indeed was perhaps emphasized in the serial 'discoveries' and practice of the 1920s and beyond.



Ex.2: Schoenberg *Praeludium* bars 1-3



Ex.3: Schoenberg bars 1-5 of *Trio* section in *Minuet*

For example, in the *Praeludium* and *Trio* from Schoenberg's *Suite op. 25,* the imitative repetitions between the right hand and left hand of both examples raise clear echoes of similar processes in Baroque keyboard music, such as the Preludes from Bach's English Suite 1-6. The fact that Schoenberg's compositions lack clear tonal associations, far from undermining the Baroque connections, puts the rhythmic repetitive patterns into still sharper relief. Instead, the 'meaning' of the music, I think, is richer for the various

degrees of relationship between past and present, repetition and non-repetition. Further, something at the heart of serial practice is shown here, as the Trio section *repeats* the row (at the same transposition level) of the *Praeludium* but changes the rhythm. This approach reveals a question for me: How musical material can be considered as repetition when it is not perceived as repetition?. My work is not a simple response to such a question, but rather inherits something from it and explores the relationship of same and different in my own (various) ways. And one psychological aspect that, it seems to me overlaps with this, which I also explore, is how repetition can be used specifically in relation to the unfamiliar, both for cognitive and expressive ends. As, the psychologist Lidov comments:

> "Since repetition can be perceived in an unfamiliar style, innovations which lack the support of an established musical language can appeal to repetition to clarify their vocabulary and procedures".[8]

Post-war developments have taken these relationships still further, building no less than style and aesthetic out of a consideration of repetition, or rather its avoidance. Even if the most extreme avant-garde examples of athematicism in the early 1950s, and the rejection of anything that might be construed as repeating motif, cell or figure, were brief, nevertheless it can be strongly argued that this laid the basis for the Darmstadt School and many of its central figures, including Boulez, Stockhausen and Nono. Certainly, it casted a long shadow, as musical development moved away from theme and motif, which – perhaps most importantly – led to a profoundly new focus on 'sound itself', and how the listener experienced it. If this was the case in Europe, perhaps it had

[8]David Lidov: 'Syntactical strata in music', in S. Chatman and U. Eco (eds.), *A Semiotic Landscape* (The Hague, Netherlands: Mouton, 1979), 1003-1010.

a still stronger response in the US in the indeterminate compositions of Cage and his followers. And yet, here there also grew up, the strongest reaction against non-repetition in its precise opposite: extreme repetition in the style of Minimalism.

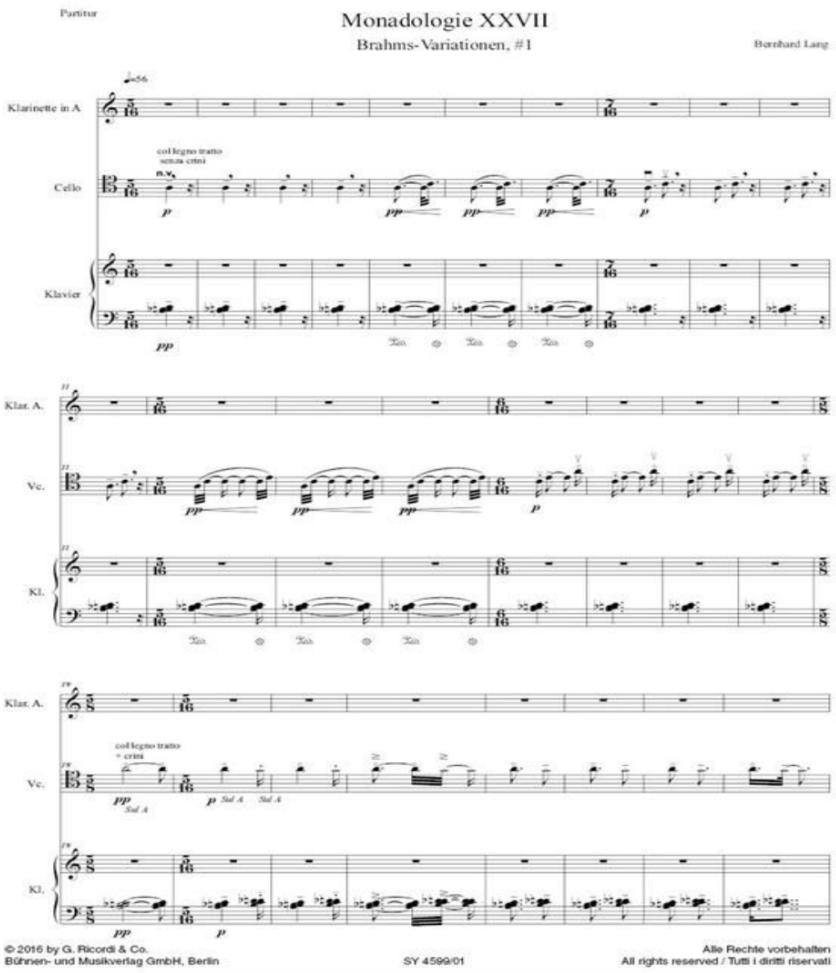
Although the extreme approach did not last long, Minimal music – such as in Riley's *in C*, Reich's *Piano Phase*, Glass's *Two Pages,* and many others – was about enormous extension of one musical object or phrase, often multiplied alongside itself. But what is fascinating to me here, is that this 'return' to repetition was in no way a turn towards the past. Instead, the repetition led to a musical outcome similar to that of a goal of avant-garde composers: it did not lead towards a perception of syntax and relationship (progression) but rather sound per se. Minimalism blurs thematic development and direction and in turn replaces them with a different motions and direction, having more in common with aspects of certain traditions in the East, especially as I have personally heard it, gamelan sounds and structures. Such similar outcomes can also be found outside 'classic' minimalist styles, for example in Feldman's and Bryn Harrison's music, in the way they use much repetition of chromatic lines or harmonies, alongside less rhythmical repetition, in contrast to a mainstream minimalist approach.

The contrasting outcomes of both these extreme approaches in mid-20th century music (European avant-garde and American minimalism) shed light on how repetition can create the opposing effect of what we might expect. In contrast to common perceptions, repetition does not only help to create thematic connection and development, but also to conceal them, which at the same time can be achieved by using less repetition (or non-repetition). How similar outcomes could emerge through repetition and non-

repetition provides me with an initial point to explore different degrees of connection between repetition and non-repetition. These perspectives have particularly helped me develop my ideas of distortion, tension, and disorientation, which appear in *The Love Awakened, String Quartet No. 2, Passacaglia, Rhythmic Rhythmical, Time Lapse,* and *The Persistence of Memory.* I also explore, among other aspects, different levels of perceptibility of repetition, whether a musical passage at one point can be perceived as repetition or not. This takes form in my idea of "hidden repetition", in which repetition may not be immediately perceived, but can exist in a more abstract form; this is an idea that appears through various ways especially in *The Love Awakened, Passacaglia,* and *The Persistence of Memory.* All these compositions led me to various conclusions about how repetition can manipulate our perception and lead us to different ways of understanding the musical material.

Meanwhile, I have also drawn on and been attracted to still more recent, varied approaches to the potential of repetition in the works of such diverse composers as Bernhard Lang, Simon Steen Andersen, or Alex Mincek. I am particularly interested in the way their music frequently employs an already existing musical material, which is then transformed to create a new meaning, different from its origin. This is, in my perspective, another form of repetition, where the repetition does not only construct a musical structure from the material within music, but also from the material outside of it - by repeating the 'older' materials in new shapes. Bernhard Lang's *Monadologie XXVII* provides an example of how the musical materials of the past can be constructed in a different way through repetition. In this work, he breaks down the main theme of Brahms's *Trio op. 114* using the process of granular synthesis, to develop a different

sound world that resemble music of Helmut Lachenmann. He subjects this material to a highly repetitive structure that does not necessarily follow the types of progressions in either the modernist or minimalist model. This example, amongst others, has been important in encouraging me to search for new structures and meanings through applying different forms of repetition onto the materials borrowed from the past music. I consider this as having especially significant meaning in our current time, and I explore this particularly in *Passacaglia* and my final composition of this portfolio, *The Persistence of Memory*.



Ex.4: First page of Bernhard Lang's *Monadologie XXVII*

From the discussion above, I hope I have made clear that I see repetition as one of the most significant elements in creating compositions of today, and specifically in developing my own personal voice, for the manifold ways it may represent the complexity of the musical idea and give it shape – in terms of expression, as well as structure – and also connects to or separates from the past –within or outside the composition. Repetition has always been, as I have started to show here, a 'common' part of the compositional toolbox for composers (and music) across the world and time. The complex nature of repetition allows us to discover many unexplored artistic ideas, and, as I see it, widen our perspective on what repetition can do to lead to music of our time.

In the next chapter, I will discuss how my observations on the use of repetition in existing music from both traditional and contemporary times, help shape some categories of repetition and their roles that I employ in my compositions.

CHAPTER 2: REPETITION AND NON-REPETITION

2.1 Repetition, Context, and Recontextualization:

Literal repetition is arguably the most basic form of repetition[9], in which a gesture, motive, or idea is simply repeated exactly as in its first iteration. Despite the absence of changes within the music material, such repetition can still surprisingly convey a certain degree of change. David Hume's statement helps bring some perspective to this phenomenon:

> "Repetition changes nothing in the object repeated, but does change something in the mind which contemplates it."[10]

From a musical perspective, his postulation provides me with the idea of how repetition can change our perception when listening to similar musical material. Considering this more deeply, I am also interested in developing wider degrees of perception manipulation that can offer a greater spectrum of changes, for example, when repetition may change our perception of a particular musical material to the extent that we hardly recognise its original form, as can be seen in *String Quartet No. 2, Passacaglia,* or *The Persistence of Memory*. In this sense, finding a particular aspect of repetition that can manipulate our perception becomes a crucial aspect in my study.

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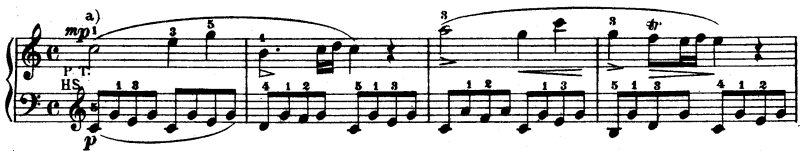
[9] Adam Ockelford: *Repetition in music: Theoretical and metatheoretical perspectives*, (Aldershot, VT: Ashgate, 2005), 21. He theorized this basic form of repetition as 'zygonic', which refers to the Greek terminology of "yoke", implying the union of two similar things, from which various complex relationships of repetition can be analytically derived.

[10] Gilles Deleuze: *Difference and Repetition* (P. Patton, trans.), (New York: Columbia University Press, 2004), 70. His statement acts as the initial point of Deleuze's theory of repetition and difference, which I will also touch in the next subchapter.

Dora Hanninen, a music psychologist, provides me with insight on how the role of context can play a significant role in changing our perception.[11] I am also drawn to her concept of 'recontextualization' that she further developed, describing it as:

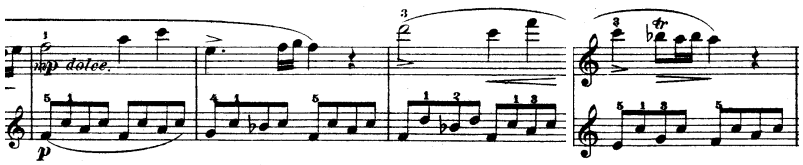
> "… phenomenal transformation of repetition (of something – a musical idea as I shall soon define it) induced by a change in musical context. It is a strange kind of repetition – better, an estranged repetition, in which repetition doesn't sound (primarily) like repetition."[12]

Her idea poses, in my view, a significant question about how a certain degree of transformation can be achieved when repetition seems to cancel out its repetitiveness. One of the significant methods derived from her idea entails repeating the same musical material in different musical situations, as is often done in many conventional musical forms, such as in the recapitulation of the first movement of Mozart's Piano Sonata C major, K. 545. Despite a strong similarity to the exposition, the change of tonality creates a different nuance and function to the recapitulation. While the first iteration prompts the musical development into further harmonic changes, the second iteration in contrast brings the musical progress back to its initial tonal centre, which concludes the musical journey.



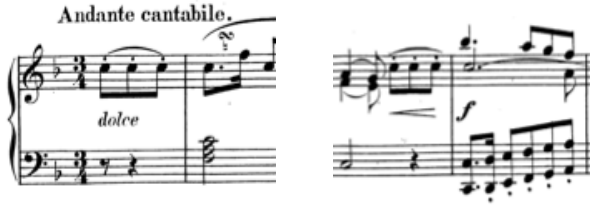
Ex.5: First theme of exposition in C major, bars 1-4 of *Mozart's Piano Sonata C major, K. 545, 1st movement*

[11] Dora A. Hanninen: '*A Theory of Recontextualization in Music: Analyzing Phenomenal Transformations of Repetition', Music Theory Spectrum,* Vol. 25, No. 1 (2003), 59
[12] Ibid, 61

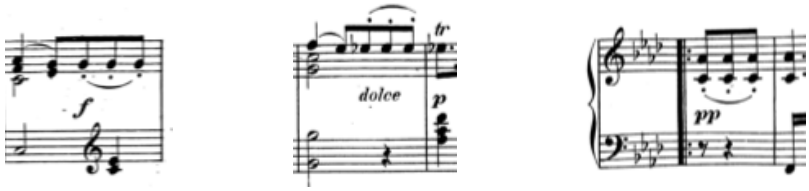


Ex.6: First theme of recapitulation in F major, bars 42-45 of *Mozart's Piano Sonata C major, K. 545, 1st movement*

On a smaller scale, the second movement of Mozart's *Piano Sonata in C major, K. 330* also provides another example of how such a procedure happens through various kinds of juxtaposition and superimposition. The different harmonic continuation of the recurring repetitive note C (Example 7) implies a different tension to each iteration. Moreover, the pitch repetition in transposition or in combination with other notes (Example 8) helps to create various nuance and colour to its initial form.



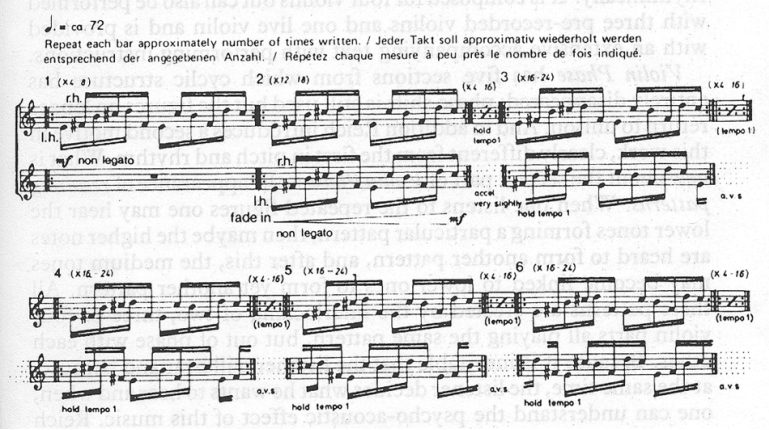
Ex.7: The repetitive note C in bars 1-2 and 14-15 of *Mozart's Piano Sonata in C major, K.330, 2nd movement.*



Ex.8: The repetitive note in transposition and in combination in bars 5, 16, and 23 of *Mozart's Piano Sonata in C major, K.330, 2nd movement.*

A more contemporary example, Steve Reich's *Piano Phase,* additionally highlights how extreme repetition of a musical material could still suggest various degrees of change when they are placed in a different layer and timing. The use of phase-shifting

continually changes our perception toward the initial material of the music and thus, allows us to see the material in different perspectives – like seeing a particular object through a kaleidoscope or a broken mirror. The process provides a model of how a simple procedure can generate significant changes from seemingly simple material.



Ex.9: Steve Reich's *Piano Phase* first six phases

2.2 Repetition and Variation:

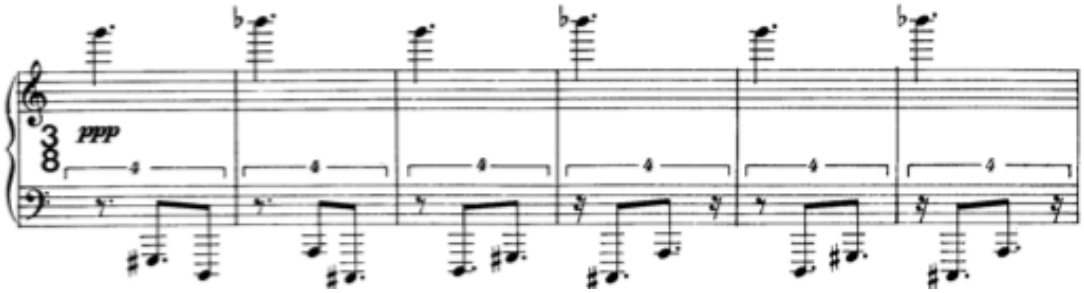
Morton Feldman's method of repetition and variation provides me with another example of how forces between what repeats and what changes can operate on an equal footing – as illustrated below in Feldman's statement:

> "You can either do two things in music, you could be involved with variation, which in simple term means only vary it, or you could be in repetition. Reiterative. What my work is, is a synthesis between repetition and variation. However, I might repeat things that, as it's going around, is varying itself on one aspect. Or I could vary repetition".[13]

His method of repeating and varying musical material contrasts greatly with the common practice of Western classical music due to the extremity of repetition,

[13] B.H. Friedman (ed.): *Give my Regards to Eight Street: Collected Writings of Morton Feldman*, (Cambridge: Exact Change, 2000), 185

combined with an acutely detailed view of what constitutes variation. Applying this to the smallest of changes, this can be seen in his late compositions such as the piano solo *Triadic Memories*. In the example below, a two-bar motive of G and Bb in the right hand is repeated three times. In the left hand, the tetrachord of C#, D, G#, A is built into motives which are slightly varied through inversion in bars 1-2 and repeated in a seemingly unsystematic order. Here, the repetition and variation serve as a musical 'push and pull' that appears out of non-linear development.



Ex.10: Morton Feldman's *Triadic Memories* bars 1-6

More generally, contrasting philosophical ideas on repetition and difference shed further light on the range and difference of approaches to musical repetition in various musical styles, stretching from Bach to Feldman. The Aristotelian perspective – according to Deleuze's analysis – suggests that repetition and difference cannot be understood without regard to the concept of identity, opposition, analogy, and resemblance.[14] In contrast to the Aristotelian idea, Deleuze's perspective rejects the notion of representation as the centre in which difference can be measured. Instead,

[14] Gilles Deleuze: *Difference and Repetition* (P. Patton, trans.), (New York: Columbia University Press, 2004), 262

repetition is subject to different degrees of changes, which fall under the same category with variation. As Brian Hulse states:

> "Deleuze rejects the opposition between repetition and difference outright. Instead, repetition belongs fully to difference itself, which is an absolute, positive condition that cannot be captured or represented in terms of volume or scale (there is no "identity" of difference that manifests as calculable degrees or amounts) ... Repetition becomes the shape of difference, the differing of difference, wherever difference is developed in space and time."[15]

When I translate both philosophical views into music, much of repetition's function in earlier music appears to closely resemble an Aristotelian perspective. In music of composers such as Bach or Beethoven, to bring just most obvious examples, the repetition develops some kind of thematic transformation in which the degree of variation always refers to various levels of resemblance to the theme as their musical identity. In the contemporary context, some composers of 20th century music such as Schoenberg, as well as more traditional composers such as Shostakovich and Britten, still continued to employ repetition. But even in these composers' music, thematic identity became less prevalent than before. And when we shift our focus to later composers like Feldman, a Deleuzian perspective now takes over. In Feldman's method, repetition does not involve an opposition between the musical theme and its development. Instead, the excessive repetition and minimal variation of the musical theme eliminates the distinction between the repeated pattern and its repetition or variation. As Feldman himself says: "no one pattern takes precedence over the other."[16]

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[15] Brian Hulse: *A Deleuzian Take on Repetition, Difference, and the 'Minimal' in Minimalism*, (no date), https://www.scribd.com/document/211464802/Repetition-and-Minimalism, accessed on 8 February 2019

[16] W. Zimmermann (ed.): *Morton Feldman – Essays*, (Kerpen: Beginner Press, 1985), 129

Therefore, the elimination of hierarchy between ‘musical theme’ and ‘variation’ consequently overturns the idea of development and growth. The process in consequence transforms our way of experiencing time and musical material as if we observed a particular object at a certain moment.

In my research, I have taken Feldman’s ideas and followed them to the extent that my music often employs multiple repetitions of units on different levels. The idea of a unity rather than a dialectic of theme and variation underpins this; this is the idea that I pursue particularly in my use of distortion and disorientation. At the same time, I attempt to further explore the extent of what constitutes thematic development and how my use of repetition can emphasize thematic development in a way different to traditional approaches. This applies particularly to dealing with musical characters and associations, in particular in my works *SUR* and *Four Images of Homeland Sea.*

CHAPTER 3: DIFFERENT MODELS OF REPETITION

3.1 Repetition and Distortion:

The term distortion in my compositional approach describes a process whereby a musical object – through repetition, variation, and change of musical context – transforms into something removed from its original form or context. My interest in this process grows out of my observation as to how repetition shapes different perception in looking at a particular object, similar to the way repetition shifts our perception of unmusical sounds or visual objects into something musical (as I pointed to in the first chapter). Thus, a seemingly simple and apparent material transforms into a more complex thing to the extent that our recollection of the original becomes more elusive.

To reach this outcome, my uses of 'distortion' aim to create an ambiguity of perception towards a musical centre or identity, as the listener's cognition towards a thematic musical pattern is fully or partially impaired through different types of variation and changes of context. In emphasizing the cognition process, I often use a straightforward pattern as my musical theme, which allows listeners to capture the idea immediately. The ambiguity will subsequently emerge through extensive repetition and different levels of variations from the theme. Further down the line, the process will obscure the differentiation between literal repetitions of the theme and the variations of the repetition, and to a further extent, the repetition of the variations.

Within the context of distortion, the variations should be seen as different shapes of the musical theme rather than a development of it. In this sense, I like to draw a comparison

of seeing a particular object through a kaleidoscope or a broken mirror, in which different angles create different perceptions of the same object; a concept that initially emerged in my *String Quartet no. 2*.

In addition, it is worth mentioning that I define the reverse process of distortion as a 'revelation' process, which initially appears in my composition *Love Awakened*. Here, the cognition of the thematic material unfolds from time to time, starting from seemingly insignificant chord attacks to more apparent repetitive chords. This process in consequence demonstrates how the process of distortion is closely related to the notion of familiarity with the musical material. Repetition and variation, along with changes in context, can distort our cognition and perception of musical material to see familiar things in a different light. Laurence Crane describes this in relation to his own use of repetition:

> "I use repetition a lot, so you get something like a standard cadential formula or a sequence triad, and by subjecting them to some sort of process of repetition, or interweaving them with something else, you get to look at this object in something of a new light. I invent these objects -they're not quotes- and they seem initially to be quite familiar, ordinary, or anonymous. I want the objects that I use to sound old and new at the same time."[17]

My compositional ideas share a similar spirit of constructing a kind of illusion. Here, repetition does not follow the minimalist dictum: "what you see is what you see"[18]. Instead, it goes as "what you see is not what you see." Perhaps, this also represents more of what minimalism can offer through repetition, as I have mentioned in relation

[17] '*Interview with Laurence Crane'*, Another Timbre, http://www.anothertimbre.com/craneinterview.html, accessed on 30 January 2020

[18] Bryn Harrison: *Cyclical Structures and the Organisations of Time* (PhD diss., University of Huddersfield, 2007), 7

to the previous Steve Reich example. Even though its whole musical structure is built from a simple fragment, we hear things differently from what might seem straightforward.

3.2 Repetition, Association, and Different Characters:

One fundamental conventional aspect of repetition is how through its use, 'identity' and musical character is established. Wagner's use of leitmotif is often cited as a significant example of this. And yet, from a 20th century perspective, specifically that of Boulez, we might see identity and repetition as rather more 'slippery'. He states:

> "Wagner's was the first music in which forms never return literally, are never repeated. As the music progresses, it carries all the thematic elements with it, linking them in new ways, placing them in different relations to each other, showing them in unfamiliar lights and giving them unexpected meaning."[19]

This perspective allows me, then, to develop the idea of repetition in a less obvious, less predictable way: even when so-called 'characters' are established, the smallest nuances of change and variation can shift them, and so help preserve and accentuate musical intensity. To proceed in this direction, I am inclined to develop a characterisation process from repetitions of 'amorphic' material. What I mean by 'amorphic' is material that does not offer a clear sense of melodic, rhythmic, or harmonic structure. Instead, it conveys a very small or atomic gesture, such as upward or downward leaping notes. Thus, it allows a particular character to be heard in many ways through repetition and variation of other more subtle musical elements, such as dynamics, articulation, colour, texture, register, and instrumentation. At the same time, the use of amorphic material

[19] Pierre Boulez: *Orientations,* (London: Faber, 1986), 251

also provides me with more room for creating different types of characters, while also pertaining some degree of structural and formal unity, particularly within a small-scale composition.

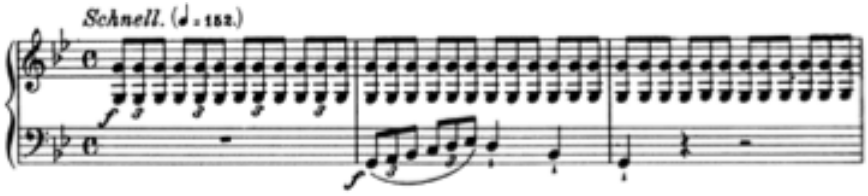
The use of an existing musical association additionally helps emphasize the different characters that appear through repetition of a limited material, such as the use of tonal connotations or stylistic associations in *The Love Awakened*. In this case, oppositions between the 'love' and 'despair' themes are emphasized using major chords and chromatic clusters, respectively. The major chord is often associated with hope or joy, while the chromatic cluster indicates pain or sorrow. The following composition *SUR* also demonstrates how two opposing characters can be achieved using the common association of wider musical elements, such as instrumental colour, texture, and dynamic. Another approach appears in my *Four Images of Homeland Sea,* in which various characters and tension revolve around a single theme: the depiction of the sea.

3.3 Repetition and Tension through Different Types of Motion:

One of the significant aspects of my research is to explore how repetition can trigger tension by suggesting different kinds of motion, even to the extent that repetition could create a sense of motion from seemingly static or 'unmoving' musical material. Music theorists Lerdahl and Jackendoff point to such a musical phenomenon through observing repetitions of a single harmony:

> "It is impossible to hear absolute stasis, if only because events take place in time and hence form rhythmic relationship that produce tensing or relaxing events".[20]

This observation highlights how by now widely used and accepted Schenkerian analysis of treating a single chord and its repetition on an equal footing can be misleading. In fact, a change of tension could emerge from the same chord, as it appears in different positions and relations with other iterations such as found in the use of tremolos, trills, or accompaniment patterns like the 'Alberti bass'. For example, the opening passage of Franz Schubert's *Erlkönig* shows how the repetition of the note G elevates the tension and motion of the right hand rather than having a sustained pitch reduction as the Schenkerian manner would imply.



Ex.11: Opening passage of Franz Schubert's E*rlkönig*

Margulis also draws upon their idea that a more extensive repetition could further emphasize a sense of gradual process of intensification or de-intensification. She puts it this way:

> "…in terms of the dynamics of musical motion, repetition always represents process rather than stasis; tension is always either building or receding across multiple iterations of the same material."[21]

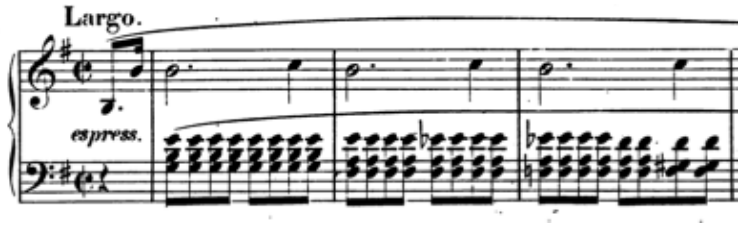
In my music, I have taken their ideas to the extent that they suggest a motion and tension coming from repetition of seemingly static or 'unmoving' musical material. This

[20] Fred Lehrdal and Ray S. Jackendoff: *A Generative Theory of Tonal Music*, (Cambridge, MA: MIT Press, 1983), 184
[21] Margulis, *On Repeat,* 37

outcome relates to the visual repetition, in which 'illusion' of motion appears by repeating a particular visual element in slightly different ways, such as in Paul Klee's *Rhythmic Rhythmical* I mentioned before. The cinematographic process also demonstrates how a series of images from an object, being captured repeatedly in slightly different positions, could suggest a sense of motion. The analysis of my music*, Rhythmic Rhythmical* and *Time Lapse* will discuss this process in more detail.

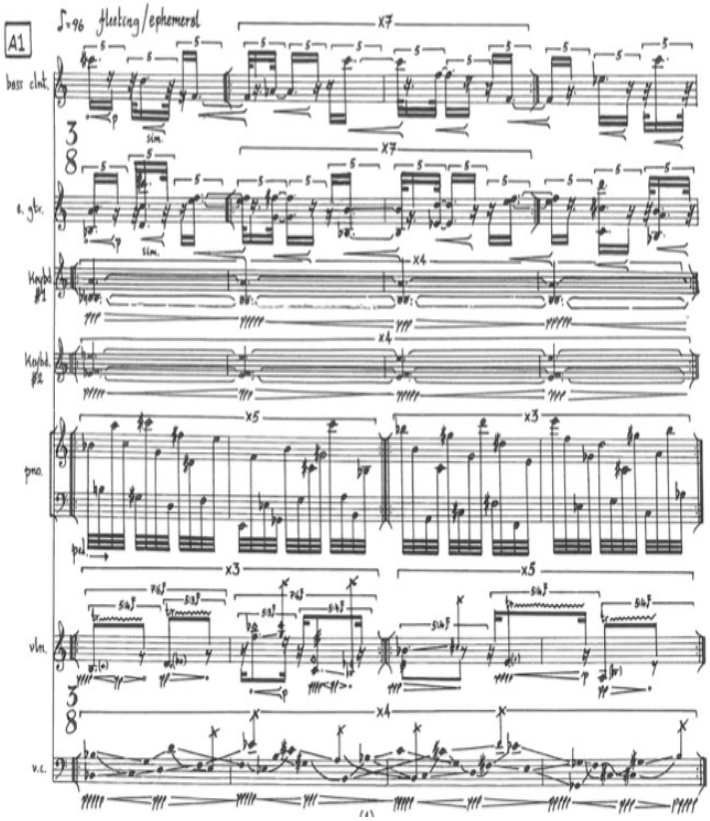
Apart from that, I am also interested in exploring tension that comes from fluctuations of different types of motion. Leonard Meyer helps shed light on how the play of expectation can create various kinds of tension. In general, he suggests that tension arises when the tendency or expectation is in some way blocked or inhibited. He argues further that the inhibition comes in two different forms: either from the suspension of expectation or the unexpected continuation/surprise.

One of the most representative examples of earlier music, in which the intensity of music can grow from the interlocking of these two forms, can be seen in Chopin's *Prelude in E minor*. On the one hand, the repeated melody in one bar units suggests a motion that does not lead to a particular destination. On the other hand, the irregular harmonic changes create an unpredictable continuation of harmonic rhythm. This apparently simple example shows us how tension emerges through the ebb and flow of motion and stasis in a constant change of relationship between the right and left hand.



Ex.12: Frederic Chopin's *Prelude in E minor* bars 1-4.

To a further extreme from today's context, Bryn Harrison's *Repetition in Extended Time* provides me with a model in which extreme repetition can remove the sense of musical expectation. The sense of expectation disappears as the musical material repeats continually without any perceptible changes. His music also suggests another type of tension that does not result from a linear development, but rather from moment-to-moment changes, which is in conjunction with Feldman's use of repetition and variation that I pointed to before.



Ex.13: First page of Bryn Harrison's *Repetition in Extended Time*

These perspectives help shed light on the development of my own method to elevate intensity through repetitions of particular pitches and harmonies. More generally, tension can appear by combining literal repetitions with irregular ones, to create a push and pull effect, which may thwart any predictability of the repetition itself in a longer run. As a result, this also creates, as I hear it, different 'flavours' of tension.

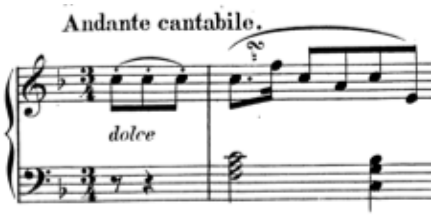
The following discussion now moves on to how tension and intensity can also appear through different paths of musical direction.

3.4 Repetition, Orientation, and Disorientation:

My research on the idea of distortion has led me to explore another form of manipulation of perception. Repetition not only may obscure the way we recognise a musical theme or pattern, but also the way we understand the direction of a musical motion. On the one hand, the use of repetition can direct our perception towards particular motions – upward or downward, and so on – as often found in the use of sequences in much music ranging from earlier periods like Bach's to more contemporary ones like Ligeti's. But on the other hand, it can distort the way we perceive a particular direction or an end of a musical motion.

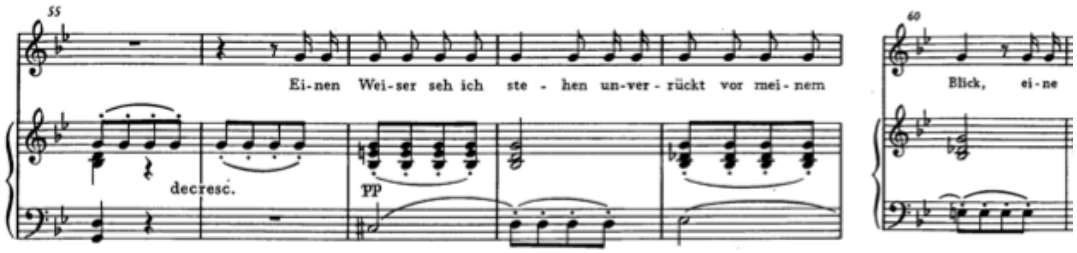
This can be observed through contrasting musical outcomes that emerge from a similar type of repetition: a single pitch repetition. From the conventional view, we can perceive a sense of orientation through an intensification process, as Margulis points out in the earlier discussion. In the Mozart example below, the steady repetition of the upbeat note C in the first bar straightforwardly creates a direction toward the next bar.

Additionally, the downbeat chord entry at the end of the repetition helps emphasize the point of direction.



Ex.14: The opening bars of Mozart *Piano Sonata in C major K. 330 2nd Movement*

However, when such repetitions are prolonged, perhaps surprisingly they do not correspond with an increasing sense of orientation. In fact, their effect seems to cancel out the sense of orientation at a certain point, as in the following Schubert example. The more prolonged repetition of note G here, along with an unresolving harmonic progression, effectively augments the tension of the passage. Nevertheless, the sense of direction starts to decrease in spite of the intensification process. The resolution to a diminished chord in bar 60 in this case also obscures the repetition's point of orientation. For me, this example represents a process I call 'disorientation'.



Ex.15: Schubert's *der Wegweiser* bars 55-60

Comparing the two examples, we see how different repetition levels or frequency can affect the way we perceive a point of orientation. Repetitions with clearer segmentation and an apparent end suggest a sense of direction in a more direct way, as in Mozart's

example. At the same time, repetition in a more extreme formation – either very short or long without any clear segmentation like in Schubert's example – can distort the sense of direction. And very often in my music, I explore musical tensions within fine lines between clarity and ambiguity of orientation. This involves how repetition of a musical pattern can simultaneously suggest and conceal the sense of orientation.

I further explore this perspective with a process I call "hidden orientation", in which non-directional motion at a microstructural level is transformed to be part of an underlying directional process at a macrostructural level. Thus, there is a musical progression that cannot be immediately perceived from moment to moment. Bryn Harrison helps highlight this notion in this way:

> "It's like looking at the hands on a clock...you can't see that something is in motion but there's an invisible transformation taking place. I wanted the shifts to be very subtle, for the listeners to arrive somewhere else without realising the journey they've made." [22]

I relate this process to repeating phenomena in life, like seeing the ever-changing sun positions throughout a one-year cycle. It is often the case that we do not realize how such changes happen throughout the constant cycle of each day within a year. Only when we see the process faster that we then see the changes. This is an example of how transformation and repetition happen within a greater scale of time, which often cannot be perceived without looking through a distanced perspective; this is something that I will discuss more in the next chapter, particularly in my composition *Time Lapse*.

[22] Harrison, *Cyclical Structures*, 81

3.5 Repetition, Linearity, and Nonlinearity:

Jonathan Kramer's notion of linearity and nonlinearity provides me with a further perspective at observing different types of motion and direction on a macrostructural level. He describes them in this way:

> "Let us identify linearity as the determination of some characteristic(s) of music in accordance with implications that arise from earlier events of the piece. Thus linearity is processive. Nonlinearity, on the other hand, is nonprocessive. It is the determination of some characteristic(s) of music in accordance with implications that arise from principles or tendencies governing an entire piece or section."[23]

We understand from this definition that there are two contrasting types in which musical progressions can be categorised. This is a helpful starting point, though my particular extension of this is how these two different progressions – linearity and non-linearity, or processive and nonprocessive – coexist together in a musical structure rather than seeing them as opposing each other. Some existing musical forms, such as certain dance forms, and to a greater extent, strophic or variation form, have already provide a clear example of structures in which repetition and non-repetition are at the core of combining both processes. For example, in a passacaglia form, we see how the recurring melodic/rhythmic ostinato represents the governing principle or basis of the whole musical form on one hand. On the other hand, the development of the musical material or theme laid upon or around it – through repetition, variation, and change of context – portrays a more linear process at another level as what Kramer has described. Moreover, the recapitulation in ternary or sonata form also creates a more complex linear and nonlinear relationship, as the fine line between repetition and non-repetition

[23] Jonathan Kramer: *The Time of Music* (New York: Schirmer Books, 1988), 20

can be conceived as having two different functions – either as a return or a further development from its proceeding parts.

Kramer further points out how this duality within musical progressions develops into an extreme way in a contemporary setting, thus, leading to several types of temporal discontinuities such as multiple (directed) time. He describes its characteristics as below:

> "Thus, in multiple time we encounter such intriguing anomalies as an ending in the middle of a piece, several different continuations of a particular passage, transitions that are broken off, and so on." [24]

I take up this idea to develop my own complexity of linearity and non-linearity, already appearing in more traditional music, to the extent that distinctions blur between them. This outcome closely relates back to the extensive repetition and variation in my use of distortion and disorientation, which focuses on ambiguities that emerge in the borderline between two contrasting musical forces. In pursuing this direction, I connect my approach with two closely related musical forms or approaches to the organization and release of material: fragmental and labyrinthine form.

The fragmental form in my compositional method appears as an arrangement of musical sections that appear to be disconnected, one from another, despite some underlying connection resulting from repetition of a particular musical motive or element. Feldman's *Patterns in a Chromatic Field*, one of his later works, helps shed light on developing my idea of fragmental form. The recurring chromatic pitches and patterns shape the coherence of the whole musical structure in this piece. However, the

[24] Jonathan Kramer: 'New Temporalities in Music', *Critical Inquiry,* Vol. 7, No.3 (1981), 545

contrasting variations happening in divided sections dismantle any apparent connections between them. At the same time, clear-cut segmentations and frequent changes of context help emphasize unpredictable changes throughout the course of the music. Thus, they elevate the sense of disconnectedness on a bigger scale. This process reflects, in my view, the way we experience time that is quite often not linear, but is instead scattered and distorted, such as in the way we 'sink' into our memories. In this way, we may lose our orientation of time as memories take our mind back and forth through different moments and thus separate us from the 'real' present time.

By contrast, labyrinthine form suggests a musical form which articulates an extreme degree of connectivity through repetition, as if the music kept circling around the same musical material, constantly varying it. I use this form to highlight how our sense of 'real' time can be distorted through returning to the same moment or experience in different ways, as as if we repeatedly – and always differently – revisit our memories. In this case, Harrison Birtwistle's *Silbury Air* or *The Triumph of Time* provides me with a model where thematic material keeps returning. However, slight variation and change of musical context put each iteration in different perspective to the extent that we start to lose sense of its starting point and direction. Martin Zenck portrays the process in this way:

> "Stepping out of the circle happily, and then repeating the whole process again, is at the same time fatal when the compulsion repeats itself to return to a direction that has once been taken without realizing it."[25]

[25]Martin Zenck: 'Wiederholung – Eine grundsätzliche Kategorie nicht nur der Musik', *Archiv für Musikwissenschaft*, 70. Jahr, H.1. (2013), 72. It is my English translation of his statement. The original text is: "Aus dem Kreis glücklich herausgetreten, um dann den ganzen Vorgang nochmals zu wiederholen, ist es doch zugleich tödlich, wenn sich der Zwang wiederholt, eine einmal eingeschlagene Richtung erneut aufzusuchen, ohne dies zu erkennen."

These views of the musical forms – the labyrinth and the fragment - play a significant role in emphasizing non-linear development that I frequently employ in my compositions, particularly ones that involve the subject of distortion, tension and motion, and disorientation. As I explore below, the longest work in the portfolio, *The Persistence of Memory*, especially combines both forms and in so doing shapes my ideas of distorted time and how we alter as we remember.

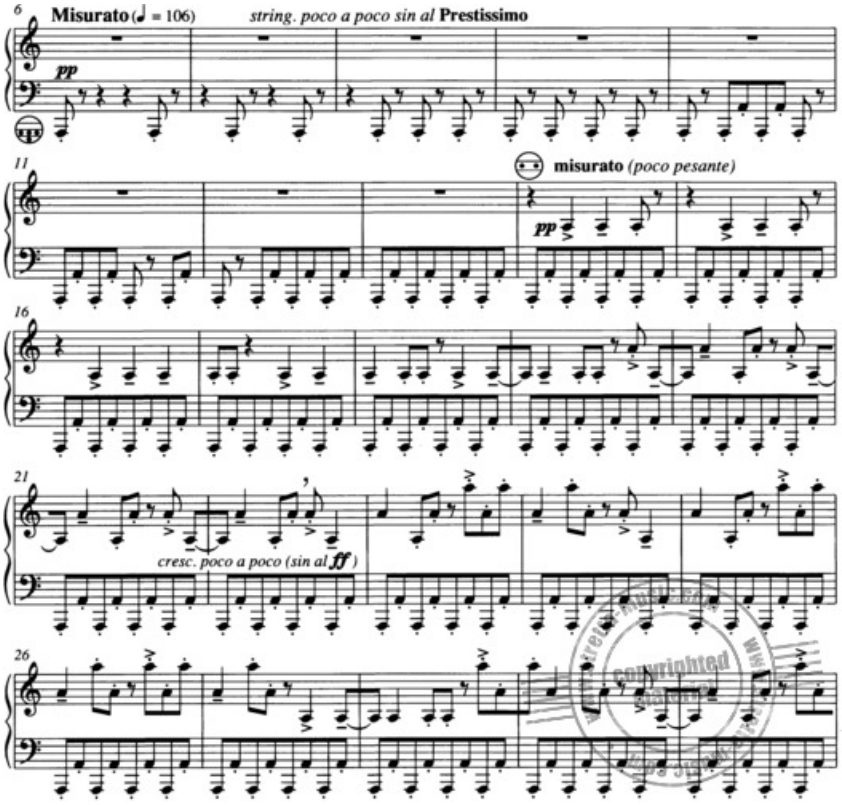
3.6 Repetition and Shift of Attention:

Further, Lidov's postulation also provides me with an interesting insight into how different degrees of repetition can create two contrasting effects on our perception's focus.[26] He highlights how 'focal repetition' brings the listener's perception more acutely onto the repetition itself. However, when the repetition extends beyond three or four iterations, it reveals itself in a new function as 'textural repetition', which draws our focus elsewhere towards the changes that happen outside the repeated elements.

This paradox relates to the Speech Sound experiment I discussed before, in which the repetition of a spoken sentence shifts the listener's attention from the meaning of the sentence towards the musical aspect of the voice. On the one hand, repetition directs our attention towards complexity that appears through various changes of sound pitches, articulation, and dynamics of the speaker. On the other hand, the simplicity of the sentence allows the complexity of the sound to stand out.

[26] David Lidov: *Is language a music? Writings on musical form and signification*, (Bloomington, IN: Indiana University Press, 2004), 29

Ligeti's *Musica Ricercata No. 1* provides a clear musical example of how this phenomenon works in a rather unusual composition. The whole musical structure of this piece uses solely the repetition of note A, spread throughout various registers. In spite of the limitation in material, the pitch repetition does not constrict the intensity and dynamics of the music. Instead, it draws us to the variations happening in other musical elements such as articulation, rhythmic patterns, and register.



Ex.16: Ligeti's *Musica Ricercata No. 1* bars 1-25

The first movement of Scelsi's *Quattro Pezzi* provides another example of how more complex changes of colour and texture come out from simple repetitions of note F. The broader spectrum of dynamics, timbre, and instrumentation found in an orchestral setting conceals the simplicity of the pitch aspect.

I adopted the idea of the relation between repetition and the acuity of perception of textural and timbral change the longer it continues, in various ways and to various degrees. As I examine below, *SUR*, *Rhythmic Rhythmical*, and *Four Images of Homeland Sea,* all in their own ways develop their atmospheres, characteristics and tensions as the simple motives and gestures repeat more and more and in so doing create elaborate 'weaves'. The simplicities of their materials allow various degrees of variation and change of context outside the repeated material to come more directly into the foreground – as have been shown by the example above.

3.7 Quotation and Repetition of the Past:

Quotation techniques demonstrate how new perspectives and meaning can appear by repeating old materials, as discussed in the opening chapter. To achieve this purpose, I employ repetition, along with variation and recontextualisation in two ways. First, I do this by repeating the past material in different circumstances and thus shaping new 'functions' over its original context, which is the process similar to Mozart's example of repeating the exposition in a different tonality and function that I discussed before in second chapter. However, while the recapitulation's 'past' is within the internal structure of the music, quotation repeats the 'past' from outside the composition. In this way, I explore compositional creativity by forming or deconstructing the existing material and bringing new meaning through different shapes and relationships; I see this as resembling the way Dadaist artists used 'ordinary' materials in collage technique. But there is also a second way to see this: by repeating and varying the material while maintaining some connotation of its original form, the 'original' function or expression conveyed by the material can appear in a different perspective. In contrast to Dadaist,

my second way perhaps resembles the way the Cubist artists deconstruct an object while maintaining some characteristics of its original form, such as in Georges Brague's *the Guitar* (1910).

The contrasting use of the 'Westminster Chimes' in my *Passacaglia* and *The Persistence of Memory* illustrates these two different approaches. In *Passacaglia*, the thematic association of the 'Westminster Chimes' to time itself is discarded and replaced with another musical purpose, which is similar to the use of Brahms theme in Lang's *Monadologie XXVII* that I mentioned in the first chapter. His approach is different from mine as he repeats the material in a highly deconstructed form. His music, however, shares the same idea of distancing from the connotations of the old form. The theme only serves as a thematic structure from which the music develops, rather than suggesting connections with the original idea or association. In contrast, the tune's association serves as an important aspect of how I develop the subjects of memory and time in my work *Persistence of Memory*. The use of other musical quotations associated with time itself also helps to reinforce the connection and association to time and memory within the composition.

The third movement of Berio's *Sinfonia* provides me with another example of how these two different approaches could work together within a musical structure. The historical connotations of the diverse styles he quotes suggests to the listener connections to different times in the past, simultaneously. At the same time, the combinations of these 'sporadic materials', which are all connected to the structure of the *Scherzo* movement in Mahler's *2nd Symphony*, give rise to new formal possibilities, which involve the

consideration of 'distance' between the present composition and the original context of each quotation.

The way original form and connotation of the quotation in his music is brought back, transformed, or discarded, helps shed light on my attempts to develop 'distorted memory', a phenomenon that can be observed outside music, such as during a commemoration or tribute to some person or event. This idea raises the question as to whether a memory of the past truly brings back that same past. Marcel Proust is a touchstone in this discussion, as he shows us that the way we remember the past is different at each time we recall it, and, perhaps, different from person to person. As Proust has been quoted as saying about his *In Search of Lost Time*: "Remembrance of things past is not necessarily the remembrance of things as they were."[27]

In my own way, I attempt to explore how repetition of musical material from the past could invoke 'lost, forgotten memories' and thus put those memories in a new light and perspective. Additionally, I also try to allow multiple interpretations of the quotations by disguising them in different shapes and putting them in 'unusual' combinations and relationships with one another, thus allowing the listener to create multiple connections and meanings.

[27] One of some quotations from Marcel Proust that I came across in this website: https://www.goodreads.com/author/quotes/233619.Marcel_Proust

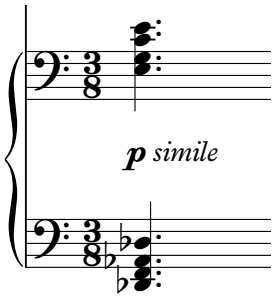
CHAPTER 4: COMPOSITION ANALYSIS

4.1 *Love Awakened* (2017) for flute, violin, violoncello, and piano

As I discussed in the previous chapter, developing the idea of distortion becomes one of my main focuses in using repetition. Through this piece, I attempted to develop what I call my revelation process; a process which becomes the initial point in developing the distortion concept. This is perhaps related to the fact that my revelation process involves the transformation of cognition and perception toward a particular musical material through repetition. Whereas the distortion process prerequisites cognition of the basic material commonly presented at the beginning of the piece, the revelation process in contrast hides the recognition of the basic material, so that, to some degree, the initial presentation of the material gives us a false cognition to its 'original form'. And only when the music reaches its ending does this original form start to appear to our perception through a high degree of transparency.

I relate this transformation with a narrative of the emergence of feeling of love, which often we cannot feel immediately. Instead, our consciousness towards it becomes more apparent only through time. And from a musical perspective, I try to adopt the revelation process into this narrative by creating thematic material associated with the 'feeling of love' that keeps repeating throughout the work. The continual presence of the theme is much less perceptible at the beginning but becomes more obvious through the course of the music, as the repetition of the material becomes more apparent, particularly in its 'original' form.

This original form of the material is used to portray the 'true form' of the feeling that appears to our consciousness. It comes up as a superimposition of C and C# (Db) major chords that continuously repeat in the last section of the music, starting from bar 71. This unusual major chord combination creates a strange tension to represent my concept of 'love' as an unresolved hope and irony between joy and anxiety. By using tonal connotations that are arguably more familiar to the listener, I try to elevate the perceptibility of the material in a more direct way. In addition, the extensive repetition of the chord equally contributes to the transparency of the theme, as the repetition directs our attention toward the material.

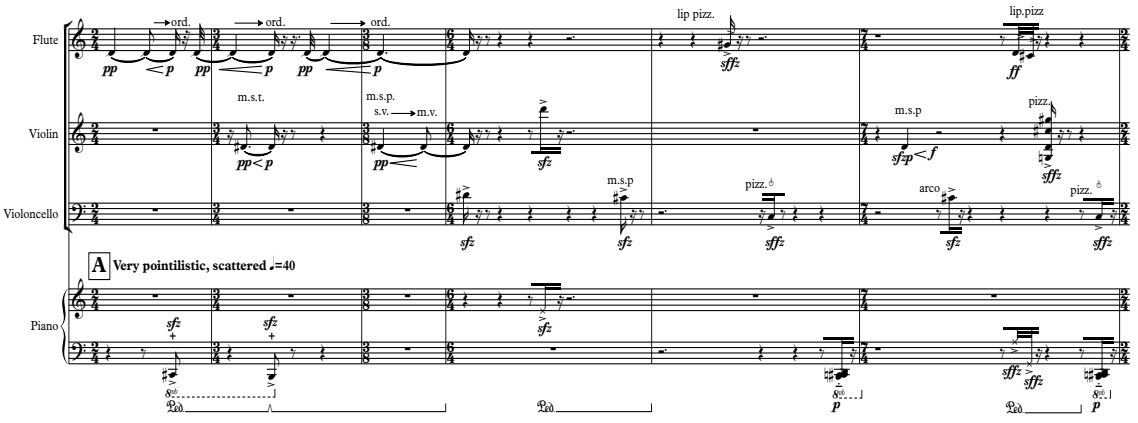


Ex.17: The 'true' form of the love theme

Repetition, then, often plays a big role in drawing our attention to the presence of the musical material as in the process I mentioned above. However, it can also create an opposing effect when it is put into extremities, as noticed in the previous chapter. Combined with the variation of the material and its context, repetition indeed blurs and distorts our perception and cognition of the material as can be seen in section A. In this part, the pitch element and repetitive character of the original material is presented, but in a more distanced space so that repetition is rather difficult to detect. Additionally, the distribution of the chordal repetition into different forms among the instruments

(violin and piano) also conceals the sense of repetition, as they appear in a different timbre and register. Despite the seemingly loose connection between the different forms of those chords, the pitch elements and small degree of repetition still maintain their connection with the original form, although in much less perceptible way. However, this 'lesser' direct repetition in no way undermines its role. Rather, I hope, the wider spectrum of combination of different degrees of repetition deepens both the structure and expression I intent to achieve.

Creating a particular context through different forms of repetition can also alter our perception toward repetition of a particular element, for example in the use of short sporadic attacks in the same section. These events help to conceal the chordal repetition, as the chords seems to be part of the seemingly random short attacks. However, despite the seemingly irregular attacks, a different kind of repetition occurs in this texture. The cello part in bars 4-6 below shows an example on how particular pitches repeat without being noticeable, particularly because these short-articulated notes are separated by large distances, along with some variation in timbre and interruptions from other forms of attacks coming between the iterations.



Ex.18: Bars 1-6 of *Love Awakened*

The above process demonstrates the method that I call hidden repetition. This happens when one repetition seems to cancel out the other repetition(s) through their juxtaposition so that the sense of repetition seems to disappear; an outcome which resembles Feldman's late pieces such as *Triadic Memories* that I mentioned earlier. Despite the seeming absence of repetition in the overall musical texture, those sporadic attacks are built on various degrees of repetition. And to a further extent, the different layers of the repetition hide the correlation of pitch materials within the texture, which all are corresponding to the original form. And in contrast to the common practice, the variation and different context in this music conceals the connection between the material in the beginning section and the original material, instead of creating a close connection and reference to it. From a narrative perspective, this hidden repetition portrays the unknown or subconscious presence of the feeling of love.

To elevate the level of perception in the later sections, a more frequent repetition and closer distance of chordal repetition needs to be created. To achieve this, I created a contraction process of repetition that would lead to the desired condition in two steps. First, I created another theme that would expose a different process of repetition which I call the despair theme. This theme appears as a repetition of crescendo sustained notes in bars 1–3, thus implying some sort of direction, which gives contrast to the non-directional attacks of the love theme in bars 4-6. In this way, the sense of direction that happens at motivic level can also support a higher degree of direction, which will consequently appear through a contraction process of repetition. For the next step, I constructed cyclical repetitions based on the musical texture of bars 1-6 and gradually

shortened the duration of each iteration up to section B. Consequently, the level of repetitiveness is increased and therefore the repetitive character of the varied theme becomes more apparent. Apart from that, the intervallic repetition that occurs in this section also provides some listening orientation toward the repetition through more perceptible motions and gestures.

In section C, we see how the contraction process transforms the initial sustained notes of the despair theme into an extended single pitch/sound repetition, which is the most intense form of the theme in this piece. In this way, the repetition brings more intensity to the sustained notes, leading to the tremolo effect that I discussed before. Furthermore, the intensity of this section is also increased through the prolongation of the pitch/sound repetition in various layers.

Repetition and variation process in section D also demonstrates how it can create a change of context that helps to intensify the musical drama. This section repeats the materials from the B section in a more concise form, thus creating some sort of short recapitulation and also depicting some kind of reflection on our feelings and memories. However, this recapitulation leads to a different continuation than the B section, as it comes back to the initial state of the music. The E section resembles section A, which is predominantly built on the ‘love theme’, but now appearing in its original form. At the same time, the despair theme appears through cyclical repetitions of crescendo sustained chords in a reversed way compared to the beginning section, through the process of expansion. From a structural perspective, this process demonstrates my interest in creating a labyrinthine form in a quite simple way, in which repetition brings

us to a different musical experience by stepping back into the same route we have taken before, without realising it.

Through this piece, then, I try to demonstrate how the revelation process involves the process of distortion; a subject that I pursue further in some of the later pieces, such as *String Quartet no. 2*, *Passacaglia,* and *Persistence of Memory,* in which I explore various perceptions toward the cognition of the material. Through analyses of these works, I will show how varying different intensities of repetition (amount and distance between iteration) and different degrees of variation of the basic material, become a crucial method to achieve such transformation. At the same time, the change of context also plays an important role in creating a different connection between different layers of repetition. In the next composition, *SUR,* I explore further how the opposition of character, likewise the love and despair theme, can be created through a simple material using the method I mentioned above.

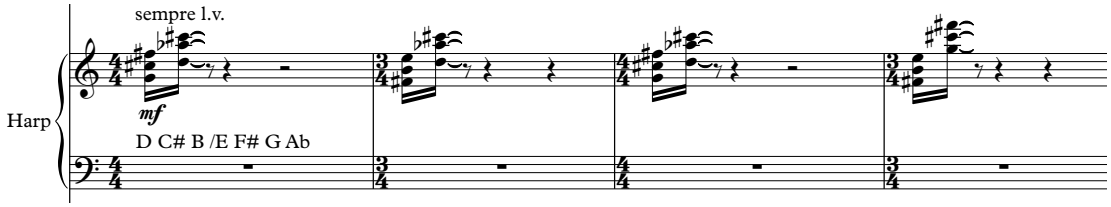
4.2 *SUR* (2017) for large ensemble

This composition is inspired by Joseph Wright of Derby's painting, "*Vesuvius in Eruption"*. To me, this painting suggests a feeling of tension arising from two contrasting scenes, where the threatening eruption of Mount Vesuvius is portrayed alongside the calm and undisturbed night under dim moonlight. The proportions of these scenes can be viewed in equal importance – Mount Vesuvius on the left side of the painting, and the moon on the right. The peculiarity, or even irony of this painting arises from the connection between these opposed situations, and, to me, suggests expression and tension beyond their tangible forms; these cannot be readily comprehended.

Ex.19: Joseph Wright of Derby's painting, "*Vesuvius in Eruption*"

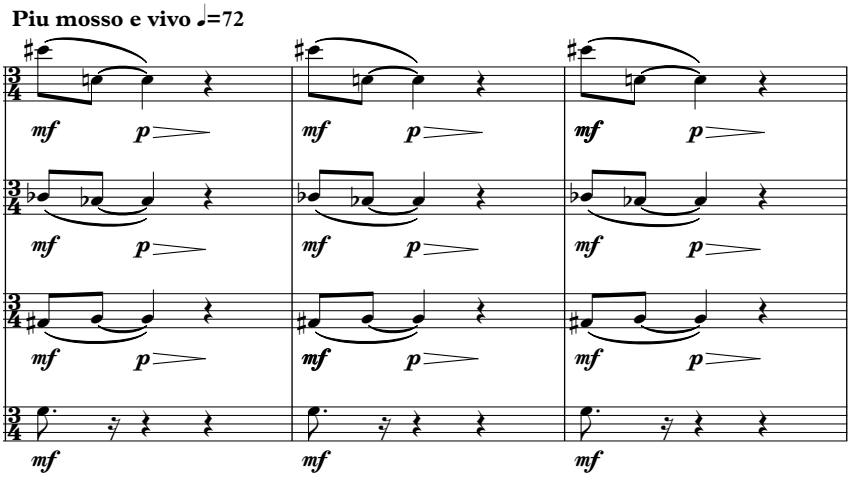
Thinking of the upward leaping note as a simple musical material, my use of repetition of such gesture here is primarily to develop the sense of tension – out of the developing relationship between two opposing musical characters. I associate these characters with the two subjects of the painting: the moon, and the mountain. The use of the same gesture in both characters maintains some degree of connection between them, though in a less perceptible and more abstract form. At the same time, the simplicity of the gesture also provides greater possibilities for emphasizing contrasting characters, especially through opposing various musical elements contained within the gesture such as dynamics, timbre, articulation, instrumentation, and texture. These possibilities help me develop different kinds of shapes within each character, thus resulting in the creation of more complex relationships between them.

Crucially, it is my use of repetition that cements and embodies the opposition, directing the listener's perception towards particular forms of variation associated with each visual object. For example, in emphasizing the character of the moon, I assign the recurring gesture to the harp in a relatively high register, right from the first four bars. The repetition highlights a specific sound representation and quality – mystical, dark, and distanced – that is, for me, connected to the lunar imagery.



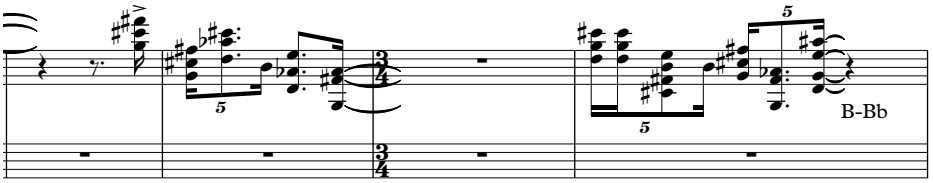
Ex.20: The harp part of *SUR* bars 1-4

In contrast, repetitions of the basic gesture in the winds section suggest an opposing musical quality through a denser texture and louder dynamics. I associate this grandiosity and intense energy with the character of the mountain, such as in bars 20-22. Additionally, the inversion of the gesture in the upper voice also starkens the opposition to the character of the moon while maintaining their connectedness.



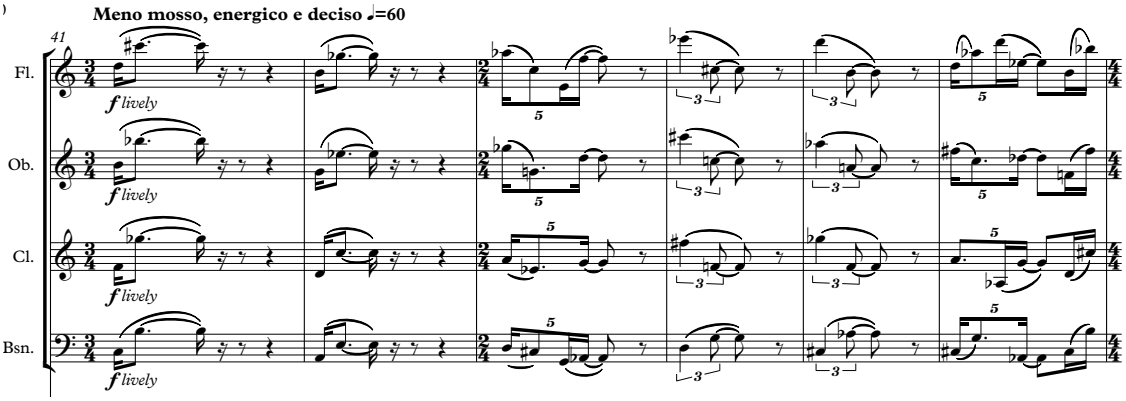
Ex.21: The woodwinds part of *SUR* bars 20-22

In addition to suggesting opposing characters, repetition and variation help develop various motions within each character and thus suggest a wider range of musical tensions. The primary method I use is by juxtaposing different combinations of variations of the gesture, such as in bars 8-12 in the harp part. Comparing these to the previous bars, some factors suggest a more dynamic continuation and flow to the character of the moon: the frequent directionality change, the interval size of the leaping notes, and their irregular rhythmic quality.



Ex.22: The harp part of *SUR* bars 8-12

A similar process also takes place in the character of the mountain, such as in the woodwinds section in bars 41-46. Along with strong dynamics and articulation, the more fragmented juxtapositions of the varied gestures provide a contrasting type of motion from its opposing character.



Ex.23: The woodwinds section of *SUR* in bars 41-46

Furthermore, the extensive use of sustained notes or chords – along with their repetition and variation – also provides additional motion to the basic gesture, and thus escalates the level of intensity within a wider spectrum.

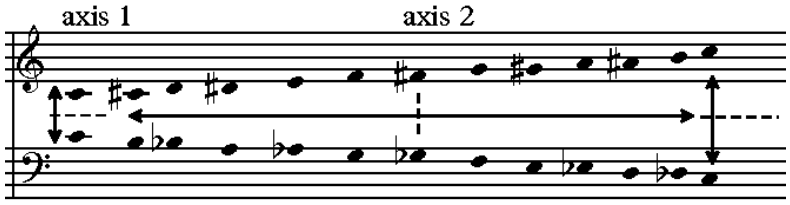
Through this short composition, we see how repetition and non-repetition work together in creating connection and differentiation of characters through simple material. In the following analysis of *String Quartet No.2*, we will see how the extremities of repetition, variation, and recontextualization, by contrast, challenge our perception of the distinction between the connection and opposition, to the extent that such distinction starts to dissolve, as I discussed before in relation to Deleuzian ideas.

4.3 *String Quartet No. 2* (2017)

String Quartet No. 2 demonstrates my first attempt in developing my approach to the concept of distortion, in which extensive repetition and variation processes obscure the way we hear and understand musical material – this I relate to the idea of seeing a reflection through a kaleidoscope or a broken mirror. Through a kaleidoscope, a simple pattern transforms into a more complex form by various combinations and arrangements of its own reflection in various angles. Likewise, seeing the reflection of an object through a broken mirror also gives insight into how we can perceive something differently from its original form.

To explore this idea of reflection in my music, I created materials which allow for a high degree of different mirroring processes. The use of chromatic contrary motion in this

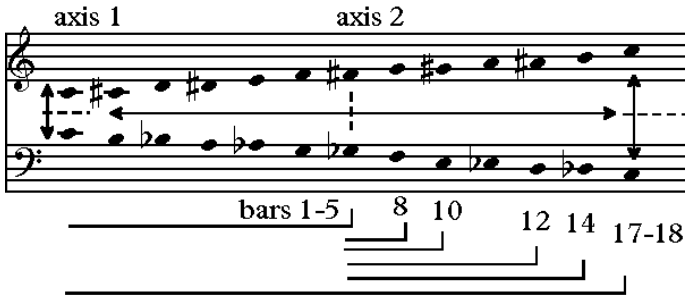
case effectively connects the idea with my concept of distortion that I have previously discussed. The simplicity of the material helps the listener to directly perceive the initial form of the material just through a number of shorter repetitions. It also offers greater flexibility in creating a wider spectrum of distortion from the original form. Furthermore, the material readily implies a configuration that contains different forms of mirroring processes, as can be seen through the visual aspect of the notation. Such a mirroring process can be seen in the example below, where we can see how the pitch and intervallic motion appear as reflections of each other on each axis. For example, the upward and downward chromatic motion from Middle C mirror each other through the horizontal axis at the starting point. At the same time, the contrary motion from C to F# is also reflected similarly in the contrary motion starting from F# to C.



Ex.24: Two chromatic scales in contrary motion as the initial material of *String Quartet No. 2*

Right from the beginning, we see how repetition and variation transform simple material into a more complex form, in a similar way we might see an object through a kaleidoscope. The contrary motion of C-F# is transformed both through continual repetition and constant changes in instrumentation, resulting in an intricate palindrome. The circularity also prepares the initial stage of distortion that appears through an additive process that starts in bar 6. In contrast to the steady repetition of C-F# motion, the use of syncopated rhythm and more irregular meters gradually introduces the

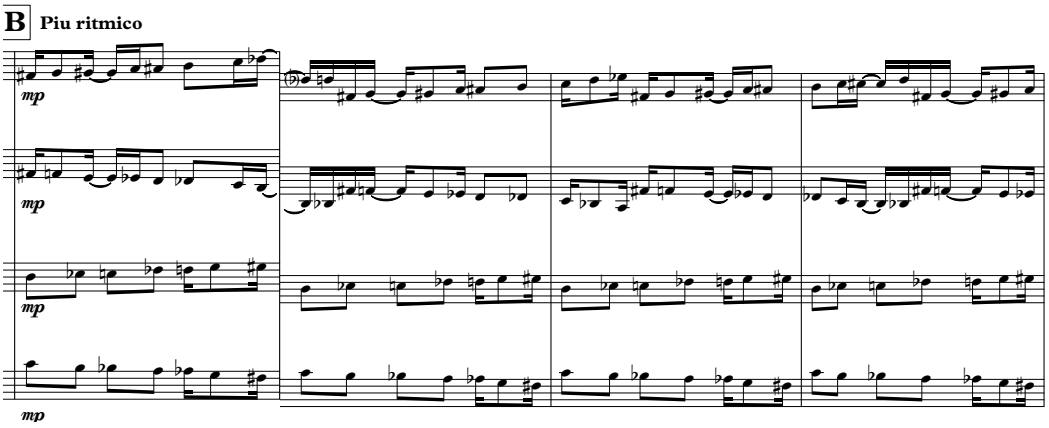
mirrored form of the initial motion – the contrary motion that starts from F# to C. The complexity escalates as the additive process reaches the next note C in bar 17. The continual motion of ascending or descending chromatic motion, scattered in different registers and instrumentations, blur the clear distinction of the initial motion and its mirrored form. In addition, the disorientation that appears from the multiplicity of musical directions also escalates the sense of distortion.



Ex.25: The diagram of the additive process within *String Quartet No. 2*

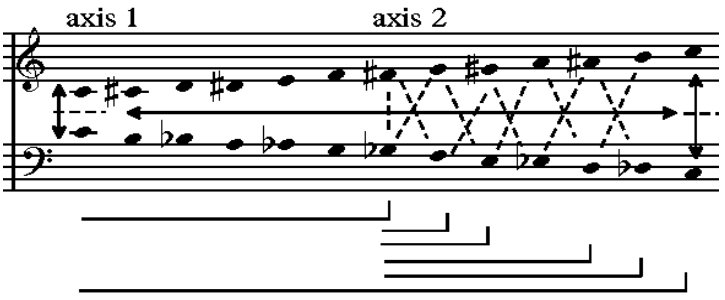
Section B also shows how repetition of two different types of motion of different lengths could develop another form of distortion that resembles Steve Reich's phase shifting technique. This happens as the repetition of the 7/8 phrase, using the F#–C motion, constantly shifts on top of the steady repetition of a 3/4 phrase, using the C–F# motion. Thus, the technique conceals the clarity of both contrary motions. At the same time, the contraction process happening in F#-C motion gradually brings back the complex interlocking pattern into the initial simple palindromic motion in section C. The shortened repeating F#-C motion from 7/8 into 5/8 in bar 34 and further to 2/4 in bar 44 brings up the presence of the theme through shorter motives. The transformation towards rhythmic unison in bar 44 also escalates the clarity of the initial palindromic

motion. Additionally, the gradual transposition of F#-C motion down to C-F# creates a smoother transition before both layers merge together as a C-F# motion in section C.



Ex.26: The 7/8 versus 3/4 phrase shifting in bars 27-30 of *String Quartet No. 2*

The repetition of the initial motion, along with its variation and change of context brings different light to the recapitulation in section C. The similar additive process in section A reappears, but now follows a different order as shown in the example below. This criss-crossing order of these pitch entries provides a different kind of motion, and thus conceals the connection with the initial material. The prolonged repetition and variation of this criss-crossing order also places the initial contrary motion into the background. Particularly in section E, we start to conceive the initial material as a fragment or embellishment rather than as an important element that serves as the basis of musical development.



Ex.27: The varied additive process in section C of *String Quartet No. 2*

The escalation of distortion reaches a higher level when the repeating pattern no longer apparently resembles the initial material, rather it becomes a variation of the material as I discussed above. In section F and G, the chromatic motions do not follow the linear trajectory of the initial material. Instead, their motion is in fluctuation. At the same time, the polyphonic texture of the theme in section G only develops the upward motion of the initial material; the fragmentation that resembles broken reflections of a mirrored object. This goes further into section H where the theme of section G reappears with more complex juxtapositions and superimpositions of its own variations. The complexity eventually reaches its climax in section J through interlocking of demisemiquaver rhythms.

Particularly from bar 233, the revelation process helps bring the distortion process back to its initial state. The repetition of the initial motion reappears in the background while maintaining the interlocking process from the previous section. At the same time, the filtering process of the musical texture – by decreasing the density of the interlocking process – gradually increases the perceptibility of the repeating initial motion. This revelation also highlights another form of distortion processing, in which our experience toward the initial motion transforms into different states after listening to it in many forms; this experience can be compared to when we look at the same object differently after observing it through various angles.

This composition also shows how various types of repetition and non-repetition can distort the linear development of the music, and thus suggesting multiple (directed) time within the music that Kramer refers to (see Chapter 3.5). The different processes

of variation and development between sections conceal the continuity of the music. Even if there are some degrees of directionality or continuity between sections, the continual repetition of the material seems to cancel out the direction from one moment to another. All of this process creates an outcome as if the music revolves around endless variations of chromatic motions; a phenomenon that I relate to my concept of labyrinthine form.

4.4 *Passacaglia* (2018) for 11 instruments:

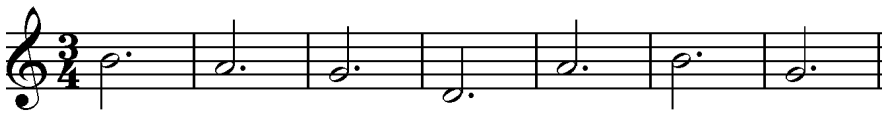
In this composition, I explore another form of distortion that emerges from a relatively familiar musical form and material. It was important to me to find a repetitious musical form that has appeared and evolved in a significant way throughout music history, and the passacaglia exactly embodies that form. The evolution of the passacaglia, from its initial form as a 17th century Spanish dance into various musical styles until recent times, shows me one form of distortion: the shift away from its original context. On another level, the distortion also appears within the musical form itself, as the recurring thematic ostinato is gradually concealed by variations developing over it.

In my use of the passacaglia form, the distortion comes from preserving and extending its main characteristics. The use of triple metre, along with frequent use of repeating rhythmic patterns, helps create a reference to the dance characteristic of the form. However, at the same time, the extended role of the ostinato in my *Passacaglia* distances itself from the general definition of the form. Even further, I implement the distortion to the extent that the ostinato is imperceptibly taken away from the structure.

The use of the fragment of 'Westminster Chimes' tune as the ostinato theme plays an important role in emphasizing the distortion of a familiar form I mentioned above. The use of familiar material help set up the context or basis for the distortion process, so that the listener is able to follow the deviation and transformation of the repeating theme in a more direct way. Dora Hanninen highlights the idea in this way:

> "Repetition presumes recognition of a "thing" that is repeated; to recognize this "thing", we must abstract the "thing" from its context."[28]

The familiarity of the tune helps remove the abstraction process as the listener most likely already understands the existing context of the tune beforehand. Indeed, the familiarity of the theme directly assists the listener's focus within the new context in which it is embedded.



Ex.28: The ostinato theme from the fragment of 'Westminster Chimes' tune.

In developing my own approach to the function of the ostinato, I assign each note of the initial presentation of the theme into various registers, instrumentation, dynamics, and articulation. In this way, I try to extend the function of the ostinato as the basis of musical construction. Variation or development in my music does not solely orientate on repeating pitch, rhythm, or harmonic progression of the ostinato. Instead, the order of colour, character, and instrumentation of the theme sets additional criteria for the musical construction. Therefore, the order of character and instrumentation that

[28] Hanninen, *A Theory of Recontextualization*, 59

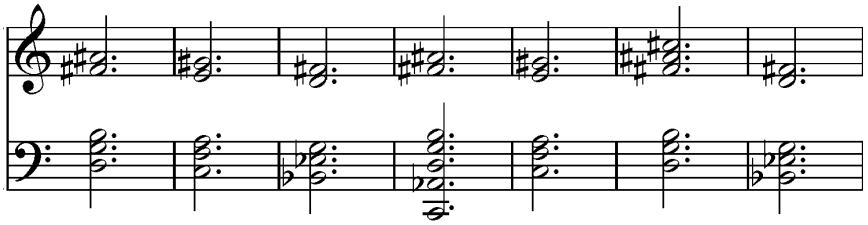
develops from the section to section resembles that of each pitch in the exposition of the theme (see Example 25).

Bar number of the beginning pitches	**Character/Instrumentation of the ostinato pitches**	**Bar number of the related sections**	**Characteristic of the dominating instruments in the related sections**
1	Soft, sustained, metallic / Harp and violin	8-21	Vibraphone and harp sustained chords, sustained notes of woodwinds
2	Louder dynamic, sharp articulation / Violoncello pizzicato	22-35	Xylophone attacks
3 and 4	Increasing dynamic (*cresc*.) followed by strong accents / Brass and Gran Cassa, articulated with contrabass pizzicato	36-84	Increasing dynamic of strings toward brass and non-pitched percussions attacks
5	Strong attack along with sustained notes / Harp and violin	71-84	Xylophone attacks and strings sustained notes
6	Short and strong attack / Flute	85-139	Short and sharp rhythmical attacks of woodwinds, followed by the rest of instruments
7	Soft dynamic (as bridge to the following section) / Clarinet	132-139	Softer dynamic and texture, dominated by woodwinds

Ex.29: A table describing the characters of the ostinato pitches as they appear in musical sections.

Despite more controlling parameters within the ostinato theme, there are also fewer boundaries in repeating the thematic ostinato. For example, the ostinato's pitches can repeat in various registers, dynamics, or instrumentation other than the original form in the initial presentation. Thus, this flexibility allows the music to develop in a freer and less confined manner. Moreover, it also amplifies some tension that arises from the conflict between what follows and deviates from the compositional system.

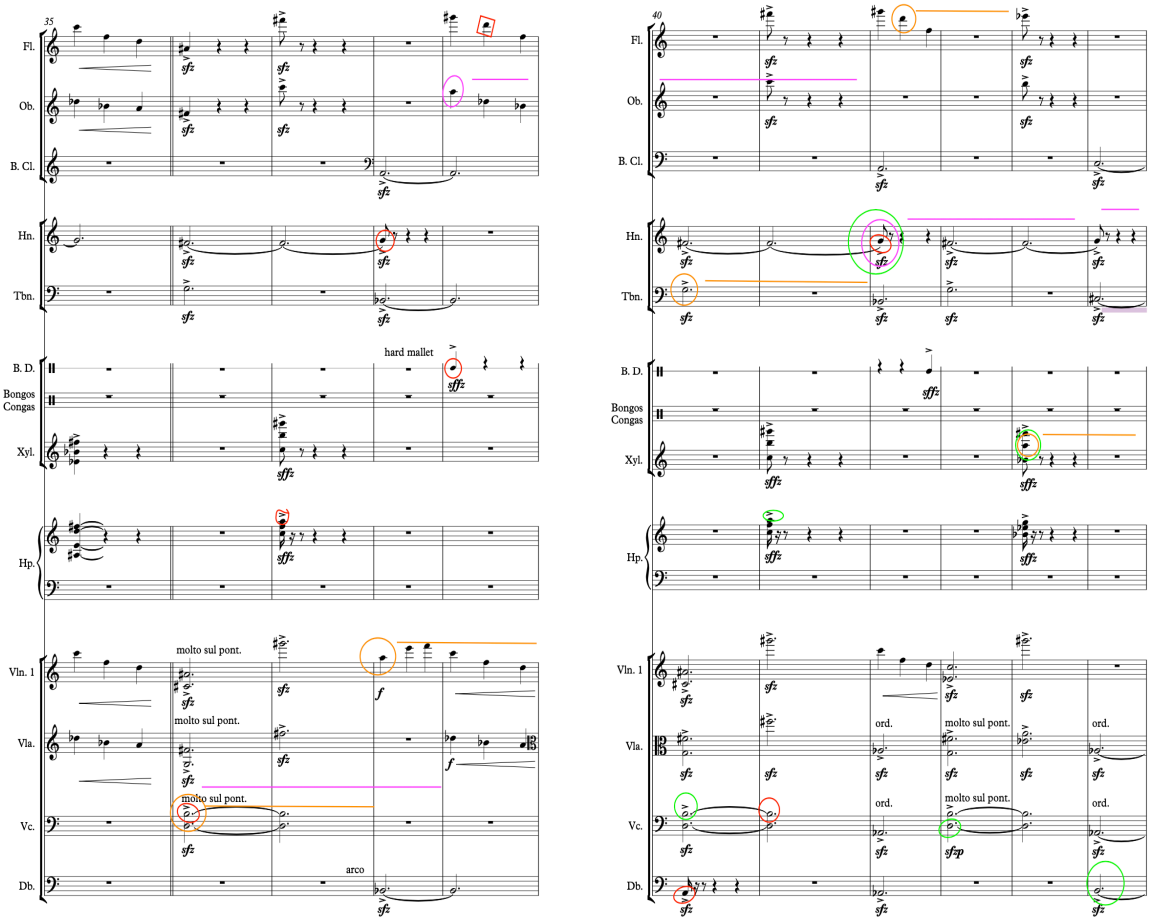
In the early stage of the distortion process, we see how repetition helps to blur the clarity and transparency of the theme through steady chordal motions, such as in bars 8–14. The ostinato theme, though repeats in a more melodic form than its initial presentation, is less perceptible since it appears in the middle voice. Moreover, the superimposition of various transpositions from the ostinato – along with some melodic variations – creates multiple layers that distort the distinction between the ostinato and its transposition. This is perhaps similar to the Deleuzian idea of simulacra, in which the multiplicity of imitation blurs the distinction of the original and its reproduction, as can be seen in the philosophy of Pop Art.[29] All put together, the process creates a harmonic arrangement that suggests a different nuance to the 'established' context and association to the material.



Ex.30: The harmonic progression in bars 8-14 of *Passacaglia*

[29] Martin Zenck*, Wiederhoung*, 67–68

Starting from bar 36, I implement a higher form of distortion where I disrupt the initial ostinato through superimposition and overlapping of its own duplications (see Example 27), such as one appearing in two-bar units (indicated in orange), three-bar units (indicated in purple), and starting in bar 40 (indicated in green). Through the multiplicity of the ostinati in different forms and time, I intend to create a transition toward the dissolution of the ostinato starting in bar 57. The fragmentation of the ostinato also emphasizes this. The pitches of the ostinato are scattered in various register or instruments, often appearing solely as harmonic colorations rather than as part of the melodic motion. To a further extent, the complete form of the ostinato is sometimes disrupted in order to maintain the steady chordal repetition in the foreground.



Ex.31: The superimposition of various forms of the ostinato in bars 36-45

Repetition, transformation, and fragmentation also affect the distortion that takes place in the chordal progression. The steady rhythm is retained and repeated; however, the acceleration – up to a double tempo in bar 29 – directs the steady chordal motion into more intense chordal accents starting in bar 36. Despite the repetition of the steady rhythm, the extreme fragmentation of the chord progression into various registers and colours creates a different musical motion compared to the previous progression. The transformation goes further in that the chordal progression disappears. In bar 57, the steady rhythm is still present in further development, but chordal repetition stays mostly unchanged, especially starting from bar 71.

The distortion process reaches its peak from bar 78 onward through a more contrasting change. The steady chordal/harmonic repetition starts to transform into an interlocking pattern/textural repetition. The distortion of such harmonic repetition also emerges more apparently through the frequent use of extended techniques and sounds. Furthermore, the occasional changes of meter also disturb the regularity that has been previously established. All these contrasts and changes help me achieve and emphasize the complete dissolution of the ostinato. It is no longer the part of the musical development, although it initially did set it up. Perhaps it is difficult to trace back to the point in which the ostinato breaks away or totally disappears because of repetition happening in the other layers. This process represents my attempt to explore or pose the question on how much degree of perceptibility is significant to musical cohesion, particularly when the ostinato is incompletely present or even absent from the music. And to a further extent, it also interrogates how the separation between the imperceptible presence and absence of the ostinato may affect our listening perception

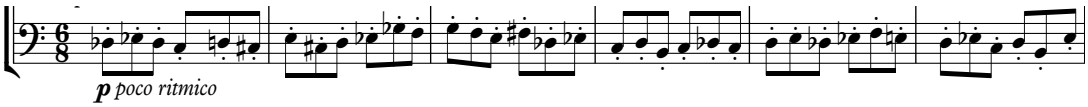
in understanding the musical form. In this way, I hope I can highlight a more complex use of ostinato within the passacaglia form.

4.5 *Rhythmic Rhythmical* (2018) for large ensemble

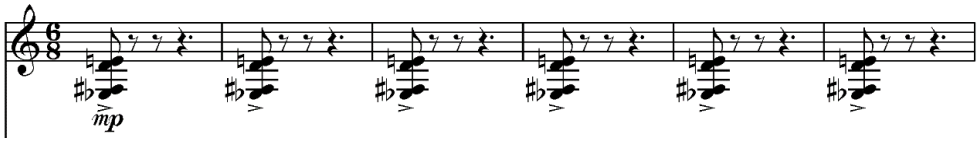
Paul Klee's painting *Rhythmic Rhythmical* (see Example 1) provided me with inspiration to explore the connection between visual and musical repetition I mentioned in the introduction. What I find significant in his work is how the repetition of simple material creates a multi-levelled result, both simultaneously simple and complex. By solely using square shapes with three different shades of colour, he creates a sense of liveliness in his painting. The repetition of the materials in slightly different orders, proportions, and alignments—along with slight variations of colours, strokes, and shapes— suggests to me a kind of inner motion derived from extensive repetition and minimal variation of limited visual materials.

In my music, I tried to translate this method into music by creating motion through extensive repetition of limited material in various shapes, durations, combinations, and juxtapositions. I relate the changes of colour, strokes, and shapes in the painting to the changes that happen through slight variations of the material – of pitch, colour, articulation, and instrumentation. The different orders, proportions, and alignments in the painting, in my view, relate to the changes in higher structural level I call 'the rhythm of changes'. Whereas the rhythm at motivic level appears through changes of note durations, my concept of rhythm of changes arises from different duration and proportion between musical blocks or sections that are developed from two basic patterns. The first pattern appears as a six-bar rhythmic ostinato which moves irregularly

in small intervals, as can be seen first in contrabass and bassoon part. The second pattern, in contrast, appears as steady strong chordal attacks first seen in the wind and brass sections.



Ex.32: The first basic pattern in bars 1-6 of *Rhythmic Rhythmical*

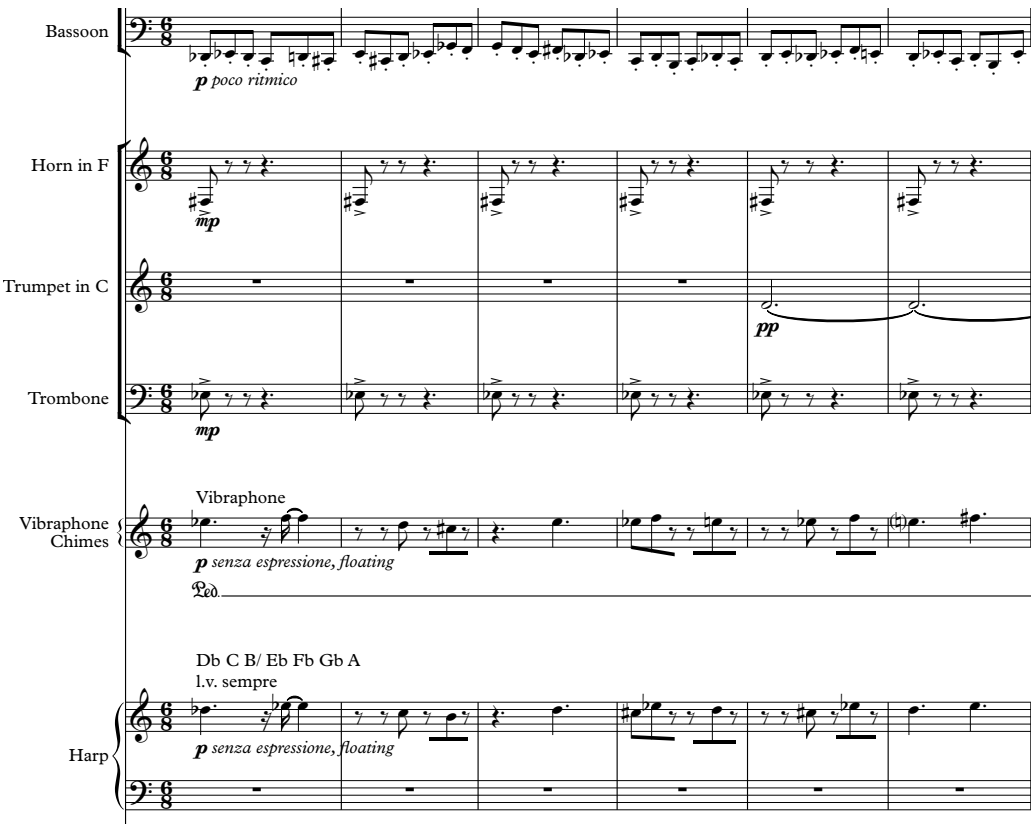


Ex.33: The chordal reduction of second basic pattern in bars 1-6 of *Rhythmic Rhythmical*

In developing my concept of rhythm of changes, I follow the use of extensive repetition and variation such as in Feldman's *Patterns in a Chromatic Field*. In this work, the variation appears through more contrasting changes that are organised into sections rather than being concealed and continual as in his *Triadic Memories*. Therefore, making a clear segmentation becomes one important aspect of creating such distinction. In this case, a frequent sudden change of colour – either by changing the instrument or instrument doubling – can highlight the differences between repetition of a same pattern.

Apart from clear segmentation, the various juxtaposition of the same repetitive pattern, often with slight variations on top of each other, can help to emphasize the contrast; this can be seen in bars 35-42. Despite all the instruments using the same basic material, the various pitch organisations within each instrument create a more complex motion and texture, rather than just doubling a single melodic line. Further, the juxtaposition

can also involve a contrasting variation of the same material, readily appearing from bars 1-6 in the harp/vibraphone and bassoon/contrabass parts. The small intervallic pitch motion in both instruments picks up the motion of the first basic pattern. However, the sustained notes and more irregular rhythm of the harp part contrastingly create a different type of musical character compared to the bassoon/contrabass parts. Thus, a particular kind of tension appears out of the conjunction of two different kinds of motion, a tension that I relate to the Chopin example in the previous chapter.



Ex.34: *Rhythmic Rhythmical* bars 1-6

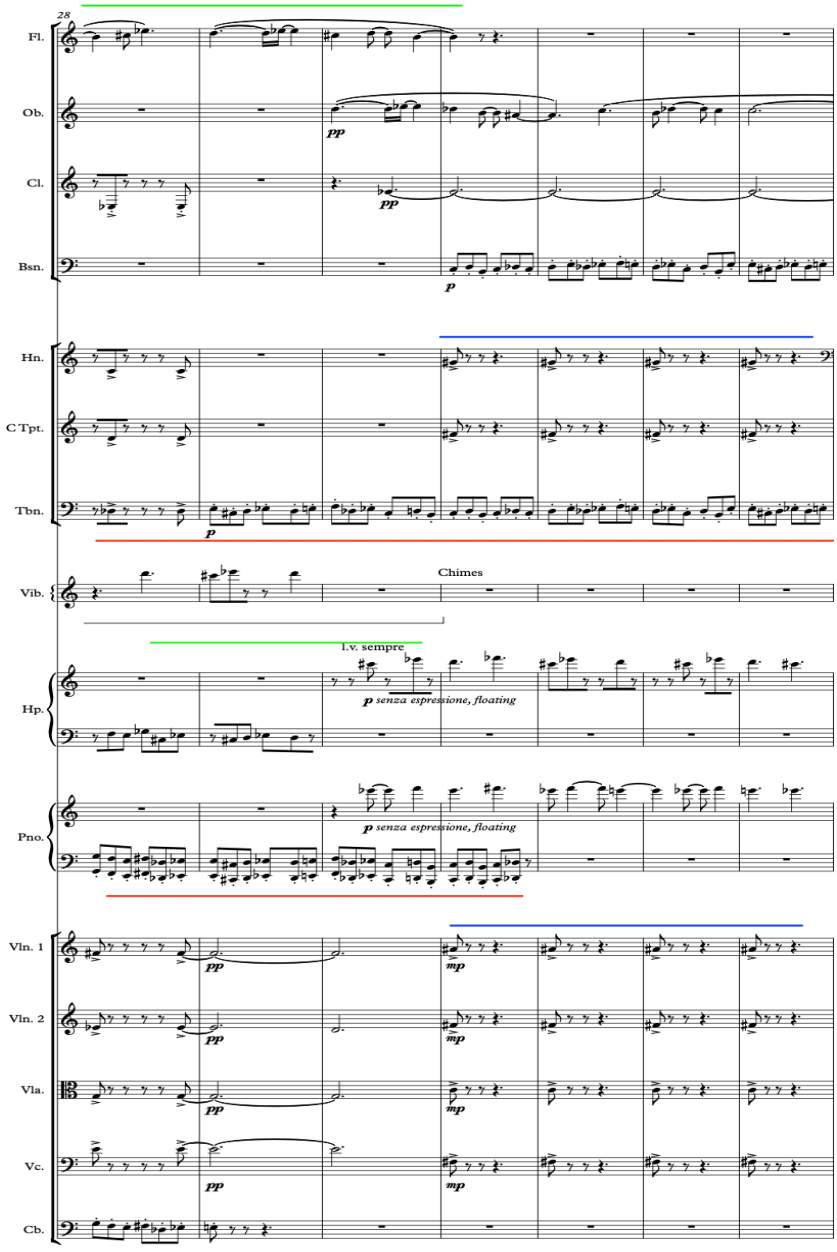
The varying proportions between musical sections also create a sense of motion on a larger scale. However, I try to keep the proportions between adjacent blocks in a closely equal ratio to maintain the listener's focus on the timbral or textural changes, as shown

in Example 31. At the same time, I also develop a more directional development in the music to suggest intensification, escalating the level of motion during the process. The contraction of the proportions, i.e. from a larger proportion of six- to eight-bar musical blocks (in bar 1–26) into a smaller proportion of three- to four-bar musical blocks starting in bar 27, demonstrates one of the ways I create a sense of direction here. To keep the balance between proportions, I assign the larger block proportions to one layer and the smaller block proportions to another simultaneous layer, as seen in bars 28–34. The melodic legato lines of the flute, oboe, and harp build an eight-bar musical phrase along with the bass ostinato. However, the contrasting character of four-bar accents in bar 31 gives a sense that the sections are separated in two four-bar groups.

Bar number	1-6	7-14	15-20	21-26	27-34 (overlapping)	35-37	37-40	40-42	43-46
Duration (Number of bars x metre)	6 x 6/8	8 x 6/8	4 x 6/8 + 2 x 3/4 (equal to 6 x 6/8)	6x 6/8	8 x 6/8 or 4 x 6/8 + 4 x 6/8	2,5 x 4/4	3 x 4/4	2,5 x 4/4	4 x 6/8

Bar number	47-51	52-54	54-57	57-59 (transition)	60-64	65-69	70-74	75-79	80-84	85-95 (transition)
Duration (Number of bars x metre)	5 x 2/4 (equal to 2,5 x 4/4)	2,5 x 4/4	3 x 4/4	2,5 x 4/4	5 x 4/4	5 x 4/4	5 x 4/4	5 x 4/4	5 x 4/4	9x 4/4 + 2 x3/4

Ex.35: Diagram of proportions in bars 1-95 of *Rhythmic Rhythmical*



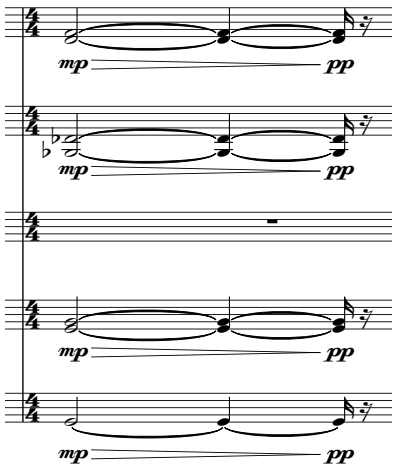
Ex.36: The overlapping of larger and smaller proportions in bars 28-34

4.6 *Four Images of Homeland Sea* (2019) for orchestra:

The Jakarta City Philharmonic Orchestra commissioned this piece to promote Indonesian contemporary music in Asia Orchestra Week 2019. Thus, connections and references to Indonesian traditional music were expected one way or another. I tried to convey them in a subtle way, focusing on personal expression rather than appropriating Indonesian traditional music styles or materials. From this perspective, I attempted to

develop nuance, energy, and intensity that describes the strange mystical and supranatural power lying in the Southern Sea of Java – power that the people in my native land believe in.

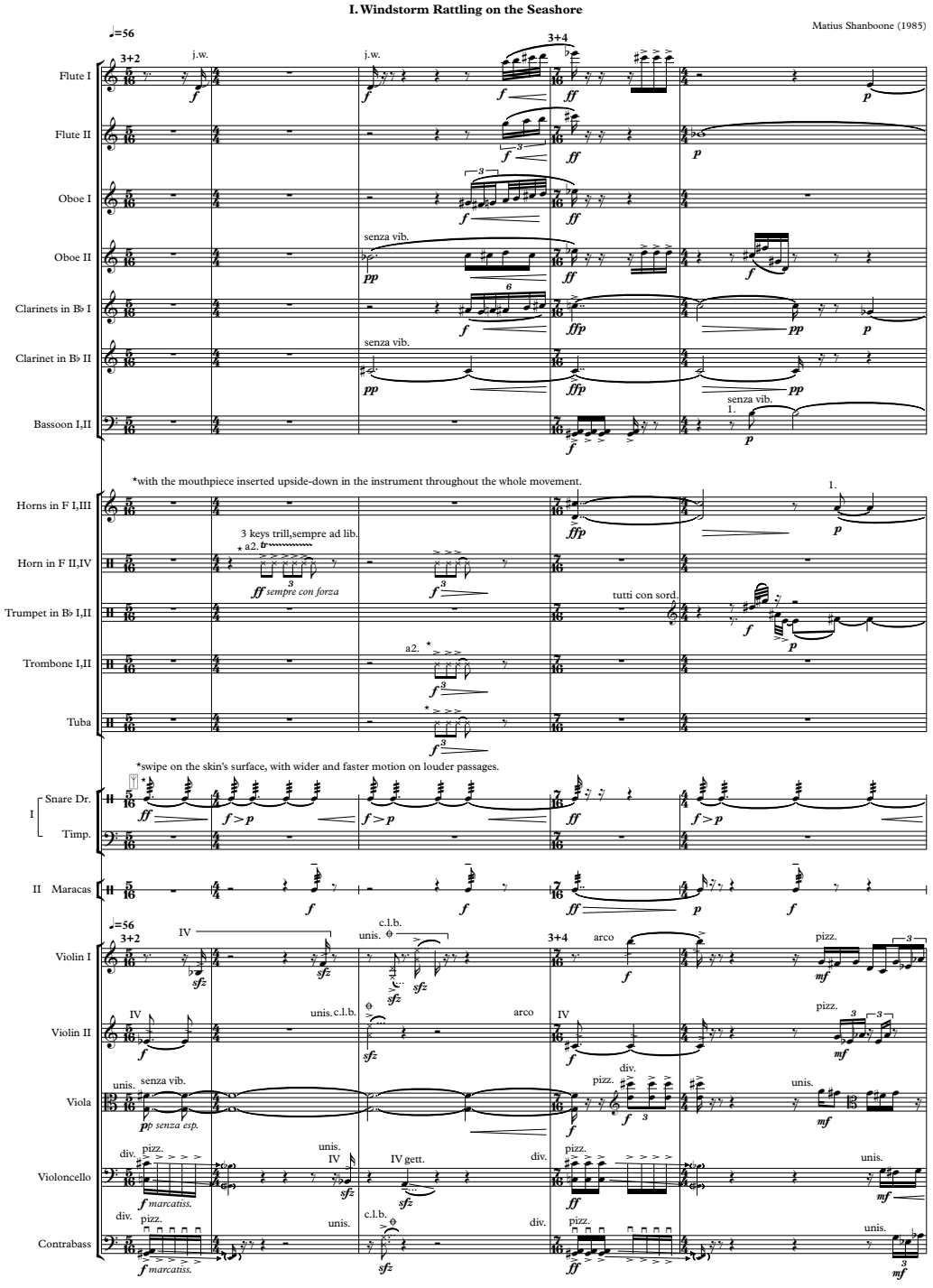
The use of repetition in this piece is similar to my approach in *SUR*, where I create various layers of tension rather than explicitly portraying objects in a programmatic approach. However, I put more focus on the complexity that can appear through various shapes and intensities from a single character (the sea) rather than through conflict or opposition between contrasting characters. At the same time, I also to an extent draw upon the repetition techniques of Javanese gamelan. In that music, repeated musical cues indicate the return of musical phrases. I take the technique up but use it in a less obvious way, for example in bars 5,12, and 18 of the third movement, where chordal repetitions indicate the beginning of the repeated phrases. In this way, I wish to develop my own composition in relation to my heritage of Indonesian traditional music, while at the same time distancing myself from a simple appropriation of the musical style, as I have mentioned before.



Ex.37: The repeated chord in bar 5 of *Four Images of Homeland Sea,* third movement.

In depicting the character and images of the sea, I use tremolo and irregular melodic motion as the main material throughout each movement. The use of these simple, amorphic gestures allows me to create multitude variations that do not resemble each other, but have an underlying background connection. Thus, both materials and gestures suggest a close connotation with the soundscape of the sea, such as the sound of wind and waves.

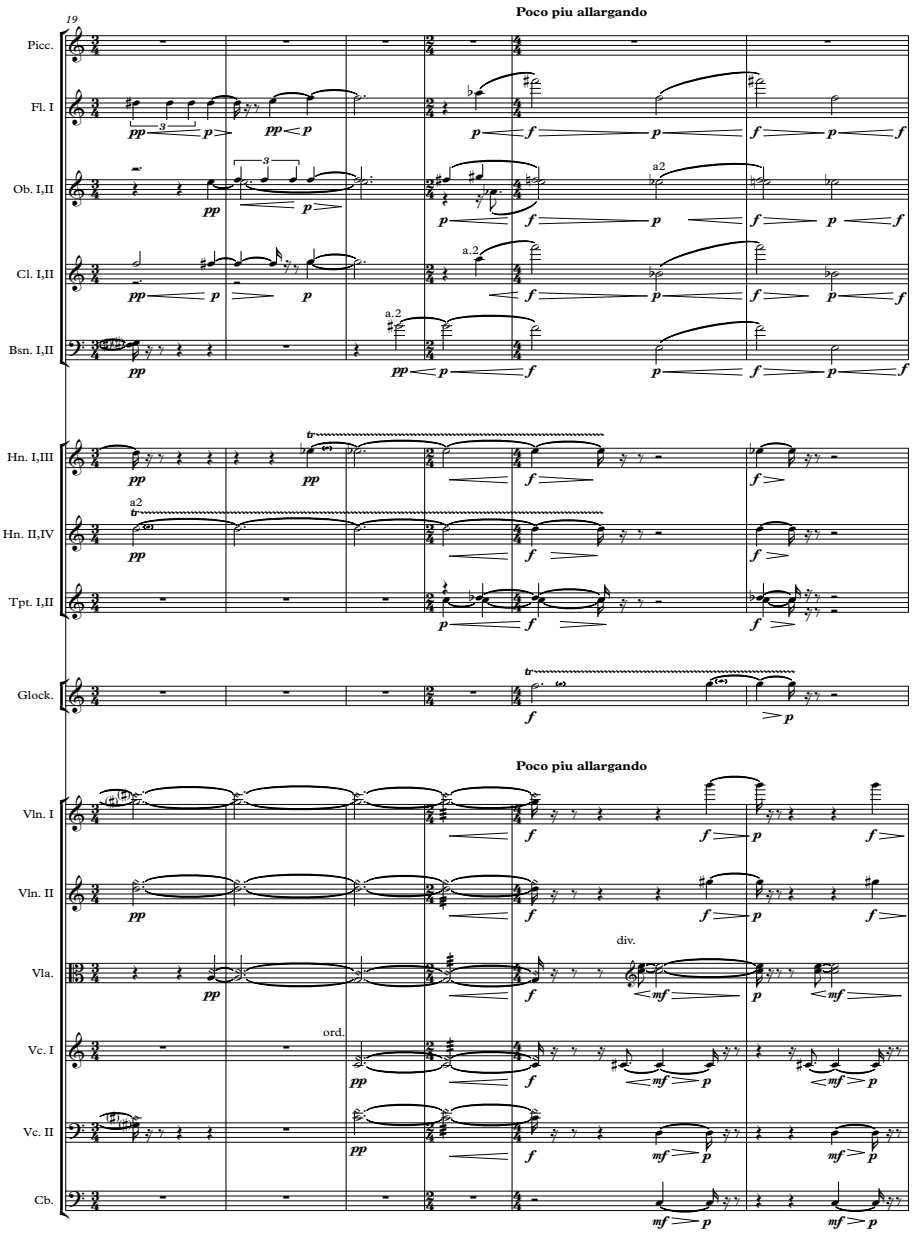
In the first movement, I attempt to illustrate how relationships between repetition and variation result in differing layers of connection and disconnection. Some ways in which I explore this include repetitions of tremolo in different durations and instrumentation, as seen in bars 1-4. The contrasting variations of tremolo – appearing through air sound trills of brass instruments, tremolos of percussion noises, fast repeating pizzicato textures, and noises from bouncing bows on strings – make the connections between them seem to disappear. At the same time, fragmenting repetitions of these various tremolo types increases the level of disconnection and creates a chaotic atmosphere through sporadic noises which I try to portray in this movement. Additionally, repetition and variation of another contrasting material (fragmented irregular melodic motion), such as in bar 3 of the winds section and bar 5 of the strings section, also elevate the disconnection and fragmentation by creating contrasting motions. This paradoxical function of the repetition – disconnecting the material on the surface while linking those fragments through a similar gesture – suggests to me a significant aspect of repetition in creating the illusionary effect I discussed before. Therefore, repetition can manipulate our perception towards recognising a simple connection beneath the complex surfaces.



Ex.38: Bars 1-5 of the first movement of *Four Images of Homeland Sea*

The second movement demonstrates how repetition and variation can create the illusionary effect above through a different approach. The repetition of tremolo – or trill – now appears more extensively, but in more subtle variations. Along with more

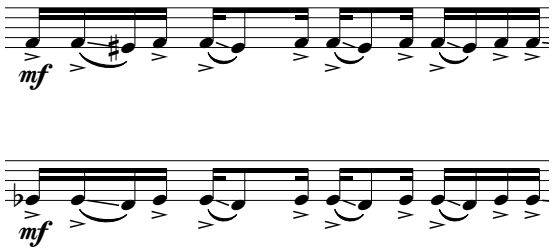
flattened dynamics, slight interval differences between overlapping tremolos/trills create a disorientating effect and makes the separation between repetition and variation more elusive. A more linear musical direction also contrasts with the way the tremolo repeats and varies in the first movement, as the overlapping tremolos gradually intensifies in terms of dynamics and leads into alternating chordal repetitions in bar 23. Through this development, the elusive repetition breaks away into a more apparent form of repetition.



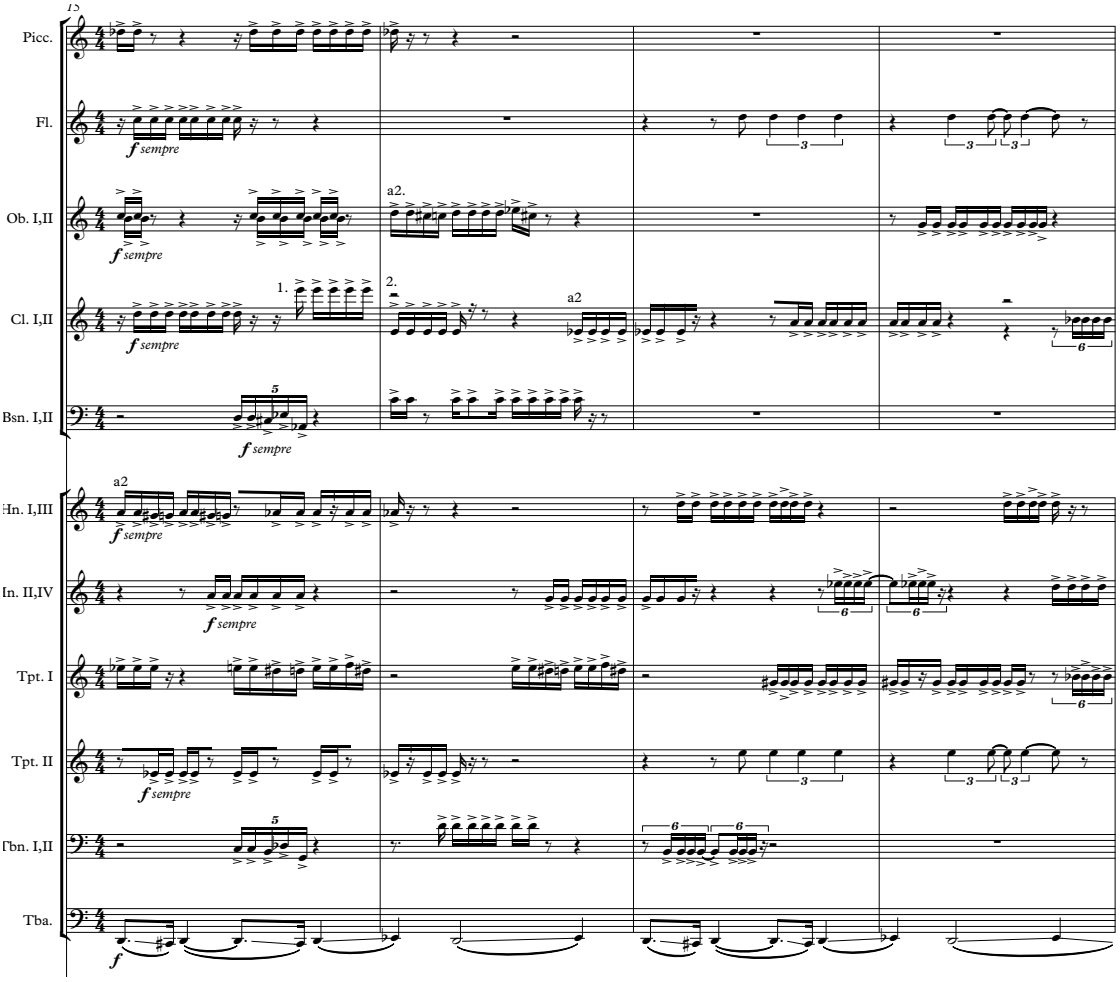
Ex.39: Bars 19-24 of the second movement of *Four Images of Homeland Sea*

In the third movement, the repetition and variation of the materials from the previous movements return in a different form. I retained the use of tremolos and chordal repetitions; however, they appear more in the background as seen in timpani parts and the brass section, respectively. At the same time, the fluctuating melody of the first movement in bar 23 becomes the foreground focus of this movement, but now it appears in a calmer atmosphere. The constant return of materials in frequent alternations creates a kind of circularity, which makes time seem suspended. Nevertheless, the slight variation of the materials preserves the musical intensity as it gives some motion and change to the repetition of material. Time, therefore, is not only suspended, but also feels differently from moment to moment; this perception of time is one I relate to the labyrinthine idea.

The fourth movement also brings back material from previous movements, but now in its most intense form. With a more driven rhythm and tempo, the strong dynamics and articulation transform the leaping notes and chordal repetition from the second movement into a more aggressive character, as heard in the opening bar of the movement. Dominating motives such as those in bar 6 of viola and cello parts also resemble the alternating notes of the trill in previous movements. Furthermore, the tremolo gesture now also appears as fast repetitive notes, such as found in bar 15–20 of the winds section.



Ex.40: Dominating motive in bar 6 of viola and cello parts in *Four Images of Homeland Sea,* fourth movement



Ex.41: The wind and brass sections in bars 15-18 of *Four Images of Homeland Sea*, fourth movement

All these movements reflect the way I use repetition and variation for creating connection, disconnection, and a variety of expressions that could appear from simple materials. The different kinds of expression and emotion in music, nevertheless, are far

too complex to describe in words. Whether the music helps the listener to understand the relation between the real object and the imagery, or, how the imagery helps the listener to understand the music is perhaps questionable. This complex relation, nevertheless, provides me with a gateway to connect imagination and expression in music. Therefore, imagery of the sea in this music helps – significantly, if not completely – translate and mediate abstract musical expression in a more 'perceivable' way. As I put it, meaning (expression) is much more important than the means (imagery). This is also an attempt to find hidden connections between musical repetition and repetition in real life.

4.7 *Time Lapse* (2019) for two pianos

The idea of the composition is inspired by the basic process of making a time-lapse recording or stop-motion animation. The process of time-lapse recording takes place by filming a slow-motion object at an extended period of time, which is afterward speeded up to pronounce subtle changes, for example seeing the sun's position in one-year cycle as I mentioned in the previous chapter. The similar process also happens in stop motion animation, in which the illusion of motion appears through a series of photos of a static object, which moves slightly in each image taking. What both examples offer to me is a sense of motion that comes from a seemingly unmoving object, which I refer as 'motion in stasis'.

In developing my idea of motion in stasis, I try to develop various degrees of motion that appear from repetition of seemingly static music materials. The static quality of the material in this case relates to the absence or lack of any particular direction and shape,

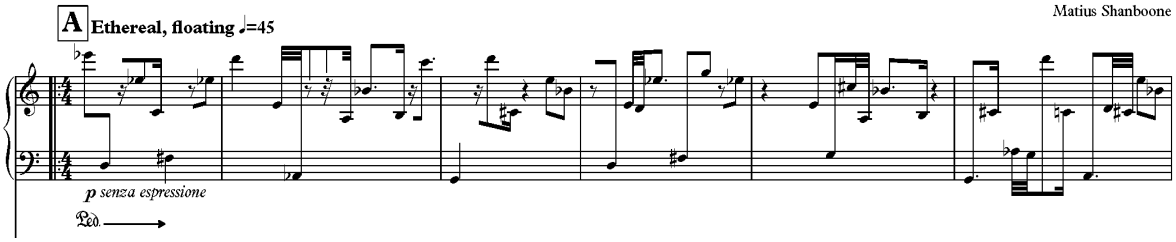
so that the materials will be perceived more as sound constellations rather than as a melodic line. In this music, I refer to these materials as “musical objects”, referring to the slow-moving visual objects that are filmed continuously or photographed from time to time in sequence.

Through these musical objects, I try to create a sense of motion that relates to my notion of ‘hidden orientation’ by developing repetition at two different levels of structure. At a smaller scale, these objects – despite lacking any particular direction – suggest a sense of motion through continual repetition, along with slight variation and various interlocking process. Thus, it creates some kind of constant motion which seems going around at the same place; process that I can compare to the motion of a spinning wheel. And from a higher level, the sense of motion is highlighted by increasing perception toward the repetition and change that happens throughout the gradual contraction of repeating musical objects at the smaller scale.

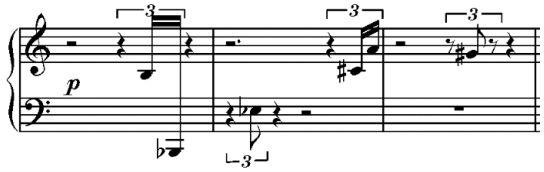
There are two different kinds of musical object I developed in this composition: the central object, which has a much longer duration and a more complex texture, and the subordinate object, which has a shorter duration and a less complex texture than the central image. In this case, the relationships between them can be compared to the sun and its surrounding objects, like the sky, clouds, or the landscape.[30] While the changes of the sun are often imperceptible, the changes of its surroundings are often noticeable enough within a shorter time span. Thus, the central object suggests a more

[30] This video of sun position in one-year cycle may highlight the difference motion I mention: https://www.youtube.com/watch?v=adJPV-sz5AI, accessed on 10 November 2020.

imperceptible repetition and change than the subordinate object. In spite of their differences, both materials are arranged in continual alternation of pitches, rhythms, and registers to avoid a strong sense of orientation. In addition, the lack of dynamics and articulation changes also helps eliminate any particular direction. Thus, the continual repetition of the material will suggest a non-moving forward motion through the lack of orientation within the musical material.



Ex.42: The central musical object in bars 1-6 in Piano I



Ex.43: The subordinate musical object in bars 7-9 in Piano II

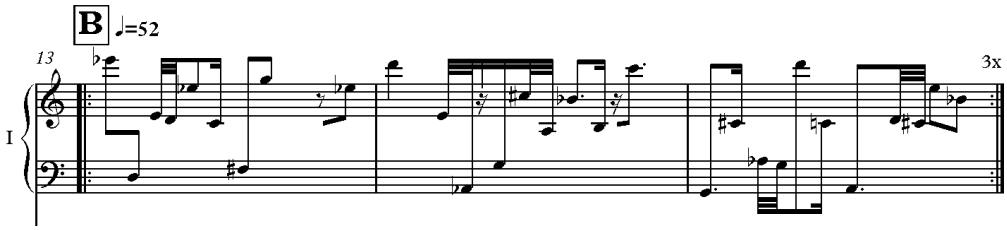
My use of repetition, in this case, helps suggest a non-forward motion of each musical object in different ways. On one hand, repetition of particular notes within the central musical object can indirectly suggest some kind of hidden gravities, which our listening focus is drawn to. Nevertheless, these repetition still do not provide a clear sense of orientation since the repeated elements frequently appear in different registers and at different times. For example, the Eb note repetition suggests an apparent point of orientation to our perception. However, repetition of the Bb, D, E, and low G notes also simultaneously provide other points of orientation. Therefore, the direction is distorted

as our perception toward the orientation point is often shifted and blurred through juxtaposition of several gravitational pulls. In addition, the considerable length of the central object also conceals the direction by blurring the starting point and the ending point of the motion. On the other hand, the repetition of subordinate object creates a more complex motion through various interlocking with the central image. The constant rhythmic pattern in triplet division, along with pitch alteration and various reordering, allows different textural combinations that create constant fluctuation.

In contrast to the non-forward motion, the contraction process highlights directional transformation by gradually elevating the listener's perception toward more apparent repetitions and changes of musical material, particularly toward the end of the piece. The motion becomes more apparent as the repetition appears more frequently in shorter length units and motives, alongside with more frequent and contrasting changes. This is achieved through tempo acceleration from the opening tempo (♩=45) to the faster tempo at the end of the composition (♩=80) across extended period of time. The contraction of the tempo will in turn shorten the length of the unit and narrow down the distance between pitches and motives, thus creating a faster repetition and more apparent connection of pitches and motives. At the same time, the fragmentation and various superimpositions of the fragmented musical objects also help create more contrasting variations and changes that support the desired outcome.

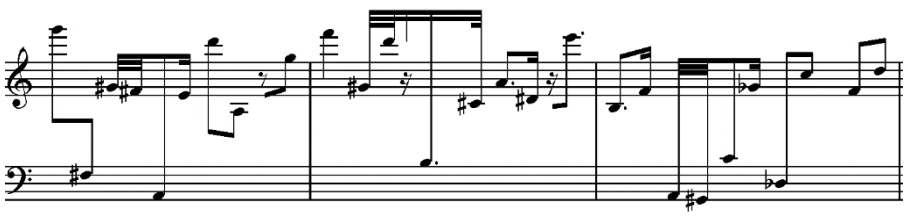
Section B demonstrates the initial stage of the contraction process through repetition and fragmentation of the central object. The repetition of the six-bar unit from the previous section is transformed into a three-bar unit by superimposition of the first and

the last three-bar fragments of the material. Through this process, I try to create a different kind of motion without losing the connection with the preceding motion. Therefore, the construction of the initial material is important so that the interlocking of the fragmentations can also maintain the continuity of the previous motion, for example by assigning some pitches that can overlap through the superimposition.



Ex.44: The first contraction of the central object in bars 13-15 in Piano I

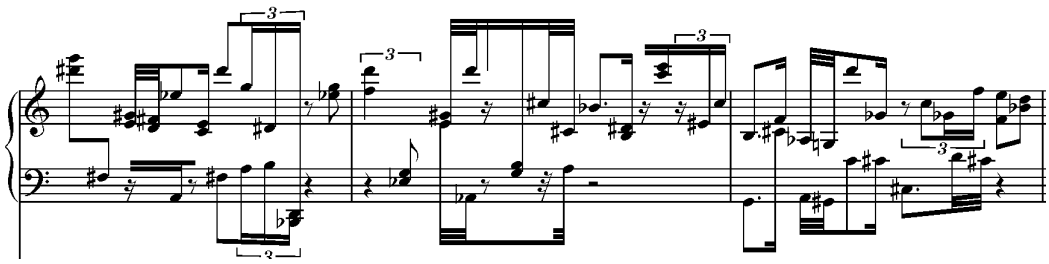
In addition, repetition along with slight variation also helps suggest different levels of motion for each musical object. Small deviation from the first contraction of the central object – through transposition up a major third – provides a slight and nuanced change that can help create a subtle anticipation of another section (C and D). Particularly in section C, the sense of motion escalates through various 'reordering' of variation and fragmentation from the preceding motion. Additionally, the shorter length of repetition, along with repetition of a more limited fragmented motive in bar 52, augment the repetitiveness of the motion. Thus, the process simultaneously also increases the perceptibility of the motion.



Ex.45: The deviation of the central object in bars 16-18

However, the prolongation of the repetition of limited materials can suggest the opposite effect, like in section D. Instead of orienting the perception toward the motion, the continual repetition of short motives seems to suggest greater degree of stasis. However, the continual shift of alignment between repetition of the central and subordinate objects helps create a constant flux of relationship between them. Therefore, it suggests a different kind of 'motion in stasis' compared to the previous parts; this process also appears in section F.

From section E onward, we see how the further contraction process suggests increasing motion through a more apparent repetition and changes. Particularly in bar 84 presented below, the superimposition of the first contraction of the central object and its deviation in bars 16-18 creates a contrasting change through harmonic coloration. The contraction also goes further in bar 99, in which the three-bar contraction of the central object from bars 13–15 is juxtaposed against its own imitation at a one-bar distance, thus bringing the interlocking of the fragmentation to a more complex repetitive motion.



Ex.46: The interlocking scheme of the central object and its deviation in bar 84

Section G demonstrates how repetition and change appear in the most perceptible form in this composition. The short length of repetition focuses our perception on specific motion within the unit, particularly in the fastest tempo of the music. At the same time, the more frequent changes of metre, length of unit, motives, and number of repetitions help shape contrasting variations that are much more perceptible to the listener. Thus, this section concludes the transformation of the motion related to the speeding up process in time-lapse recording.

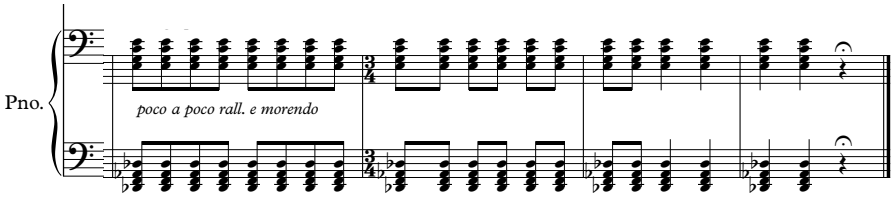
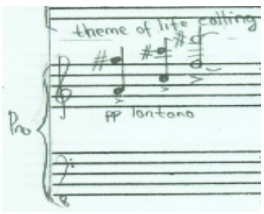
4.8 *The Persistence of Memory* (2020) for high baritone and large ensemble

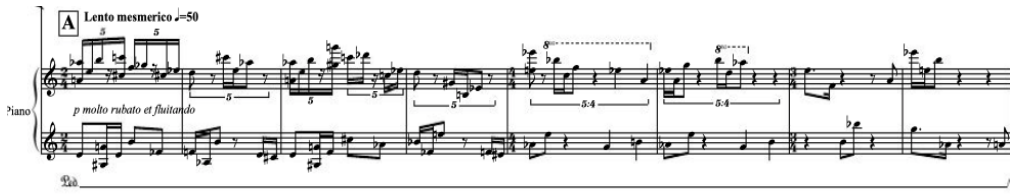
The Persistence of Memory represents the culmination of my techniques and approaches to repetition presented in the portfolio, and is also a turn towards a more explicit consideration of the relationship between repetition, time, and memory. Dali's painting *The Persistence of Memory* provided me with a starting point to develop this connection. In this painting, I see an intriguing relationship between time and memory, and how they are distorted in the realm of dreams and the subconscious. In this realm, we feel and perceive time differently compared to the measurable (clock) time we experience in the real tangible world. Our memories connect to each other without any chronological order of time, thus creating a different reality than what we consciously recognize. In my music, such a distortion process appears through a journey to the subconscious mind, in which the 'real/physical' time shifts to the 'subjective/psychological' time. I associate both forms of time with the clock, the symbol of time, which becomes one of the main subjects in the painting.

Ex.46: Salvador Dali's *The Persistence of Memory*

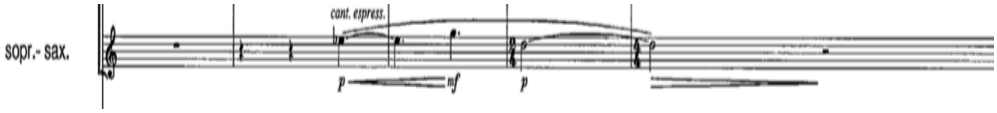
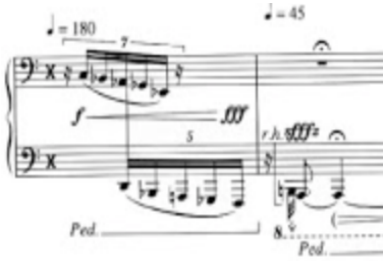
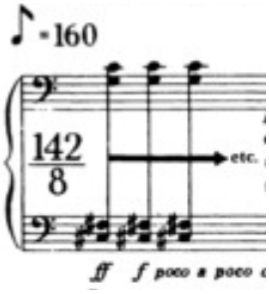
Rhythmic repetition, in this case, helps build connection and contrast between the two different forms of time. Repetition of percussive sounds or pitch repetitions in a steady rhythm resemble the sound of a ticking clock and therefore emphasize the association with 'real' time. To suggest psychological time, I connect the use of rhythmic repetition with the melting clocks in Dali's painting. In the painting, the melting clock resembles the clock in the real word, however it appears in a distorted form along with strange objects. Thus, my development of psychological time follows the same idea by maintaining the steady rhythm of the 'real' clock in a distorted form. However, the ticking sounds now appear from repetition of the fragments of musical quotations and 'distorted' sounds, rather than using percussive sounds or pitch repetitions resemble to the sound of a real clock. This difference, then, allows me to create the transformation from 'real' to 'psychological' time by varying the repetition of ticking clock sounds to other sounds. In addition, tempo variation, along with juxtapositions and superimpositions of different rhythmic repetitions also help construct various stages of distortion during the process.

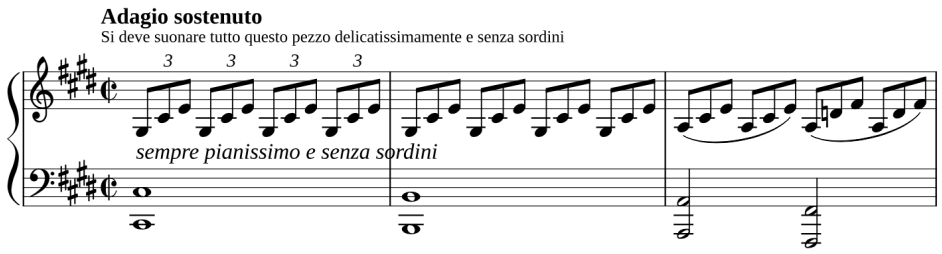
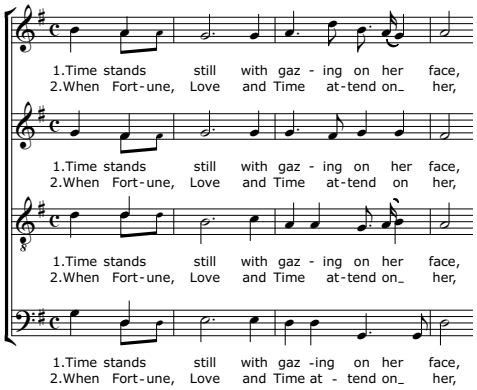
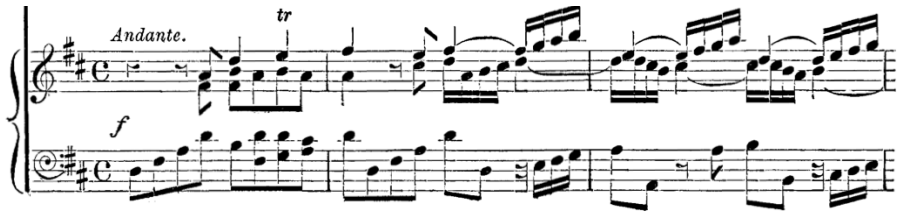
The use of quotation also helps connect the idea of distorted time with the distortion of memories, by using various musical sources from different periods that deal with the notion of time. These sources range from recognizable melodies like 'Westminster Chimes' (see Example 24), to the musical themes representing time found in Birtwistle's *the Triumph of Time* and *Harrison's Clock*, Stockhausen's *Klavierstücke IX*, and even to a more distant past like Beethoven's *Piano Sonata 'Quasi una Fantasia'*, John Dowland's *Time Stands Still*, and Handel's *Time is Supreme*. These quotations, for me, symbolize collective memories about time. On the other hand, I also use quotations from my own works *Love Awakened*, *Memento Mori*, and *Recitation No. 2* to symbolize personal memories about time. In this way, I attempt to connect collective memories and my own in seeing the subject of time and memory from different perspectives.

No.	Quotation sources from my own compositions
1.	**The last four bars of the *Love Awakened* revealed theme** 
2.	**The theme of 'life calling' from *Memento Mori*** 

3.	**The 'eternal' time represented by the theme of *Recitation No. 2* bars 1-8** 

Ex.48: Quotation sources from my own compositions in *The Persistence of Memory*

No.	**Quotation sources from other composers' works**
1.	**The Birtwistle's theme of time in *The Triumph of Time* bars 32-35** 
2.	**The recurring theme of Birtwistle's *Harrison's Clock*** 
3.	**The beginning chordal repetition of Stockhausen's *Klavierstücke IX*** 

4.	**Beethoven's introduction of *Piano Sonata 'Quasi una fantasia Op.27 No.2*, 1st movement** 
5.	**John Dowland's *Time Stands Still* bars 1-4** 
6.	**One of quotations from Handel's *Time is Supreme,* harpsichord part bars 1-3** 

Ex.49: Quotation sources from other composers' works in *The Persistence of Memory*

The wider extent of connection to the past appears also through the quotation of various sources for the vocal text. Many of them come from fragments of Samuel Beckett's *The Unnamable*. The fact that Berio used the same source in the third movement of his *Sinfonia* also highlights the connection of my music to his music, and to a further extent, my music and his music to the other music, all connected by the question and reflection on time, memories, and how we find ourselves within the passing of both.

Each movement within the piece portrays different stages of the distortion of time and memory. The first movement depicts the distortion and breakaway from real time into the realm of subconscious. The second movement continues the breakaway from real time into psychological time. The third movement portrays the transition into the world of dreams and subconsciousness. Finally, the fourth movement portrays the world of dreams and subconsciousness, where memories take over and linear time loses its power. And within these different stages, the transformation of time and memory happens in a reversed way through manipulating perception. On one hand, the presence of time gradually disappears by making the steady rhythmic repetition distorted and less perceptible. On the other hand, the presence of memories starts to appear in a more subtle way through hidden repetition and revelation process. This process happens by involving and evolving the different kinds of repetition, variation, and change of context that I have previously been developing.

In the first movement, we see how repetition, variation, and constant recontextualization transform a steady rhythmic repetition into a complex structure. The opening bars (1–15) introduce the steady rhythm of the 'real' clock transparently; however, slight tempo variations and rhythmic shifts starting from bar 16 start to create a small degree of instability to the pulse. The various superimposition and juxtaposition of rhythmic repetitions in various tempi (♩=52 ♩=60, ♩=72, ♩=90) escalate the level of distortion so that the sense of pulsation starts to disappear from bar 30 onwards. This also creates a disorienting effect as we hardly find a point of orientation in which we can feel the pulsation. Such complexity is also reflected in the musical notation, such as in

bar 35 or 38. I decided to use precise rhythmic notation to help the performers coordinate, rather than just giving them instructions to continue the rhythmic repetition at a given tempo. Moreover, the precise notation helps to preserve the performance intensity as the performers also follow moment to moment changes apart from repeating the same rhythm over and over.

The vocal part also emphasizes the sense of disorientation through irregular repetition of the text, thus making the words seem disconnected from each other, as if the singer were detached from the reality and brought into a chaotic state of mind. I also reflect this detachment by creating a contrast between the instrumental and the vocal parts. At the same time, the hidden repetition of quotations represents the 'unrecalled' memory within our consciousness. The repetition of the gesture derived from my *Recitation No. 2* in addition helps construct the vocal line in a more abstract way, and emphasizes its importance within the musical structure, which will take full form in the final movement. In section F, the sustained notes and chordal repetition also provide hints to the quotations of *Love Awakened* and 'Westminster Chimes' that will frequently reappear in many forms in the later movements.

In the second movement, variation and changes of rhythmic repetition help create the transition to psychological time. The steady pulses of the first movement continue in the beginning of the second movement; however, they are then overlapped with various pulsations of sustained chords or motivic rhythms, thus distancing away from the close association to the ticking clock sound. At the same time, the repetition of the word "elsewhere" in the vocal part also supports the narrative aspect of the transition,

expressing the desire – or perhaps desperation – of looking for a change outside the singer's current reality. Such expression is also strengthened through repetition of the sentences which has been expressed from the opening movement, such as "there must be other shift", "we must go on", and "keep going".

The frequent juxtaposition of more apparent quotations also escalates the transformation from conscious, clock time to the subconscious. Although they are still to some degree concealed, the resemblance to their original form is now much clearer. For example, the clarinet melody in bar 145 resembles Birtwistle's theme of time in *The Triumph of* T*ime*, despite its presence concealed by superimposition of its variation in the oboe part. The more complex superimposition also appears in bars 148–162, in which the quotations and variations of 'Westminster Chimes', Birtwistle's themes, and *Recitation No. 2* overlap in various layers. In bar 205, the use of Birtwistle's recurring theme from *Harrison's Clock* indicates the return and also transformation of 'real' time that links it to the next movement; it is similar to the idea of its original material.

The third movement demonstrates the change to psychological time through the return of initial rhythmic repetition, but now in different timbre and circumstances. The Eb pitch repetition in the piano part indicates a strong connection with the first movement. The repetition in percussion part, however, provides a contrasting effect, for example in bars 228–235. Despite the steady repetition of the part, the long resonating sounds of the chimes, the bowed cymbal, and crotales distort the sense of time established with the repeating rhythm. Additionally, the use of a long melodic line in vocal part also helps to suggest the breakaway from the 'real' clock, as we are invited to the new realm: the

subconscious. The lyrical vocal style also emphasises the transformation by creating contrast with the dominating speech-like singing style in the previous movements.

The transformation of time also appears through the repetition of 'varied' quotations, such as the motive derived from *Love Awakened* (bars 239-240, 252-253, 255-256, 265-268), Beethoven's *Piano Sonata 'Quasi una fantasia'* (bars 244-245, 246), and Stockhausen's *Klavierstücke IX* (bar 271-273). The steady rhythmic repetition of the original quotation establishes a connection with the repeating ticking clock sounds as they possess similar rhythmic characters, and therefore allow different clock forms to appear. The recurring emergence of memories takes its full form in bars 260-273 in a longer duration, which then replaces the focus on rhythmic repetition with that of quotations. The more apparent quotation from the introduction of Beethoven's *Piano Sonata 'Quasi una fantasia'* (bars 264-273) also emphasizes this change and symbolizes an introduction to the world of fantasy and a further distanced past.

The fourth movement shows how the extensive repetition of quotations, together with the combination of fragmental and labyrinthine forms, helps to suggest a realm of dreams and subconsciousness, where a sense of time disappears and memories take full control. Hinted at the first movement and at the end of the third movement, the quoted motives from *Recitation No. 2* now take full form in this movement. The frequent return and constant variation of the *Recitation No. 2* theme in its original form (such as in bar 281) characterizes the ticking clock in a much-distorted form. It blurs the sense of direction and orientation of the music, as if we are trapped within different forms of our own memories. The vocal part in this movement simultaneously reflects the struggle

and anxiety to escape from these memories, such as expressed by the word “keep going”, “we must go on”, and “finding me, losing me, vanishing, and beginning again”.

A more complex combination of fragmental and labyrinthine forms takes place from bar 343 onwards. The juxtaposition of various quotations from different movements brings back the ‘past’ within the musical structure in a more apparent form. Moreover, the quotations from the distant past (from Handel and Dowland in bar 372 and 376 respectively) appear without preparation and thus escalate the disconnection in a more extreme way. This whole process makes the sense of time disappear; time seems to be suspended and the orientation to linear time starts to disappear particularly in bar 390.

At the end, the music returns to its initial state in a reversed process starting in bar 398. The sense of time starts to recur through the sequential reappearance of the sections from the third movement, the second movement, and the first movement at the end. The vocal part also accordingly repeats the texts that are already present in previous movements. This repetition brings different ways of perceiving the material after undergoing several transformations. The return of ticking clock ends the music in an inconclusive way, ending suddenly into silence. This ending, then, provides a space to reflect on the musical journey that the listener experienced, and on a personal note, through the course of my journey in searching for new meaning and expression in my PhD research.

CHAPTER 5: CONCLUSION

The compositions I discussed in Chapter 4 represent my attempts to develop my own voice through various models of repetition outlined in Chapter 3, particularly through synthetic combinations of degrees between repetition and non-repetition which I described in Chapter 2. As I discussed, the development of 20th century music has already demonstrated the possibilities of composing both with less repetition as well as with extensive use of repetition to achieve new musical forms with less thematic and linear development. Meanwhile, in the latter part of the 20th century and into the 21st, some composers have explored the synthesis of 20th century ideas and materials with earlier, often more 'traditional' styles and sources, and a significant part of those syntheses have had to do with particular uses of repetition. My own work has built on these contexts in different ways, as I have tried to explain, not least in terms of making more explicit the very subject of repetition itself, a fundamental musical element, yet too often, I think, taken for granted.

In creating new meanings, my use of repetition generally focuses on manipulating perception and cognition, resulting in a multitude of complexities from limited material. This compositional method then may offer a new way of listening, which suggests, rather than fully exposes, a more nuanced meaning beyond the simplicity of the musical material. Margulis again highlights my purpose and intention in this way:

> "Part of aesthetic orientation is a perceptual openness, a willingness to notice and believe in connections and meanings that may not be instantly apparent."[31]

[31] Margulis, *On Repeat,* 13

I pursued this direction in the early stages of my study through my exploration of distortion and revelation processes, such as in *Love Awakened, String Quartet*, and *Passacaglia.* I found that repetition manipulates the cognition in recognizing musical material and its 'established' context in two forms: through repetition in a more abstract form which I call hidden repetition, and through more apparent forms. The former involves the repetition of an amorphic motives along with fragmented repetitions and superimpositions within other layers of repetition. The latter simply use extensive repetitions of a simple or familiar-sounding material. These two forms of repetition also help, in certain works, connect my musical expression to extra-musical objects, such as in *SUR* and *Four Images of Homeland Sea.*

As I progressed through the PhD, I further extended the idea of repetition as a distortion process towards the idea of disorientation and fragmental-labyrinthine forms, leading me to the use of more extensive repetition in my musical material. *String Quartet No. 2* initially demonstrated this in using continual repetition and frequent contrasting variations of a simple material. One of my later compositions, *Time-Lapse*, meanwhile, demonstrates a more conscious approach toward the extreme use of extensive repetition with slight variations. The wider extent of obscured separation between repetition and non-repetition resulting from this approach, I think, provides a significant subject for further investigation. I intend to continue exploring the use of more extensive repetition with imperceptible changes beyond my current portfolio.

In the latter stages of my doctorate study, I also took interest in the use of multiple quotations, which has taken form in my work *Persistence of Memory*. What I found significant is how repetition allows various connections and developments of new meaning arise from a wide array of previously existing material. I may continue to build upon this line of investigation well into the future and indeed explore a wider field of quotation – not only quoting 'older' material (20th century and earlier music) but also revisiting various current musical styles in the 21st century.

Finally, I would also like to cultivate further my work on repetition in relation to finding connections with different disciplines. Through interdisciplinary collaboration, I foresee generating new areas of expression, as I take note of modernist traditions within dance, theatre, and literature. Starting from purely musical roots, my compositional journey in this doctoral research has increasingly turned towards examining expression.

BIBLIOGRAPHY

Boulez, Pierre, *Orientations,* (London: Faber, 1986)

Deleuze, Gilles, *Difference and Repetition* (P. Patton, trans.), (New York: Columbia University Press, 2004)

Dysers, Christine, 'Re-writing History: Bernhard Lang's Monadologie Series (2007-present)', *Tempo,* Vol.69, Issue 271 (2015)

Friedman, B.H. (ed.), *Give my Regards to Eight Street: Collected Writings of Morton Feldman*, (Cambridge: Exact Change, 2000).

Götte, Ulli**,** *Wiederholung – eine fundamentale (ästhetische) musikalische Kategorie*, (Unpublished manuscript: January 24, 2015), PDF file.

Gottschalk, Jennie, *Experimental Music Since 1970,* (London and New York: Bloomsbury Academic, 2016).

Hanninen, Dora A., '*A Theory of Recontextualization in Music: Analyzing Phenomenal Transformations of Repetition', Music Theory Spectrum,* Vol. 25, No. 1 (2003), 59-97

Harrison, Bryn, *Cyclical Structures and the Organisations of Time,* (PhD diss., University of Huddersfield, 2007)

Hullot-Kentor, Robert (ed*.), Philosophy of New Music by Theodore W. Adorno*, (Minneapolis: University of Minnesota Press, 2007)

Hulse, Brian, *A Deleuzian Take on Repetition, Difference, and the 'Minimal' in Minimalism*, (no date), https://www.scribd.com/document/211464802/Repetition-and-Minimalism, accessed on 8 February 2019

Huron, David, and Margulis, Elisabeth H., 'Musical expectancy and thrills*'*, in P. N. Juslin & J. A. Sloboda (eds.), *Series in affective science Handbook of music and emotion: Theory, research, applications,* (New York: Oxford University Press, 2010), 575-604

'Interview with Laurence Crane*',* Another Timbre*,* http://www.anothertimbre.com/craneinterview.html*,* accessed on 30 January 2020

Kivy, Peter, *The Fine Art of Repetition: Essays in the Philosophy of Music*, (Cambridge, UK: Cambridge University Press,1993)

Kramer, Jonathan D., 'New Temporalities in Music', *Critical Inquiry,* Vol. 7, No.3 (1981), 539-556

Kramer, Jonathan D., *The Time of Music,* (New York: Schirmer Books, 1988)

Lehrdal, Fred and Jackendoff, Ray S., *A Generative Theory of Tonal Music*, (Cambridge, MA: MIT Press, 1983)

Lidov, David, 'Syntactical strata in music', in S. Chatman and U. Eco (eds.), *A Semiotic Landscape* (The Hague, Netherlands: Mouton, 1979), 1003-1010

Lidov, David, *Is language a music? Writings on musical form and signification*, (Bloomington, IN: Indiana University Press, 2004)

Margulis, Elisabeth H., *On Repeat: How music plays the mind*, (New York: Oxford University Press, 2014).

Mertens, Wim, *American Minimal Music: Le Monte Young, Terry Riley, Steve Reich, Phillip Glass* (London: Kahn and Averill, 1983).

Meyer, Leonard B., *Emotion and Meaning in Music*, (Chicago: The University of Chicago Press, 1956).

McMahon, Melissa, 'Difference, repetition', in Charles J. Stivale (ed.) *Gilles Deleuze: Key Concepts* (Montreal and Kingston, Ithaca: McGill-Queen's University, 2005), 42-52.

Minsky, Marvin. 'Music, Mind, and Meaning, *Computer Music Journal,* Vol. 5, No. 3 (1981)

Ockelford, Adam, *Repetition in music: Theoretical and metatheoretical perspectives*, (Aldershot, VT: Ashgate, 2005)

Praeger, Ferdinand, 'On the fallacy of the repetition of parts in the classical form', *Proceedings of the Royal Music Association, 9th Session,* 1-16

Saunders, James, 'Interview with Bryn Harrison', in James Saunders (ed.) The Ashgate Research Companion to Experimental Music (Farnham: Ashgate, 2009), 283–292.

Schoenberg, Arnold, *Fundamentals of Musical Composition*, (London: Faber and Faber Limited, 1967)

Sethares, W. A., *Rhythm and Transforms,* (London, UK: Springer-Verlag, 2007)

Somers-Hall, Henry, *Deleuze's Difference and Repetition: An Edinburg Philosophical Guide*, (Edinburgh, Scotland: Edinburgh University Press, 2013)

Zenck, Martin, 'Wiederholung – Eine grundsätzliche Kategorie nicht nur der Musik', *Archiv für Musikwissenschaft*, 70. Jahr, H.1. (2013), 66-83

Zimmerman, Walter (ed.), *Morton Feldman – Essays*, (Kerpen: Beginner Press, 1985)

APPENDIX

Performance and composition's recording information of my PhD works:

Love Awakened (2017) 6'
For Flute, Violin, Violoncello, and Piano
With the support of Institut Francais Indonesia.
Premiere: Ensemble Multilaterale, Taman Ismail Marzuki, Jakarta, 15 May 2017

SUR (2017) 4'
For large ensemble
Premiere: New Music Ensemble, CrossCurrent Festival 2018 University of Birmingham, Barber Institute Hall, University of Birmingham, 17 Februari 2018

String Quartet No. 2 (2018) 10'
Commissioned by Salihara Community
Premiere: Bozzini Quartet, SIP Festival Salihara Community, Jakarta, 10 August 2018

Passacaglia (2018) 5'
For 11 instruments
Recording: Birmingham Contemporary Music Group, University of Birmingham, 4 May 2018.

Rhythmic Rhythmical (2018) 5'
For large ensemble
Premiere: New Music Ensemble, Barber Institute Hall, University of Birmingham, 1 March 2019

Four Images of Homeland Sea (2019) 10'
For orchestra
Performance: Jakarta City Philharmonic Orchestra, Asia Orchestra Week 2019 Japan, Tokyo Opera City Concert Hall, 7 October 2019

Time Lapse (2020) 16'
For two pianos
Recording: Sibelius MIDI-Audio rendering by Made Indrayana, Februari 2021

The Persistence of Memory (2020) 21'
For high baritone and large ensemble
Recording: Sibelius MIDI-Audio rendering by Made Indrayana, June 2021