Music as a multidisciplinary art: The exchange of music and visual elements, and the role of the participants

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MUSIC AS A MULTIDISCIPLINARY ART: THE EXCHANGE OF MUSIC AND VISUAL ELEMENTS, AND THE ROLE OF THE PARTICIPANTS

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Contents

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Table of figures and images

Acknowledgements

Abstract

This thesis demonstrates the processes I undertook to compose a portfolio of music in combination with other artistic disciplines, and the results I found. During my PhD research, I have had the opportunity to work with many different professionals such as poets, painters, and video artists. Co-creating multidisciplinary works has challenged my practice as a composer, allowing me not only to consider the audible side of my pieces, but also the visual side. The different artistic backgrounds of the participants involved in the portfolio attached to this thesis have influenced the way I composed each of the works. My interest in achieving effective audiovisual synchronisation has changed my style of writing; my compositions now have a more graphic and improvisatory nature.

This thesis contextualises my work, responding to topics including performance art, verbal and graphic scores, improvisation, aleatory music, and artistic collaboration. I share my perception of musical elements relevant to my practice, for example texture, harmony, and time, observing at the same time the role of the painter, and other issues that arose through the collaborative and audiovisual parts of my composition process.

Furthermore, the structure of this commentary gives a reflection, through time, of the direction my compositional language has taken during the last three years of my career, supporting the transition from my initial research interests to those in which I am currently involved. The result of this progression is evident in the more conceptual presentation of some of my scores at the end of the thesis, which coincides with my last pieces.

The aim of my work is to contribute a new vision of ways of making and performing music, bringing about new connections between visual arts and music that transcend the composition process, the score, the performance, and in future perhaps, the concert venue.

Chapter 1: Introduction

Music composed in the twentieth and twenty-first centuries is diverse in its range of styles, modes of performance, and expressivity, among other things. A distinctive aspect of my practice as a composer is my interest in creating pieces that are perceived in an audiovisual way. Some contemporary music writing includes complex rhythms and extended techniques that take performers and instruments to their limits. Clarke and Doffman (2014) have observed new expressions and attitudes in musically complex material, and a new vision of classical music performance that affects rehearsal of music and a rise in performer-composers. Classical music continues to use such parameters as dynamics, articulation, tempo, and while I acknowledge these musical aspects, I think they have become less important in contemporary music. Instead, elements such as visuals, gestures, synchronisation, body language and other extra-musical aspects can now be more important than the music itself[1].

In this chapter, I observe different existing artistic practices related to my research and compositional work, focusing on multidisciplinarity, performance art, improvisation, and graphic scores.

I. A multidisciplinary perspective

My pieces *Triptych* (2017) and *Schattierungen* (2018) include live painting. Contrary to the works I mention in this section, my pieces contain more precise directions for the artists performing them[2]. These can be seen in the scores and on the performance directions pages. This practice of mine is unique, as painting directions have not been included in music scores before. As we will observe in future chapters, this development takes painters outside their comfort zone. When observing other audiovisual performances in music, all of them had a more improvisational nature – that is, the artist's painting was inspired by existing pieces of music or followed musical improvisation. Productions like *Trazos Sonoros* (2017) and events organised by the

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[1] In further chapters, I give examples of scores observing gestures, movement, etc.

[2] The movement *Density* from *Triptych* includes graphic notation for the painter, while in the other movements of this piece and in *Schattierungen* they follow verbal directions.

ensemble Impro and Draw include painting or drawing as part of the performance. In both examples, the visual artist does not follow any direction from the composer. Instead, they improvise actions inspired by their perception of the music. Impro and Draw's pieces are also open works from a musical point of view. This is also the case for *Peça* (2016), which includes piano, live electronics, and live ceramics. The three collaborators worked around the same concept and designed a common structure that they would all follow, but this merely guided their improvisation rather than acting as a score.

Another example is *The Possibility of Purple* (2013), in which two artists share a dialogue and common conceptual points, but their performance is more an immediate and free reaction than a fixed structure. In the case of *The Possibility of Purple*, having preestablished directions would have spoiled the nature of the performance because its conceptual aim is of reaction and response. Finally, in the piece *Concerto for Florist and Orchestra* (2009), the composer indicates that the florist is free to improvise the solo section. He also points out that other professionals can perform the soloist's part, changing the title of the piece: *Concerto for Juggler and Orchestra, Concerto for Plumber and Orchestra, Concerto for Contortionist and Orchestra, Concerto for Quilter and Orchestra, Concerto for Locksmith and Orchestra, Concerto for Chef and Orchestra, Concerto for Tax Attorney and Orchestra*, and so on.

All the pieces mentioned above have two key commonalities with my audiovisual works with live painting. The first commonality is the idea of visual performance where the musical performer is joined by another individual who adds new visual dimensions to the performance. The second commonality is the physical result of performance. When attending a concert of music, we cannot usually observe or retain any tangible, physical product from our experience. In all the mentioned pieces, there is a final physical element that can be shown – a painting, a drawing, a piece of ceramic, or a floral work. Conversely, the visual artists – sculptor and florist in these pieces – do not follow a structured score with notation or direction as is the case for some of the pieces I composed during my research period.

My research also examines collaborative work between composers and visual artists and how these collaborations can affect the techniques, aesthetics, and creative

processes in the compositions. For example, my collaborative piece *Dans les Noirceurs* (2018), co-created with poet Georgi Gill and visual artist Èlia Navarro Valverde, is the result of a creative process where the three of us worked together and gave each other constant feedback. Working in this way, all three collaborators had some control over each other's practice. The final performance is the manifestation of a working practice where the three members of the group contributed to all the different disciplines included in the piece.

I worked with artists Roland Keogh and Ali Barker to create my piece *Audiovisual Conversations* (2019). To make our collaboration possible, I organised a video recording session so the three of us could negotiate the structure of the piece and the timing of the recording. We considered colours, shapes, the style of each artist and the space in the canvas. The result of this video recording is the score for the musicians to follow. Using this process, both artists were involved in the compositional process of what would later be an audible piece. Considering the processes used to compose *Dans les Noirceurs* (2018), *Audiovisual Conversations* (2019) and other examples given later in this thesis, I consider another important part of my practice: the degree of participation of the other collaborators in my pieces, and how their creative view can influence my work process.

As a composer, I am interested in the creation of new forms of artistic representation in order to push further boundaries than those challenged in the twentieth century. Composers today work with every possible timbre, harmony/no harmony, textures, rhythms, and so on. The existence of acousmatic music has also enabled us to understand that every sound is possible in a musical piece. Our expectations regarding sound have clearly increased. Innovative composers therefore need to offer new kinds of sound experiences that can be combined with other disciplines. New combinations and collaborations can lead to a transformation of the concert form and the concert venue. That is something I would really like to change as, from my point of view, the historical protocol and etiquette of concert performances is too restrictive, and audiences often feel its limitations too. I believe that collaborative pieces can bring concerts to different venues where these rules can be ignored, and in these new contexts performances can be more relaxed and interactive for audiences.

Furthermore, by creating music not just to be listened to but also to be seen, the composer's perspective must change as they start to analyse different parts of their practice and make connections that were not considered before. As a result of visual elements being introduced, some of the musical elements become less important, as the focus is now on the combination of visual and musical rather than just musical alone. In addition, to consider the artist/painter as another performer undermines the status of the artist as a unique creator. Now, the artist is part of a performance and must follow external directions. Their artistic process complements the musical elements and textures, and vice versa.

II. Other audiovisual works

In the following paragraphs, I explore several audiovisual works that bring sound and visual elements together in a coordinated way.

Yves Klein's performance piece *Anthropométries* (1960) has been greatly influential in the art world. In this piece, nude women used their bodies as paintbrushes to complete Klein's paintings using just the colour blue, whilst musicians played his piece *Monotone Symphony* (1960), which consists of a single note and silence.

Image 1.1: Performance of Klein's *Anthropométries* at the Galerie Internationale d'art Contemporain Paris, France (Yves Klein, online). Photo: Harry Shunk and Janos Kender J.Paul Getty Trust. The Getty Research Institute, Los Angeles.

In their book *Painting Beyond Itself: The Medium in the Post-medium Condition*[3], Isabella Graw and Ewa Lajer-Burcharth refer to Klein's piece and discuss how his work adds movement to painting:

> The boundaries of painting also dissolved when it was fused together with the artist's body and performative elements, as Yves Klein's *Anthropométries* (1960) (…) Apart from the specifics of these respective performances, the conflation of paintings and bodies ensures once again that painting becomes charged with life.
>
> (Graw & Lajer-Burcharth, 2016, p. 85)[4]

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[3] This book brings together a collection of scholarly articles on painting medium presented in a conference at Harvard in 2013. In chapter 4, I consider the concept of medium in relation to some of my scores.

[4] The break of these boundaries will be addressed later in this introduction in relation to modern performance art, such as Fluxus and Happenings.

Relating this back to my own compositions with live painting, the inclusion of visual art elaboration as part of the concert performances gives another perspective to how the music is perceived and its result. That is, the outcome of the concert comes not just from a sonorous source, but from the movements of the painter as they create a visual work in response to the music, and also a tangible product: the painting.

Navid Nuur and Adrian Genie have collaborated on many different installations that include performance, sound, painting, and assemblage. One of these is the previously mentioned *The Possibility of Purple,* which won the Discoveries Prize at the first edition of Art Basel in Hong Kong in 2013:

> Their collaborative project, The Possibility of Purple, questions the dematerialization of painting through a dialogue between the figurative and abstract. Navid Nuur adapts his conceptual practice in approaching traditional painting and representation, while Adrian Ghenie researches abstract elements of the figurative. Both explore the phenomenology of color and use red and blue as their starting point.
>
> <div align="right">(Artlyst, 2013)</div>

In other words, painting can be perceived as a process or response to other sources, and not just as a final result. Both Nuur and Ghenie communicate with each other using their artistic abilities. Nuur creates diverse sounds in response to traditional painting while Ghenie works with paint in a more abstract way.

Many artists have been inspired by existing pieces of music or improvisatory music sessions to perform live painting. For example, the previously mentioned concert called *Trazos Sonoros* was part of the Albert H. Mayotte festival in Almería, Spain. For this event, the Espai Sonor Ensemble organised a performance on 24 September 2017 where the visual artist Eduardo Martín del Pozo painted live while listening to *Incantations* for flute (1934-39) by André Jolivet, *Sequenza XIV* for cello (2002) by Luciano Berio, and *Dos paisajes sonoros – I. Celaje, II. Fuegos artificiales* (2016) and *Collage de Camaïeu* (2017) by Juan Cruz Guevara.

Another example is the Impro and Draw Ensemble, a group of improvisors whose instruments include flute, voice, piano, modular synthesizer, keyboards, saxophone and infra instruments, and who work with draftsmen. Their objective is to explore the nature of the connection between musical instruments and drawing through audiovisual improvisation, with continuous feedback between contributors.

Another remarkable example of a multidisciplinary work created collaboratively by composers and visual artists is *Peça* for live ceramics, real time electronics and piano, created by the sculptor Rafel Sunyer, composer and sound artist Joan Bagés, and pianist Tomeu Moll-Mas. The piece explores three dimensions: scenic, sonorous, and physical (ceramic). Finally, another notable audiovisual piece is Mark Applebaum's *Concerto for Florist and Orchestra,* where the floral designer and performance artist James DelPrince creates a floral work following the rhythms and characteristics of the music.

III. Modern performance art

From the beginning of the twentieth century new art forms started to appear in the innovative art scene. One of these new art forms, later called performance art, combined live actions and artistic elements such as sculpture, painting, and photography (Tate, n. d.). Historically, we could understand court jesters, masquerades, and poem recitals to be precursors to modern performance art. Performance art from the beginning of the twentieth century relates to surrealism, Dada cabarets, futurism, and vaudeville.

Modern performance art involves collaboration between individuals, and the coexistence of diverse ideas interacting in a common space. Performance art had great success in Europe and North America, and in the late 1950s, a new performance genre developed, where art and the everyday were not clearly delimited. This new genre, called Happenings, took the form of multidisciplinary events where the audience was invited to participate in performances that were semi-planned or improvisational. Some of the main figures of this new art movement were musicians,

film makers, poets, and painters, and included Allan Kaprow, who is considered to be the instigator of Happenings (Goldberg, 2001).

> Allan Kaprow developed his Happenings project in the context of the negotiation with Abstract Expressionism (…), and in the late 1950s produced a number of collages and Assemblages.
>
> (Routledge, 2020, p. 103)

Kaprow's Happenings were characteristic in a number of ways, including the aforementioned thin line between reality and art, and the breaking of artistic rules that would lead to the re-contextualisation of art elements. *The Twentieth-century Performance Reader*[5] (Huxley & Witts, 2002) includes the following quotation by Kaprow as he summarised the components that were present in the Happenings movement. He mentions the breaking of tonality in Arnold Schoenberg's serialism and how this helped to develop new understandings of music harmony.

> Arnold Schoenberg felt he had to abolish tonality in music composition and, for him at least, this was made possible by his evolving the twelve-tone series technique. Later on his more academic followers showed that it was very easy to write traditional harmonies with that technique. But still later, John Cage could permit a C major triad to exist next to the sound of a buzz saw, because by then the triad was thought of differently – not as a musical necessity but as a sound as interesting as any other sound.
>
> (Huxley & Witts, 2002, p. 260)

As well as the multidisciplinary nature of the Happenings movement, the re-contextualisation mentioned above is relevant to some of my pieces that include painting, whether the music is live or pre-recorded. Mixing both art forms together in a common performance brings new context to concert performances. I have observed that my musical language became more consistent in my later traditionally written (as opposed to improvised) pieces. I realised, perhaps subconsciously, that the key element in my pieces was not just in the music but also in its connection with visual

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[5] This is a collection of articles and interviews with key figures of twentieth-century performance art, e.g., Adolph Appia, John Cage, Allan Kaprow. This quotation corresponds to Kaprow's *Assemblages, Environments and Happenings* (2013/1956).

factors. During the course of my PhD, the pieces I composed gave greater importance to audiovisual connections rather than just to the sound, harmonic relations, and other musical elements. This is also one of the reasons why some of my latest works have an improvisatory nature and are not written in traditional notation as we will observe in future chapters.

Other significant components of the Happenings included variety in the use of space(s), an irregular pace, and the integration of audiences – audiences were considered part of the performance. In addition, the improvisational element of the performances made every event unique and unrepeatable. It was impossible for any performance to be repeated in the same way as the directions were not very precise and the participants could express themselves freely (Huxley & Witts, 2002). Some of my later pieces use similarly open styles of directing: *Tom's Piece* (2019), *Pigments* (2019) and *Audiovisual Conversations* (2019). In these three pieces, performers follow directions from visual art in different ways. In the case of *Tom's Piece*, performers are given a series of choices depending on the colour and brushstroke used by the artist in a video. Similarly, in *Audiovisual Conversations* musicians follow colour indications that are linked to different performance techniques. Finally, in *Pigments* the artist paints live using different colours and spaces on the canvas, and musicians respond to these combinations of colours and space. In these three examples, the musicians have some choice in how they perform. Besides, they are not just directed but also inspired by the visual elements of the works. Because of this, every performance will be different, as the decisions of the musicians will vary each time they interpret the visual elements. I discuss these pieces and others in more detail later in this thesis.

The variety in performance art movements and key figures shows the importance of searching for new art forms and ways of expression in this period. Performance art was seen as a free art form, a way of breaking boundaries. Artists could create freely outside the conventional rules. Further to this, performance art was often used to make declarations of principles and political ideas. At this point, in Western Europe and America, artists were questioning the artistic canon and the industry as a whole, which they considered elitist. The new art forms opposed the old ways and provided more mundane and ephemeral ways of making creative expression (Bryzgel, 2020).

Another movement that was part of the improvisatory avant-garde performances of the twentieth century was the Fluxus movement, founded by George Maciunas at the end of the 1950s. Maciunas, along with other artists who disapproved of the elitism they found in the arts, searched for a broader way of thinking, creating, and expressing themselves inspired by Futurism and Dadaism. Fluxus performances were presented by artists from different disciplines; they created improvised performances that mixed art with everyday live events. Two notable figures who helped to develop Fluxus performances were the painter and sculptor Marcel Duchamp and composer John Cage. For both, fate and quotidian objects were part of their artistic representations (Wilmer, 2017).

Since collaboration is a significant focus of this thesis, it is imperative to make reference to the combined creative process of Charlotte Moorman and Nam June Paik, whose works relate both to classical music and the Fluxus movement and are important representations of performance art. When Paik and Moorman first met, they were both contemplating the idea of ending their musical careers to experiment with new art forms, including those made possible by the development of technology. They worked together in countering the seriousness they experienced in the classical music industry. For example, they mixed new performance elements with instruments associated with classical music, like the cello (which Moorman already played), and adapted well-known classical pieces. This is how they created *Paik's Variations on a Theme by Saint-Saëns* (1964), which audiences perceived as a playful scene. This performance (Image 1.2) prioritises the visual result of the piece; Moorman's cello is wrapped in plastic and she wears a long, thick, black skirt. In the middle of the performance of Saint-Saëns' piece, she stops abruptly and jumps into a big tank of water located on stage (Kreutzer, 2020).

> Moorman's drastic jump *into* water, and the heaviness of her long, thick, black skirt stand in clear contrast to this idea, and allude to the long tradition of the Tchaikovsky-inspired metaphorical white-swan/black-swan (and by extension Madonna/whore) dichotomy.
>
> (Kreutzer, 2020, pp. 148-149)

Image 1.2: Paik assisting Moorman in the performance of *Variations on a Theme by Saint-Saëns,* in 1965 (Nam June Paik Art Center, online). Photo: Peter Moore.

As mentioned before, during the twentieth and twenty-first centuries, classical music did not just follow on from the typical musical canons, but also aimed to find new elements, like those related to performativity and visual arts. In the case of *Paik's Variations on a Theme by Saint-Saëns,* the composer and the performer add a new visual level to its execution, creating new possibilities for performance and for development of further artistic perceptions and aesthetic meaning.

All the modern performance art movements had in common the sense of "here and now", improvisation, action-reaction, the subconscious, and a clear idea of breaking the rules of the elite in the art industry. The performances were revolutionary and experimental, and at the same time, they were designed to reach the masses rather than just a small number of art elitists. They were unpretentious and the materials used were inexpensive; the art was not created to be seen as "a great work of art" but

as a performance of life experiences, a multidisciplinary and often comical view of common situations (Kedmey, 2017).

Through the composition of my pieces, I seek out the connection between visual elements and sound, and how one inspires the other. This affects not only my way of composing, but also the concert performance environment. Another of my interests, which results from creating multidisciplinary works, is the act of taking music out of the concert halls and into alternative spaces, making music performances more informal. Just as twentieth century performance artists intended, I encourage the performance of contemporary music in different spaces, not just those designed for music performance. Although my portfolio includes orchestral work, my main focus is in creating small audiovisual chamber pieces based on individual and/or collaborative ideas, achieving a more intimate and multi-sensorial experience. In addition, some of my pieces use action-reaction, where performers follow guidelines to improvise in response to specific details in visual art such as colours, brushstrokes and use of space.

IV. Improvisation

At the beginning of my PhD, I did not think I would write pieces using a style of musical notation that differed from the conventional one, or using no notation at all. I also did not know improvisation would be part of my research. While composing, I observed that using music notation made the audiovisual connection seem somehow forced and unclear. For that reason, I decided to change how I wrote music and started leaving more space for the music performers to make their own decisions and follow visual elements instead of strict music scores. This meant the link between music and art became more effective and natural, as musicians were able to follow their visual perception in real time. Therefore, they were not limited by the timeframe and precise direction of a music score. Of course, this system cannot work in pieces for bigger ensembles, such as my orchestral piece *Dans les Noirceurs* (2019), which I composed using traditional music notation.

As observed in the previous section, some of the key elements of twentieth century performance art were life experiences, the "here and now", and improvisation – this

was in opposition to serialism (Iverson, 2019). The spontaneity of improvisation in live music performance has existed since medieval and Renaissance times, making each performance unique (Kennedy et al., 2013). This idea of uniqueness will be explored in further detail in chapter 4.

Music improvisation has had different purposes in history. It has been part of the composer's practice in their search for new musical expressions and is central to jazz performance. Nevertheless, I will examine what Les Guillon calls *post-modernist improvisation*, which despite the name took place during the high modernist wave that occurred in the 1960s. The main characteristic of this kind of improvisation is freedom, in terms of form, restrictions or any other musical convention that is in existence (Guillon, 2018).

Musicians who play my pieces that include improvisation follow visual guidance given to them via live or pre-recorded painting. So that they can interpret and translate the visual elements into music, I create directions. These directions are usually provided through a mixture of conventional music notation and graphic directions. In the movement *Density* from my piece *Triptych* (2017), I use graphic indications for the painter to perform alongside the bass clarinet music notation.

V. Verbal and graphic scores

Pitch and duration are not often important in my pieces. When I create audiovisual pieces, I concentrate more on achieving thick musical textures and directions, and conceptual intentions, and how I will combine musical parameters with visual elements. As mentioned before, in some of the pieces in my portfolio, musical notation seemed to be an obstacle between the musical performers and the visual elements of the piece. I discuss my move from musical notation to verbal and graphic notation further in chapter 4.

Like the visual arts industry, the music industry saw a period of change during the twentieth century, with composers searching for new modes of musical expression and breaking boundaries. As a result, composers began to compose and score music differently, including through verbal and graphic scores. Until the twentieth century,

pitch and duration were the main parameters in music. Traditional music scores were designed to represent these parameters along with others, including for example intensity and articulation. New music in the twentieth century began to pay attention to different elements that were not possible to show in traditional music scores, leading to the development of new symbols that represented not just the music, but also the intended actions.

For example, in Helmut Lachenmann's piano study *Guero* (1970), the composer indicates the hand gestures he wants the performer to execute in the score. As a result, the sound that is made has less importance than the action of the hand itself (Jvania, 2017). Like *Guero*, in some of my pieces the sound is a consequence of a visual action. For example, my work *One, Two, (HIDDEN), Four* (2019) is written for three percussionists and a painter. One of the percussionists follows the live painting actions, meaning that the sound is a result of the painter's gestures. Other pieces such as *Pigments*, *Tom's Piece* and *Audiovisual Conversations* use similar processes. As mentioned before, my pieces do not usually require accuracy. I am more interested in how the musical performers contribute, and how they transform their visual perceptions into music. I understand that giving them greater freedom leads to a better result; that is, a clearer relationship between what we see and what we hear.

> Thus, the notation system, developed out of need of preciseness and accuracy, transformed itself into notation that liberated the performer's imagination to great extent.

> Cardew's wish, to liberate performers from constraints of notation and to challenge them to 'make music' (…) This idea influenced European avant-garde and American experimental music in different ways. Pierre Boulez stated that there was a need to liberate music from unified and universally recognized code, on which European music has been based for centuries.

> (Jvania, 2017, p. 79)[6]

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[6] This article analyses the piece *Teatrise* (1963-67) by Cornelius Cardew, which comprises 193 pages of graphic directions with little explanation so that the performer can interpret it in their own way. The instrumentation of the piece is also open.

The idea of liberating music and musical performers to achieve free expressivity in music developed from the search for new ways of creating musical code. For example, the piece *Treatise* (1963-1967) by Cornelius Cardew is a collection of lines and graphic symbols, which performers should interpret as they wish. Performers take inspiration from different geometric shapes in a graphic score and translate them into sounds, matching similar shapes with similar sounds (Jvania, 2017).

Earle Brown's *Folio* series consisted of a group of graphic scores, organised by month and year, and using conventional notation albeit in a different way. This series marks a particular point in the creative practice and thought process of the composer. In some of the pieces' scores, certain notes and rests are removed, giving performers the chance to interpret an empty space and decide for themselves the ratio of sound to silence. Some of the pieces' scores are fully graphic, with boxes and lines recalling deconstructed works by Piet Mondrian. Brown's later pieces include a third dimension, where performers can display the score in any orientation and order. The forms that Brown's scores took were often determined by his connection with recording and electronic music; some of the scores respond to the physical shape of sound waves, or, in the case of silence, the absence of sound waves (Iverson, 2019).

In his paper *From Sonic Art to Visual Music: Divergences, convergences, intersections* (2012), Diego Garro focuses on the connections in electroacoustic music and engagement with it through the visual music phenomenon. Garro discusses electroacoustic pieces as he is interested in searching for the connection between sound and vision. Although Garro's paper argues from a more technological perspective, where he compares music to cinema, advertisements and videogames, there are definite commonalities between his position and my desire to bring visual art elements to new music performances, engaging modern audiences and creating new artistic audiovisual products. Some of my pieces have been designed specifically to seek out possibilities for a new kind of performance. For example, pieces like *Triptych, Schattierungen* (2018) and *One, Two, (HIDDEN), Four* need the visual element of live painting in order to bring about music, and the artistic content would not make sense aesthetically without the musical input. Further, in *One, Two, (HIDDEN), Four*, one of the musical performers would not be able to carry out their section without the visual element, as the music played by this third musician is highly dependent on the

painter's actions and decisions. The score indicates that different musical techniques should be used in response to different colours, gestures and tools made by the artist.

The following chapters are organised to show the different approaches I took when composing musical works in combination with other artistic disciplines. Through this thesis, I observe how my creative process and writing style have been challenged and adapted. These are presented as follows:

Chapter 2: Music and Live Painting
Chapter 3: Collaborative Works
Chapter 4: Art and Graphic Scores

Chapter 2: Music and live painting

It is common for artists to work in the privacy of a studio, having their own time to create and modify their pieces without being seen by their audience until they decide the work is finished. Considering the artist/painter as one more performer in addition to musicians challenges the status of the artist as a mythologised unique creator. In the case of my compositions *Triptych* and *Schattierungen*, the artists follow some preestablished directions from a score just as the musicians do, combining their personal creativity with the composer's ideas. Thus, the visual art meets compositional techniques, affects the aesthetic balance of the piece, and is coordinated and structured not only in space, but also, like music, in time.

This chapter discusses some musical elements: texture and harmony. It gives an explanation of how I perceive time, and how I use this parameter in pieces with live painting. I also present the different issues raised from challenging the role of the painter in live performances; when including extramusical elements in concert performances, some difficulties emerged that I had not anticipated at the start of my research. These issues have changed how I compose, as we will observe in further chapters.

I. Texture

Texture was a key element in the development of classical music from the nineteenth to the twentieth century, and as a musical concept it has amassed a diverse range of opinions over time. Musical textures can include melody and accompaniment, homophony, and counterpoint, for example, but what texture really implies is the relationship between different melodic lines and the other elements in a music passage (Fessel, 2007). For example, György Ligeti's micropolyphony is built by layering the sounds of different instruments to create a rich mass of sound, making it difficult to aurally extract the individual parts from the overall audio (Drott, 2011).

Further, texture has been understood as the spatial aspect of music:

> Music also creates the illusion of space, which is different from the illusion of *Tempo* (…). A musical work has shape, volume, density, organisation and has distinguishable parts: it has texture. The texture of a piece of music is its spatial realisation, just as rhythm is its temporal expression (…) so that we can perceive the texture of a piece of music it is necessary that the sounds progress in time.
>
> (Senna, 2007, pp. 95-96)[7]

When composing a piece, I account for the layout of the sound source(s) of pre-established instrumental groups, organising the selected palette of sounds in space. Therefore, my music is also structured in a spatial way. We will observe this in relation to some of my works in this and later chapters. Composers use the spatial component in different ways, as composer Steve Reich explains in his article *Texture-Space-Survival* (1988)[8]:

> It certainly is important in my music that musicians sit close together so they can hear each other well. Just the opposite from say, John Cage, where spatial separation is often desired and rhythmic coordination is not.
>
> (Reich, 1988, p. 276)

As well as space, composers also use time when developing and identifying their musical textures. The contrasts of these spatial decisions are frequently linked to changes of sections, structure, form, and tempo. In the article *Musical-Space Synaesthesia*: *Visualisation of Musical Texture* (2017)[9], pianist Svetlana Rudenko explains how texture influences the way she experiences and perceives time when she is performing. Besides, musical elements that organise and are organised by time, such as tempo and rhythm, are necessary to build textures. For example, composer Ion George Marmarinos' thoughts about texture differentiation relate to time oriented aspects of music, such as rhythm and pulse:

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[7] Quotation translated from Portuguese article *Textura musical: forma e metáfora*, which relates texture to sound space.
[8] This article is the transcription of a conference presented by composer Steve Reich.
[9] I explain Synaesthesia further in this chapter.

I used rhythm as the primary musical element to differentiate between textures, with a fixed and clear pulse and passages of a rather obscured and irregular pulse. (…) it was my belief that the differentiation between fixed and free cycles could create contrasted textures between material of an organised time and material with a less evident pulse.

(Marmarinos, 2019, p. 24)

Observing two of the movements from my piece *Triptych*, we can compare the contrasts in tempo and rhythm that help to build their musical textures.
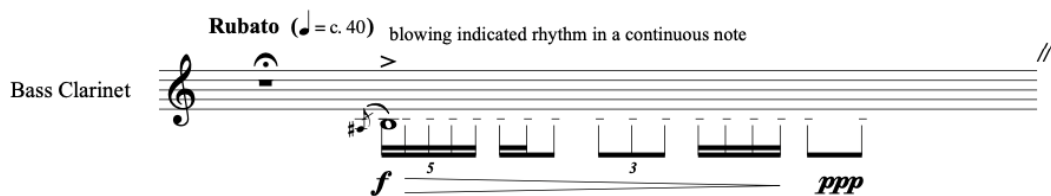
Fig. 2.1: *Triptych – Density* (start).
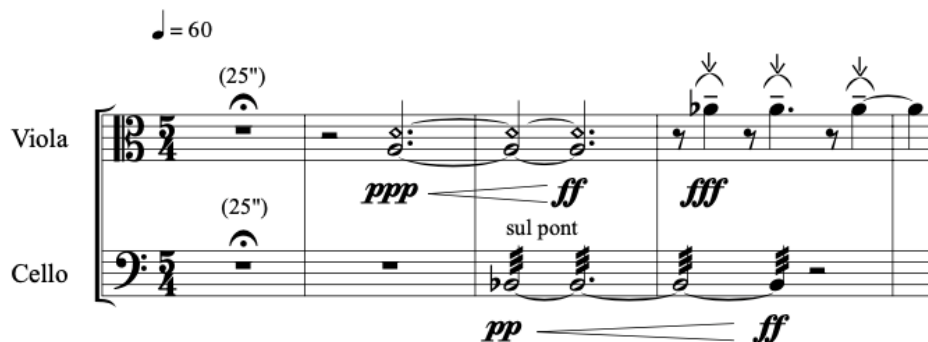
Fig. 2.2: *Triptych – Textures* (initial bars).

We can point out several differences in the musical extracts in figures 2.1 and 2.2 to do with timbre (instrumentation), meter, tempo and dynamics. Despite their differences, the two extracts share a texture of long sustained notes with an inner rhythm. In the extract from *Density*, the bass clarinet holds a long B (written pitch) at a metronome mark of 40 crotchets per minute. As the score indicates, the performer should perform this note continuously with the indicated rhythm. In the extract from *Textures*, both viola and cello perform long continuous notes at a tempo marking of 60 crotchets per minute. The viola plays this with tremolo, which gives it a certain

rhythm feeling, in this case more articulated than in the previous example. Despite the two movements having different instrumentation and therefore timbres, with all the different instrumental techniques this implies, this does not change the perception of similar textural work in the music. The elements of music that relate to time give the impression of similarity between the two extracts, before we start to compare other factors such as pitch and dynamics. On the other hand, we can identify different textures when the tempo and rhythm change in bar 15 of *Textures*.
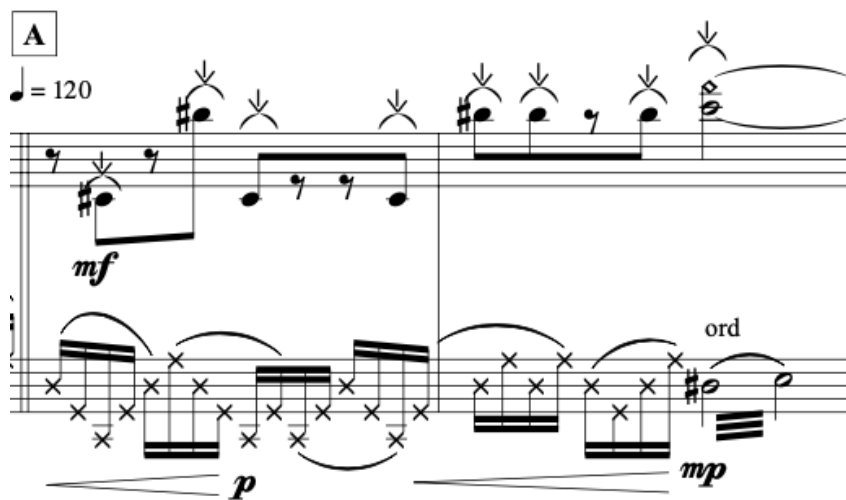
Fig. 2.3: *Triptych – Textures* (bars 15-16).

There are several contrasts between the musical extracts in figures 2.2 and 2.3, both from *Textures* and written for viola and cello. The beat of bars 15-16 (Fig. 2.3) is twice as fast as in the initial bars (Fig. 2.2). The cello performs semiquaver patterns behind the bridge (indicated with cross noteheads) and a tremolo at the end of the passage, while the viola emphasises some of the quaver beats with strident notes played with maximum bow pressure. Comparing the initial bars of this movement with bars 15-16, the contrasts between timbre, articulation, tempo and rhythm create a very different texture for the listener. This example shows again how time parameters are crucial for the understanding of texture.

II. Harmony

Like musical texture, harmony is based on the relationships between different layers of sound, but in a more individual way. Time does not play as important a role in harmony as it does in texture. Harmony is the result of the relationships between different pitches that are played simultaneously or consecutively (Tymoczko, 2011). The twentieth century brought a new conception of harmony to classical music. Before then, harmony followed a set of rules and hierarchies implied by different tonalities. Composers of the twentieth century broke with these norms and created new systems of musical harmony, including the idea of atonalism. In general, harmony is created by combining different intervals. A consecutive sequence or overlap of intervals makes harmonic patterns and melodies that can be identified by listeners.

Dimitri Tymoczko, in what he calls the five elements, includes *Harmonic consistency*, which defines the harmonic relationship between different passages of a piece, and demonstrates the connection and similarity they share, giving the piece musical coherence. Similar harmonic and melodic patterns appear in different moments of a piece, giving it a structure and linking passages, as we identify in the themes of a Sonata or other pre-established musical forms. We often make a distinction between harmony and melody, but these two are very strongly connected.

> Even considering melody alone, research indicates that the listener infers certain harmonic structures from the melodic material present.
>
> (Williams, 2005, p. 211)[10]

The following harmonic examples correspond to Mauricio Sotelo's *Cripta* (2004-2008), which he dedicated to his master Luigi Nono[11].

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[10] This research observes how harmonic focus develops with the increase of music training.
[11] This piece for voice (cantor), choir, ensemble and electronics is based on the architecture of Antoni Gaudí's Crypt (Cripta) in the Colònia Güell, near Barcelona. I visited this space with composer Mauricio Sotelo, and other composers, in his search for inspiration from the elements of the crypt.

Fig. 2.4: Extracts from *Cripta* by Mauricio Sotelo.

At the beginning of his piece, Sotelo presents a passage that recurs throughout the piece. This is based on a particular intervallic pattern in different instruments, for example flute (Fig. 2.4), and is organised in ascendent direction as follows: 1 semitone, 3 semitones, 1 semitone, 2 semitones, 1 semitone, 2 semitones, 1 semitone, 2 semitones, 1 semitone. In bar 17, a variation of this motif appears in different instruments, including percussion 1 (Fig. 2.4). In this case, the motif is descends rather than ascends (except for the first three notes) and one modification is made in the intervals, as indicated with red circles. The last example, taken from the piano in bar 79 (Fig. 24) represents a full repetition of the initial harmonic model.

When composing, I imagine harmony in a horizontal way. At the beginning of a piece, I create certain motifs or groups of intervals that can be used in different ways through

the piece. For example, in the movement *Motion* from *Triptych*, there are several combinations of intervals that appear consistently throughout the piece.
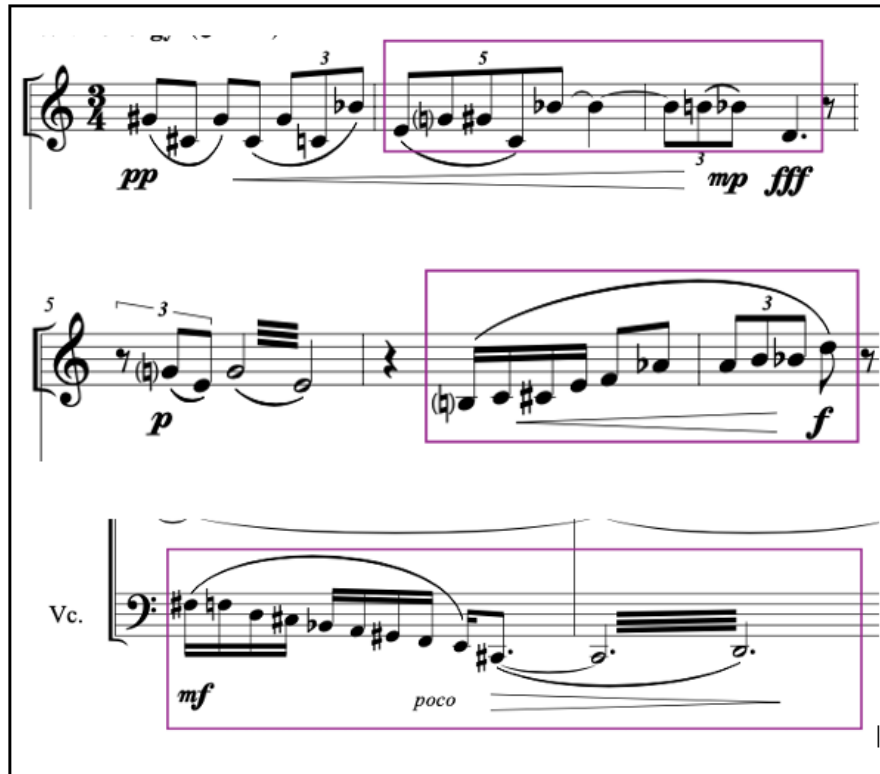
Fig. 2.5: Excerpts from *Triptych – Motion.*

Figure 2.5 shows three different musical moments from the first page of the movement: the clarinet's bars 1-3 and 5-7, and the cello's bars 9-10. The motif is constructed from a succession of semitones and minor thirds. It first appears in an ascending direction in the first two examples, and in a descending direction in the third example. This pattern (and its inversions) is the most persistent in the whole piece – it appears in the clarinet in bars 13-14, 16-17, 27, 28, etc.; cello in bars 13, 72, the end of bar 85, 92; and viola in bars 39 and 67. Often, this motif relates to other intervals, such as the tritone. This is the case at the end of the piece.

Fig. 2.6: *Triptych – Motion* (bar 95).

In this extract, showing bar 95, we can observe that the viola and cello are both playing the motif explained above (cello), with a group of tritones separated by a semitone. Tritones can also be seen numerous times throughout the piece.

Fig. 2.7: Excerpts from *Triptych – Motion.*

Figure 2.7 presents different moments where the clarinet performs tritones – bars 1, 21 and 36. This interval can also be found in bars 11, 24, 26, 33, 49, 52, 54, and so on, in all the instrumental parts.

Finally, I discuss the presence of sevenths in the movement. Minor seventh intervals arise in every instrument, for example in the clarinet in bars 1, 2, and 8. In bar 46 there are two consecutive major seconds, which are inversions of the minor seventh. From bar 76, the cello plays a diminished seventh harmonic interval. The movement combines minor sevenths, diminished sevenths, tritones, and the succession of semitones and minor thirds shown in figure 2.5.

Fig. 2.8: *Triptych – Motion* (bars 81-83).

In the bars shown above (Fig. 2.8), the main intervals used in the piece are identified using different colours. The intervals marked in green are tritone intervals in the clarinet and viola parts. The cello's diminished seventh interval is marked in red. The initial motif, constructed using minor thirds and semitones, is produced in this example, but the minor thirds have been inverted to become major sixths.

This chapter thus far has discussed the ways I use texture and harmony in my compositions. The following sections will elaborate on how I composed pieces with live painting, considering other extramusical aspects that needed to be taken into account during the composition process.

III. Commentary on my pieces

Triptych **(2017)**

To help him prepare for performance, the painter Roland Keogh was given a score of my piece *Triptych* to practise with, just as musical performers would; he had to follow the indications of the graphic score and other directions, being limited creatively by what was written in the score. When composing the piece, I was always very conscious of the work of the painter who was going to perform the piece – the decision to work around the concepts of density, textures, and motion (these are the names of the different movements) was inspired by my perception of this artist's previous paintings. The choice of instrumentation was also related to the feelings these paintings provoked for me. It seemed appropriate to compose a solo bass clarinet piece to express density in both music and painting, for example, because of how the instrument functions; using certain effects, long notes and low register, the sound of bass clarinet can create a dense and enveloping atmosphere that can lead the audience to have an intense audiovisual experience. The painter is given directions to make monochromatic black brushstrokes with slow motion. Since black represents the darkest and most dense of all colours and materials, this gives the impression that the painter is using a material like thick petroleum.

Having analysed the notion of texture in different contexts, I considered which instruments could create the most 'abstract' texture, and decided to use string instruments, as I considered them versatile enough to be able to create layers of textures combining different effects, 'real' notes, and 'noise'. String instruments can be warm and strident at the same time and can keep a sound or pattern going indefinitely. For these reasons, the movement *Textures* was created to showcase different string textures, performed by viola and cello.[12] The piece avoids conventional production of notes; instead, sounds are made by playing behind the bridge, using maximum bow pressure, producing harmonics, pizzicato and col legno techniques, and different combinations of these techniques. In terms of visuals, this piece

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[12] This piece was originally written for viola and double bass as I wanted a much lower sonority that could be sustained for the whole piece. I found it difficult to find a double bass player, so I arranged it for cello instead.

emphasises listening and the relationship between music and painting, so the painter has pre-established moments when he is actively listening and perceiving the musical textural ideas and not painting. When the artist is painting, the music changes in intensity and rhythm to make space for it, just as we balance layers of music in composition. Following this compositional principle, the viola and cello create a background texture that serves as accompaniment to the painting, but they act as different musical layers, or levels. Texture is important in abstract painting too, but my focus here is on the musical side of the concept because of the nature of my research, which examines the musical side of multidisciplinary works and collaborations.

Motion, for clarinet, viola, cello, and live painting, has a more conventional musical aesthetic. It is based on motifs and melodies that are shared in a chamber music style between the three instruments. Effects are not very present in this movement; the main theme is the idea of constant playing, constant performing and constant painting. The artist and musicians do not have such specific interactions as in the previous two movements. In *Motion*, the only direction for the artist is to paint without pause from the start to the end of the music at a fast pace (Fig. 2.9). From a musical perspective, the rhythmic idea of motion, speed and constant sound is always present, as well as the harmonic connections mentioned before.

Fig. 2.9: *Triptych – Motion* (initial bars).

Time

The first definition of music I encountered was "Music is the art of organising sounds in time" (Zamacois, 1983). While this is true, the notion of time in music can be perceived in different ways, including through meter, note value and metronome mark (beats per minute). These details help performers to play music at precise points in time. In his book, *The Time of Music: New Meanings, New Temporalities, New Listening Strategies* (1988), Jonathan D. Kramer formulates this question: does music exist in time or does time exist in music? He believes that if music exists in time, then time is taken as an absolute, as an external reality, as somehow apart from the experiences it contains. He adds:

> I do not wish to deny absolute time totally but rather to posit a substantially different musical time. If we believe in the time that exists uniquely in music, then we begin to glimpse the power of music to create, alter, distort, or even destroy time itself, not simply our experience of it.
>
> (Kramer, 1988, p. 5)

Not only is music an art organised in time, but music plays with the perception of time itself. As a composer, when I work on the structure of a new piece, I organise the tempo and rhythm in relation to the perception of time when someone listens to it. I consider how the listener might feel when they hear a single long note preceded by a fast pace obstinate rhythm, and how differently this long note would be perceived if it were heard at the beginning of the piece. There are infinite combinations of rhythmic patterns and tempos that, together with other musical elements such as dynamics, pitch, and so on, can vary the perception of time, despite being parameters than can be measured in concrete terms and given numbers.

Through the development of my piece *Triptych*, and the rehearsal sessions with the painter, I came to understand some musical concepts differently than before, in particular the idea of time, which helps to structure music but does not factor into painting. The abstraction of the principles of the different musical concepts made me reflect on the structure of music and its connection with time, and how this is different in many other artistic disciplines. How do musicians use time? In which situations is

time crucial to keep the structure of a composition? How precise is music notation in its ability to organise time? This last question is pertinent to my research. When professional music performers read a score, we understand the kind of gesture, rhythm, dynamic, articulation, and so on, that we are expected to execute in a precise moment. Directions such as the metronome mark (tempo indication) help us to determine the overall pace of the piece. This is common musical language that helps musical performers to understand each other's sections and makes it possible to coordinate multi-instrumental performances with many participants.

Time can be perceived in different ways. Contrary to what I first thought, time is not a fully measurable parameter. Humans have created units of time in order to measure different parameters like space and production. Space and time are closely connected and, as I mentioned before, feed into certain musical elements like texture. We even talk about the spacetime dimension. From a humanistic point of view, future and innovation occur because of time. Humans plan for the future; we research in order to form new ideas and develop the ones that already exist. We visualise how long our projects will take using time frames (West-Pavlov, 2013).

Time is, of course, always present when a piece of music is performed, and we have different ways of precisely indicating the order of musical elements.in time. The combination of these time indicators and other features leads to musical texture, which is understood as the relationships between voices. When I started working on compositions with live painting, I had a very different impression of time and texture. When I observed the texture of painting, I was inspired by the thickness of each brushstroke, the amount of paint left on the canvas, and the colour used (black in this case). Regarding time, I imagined the role of the painter and how this changed through time – the gaps left between changes of colour, the space on the canvas, the length of brushstrokes, the painter's perception of the overall time of the piece, and how the painter would visually plan to complete the painting(s) in the right time frame.

The role of the painter

Music scores are filled with code that enables musicians to organise sounds in time, but how can we create a music-painting score? Painters may not use time in the same way as musicians. Artists spend time thinking about the works and creating them, and the time of creation as well as the actions involved in creation can be slower or faster depending on the nature and intention of the piece of art. Time-based artists working on videoart, installations, visual performance, film, or computer-based art follow a more temporal structure when creating their works. Composers work with time in lots of different ways; we do not just use time to plan and create our compositions as painters do, but the tools we use and elements we manipulate are also closely related to time, and time itself is one of these elements. Our craft is to use a timecode – music notation – to be interpreted by music performers, following common time principles. It was a challenge to create a code for artists to follow like a music score. Painters tend to work alone rather than in collaboration (musicians often work with other musicians), but in *Triptych* the artist was required to act as one more performer, being coordinated with other members of the ensemble in time.

For this reason, I experimented with three different ways of giving the painter directions of time. The score for *Density* includes painting notation to indicate the desired type of brushstroke, pauses, length, and so on (Fig. 2.10).

Fig. 2.10: *Triptych – Density* (page 2).

This notation is included in the bass clarinet part so both painter and clarinettist could follow each other's section.

The way I included painting in the score of *Textures* was very different. As mentioned before, there were some moments where the artist needed to stop painting to listen to the music performance.

I had assumed that the artist would be able to follow and feel the changes in the music that would signal for him to paint or listen, but he was not always able to recognise when these changes started and finished. Although we rehearsed this piece several times, I decided I would indicate to him when these happened on the day of the performance, as I would be conducting the painting action. *Motion* is the simplest of the three pieces in its painting directions. The only direction the painter had was to continuously paint from the beginning to the end of the piece.

Schattierungen (2018)

Image 2.1: *Spirit*, Oil on Canvas, by Caroline Bordignon (2017), 39.5" x 27.5".

The second of my pieces that presents a new performative role for the artist, who participates as a performer, is *Schattierungen* (2018). This piece for flute, cello, and painter was written for the painter and composer Caroline Bordignon, inspired by the

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atmosphere created in her works. For me, Caroline's paintings evoke delicateness; her choice of colours, the shape of the brushstrokes, and the overall structure of the image on the canvas create a very soft and blurry sensation. Both flute and cello create ethereal textures with small abrupt interruptions to create musical contrast. The structure of the musical piece is linked to the colours and space of the canvas Caroline uses, as indicated in the score.

In this piece Caroline also takes on the role of performer as Roland did in *Triptych*. In this case, the process was very different as Caroline is also a musician so she could relate more naturally to the idea of spatial elements in music, and she could associate other musical elements with painting as she works in both disciplines. She was also able to follow the score as an additional performer, and the music and painting were perfectly coordinated in motion and time.

While *Triptych* was conceptually focused on different musical and artistic elements (density, textures, and motion), *Schattierungen* explores connections between different musical registers, space, and colours. The piece is divided into three sections.

Fig. 2.11: *Schattierungen* (initial bars).

In the first section (bars 1-36), the painter appears on stage before the musicians. Around 30 seconds into the piece, the painter starts making the first brushstrokes with a pre-selected colour palette that will be used for the whole of the first section (Fig. 2.11). In rehearsals, we worked on connecting colour with the different musical

sections and considered how space could be used on the canvas at different times. The first section starts on the left-hand side of the canvas and the painter uses a higher or lower area of canvas depending on the melodic contour of the music.

This initial part of the piece is played rubato with some abrupt interruptions from the cello followed by long notes and a recurrent ascendant melodic motif (Fig. 2.12). These musical gestures indicate for the painter to complete the left-hand side of the canvas in an extended way and with different effects in the brushstrokes.

Fig. 2.12: *Schattierungen* (bars 15-18).

Section A (bars 1-36) is connected to section B (bars 37-89) by the continuity of the ascending melodic line, as if this line extends and the range of the instruments gets higher (Fig. 2.13). This second passage is much more rhythmic and chaotic, and this is reflected in the painter's brushstroke motions and the way the right-hand side of the canvas is completed with greater dynamism. While the music and painting in section A had a sense of calm and intimacy, this second part is focused on the continuous action-reaction between the music and the painter.

Fig. 2.13: *Schattierungen* (bars 36-37).

Finally, after an intense ending of the second section, the last section of the piece consists of very quiet and delicate sounds, which greatly reflect my perception of Caroline's work in the piece. These last passages include a lot of air and whistle tones from the flute, and sounds made from bowing behind the bridge from the cello (Fig. 2.14). These sounds are designed to create an ethereal texture in combination with the end of Caroline's painting. At this stage in the piece, the painter is free to use the full space of the canvas, mix both the colour palettes, and add new colours. In addition, after the music ends, the artist is allowed to continue painting in order to feel that the piece is completed under her artistic views.

Fig. 2.14: *Schattierungen* (bars 46-48).

IV. Issues

This section discusses two different topics – first, synaesthesia, and second, issues that resulted from including painting in music performances. I do not experience synaesthesia or observe patterns of synaesthetic experience when composing. I work in an intuitive way with colour, taking into consideration some of the cultural

connotations certain colours may have, as we will observe in the following chapter with the colour black. Nevertheless, it is important to acknowledge the existence of synaesthesia and how it may affect the ways my pieces are perceived.

Synaesthesia is the connection between different senses, with an initial experience (inducer) activating a second experience (concurrent). In terms of music, it is based not just on the connection between sound and colour, but also between sound and other concepts such as shapes, textures, and space (Curwen, 2020).

> (…) broadly classified four groups of 'inducers' related to compositional style, timbre, tonality, and pitch (or tone). These may be further differentiated to include relationships between colour per individual composer, colour and certain keys, and colour occurring from differing harmonic progressions. It is not uncommon for synaesthetes to experience combinations of these different types, and the idiosyncratic nature of the condition frequently results in individual synaesthetes disagreeing about the colours and imagery associated with musical inducers.
>
> (Curwen, 2020, p. 95)

We can all relate different musical parameters to colours, shapes, and other visual elements. While I do not consider myself a synaesthete, I do associate certain colours with certain registers or techniques, as we will see in the case of black with lower pitches and techniques like flutter tongue.

In some cases, individuals have perceived the link between music and colour very strongly.

> In explaining the quality of synaesthetic colours I am reminded of a story told to me at a conference dinner by Julian Asher, a sound-colour synaesthete who is also a synaesthesia scientist. (…) he himself experiences synaesthetic colours in response to the different timbres of musical instruments. So for Julian Asher, piano music is a deep purple colour, cellos make music that is the colour of golden honey, and violins are the burgundy colour of red wine. These colours are so tangibly real for Julian that as a child he assumed they were part of the general experiences of everyone.
>
> (Simner, 2019, p. 6)

During my research, I worked with artist Ali Barker, who is a synaesthete. Many of her paintings are based on musical pieces, which she translates into her associated colours and geometric shapes and/or thick brushstrokes. The piece Barker took part in – also in collaboration with Roland Keogh – is discussed in detail in the fourth chapter of this thesis. Barker shared with me some of the visual connections she makes with sounds (including daily noises), colours and shapes. Shapes are related to rhythm in most of her works, while harmony and timbre have a stronger link with colours and space. She has designed a table of the connections she perceives between sounds, colours, size, and shape, but asked me not to make it public as she prefers to keep it for herself and her collaborators. When I was working on the piece in which she was involved, I considered her use of colour, shape and space in a more aesthetic way, rather than following the synaesthetic experiences she had documented in her table.

Second, in this section I address the issues that arose during the creation of my pieces and the preparation for their performance. In particular, I discuss those that came up as a result of the inclusion of painting in concert performances.

Triptych is the first pictorial composition I created during my PhD. Therefore, it established many new boundaries and caused me to reassess some of the ideas I had had during the first stages of my research. Initially, I had thought it would be easy for painters/artists to understand the connections between music and visual arts, and I had assumed they could easily follow musical structures and coordinate themselves with the musical performers. When I was composing *Triptych*, I always kept the painter in mind, and I included sudden musical changes that could act as directions for the artist. However, when I rehearsed with Roland Keogh in his studio, it became apparent that these changes and cues were not as clear for a non-musician as I had thought, and he struggled to both follow the score and create the painting at the same time. As a solution, during the performance I had to indicate to him when changes and stops were about to happen by tapping on the bench on which I was sitting.

Another matter was the sound of Roland's tools, which was amplified in the Gallery where he performed. The acoustics of the venue were very different to Roland's studio, so we had not taken this into account. However, despite this, I really liked how the

sound of the palette knife and bucket merged with the music and made Roland not just a visual performer but an unexpected sound performer too.

Image 2.2: Image from the event *Triptych.*

Triptych has been one of my favourite pieces to compose and organise. The image above shows how the performance looked – music and painting combined with three easels and three music stands in a gallery, which exemplifies a perfect alternative to the conventional concert hall.

The process for *Schattierungen* was very different to *Triptych*. As I wrote the piece for composer and painter Caroline Bordignon, her being a musician meant it was clear from the beginning that the coordination of visual art with music and the strict sense of time would be more straightforward. This made me think I could introduce more variety and small challenges to the piece. For example, the beginning and end of the composition are purely visual – for the 30 seconds before the music begins, Caroline has already started to paint, and after the music finishes at the end of the piece, she is free to extend the painting until she decides it is finished. This created an unclear situation for audiences. The second time the piece was performed was at APT Gallery in London. When Caroline started to paint, people in the gallery did not realise the performance had started, which meant that when the musicians started to play, there was still loud talking in the background, and the attention of the audience was

elsewhere. I do not understand this to be negative, as it breaks conventional classical concert etiquette, which is one of my aims. In addition, having no seats and an open beginning and end to the piece meant the audience could be more flexible, as they could decide which parts of the piece to observe.

The gestures and coordination between music and painting in this piece were very evident – perhaps too coordinated in my opinion. While in *Triptych* the music and painting were not fully coordinated but worked together with the same pictorial and musical concepts, the visual art performance in *Schattierungen* is very closely related to the music, with obvious alignment such as the artist painting in the upper part of the canvas when musical pitches are higher. This makes for a very effective multidisciplinary work, but I perceive the close alignment of painting and music to be too obvious.

The pieces discussed in this chapter correspond to the initial aims of my research. I originally thought my research would be structured by the connections between music and painting, exploring common elements between the two disciplines. Nevertheless, through rehearsing and working on these pieces, I discovered that the main issues to address related to the practicalities of performing music and visual art works effectively and creating perceptible interactions between the disciplines. The next chapters observe how these thoughts developed my creative practice, explaining the importance of notation and coordination between visuals and sound.

Chapter 3: Collaborative works

A crucial part of the process of creating my PhD composition portfolio has been gaining inspiration from other artists and their art forms, and the exchange of information between myself and other artists. For that reason, I decided that one of my research interests would be how my compositional style has changed since working with professionals from other disciplines, and how I view my music to support other art forms in collaborations. Although I have composed pieces in collaboration with professionals from scientific fields as well, I focus on pieces created in collaboration with those from the artistic industries.

I. Collaborative practice in performance

Dialogue between professionals from different disciplines can bring new perspectives to all parties collaborating on a work. The collection of information and findings from this common dialogue constitute another way of practice-based research (Blain & Minors, 2020).

There is a strong precedent for collaborations between artists and musicians, for example Charlotte Moorman and Nam June Paik and others mentioned in chapter 1. Cellist Yo-Yo Ma notably worked with professionals from other disciplines in the late 1990s, recording Bach's *Suites for Unaccompanied Cello*. Different art forms were incorporated into a collection of videos that appeared together with his recording of the *Suites.* These included dancers, visual artists, and a landscape designer, among others. The process of working on these collaborations was documented and shared with the audience and presented both the positive and negative issues that arose while working together. The programme integrated music performance, modern technology, and collaboration, achieving a new amalgam of different art forms (John-Steiner, 2006).

Igor Stravinsky found that collaborating with the dancer George Balanchine Stravinsky caused him to perceive his own music in a different way. He wrote the following text about *Movements* (1963), one of their collaborative projects:

> To see Balanchine's choreography of the Movements is to hear the music with one's eyes; and this visual hearing has been a greater revelation to me, I think, than to anyone else. The choreography emphasizes relationships of which I had hardly been aware—in the same way— and the performance was like a tour of a building for which I have drawn the plans but never explored the result.
>
> (Stravinsky & Craft, 1966, p. 25)

Stravinsky's vision of his music changed when dance was included. The addition of a visual element to a musical composition, making it an audiovisual rather than purely sonic experience, means the listener experiences the sound differently.

In a similar way, my piece *Dans les Noirceurs* (2017-18) for five singers and contrabass clarinet creates a particular audiovisual experience in performance. The addition of not only the video that accompanies the piece, but also the lighting of the concert venue (completely dark), created a deeper connection between the music and the overall audiovisual experience. During the performance I was very conscious of some of the decisions I had made when composing the piece. For example, I noticed the transition between the first two sections (bars 24-40), and how the music merges with the entangled voices, starting after bar 40. This transition is synchronised with the gradual unveiling of a mass of black painted hands, which is finally revealed after bar 40. The image and the music support each other, reinforcing the words of the poem and the full structure of the audiovisual work. Therefore, the three elements (image, sound, poem) work together, transforming the ways in which they are perceived and deepening each one's contribution to the work as a whole. John-Steiner reflects on transformation through collaboration as follows:

> Artists working together combine their different perspectives and their shared passion to shed the familiar. In fashioning novelty, it is often hard to overcome practiced modes of seeing and creating. (…) Transformative contributions are born from sharing risks and challenging, appropriating, and deepening each partner's contribution. Individuals in successful partnerships reach beyond their habitual ways of learning, working, and creating. In transforming what they know, they construct creative syntheses.
>
> (John-Steiner, 2006, p. 96)

As a result of working with professionals from other disciplines, I have developed new visions of my work. In the next sections of this chapter, I explain how working with poets and visual artists has changed the way I compose, challenging my writing style and encouraging me to take further steps into improvisation. The last chapter of this thesis gives evidence of how my writing has evolved, in particular in that performers have more options when they interpret my pieces – this change has come as a result of the collaborations I have done, and in my search for synchronisation between disciplines. Because of this, the performers become collaborators themselves, contributing their own ideas to my pieces rather than simply reading traditional notated scores.

New forms of dialogue and expression between performers and creators have been borne out of intuition and the search for new connections within the performance arts industry. For example, Soundpainting was created by musician Walter Thompson in 1974 to communicate changes to other performers when performing some of his semi-improvised pieces. He created some intuitive musical gestures that would be interpreted in the same way by all the musicians. This meant the performance could change course in the moment, as physical gestures indicated changes in different musical parameters. This process is considered a collaboration; the Soundpainter responds to the other performers, gives them directions, and they co-create a common work responding to each other in real time (Blain & Minors, 2020).

> As a Soundpainter, performer and a researcher, my rehearsal notes document that I often question myself about what it is I heard and why I responded in the way I did. (…) I became aware that as a Soundpainter I hear the combination but often I am focussing on specific sections of the group to decide what to do next, and so my experience is not that of an equal digestion of every element, it is selective.
>
> (Blain & Minors, 2020, p. 126)[13]

In the same way, when I collaborate with artists from other fields, I select the common elements or artistic components that I find most inspiring to my own practice. I am guided not by the full poem, video, or painting, but by the smaller structures and

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[13] Extracted from Minors' case study, which reflects her own personal experience as a Soundpainter.

elements within them. In the next section, I explain which aspects of my collaborators' work I extracted, and the process I used to turn them into music.

II. Commentary on my pieces

Philomela (2017)

As I mentioned in the previous chapter, *Triptych* was the first audiovisual piece I composed to develop my research. However, the first step I took towards working with artists from different fields was a different piece, *Philomela*, which I composed based on a poem with the same name written by Georgi Gill.[14]

This project was the first one in which I was involved as a PhD student. It made up part of the Rosamond prize 2017 event organised by the RNCM School of Composition and the Creative Writing Department of Manchester Metropolitan University. When I first heard Gill reading one of her works, I thought there was a very deep connection with my music, somehow conceptual. It was dark but bright at the same time and I felt that her words could help me develop sounds and structure. She also talked about the music she listens to. The way she described this music and the musicians she mentioned were the final signs for me to approach her to suggest working together.

After some online discussion, she sent me various drafts of *Philomela*, a poem based on a mythological woman who lost her tongue and developed wings. I was inspired by all the words Gill sent to me and made brief notes describing the music that would accompany her poem.

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[14] The poet Georgi Gill introduced me the Myth of Philomela. This Myth has a very strong feminist connotation. The protagonist suffers different kinds of abuse: she is silenced, raped and mutilated. These horrible circumstances evoked the strings sounds such as bowing behind the bridge and making scratch tones, recalling the hard experiences Philomela encountered.

Dreaming, Philomela walks her mind's full length,
looking for her tongue. (Here I imagine quiet quick textures with the flute and
cello plucking the strings in the background while the singer recites)
Look – it's there – red stump, redundant stump
nestled in a bin, (The previous texture gets louder and denser to an accented
chord with resonance, this chord will be the "non-tongue" motif)
a bin overflowing with words, (the word "words" can be repeated
many times, as an echo, the instruments are just doing a very soft
resonance held from the previous section)
with scraps of sound, of thought. (Some echo of the very
first section)

Fig. 3.1: *Philomela* opening. The original poem is in black and my first comments sent to Georgi Gill defining the music are in red.

The musical structure took the same shape as the poem and several of the musical gestures were based on the meaning of the words. There are moments where the music describes and helps to define the text; here I explain the four most remarkable ones.
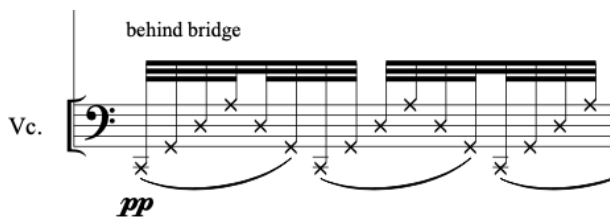
Fig. 3.2: This cello gesture of demisemiquaver ostinato open strings behind the bridge (bar 44) is the metaphoric sound of Philomela's wings movement. This motif appears in different moments of the piece.
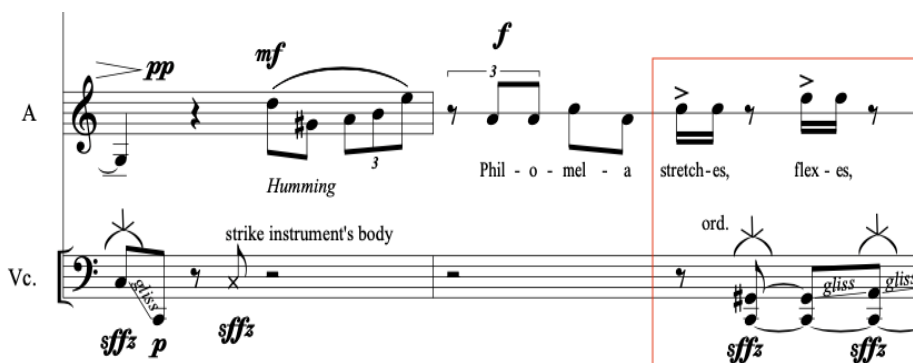
Fig. 3.3: Maximum bow pressure supporting the words "stretches, flexes" (bar 50), as if the strings were evoking the action of stretching and flexing.

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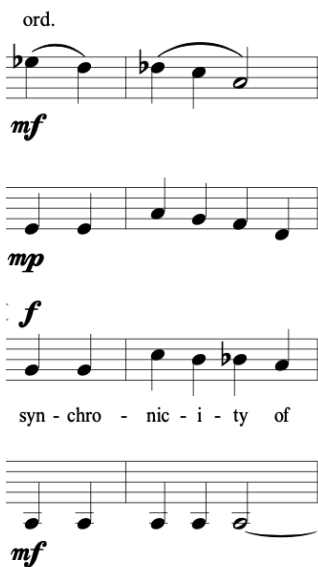
Fig. 3.4: The piece includes many irregular rhythms; the only two bars where all the instruments create a homophonic texture coincide with the word "synchronicity" in the poem (bars 62-63).

Fig. 3.5: At the end of the piece, the poem finishes with the word "heart". Both flute and cello recall a heartbeat rhythm with percussive sounds (bar 72-end).

Besides these examples, there are other musical elements in the piece that carefully support and reinforce the meaning of the poem, like the use of percussive sounds in the flute and cello evoking the sound of teeth, flute trills recalling birds, and the use of lower registers and a descendent glissando in the cello reflecting Philomela's monsters. While this piece is not itself a visual collaboration, it was crucial in the development of another important collaborative audio-visual piece, *Dans les Noirceurs[15].* This piece is an interdisciplinary work created in collaboration with Èlia Navarro Valverde (visual artist) and Georgi Gill (poet).

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[15] The collaboration *Dans les Noirceurs* is presented in two different versions: five singers and contrabass clarinet, and an orchestral version with three soloists (baritone voice, bass voice, and contrabass clarinet).

Dans les Noirceurs **(2017-2018, 2019)**

The first idea for this project started in April 2017 after Georgi Gill and I attended the Rosamond Prize event in the Royal Northern College of Music in Manchester. Our first collaborative piece *Philomela* was premièred at this concert, and after having had a very enriching experience we started to plan future possibilities for collaboration.

Èlia Navarro Valverde and I first met while studying for our undergraduate courses at the Escola Superior de Música de Catalunya in Barcelona. Navarro Valverde was then studying to become a composer and she later studied visual arts at the FHNW Hochschule für Gestaltung und Kunst in Basel. As my research was becoming more focused on the co-creation of music and visual arts, we planned to work together at some point in our careers. In her work she deals with aesthetics from a material point of view, which gives her space to explore the textures, angles, light, sounds and other forms that fascinate me. I believed that some of these elements could be explored in conjunction with my music and Gill's words to create a common work that would include not just visual art, music, and poetry but also the relationship of these three art forms with space and light, and how they are perceived by audiences.

The project began to have some structure and a topic: the colour black. As soon as the topic was decided, we all started to imagine how to reflect this concept in our corresponding disciplines.

Pastoureau starts his book *Black: The History of a Color* (2009) by pointing out that in the Bible darkness preceded light. "In the beginning, God created the heavens and the earth. The earth was without a form and void: darkness was upon the face of the deep, and the spirit of God was moving over the waters. God said, 'Let there be light', and there was light. God saw that the light was good; and God separated the light from the darkness" (English Standard version Bible, 2016, Genesis. 1:1-5). In the theory of the Big Bang, dark matter is the origin of the universe. Most conceptualisations of the beginning of the world envision black (night, emptiness) as the origin, the beginning of creation; this is a near-universal understanding that can be found in diverse cultures and belief systems all over the world. Black has also been a symbol of fertility in the Middle East and ancient Egypt, and one of the four elements: black is earth. In

medieval societies black was also the colour of artisans and labourers (Pastoreau, 2009).

From a spatial point of view, black has always been associated with caves, underground passages, and other dark venues – places where gods were born but also where dangers, monsters and misfortune could be found. As Pastoureau writes, "humans have always been afraid of the dark" (2009, p. 24). For Greeks and Romans, black was considered to represent death, and for Christians, black and red have been associated with the inferno. The colour black also had positive associations such as authority, dignity, and humility, but from the High Medieval period the colour lost these positive connotations and came to be understood as the colour of the devil. This meaning was also extended to darker and nocturnal animals, such as the cat, crow, and bear. In Christianity, all dark colours were odious as they were the opposite of light and the colour white, which represented the figure of God (Pastoreau, 2009).

This idea of black being compared with caves and hidden places was the inspiration behind the proposal that the performers should be offstage, evoking a kind of mysterious space like an underground passage. We began to discuss what kinds of sounds we imagined for the piece. We obviously needed voices to express Gill's poetic voice. First, I suggested male voices (except for countertenor) because the lower range gives their sound a dark nature. Navarro Valverde suggested that a lower female voice in addition would help to create some contrast with the male voices and would also open the range of the piece so we could have some light to contrast with the darkness. Therefore, we included a mezzo-soprano voice, and this addition, along with the idea of it being a hidden location, was a key decision in the setting of the piece. We decided to have the mezzo-soprano singer on the stage and the other singers would not be visible to the audience.

Poems and score

The piece is structured around three different forms of black: black as darkness (bars 1-40), black as object (the improvisatory section immediately after bar 40, finishing before bar 41), and black as its shadow (bar 41-end). As for the visual element of the piece, the video shows a progression starting with the unseen. The first section shows

unidentified gestures behind a veil in response to an undefined element in the darkness. This gradually develops into a clearer view of what the veil was hiding – hands covered in black paint. These hands are entangled as a metaphor for the colour black being an entanglement of all colours. Finally, an abrupt change leads to the image of the hands, covered in paint, dripping water into a small puddle; this reflection in the water evokes the reflection of a shadow.
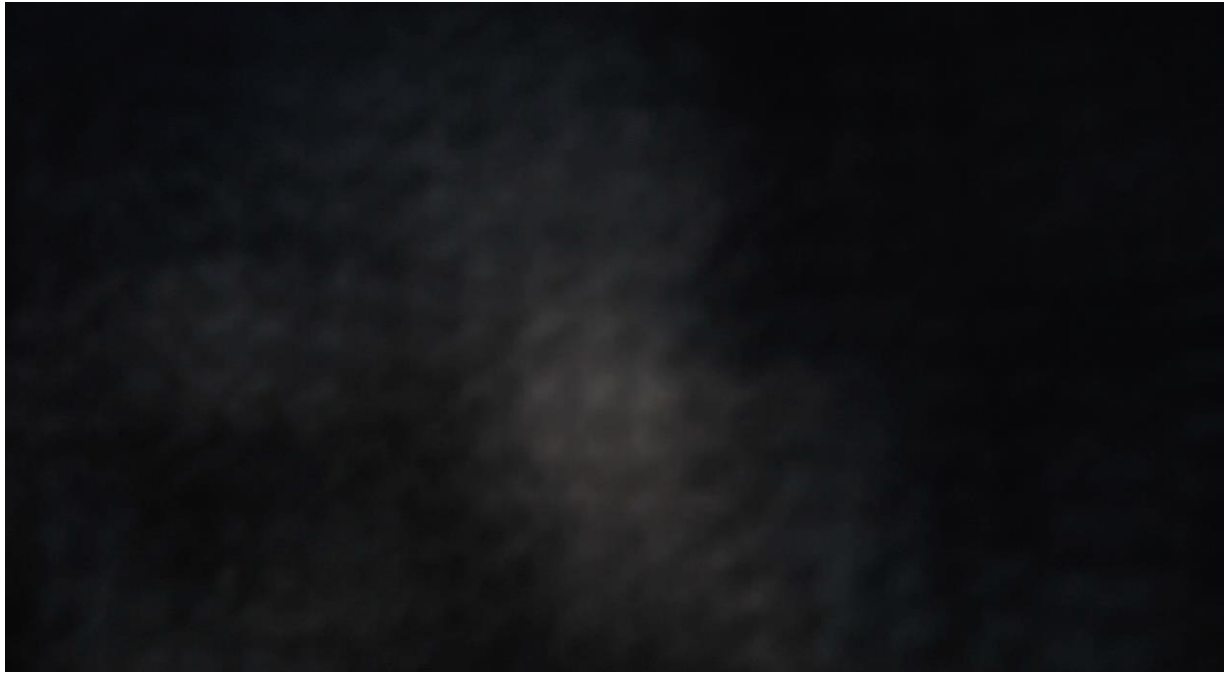
Image 3.1: Extracted from the video of *Dans les Noirceurs*. First section, the darkness.

Image 3.2: Extracted from the video. Second section, a black object.

Image 3.3: Extracted from the video. Last section, the shadows.

For the words, the poet followed these same principles, as I did too. Her first poem consists of a list of objects that are naturally black or evoke this colour, for example, coal, ebony, olive oils, and sweet necrotic flesh. At some points in the poem the word "black" is inserted, almost as if it were interrupting and obscuring the other words. The black object poem is concerned with definition and sculpture and refers to well-known artists in lines such as "noir in a Renoir". The final poem has a palindromic structure in how the lines are laid out, with the middle line acting as an axis. These poems can be found in full in the appendix of this thesis.

All these visual and poetic elements can also be observed in my music. To compose the first section, *Darkness*, I considered the way the words were laid out in the poem, with interruptions. The mezzo-soprano is given the task of listing the black objects while the male singers repeat the word "black" to try to prevent the mezzo-soprano from being heard. The singers say "black" louder and louder as the section progresses, and the section finishes with a long low sound from the contrabass clarinet that leads to the transition into the black object section (Fig. 3.6). I particularly like this transition and how it gradually merges the first section of the piece into the second, with the tenor voice leading the incursion (Fig. 3.7).

Fig. 3.6: *Dans les Noirceurs*. End of the *Darkness* section and beginning of transition to *A Black Object.*

Fig. 3.7: End of transition and beginning of second section (bars 37-41 and start of improvisation).

In the image above, we can observe how the tenor extends the written-out phrase "Let me define you" at the end of the transition into the open score that will be the second section. The idea of sharing the lines of the verses between voices is a way of representing the entanglement of all colours that makes up the colour black. Along with the image of entangled hands in the video, the coordination of this mass of sound is effective as both audio and visual respond to this principle. In performance, the performers used timers to ensure that every section was coordinated accurately. I had not used timers in my pieces before as I would usually write all directions exactly as intended, including every note, rhythm and tempo. Instead, in this piece, the performers had more freedom so that there would be more natural synchronisation between the visual and audible elements of the piece.

Finally, I used canon technique to the set the palindromic poem. The male choir starts from the end of the poem and the mezzo-soprano from the beginning, with both of them arriving at a common end, which is the axis line mentioned before: "just sooty scrapes of lampblack". The voices echo each other, creating a constant musical action-reaction, which represents an object and its shadow.

Fig. 3.8: Extract from the last section, *Shadows* (bars 51-54).

As we can see in Fig. 3.8, this section is written in a more conventional manner. The notes and exact rhythms are written out, and, though it is not shown in this extract, the metronome mark is 60 crotchet-beats per minute. I intentionally used this tempo as it is considered natural for performers to feel, since it correlates with seconds; I wanted it to be easy for the performers to follow as they had other challenges to contend with, such as playing in synchronisation with the video, the darkness of the venue (which I required), and the layout of the performers, with the mezzo-soprano being the only one on stage and the rest of the performers on a balcony. The contrabass clarinet – the only non-vocal instrument – could help singers with some of their key notes to help them stay in tune.

Orchestral version

The orchestral version of the piece has a lot in common with the initial one. It is its own individual work rather than simply a different version, but the result is still a reflection of the original collaboration. I did not feel fully confident when I wrote this piece as I had not composed for orchestra before. I prefer to work with smaller groups of instruments where I feel I can control every sound, and I particularly enjoy composing for unconventional combinations of instruments as this enables me to give a more personal character to my pieces. Of course, conventional orchestral writing has a very characteristic sound, which I wanted to change and make my own. I did create a different kind of orchestral sound with this piece, partly on account of having three soloists, contrabass clarinet, and baritone and bass singers.

I intentionally wrote a very simple score in which many instruments did not have lengthy sections to play, particularly the brass. When they are used in an exaggerated way, brass instruments can bring strength to the overall sound of the orchestra, but I was looking to create a more delicate and controlled blend of textures, where the mixture of instrumental voices would act as background support for the soloists and at the same time produce a tense atmosphere. Tense moments were successfully achieved, especially in moments when the orchestra would reach silence after a great mass of sound, for example in bar 130 where the baritone sings on his own after a big crescendo in the orchestra.

As the piece is based on the colour black, for the first section of the piece (bars 1-146), which relates to darkness, I created a dark musical atmosphere by writing in the lower registers of low instruments. This dramatic beginning perfectly reflected my idea of darkness, a darkness trying to get over the sounds produced by the soloists – the baritone and contrabass clarinet at this point in the piece (see Fig. 3.9).

Fig. 3.9: Initial bars of woodwinds, brass, and percussion.

One of the more surprising elements of the piece was having one of the soloists performing off stage, and also the fact that this soloist's part did not begin until near the end of the piece, when the audience would not be expecting any new voices. The first words he articulates are "let's overlap, let's crosshatch", which I thought it was a great moment for him to begin singing, overlapping with the baritone singer (Fig. 3.10). Having him hidden also worked as a response to the idea of the hidden black, a cave, the occult, and in addition, I wanted to keep this surprise element from the first version of this collaborative piece.

Fig. 3.10: First "appearance" of the Bass singer – off stage (bar 181).

Just as in the first version of the piece, the different sections respond musically to three different concepts. The first section is an action-reaction between the orchestra and the baritone singers, as before. A problem arose here in the context of it being an orchestral piece; if I made the orchestra louder so the singer would not be heard, it might seem like I had not considered the balance of the orchestra with the soloists. As a solution, I decided to separate the soloist's passages from the orchestral interruptions, just as it happens in the poem (Fig. 3.11). The word "black" does not actually interrupt the words themselves but is located between some of the words in the list so we can still understand the meaning of the words.

Fig. 3.11: Extract from the first section, *Darkness* (bars 35-48).

For the second section (bars 147-184), I worked to keep the feeling of entanglement that was created for the first version. In order to do this, I combined the soloists' parts with the rest of the orchestra to evoke this idea of entanglement. The result was not as effective as I would have liked, as even though I was careful to balance the dynamics of the instruments and voices, the orchestra was still too loud at times and the words could not always be heard. The final version submitted in the portfolio attached to this thesis is different to the one used in the recorded performance. In order to get a better balance of volume between the soloists and orchestra, I removed some instrumental sections (for example, the double bass in bar 148), changed some dynamics (for example, brass in bar 152, timpani in bar 158, woodwind in bar 161). I also gave a louder dynamic to the baritone singer in some places (for example in bar 154).

Fig. 3.12: Extract from the second section, *A Black Object* (bars 161-163).

Finally, the concluding section, *Shadows* (bar 185-end), bore the most resemblance to its counterpart in the first version of this collaborative piece. The contrabass clarinet and vocal parts were extracted from the first version of the piece. The baritone melody was like the mezzo-soprano part in the original piece and the bass singer's part used echo in a similar way to the male voices in the original piece. In addition, the way the text was divided up in the music was the same as in the original. Both voices and the

contrabass clarinet were also supported and echoed by different instruments in the orchestra, creating the feeling of constant shadowing – canon.

Fig. 3.13: Extract from the last section, *Shadows* (bars 209-212).

In the Hope of Rain (2018)

In 2018, I was selected to participate in the Manchester Contemporary Youth Opera. This is a two-week course that ends with the performance of a short opera. For this project, I worked with the librettist Andrew Turner. Turner was very interested in tragic stories that had taken place around canals in this country. His libretto (see appendix) traced the history of a couple, Lucy and Tom. Lucy dies from drowning in the local canal and Tom is desperate to meet his loved one again. The opera explores Tom's state of mind as the canal and rain try to persuade him to kill himself by jumping into the water.

Two clear ideas came to me from the initial conversations I had with Turner. The first was that I wanted the canal and rain to be characters – abstract characters rather than just human. The second was that I wanted to include a narrator, as it is common to

have a narrator role in theatre tragedies from ancient Greece and by William Shakespeare. I was pleased to find that we could write for countertenor, as one of the singers taking part in the project could sing in this range, and I thought this register would be perfect for the role of the canal.

Inspired by the monotonous sound of rain, I created the following ostinato motif that would appear in the different sections of the work (Fig. 3.14).

Fig. 3.14: Rain Motif. Violin (bars 21-22).

The meter of the piece and many of its rhythmic patterns are based on the irregularity of raindrops when it is raining. Since we can interpret different beats and groups of sounds from the sound of rain, which are never the same, I decided to use an irregular time signature with differing subdivisions (Fig. 3:15).

Fig. 3.15: Meter of initial bars.

The piece is a collaboration, not just between the composer and librettist, but also with contributions from the performers. An improvisatory section in the opera allows performers to take inspiration from a video of a painting by the artist Roland Keogh. In the video he is painting a canvas, inspired by the libretto of *In the Hope of Rain.*

Image 3.4: Projection of Roland Keogh's work during the performance.

Another particularity of the piece is that it has two possible endings. Tom, the protagonist, can decide either to jump into the canal or to step back. Depending on his decision, the final instrumental bars will be different (Fig. 3.16).
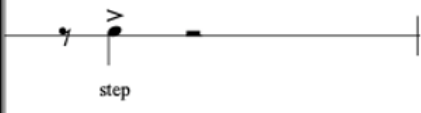
Fig. 3.16: Final bars, showing the two different options (bar 113a and bar 113b).

III. Issues

One of the main issues I experienced during the creation of *Dans les Noirceurs* was the fact that the three of us were based in different countries. This made the process of collaborating slower but meant we had more time to reflect on our ideas between online meetings.

Through these collaborations, I aimed to effectively synchronise visual elements with music. It is a frequent occurrence that the connections between these elements can get lost in the score or can feel too forced. To solve this issue, I decided to be more open with my writing style and gave the performers adequate space to be inspired by the visual elements themselves in the moment. This helped to make the fusion of both disciplines feel more natural.

While we were working on the first version of *Dans les Noirceurs*, all of us collaborating on the piece had some conversations about concerns to do with gender, as the only female singer would be performing on the stage while the other performers (all men) confronted her from a higher location (the balcony). This topic is extensive and complex and deserves to be examined carefully; it therefore falls outside of the remit of this thesis.

At the stage of writing these pieces, my practice as a composer was focused on connecting and synchronising the visual and audible elements of concert performances. This led to my scores becoming more open and introducing improvisation. At the same time, I began to challenge other aspects of conventional concert performance such as layout and lighting, which I had not previously been concerned with, as these enable audiences to appreciate and understand multidisciplinary works. Equipped with these new interests and skills, I was drawn towards the topics I address in the next chapter: art and graphic scores.

Chapter 4: Art and graphic scores

Working with professionals from other artistic disciplines has expanded my artistic vocabulary. One of the artistic concepts that interested me the most was 'medium'. In fine art, medium refers to the materials and tangible elements used to create art, for example, canvas, acrylic paint, paper, and oil paint. When composers create a piece, we do not work with the medium itself – if I compose a piece for orchestra, I do not physically work with the instruments that make up an orchestra, but I consider the sounds that they can make. Of course, I am referring to acoustic music – in electroacoustic music composers work directly with medium itself: the recorded sound. Given the transformation of my compositional style into one that uses more improvisatory language, I decided to change the way I presented my scores. My new scores guide performers using different art forms; these pieces could not be performed without the visual elements.

By the end of my PhD, I had become more interested in giving performers the freedom to be inspired by visual arts in performance. This was an unexpected consequence of my research; I had not imagined before that coming into contact with fine arts would cause my compositional style to develop in this way, leading me to use musical codes that differed from conventional music notation. This development does not mean that I provide fully open scores, but instead, time-guided and motivic scores with clear structure and some limitations, which allow performers to make some of their own decisions within the constraints. When I started my PhD, my view of music notation was much more rigid; I strongly believed that composers should control every single idea, rhythm, dynamic and gesture in their music. My perception of music scores and what they could offer changed gradually, beginning in my second year of research studies (2018) as I began to search for more natural synchronisation between visual and audio elements of my compositions, as we have seen in previous chapters.

I. Aleatory Music

As mentioned in chapter 1, the development of musical language in the twentieth century gave rise to the appearance of new symbols in scores to direct performers in

performance elements that had not previously been observed in scores, such as specific performance actions. The inclusion of gestural directions, graphics, and shapes means scores can imply multiple interpretations. The piece being performed is always the same one, but each performance is different and unique (Jvania, 2017).

From 1945, composers such as John Cage, Pierre Boulez, and Iannis Xenakis produced pieces in which performers had a choice of interpretation; these were like musical games where the sounds performers made were the result of guided spontaneity. Frequently referred to as aleatory music (Kennedy et al., 2013) examples include Boulez's *Troisième Sonate: Formant 3 - Constellation-Miroir* (1955-1957), and Xenakis' *Pithoprakta*[16] (1955–56). Boulez defines *aléa*[17] as chance within a controlled situation (Ternkamp, 1976). Some of my pieces explained in this chapter respond to this idea of limited probability. This is the case with *Audiovisual Conversations* (2019) and *Pigments* (2019); both scores include precise graphic and verbal guidance, but even following these indications there is an infinite palette of sonorous possibilities which could also vary each performance of the same piece. Prior to the start of my PhD, as a composer I used conventional notation guide decisions on the performance of my works. In the process of combining music with visual arts I became interested in adopting a less rigid approach in my compositions and giving more agency to performers to perceive and translate visual input into sound. Initially I had doubts about how to approach this new writing style and the consequent effect on my works, especially as it involved losing control over some of the musical parameters. I felt I was having to give authorship of my pieces away to achieve a greater degree of collaboration between artists, performers, and myself.

As Frank Hoogerwerf explains in his article *Cage Contra Stravinsky, or Delineating the Aleatory Aesthetic* (1976), composers' creativity is in organising abstract sounds into something more coherent.

> The concept of music as personal, individual expression is essential to the traditional aesthetic. This view sees the human intellect consciously manipulating abstract sound materials, shaping them into a coherent whole, as the essence of

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[16] *Pithoprakta* means "actions through probability".
[17] Boulez makes a distinction between pure chance, and *aléa*.

compositional activity. Stravinsky begins the Poetics by voicing a recurrent leitmotif: that the art of composition is one of "speculation in sound and time".

<div align="right">(Hoogerwerf, 1976, p. 238)</div>

While the nature of my new scores would not allow me to fully organise the sounds, I could still develop the concept behind them and decide the overall direction of the piece. All my verbal, graphic and video scores include time guidance and most provide a pitch selection as well, as I explain further in this chapter. The inclusion of these parameters in the scores mean I am still in control of the concepts of sound and time[18].

John Cage's *Solo for Piano* (1957-8) is a clear example of a work with many different possibilities for interpretation. The score consists of 63 pages with different types of abstract graphic notation combined with some elements of conventional music notation (see image 4.1). The score is also considered a piece of visual art and has been exhibited in galleries such as the Museum of Modern Art in New York (MoMA) (Thomas, 2013).
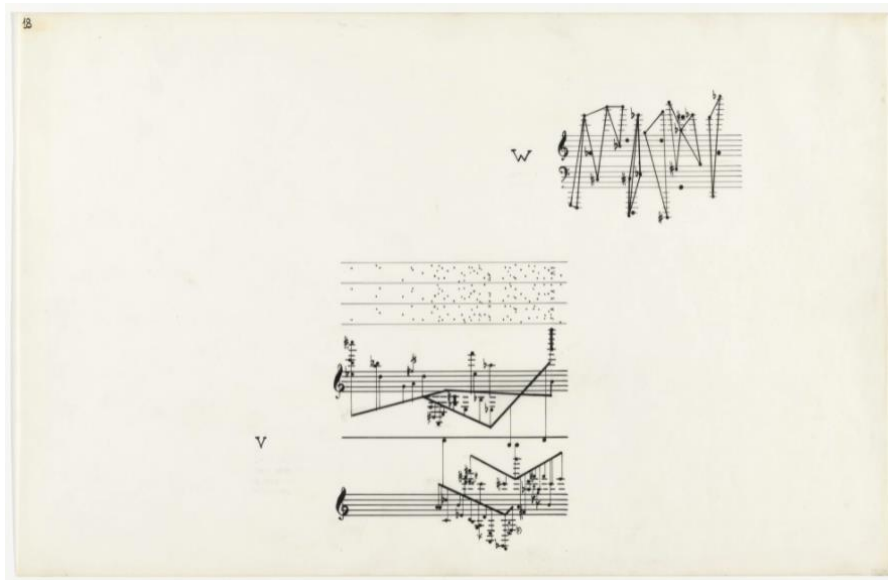
Image 4.1: Cage's *Solo for Piano.* Page 18 (MoMA, online).

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[18] This also responds to Zamacois' definition of music as "the art of organising sounds in time" (1983), included in chapter 2.

Different pianists interpret Cage's *Solo for Piano* in different ways, and some will perform different interpretations each time they play it. The duration of the piece is not established so performers must make this decision for themselves, and there are other decisions to be made over other musical parameters.

Philip Thomas describes his approach as follows:

> Before I outline my approach, it is important to stress that it represents my preferred method, one that in many ways reflects my own personal tastes and curiosity. As mentioned earlier, Cage offers no indication of a preferred or correct methodology. I have thus far made two realizations, both following more or less the same procedure, though the first realization was for a forty-five-minute performance and the second for a twenty-minute performance.
>
> <div align="right">(Thomas, 2013, p. 95)</div>

Thomas' method observes page repetitions and omissions, dynamics, duration, extended techniques, and so on. The piece has infinite routes. Some elements of the score can be ignored if the pianist considers it appropriate, and repetitions of the same page, or part of a page, are allowed.

Contrary to Cage, in my compositions I am still in control of the general form and length. All the pieces mentioned in this chapter include different possibilities for interpretation and improvisation, but their duration and structure are limited. As I will explain further, these limitations are achieved through the timing of the videos (for example in *Tom's Piece* and *Audiovisual Conversations*), a pre-established timeframe (for example in *Pigments*), or by the combination of graphic scores with traditional musical notation (for example in *One, Two, (HIDDEN), Four*).

II. Commentary on my pieces

Breaking away from conventional musical notation brought me to the concept of visual scores, including using video art in place of a score, with some written directions, as in the case of *Tom's Piece* (2019) and *Bodypainting* (2019). Both pieces are partly traditionally notated, but performers have the freedom to interpret the colours and gestures in the video art.

In *Tom's Piece*, written for contrabass clarinet and cello, the performers have different motifs to choose from depending on the different techniques and colours they see being used in a video that shows the process of painting by the artist Thomas Sloan-Kirton. In *Bodypainting*, for mezzo soprano/bodypainter, bodypainter, and cello, the score gives directions for how the painting should respond to different musical gestures made by the mezzo soprano and cello. Two sections are fully written out in the score in a conventional way; these are the first (bars 1-46) and final sections (bars 48-end). The middle passage that connects them does not have a fully written out rhythm, allowing the performers freedom to improvise. In turn, this affects the response of the bodypainter, meaning the bodypainting element of the piece is unpredictable. These two pieces combine conventional notation with improvisation and visual perception (of the art). They are analysed further in this chapter.

Regarding the transformation of my notation style as a composer, the most significant change has been the introduction of additional media, and codes that differ from traditional musical notation, both used to direct performers. Prior to the start of my PhD, I was aware of different ways of notating music but had not considered introducing more graphic forms in my own compositions. Adding visual elements to music performance taught me that leaving space for performers to improvise, with musical and temporal limitations to guide them, would improve the connections made between music and visual arts in performance. When they are not required to follow strict directions from a traditional style of score, musical performers can focus their creative energy on the art they see and respond to it in a coordinated way.

This collection of unconventionally scored pieces includes *Audiovisual Conversations*, for tuba and piano (with art video), *Tom's Piece* (2019), for contrabass clarinet and cello (with art video), *Pigments*, for voice, cello, and contrabass clarinet (with live art), and *Bodypainting* (2019), for voice/bodypainter, cello, and bodypainter.

Audiovisual Conversations (2019)

The score for *Audiovisual Conservations* is presented in video format. For this work I collaborated with artists Roland Keogh and Ali Barker, both of whom I had worked with

before. The piece is written for tuba and piano, and each instrument responds to the aesthetics of each artist's paintings. The piece was part of the New Music Manchester Festival 2019, whose topic was Migration, so the concept for the piece was the everyday conversational and cultural barriers one faces when establishing themselves in a country with a different language.

The video score shows the process of creating a common painting between Keogh and Barker. The artists have very different artistic styles, but the idea of this common work is to achieve gradual communication between them and understanding from both perspectives. The musicians are directed to respond to the artistic gestures in the video, pairing the colours they see with specific instrumental techniques.

Image 4.2: *Bach's Magnificat* by Ali Barker*.*
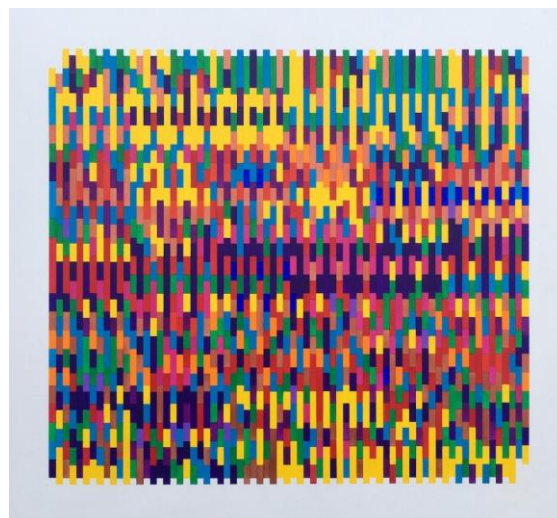
Image 4.3: *Preludio* by Ali Barker.

Image 4.4: *Movement* by Roland Keogh.
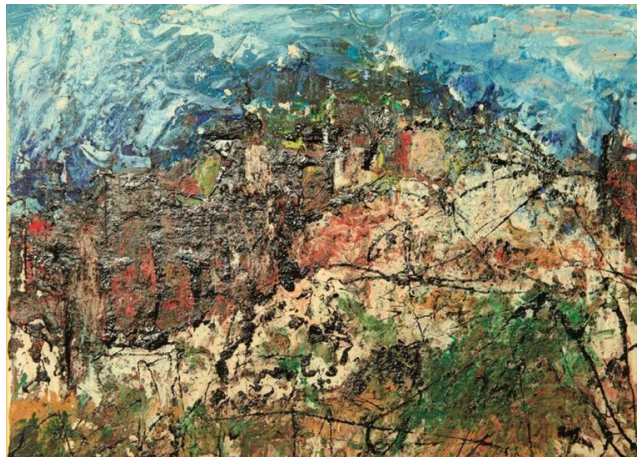
Image 4.5: *Clifftop* by Roland Keogh.

The structure of the piece takes the audience through different stages of communication. It starts with a brief section of isolation (c. 0'-3'00"), in which the artists do not paint at the same time (so the musicians do not play at the same time), but each presents their own language to the other while the other observes their opponent's actions (or listens, for the musicians). After this introduction there is a longer section (c. 3'00"-6'15"), in which both artists impose their own style; this develops into a lack of understanding between them, and the music becomes more chaotic to reflect the miscommunication. In the next stage (c. 6'15"-9'10"), the artists swap places, moving to the opposite side of the canvas and using each other's colours as a way of trying to interpret the artistic vision of the other person. After this exchange, they go back to their original positions with a new approach, maintaining elements of their own style but introducing colours and textures acquired from the other artist's style, showing an understanding of each other's language (c. 9'10"-end). Finally, communication between them becomes better coordinated until the end of the piece.

I met Keogh and Barker separately to work on the concept of the piece. I accompanied Barker to her studio, where we discussed colour theory and her geometrical and abstract styles of working. She explained how she translates visual material into music, how she chooses certain colours for certain pieces of music, and how brushstrokes influence her perception of rhythm in music. Keogh and I had collaborated before, so I was familiar with his work. Each artist expresses themselves quite differently, as I mentioned before; Barker uses quite controlled patterns that she designs before starting her paintings whereas Keogh paints in a more instinctive way. In addition, Barker tends to avoid the use of the colour black in her work, unlike Keogh.

As well as their work having very different aesthetics, Keogh and Barker are involved in music-making to different extents. When I informed Keogh that he would not need to paint live in front of an audience (as he does in both *Triptych* and *One, Two, (HIDDEN), Four*), he was disappointed and expressed his interest in doing more live painting concerts in future rather than pre-recorded ones. Conversely, Barker was pleased she would not be painting live. I found this difference curious as Barker is a violist used to performing live music but seemed to be less comfortable to show her artistic process in real time to an audience.

The video was recorded on 23rd July 2019. Both artists agreed that it was unusual to share a canvas, especially considering that they use different materials, and their work has different aesthetics. The colours and sections of the video were established in advance following my directions, and I guided the video recording to make sure the structure of the piece was observed. Preparing them for this performance felt similar to the process of coordinating small numbers of musicians in rehearsals, though for artists this meant combining colours and styles rather than timbres and musical textures to create a common work. It was fascinating to observe the two artists learning from each other and see how this changed their artistic expression.

For the musicians performing this piece, their musical contributions are directed by the thickness of brushstrokes, the colours being used, and the pace of the painters. The colours and gestures they follow are given in a timeline in the score. Performers are given the following directions to help them interpret the video recording of the artists.

The section in which artists change their roles translated into an exchange of the musicians' instruments. This is discussed further later in this chapter.
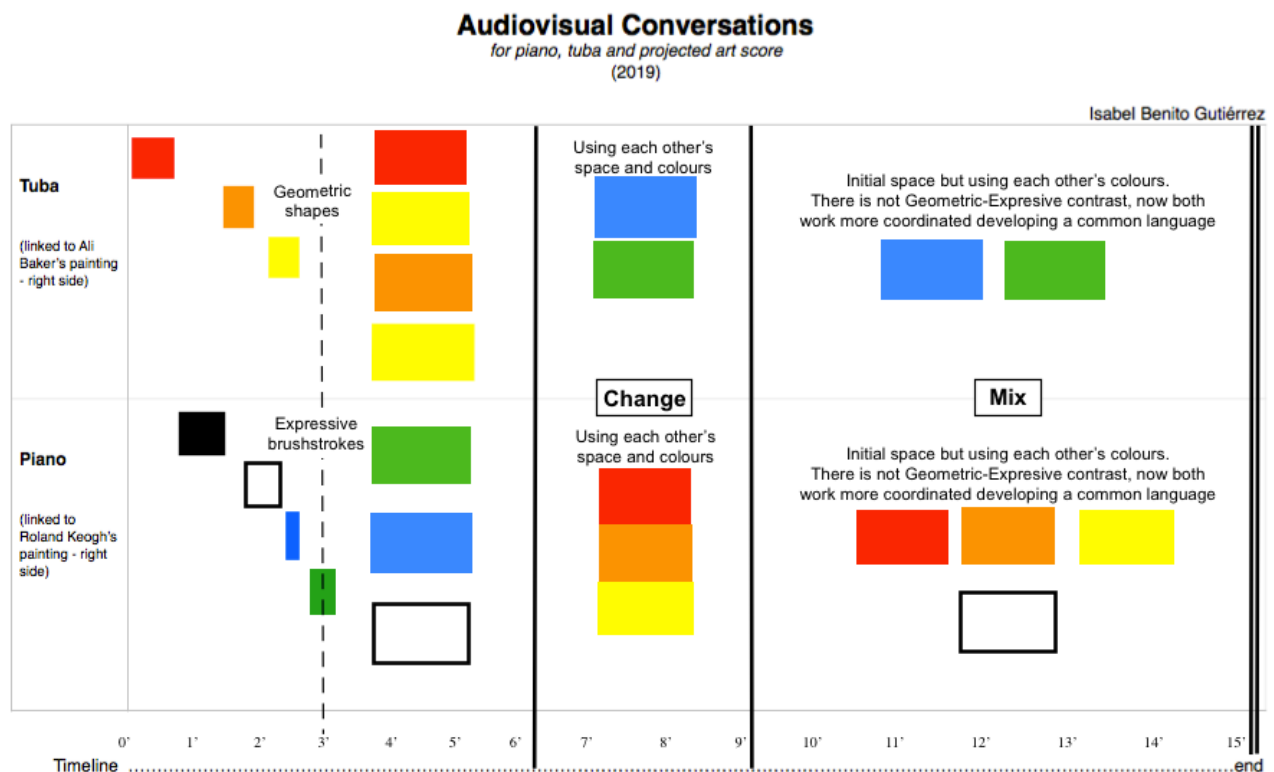
Fig. 4.1: *Audiovisual Conversations* score.

The colour associations are organised as follows[19].

Piano
Black: trill on the lowest 5th
Plaster/white: arpeggiated cluster
Green: scratch strings
Blue: staccato
Red: dissonances in the higher register
Orange: combining notes from both the extreme registers
Yellow: striking lower register strings

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[19] Some of these respond to Kandinsky's language of colour as shown in *Concerning the Spiritual in Art* (1977*)*, for example, white (Kandinsky defines it as no colour) = plaster, black (deepest sorrow) = lower piano register, red (restless, intense) = high sounds.

Tuba
Red: high unpitched sounds
Orange: multiphonics
Yellow: air
Green: slap
Blue: flutter tongue

On 26th June 2019, I organised the event *Concerning the Music in Art,* where I collaborated with artists Teresa Cabrera Moreno and Thomas Sloan-Kirton, both students from the Manchester School of Art. I composed three different pieces for this event: *Pigments*, *Tom's Piece,* and *Bodypainting*. These pieces use the idea of experimentation with music notation and audiovisual response. I thought a fully written-out conventional score would make the audiovisual connections seem unnatural, as had happened when I composed the first version of *Dans les Noirceurs*, and my main interest was the effective coordination of visual elements with sound. In addition, I wanted the artists themselves to have more influence over the musical result, as in the case of *Pigments*. I understood that giving musicians more freedom to be respond to art would lead to a more natural result.

Pigments (2019)

Pigments has a verbal score that refers to the colours and use of space in a work of art performed live by the artist Teresa Cabrera Moreno, who spreads colours over different parts of a canvas while musicians respond using the score's guidance. Teresa's role is therefore not just as a live art performer but also as the conductor of the music. A canvas divided into three sections is placed horizontally on the floor. Each section corresponds with one of the three music performers. The idea to make this piece feel more organic came from the way that powdered pigments react to water, spreading in an uncontrolled way. This inspired me to facilitate an aleatory audiovisual piece in situ. This score is purely verbal; it does not include any musical elements at all. Musicians follow directions that link different colours with different techniques, reacting to the movement of the pigments in the water.

CONTRABASS CLARINET	MEZZO	CELLO
Green	Purple	Yellow
Orange	Blue	Red
Black	Black	Black

Performance Layout

CONTRABASS CLARINET	MEZZO	CELLO

ARTIST

AUDIENCE
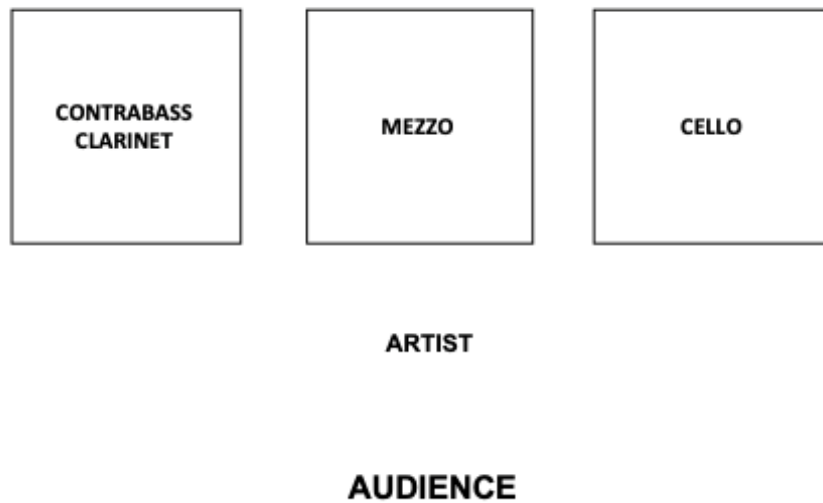
Fig. 4.2: Extracted directions for *Pigments.*

The artist follows a list of timings with the succession of colours and instruments. This means the piece is limited temporally, and I have control over the overall balance of instruments and direction of the music, although of course not entirely because the musicians are responding to the unpredictable nature of the pigments in water.

Image 4.6: Performance of *Pigments*. Some members of the audience are standing up to observe the performance more clearly.

Tom's Piece (2019)

For *Tom's Piece* I used more traditional notation in the score, but in this case, performers choose musical phrases from different groups depending on different painting techniques. In this work there are four different painting elements and each one links to a series of different musical phrases. These are black dripping, colour dripping, a mix of dripping with small brushstrokes, and big brushstrokes. I attempted to challenge the popular association of black with lower range pitches, instead linking it with motifs with the highest range; however, I do not think this was successful. As discussed in chapter 3, dark colours are usually associated with lower sounds, so linking it with higher notes was not convincing.

As mentioned above, the score includes groups of musical phrases that relate to the four different painting elements. For the first and second visual elements, musicians can choose between three options, and these can vary each time the same material

appears in the video[20]. The structure of the musical sections, with the painting elements to which they respond, is organised as follows:

0	Section A - Black dripping
1'35"	Section B - Coloured dripping
4'08"	Section A
5'17"	Section C - More yellow tonalities, not just dripping but also stroke
6'30"	Mix of A and B
7'55"	Section D - Bigger brushstrokes covering the dripping painting
9'22"	End

The timings are given in the performance directions, as they align with the actions in the video, to facilitate the musicians' performance of the piece. This gives them a better idea of the overall structure and the choices they can expect to make during the piece.

The different musical options are laid out as follows:

- Section A: Pick 1, 2 and/or 3
- Section B: Pick 4, 5 and/or 6
- Section C: Pick 7 or 8
- Section D: Pick 9 (silence) and/ or 10 (lower range improv with no *ord.* playing technique)

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[20] They can select different options every time the same action occurs in the video. They can also select more than one option if the visual action is longer than the musical motif.

Image 4.7: Cellist in *Tom's Piece*.

Image 4.8: Contrabass clarinettist in *Tom's Piece*.

As I stated before, I was aiming to challenge the cultural association of the colour black with lower sounds. Image 4.7 shows the cellist playing their first phrase, responding to the colour black by playing very slow harmonics, which sound in a high register. Trying to perceive a connection between the dark image and the high-pitched sounds was difficult. I came to understand that black is too strongly linked to low sounds and that it is complicated to break this well-established audiovisual interaction.

In other compositions I had associated darker colours with lower pitches. When composing the collaborative piece *Dans les Noirceurs* I deliberately brought all the instruments into their lowest range. In both versions of the piece (one for five voices and contrabass clarinet, and the other for orchestra and soloists), the overall timbre is constructed to create a dark and intense atmosphere for the audience. I followed the same principle in *Pigments* and *Bodypainting.* Therefore, I wanted to break away from this principle, altering the depth of the sound associated with the colour black. Deep sounds are interpreted as dramatic and intense, but so are extremely high sounds. Unfortunately, the colour black does not seem open to the exchange in pitch; we even refer to lower registers as dark or black.

Bodypainting (2019)

Bodypainting is mainly written in a conventional music notation style, but performers also respond to music by painting their bodies. There are three performers: cello, mezzo soprano (who also paints her body), and a bodypainting performer. The performers respond to each other's actions by associating certain colours with certain pitches, and sometimes with certain parts of the body[21]. Performer 1 (mezzo soprano and bodypainter) both follows a conventional notation score and applies paint to her body in response to the sounds produced by the cellist. Performer 2 (bodypainter) coordinates her painting with the sounds produced by performer 1, as shown below.

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[21] As I will explain later, there were some problems with other participants' commitments. Initially, I was going to collaborate with an art student for this piece, but their lack of commitment forced me to develop the idea on my own.

Performer 1 - Singer + Body Painting

3 3

2

1
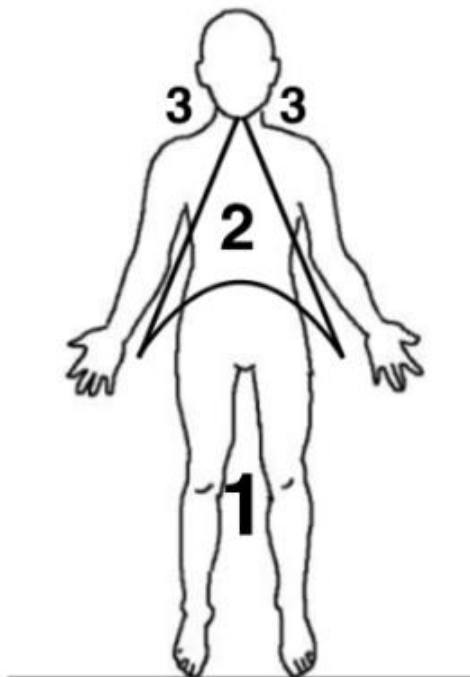
Colours: Black, Green, Blue
3 areas: 1 - 2 - 3
Area 1: Black - low notes
Area 2: Green -middle range
Area 3: Blue - higher pitch
Responds to cello (in tempo)

Performer 2 - Body Painting
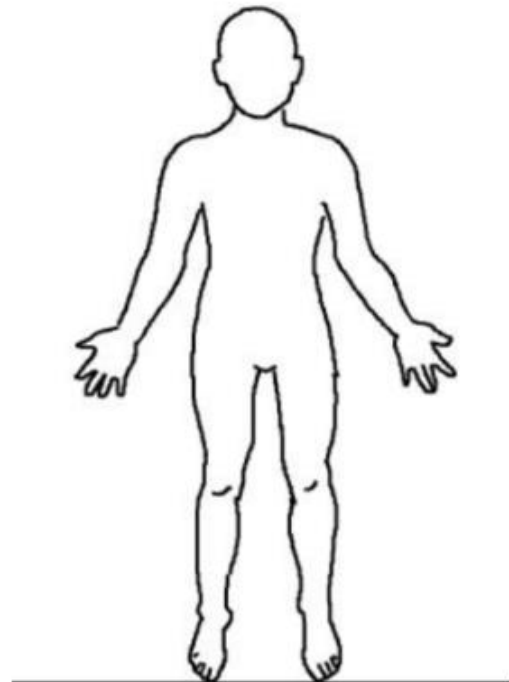
Colours: Black, Red, Yellow
Free areas
Black: low notes
Red: higher pitch notes
Yellow: Middle range
Responds to Performer 1 singing (in tempo)

Image 4.9: *Bodypainting* directions.

Bodypainting is divided into three sections. In the first section (bars 1-46), the cellist plays alone and performer 1 paints her body in response. Performer 1 begins to sing in bar 25, and performer 2 paints her body in response to the voice. A faster, more chaotic section comes immediately after, starting after bar 46. For this passage I created a group of pitches and the rhythm is indicated in a graphic style. The music becomes more chaotic as a result, and the performers create more freely, facilitating closer coordination between singing and bodypainting for performer 1. It would be impossible for performer 1 to synchronise their actions and sound whilst following a rhythmically complicated score, so this allows them to engage both more effectively. The piece finishes (bar 48-end) with a very slow post-chaotic atmosphere created by the higher ranges of the cello and mezzo soprano voice. Once again, the colour black

(which is the only common colour of the bodypainters, just as in *Pigments*) is used in relation to the lowest range of the cello and voice, and for performer 1, it is also linked to the lower part of the body. Indeed, the performer was sitting on the floor at the beginning of the piece to apply black paint to her legs, but stood up for the rest of the colours (and sounds). This worked well because of the strong association the colour black has with the ground and the lowest sounds.

Image 4.10: Performers in *Bodypainting*.

One, Two, (HIDDEN), Four (2019)

On 1st November 2019, my piece *One, Two, (HIDDEN), Four* was performed by the percussion trio Line Upon Line and the artist Roland Keogh. This piece is the last one I wrote during my PhD. This is significant as the piece includes a mixture of different characteristics from different areas of my research. In this work, the artist's actions guide one of the percussionists' performance. I reused the hidden element from *Dans les Noirceurs*, where we cannot see all the musical performers on stage. *One, Two, (HIDDEN), Four* is based on several conceptual ideas.

One of the concepts is the idea of the audience hearing sounds whose source cannot be seen on stage. This is the case for percussionist 3, whose performance of the piece depends on visual stimuli. Since these stimuli will differ each time the piece is performed, the relationship between the music produced by percussionist 3 and the other parts will be different every time, and this will also affect the overall texture.

Another important concept is that participants are constantly giving and receiving feedback during the piece. Percussionist 3 produces a whip sound to indicate changes to the painter. Every time this occurs, the notated parts for percussionists 1 and 2 have a clear change; therefore, the whip sound is sign of change for all performers. In addition, the actions of the painter are influenced by the textures produced by percussionists 1 and 2, and percussionist 3 follows the painter's brushstrokes; the visual art thereby connects the two visible percussionists with the hidden one.

Finally, the relationship between the visual source and the sound of the hidden percussionist must be noted. Our perception of these is such that we understand them to be connected in a common audiovisual entity.

Image 4.11: Performance of *One, Two, (HIDDEN), Four.*

III. Issues

During the process of creating *Audiovisual Conversations* I kept asking myself the same question: how could I facilitate an effective exchange of instruments? Thinking about possible answers showed that this idea could be problematic for various reasons. First, the idea of a non-brass player producing a passable sound on the tuba seemed unlikely. Musicians who do not play the piano can produce a sound by simply pressing the keys, but this is not possible on all instruments, especially woodwind and brass instruments. Learned technique is required to make a sound, and even more so to create a consistent tone of high quality. The pianist who performed the piece, Bofan Ma, had never played a tuba before. I was concerned about this as not only did he have to play the tuba, but he also had to create specific sounds in response to the actions of Roland Keogh. We resolved the issue by using a clarinet reed in the tuba's mouthpiece, as Ma is also a clarinettist. The tuba player, Jack Adler-McKean, brought

an adaptor that would enable Ma to use clarinet embouchure to play the tuba. This meant Ma would have greater control over the sounds he produced. In addition to this issue, the physical movement that would occur when swapping roles in the middle of the performance could appear confusing to the audience. To move around after playing the piano, all we need to do is get up from the piano stool. To get up from playing the tuba, the player must place the tuba carefully on its stand, and in this case, insert the clarinet reed to prepare it for the other performer. In rehearsals we discovered that the performers could not make the change in complete coordination with the video. As a solution, the pianist would keep playing until the tuba player approached him. Therefore, the music would not face as much interruption, and we could still hear sustained notes on the piano.

During the project I undertook with students from the Manchester School of Art, I faced the problem of lack of commitment from participants. The number of participants dropped from seven to just two. They were undergraduate students, so they are in the process of developing not just artistic skills but also learning about professional conduct, but this meant the programme of the concert changed, and some last-minute modifications had to be made to some of the pieces.

The performances of *Audiovisual Conversations* and *One, Two, (HIDDEN), Four* took place on two consecutive days, 31st October and 1st November 2019. This fact made me realise how much I depend on visual arts in achieving concert performances of my pieces. *Audiovisual Conversations* would not exist without the projection of the video of Roland Keogh and Ali Barker's collaborative painting, as all the musical directions are based on the artists' use of colours and gestures. The role of the painter is also essential in *One, Two, (HIDDEN), Four*. Without live painting, percussionist 3 would have nothing to play, and the motifs played by percussionists 1 and 2 would not suffice as a musical piece by themselves; they were conceived to act both as accompaniment and inspiration for the painter.

Another important finding relates to the time required by a painter to finish their work. At the beginning of my research, I believed that the length of my pieces would pose an issue – I thought an 8–10-minute work would not leave enough time for an artist to complete a whole painting. I was surprised to find, during the rehearsals for *One, Two,*

(HIDDEN), Four, that the artist worried about the piece being too long (8 minutes), saying he would need to control his pace so he would not finish before the end of the piece. I did not imagine I would face this issue; I assumed it would be the opposite. I acknowledge that this only applies to certain styles of painting, and that some artists may find 8 minutes too short a period of time in which to finish a painting.

Finally, the practicality of performing my pieces has been one of the main issues found during my research. Organising and rehearsing a musical event with live painting as well as music requires further preparation than with music alone. With the piece *One, Two, (HIDDEN), Four*, there were problems both before and after the concert. During the last rehearsal, we discovered the easel was not solid enough to hold the size of canvas we needed[22]. This situation made me feel very insecure about the performance. During the concert, I was more focused on the movements of the easel than the performance itself. I enjoyed the piece when I watched it on video a few days after the concert, but I was too tense during the actual concert. Another issue was that some painting stains were made on the floor of the venue that I had to remove after the event. I always bring floor protectors to performances of my pieces with live painting, but the expressivity of the artists can facilitate gestures that fall outside of the protection. Unfortunately, this means artists must be more cautious with their expressivity, and this affects their actions on stage.

At this final stage of my PhD, visual arts have become very important in my practice as a composer. During the composition process of the latest pieces, I felt I was not just developing more effective synchronisation between the two disciplines but also breaking other boundaries that I had not anticipated, challenging my practice as a composer, and leading me to use more open, graphic, and improvisatory language. In addition, adapting music to coincide with art and vice versa has given me new ideas for writing. For example, I have started to "paint" scores myself, where colours, shapes and use of space direct performers in different musical elements. This means my music emphasises gesture, structure and direction, rather than detailing pitch, meter or harmony.

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[22] A big size was required so that the audience would be able to observe the painting clearly.

Conclusions

Although I set out to focus my research on the connections between elements of music and painting, I now recognise that the main findings have been to do with my development into a more conceptual composer. Chapter 4 demonstrated how I have achieved a more open vision of compositional possibilities, not just through introducing visual arts to music performance, but also in how I produce scores. Before my PhD, as a composer I was familiar with traditional music notation only, but through my involvement with artists working other disciplines I have been inspired to change my approach. I still use conventional notation when it is appropriate for the instrumentation, for example in *Dans les Noirceurs* for orchestra, where it makes more sense for organising dynamics and instrumental sections on a larger scale. For pieces with smaller groups of musicians, alternative scores may be sufficient, for example *Audiovisual Conversations* and *Pigments*, both of which have scores based on colours, space and gesture.

With my recent compositions, the scores are not works of art by themselves until they have been performed "in real life" – the score is a representation of the art. On the other hand, paintings are tangible works of art in themselves. Following this idea, I am now interested in creating music scores that are visually different: paintings that act as code to be translated into music. After finishing writing the pieces in my PhD portfolio, I created the pieces *Colouring Timbres* (2020) and *Quasi uno Specchio*[23] (2020). These pieces also include other forms of art: poetry, painting, and video art. The visual structures of these forms of art have helped me to design musical structures, like an architectural plan to a building, and often, they were part of the final performance as well.

Breaking away from conventional notation has changed my perception of my own compositions – I now see them from an artistic point of view as well as musical. The connections I make between visual elements, sound, poems, and layout of performers have transformed the performances of my music into multidisciplinary experiences

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[23] Commissioned by the baritone saxophonist Joan Martí Frasquier, who I met in 2018 at the Mixtur Festival (Barcelona).

rather than simply concerts. In future, I would be interested to develop this further, creating for example musical exhibitions, musical paintings, and co-created sound works in collaboration with artists working in other disciplines such as architecture or sculpture.

I can now acknowledge the practicalities that must be considered when live painting is included in concert performances. These include making sure the painting is visible to the audience, mitigating safety concerns, and coordinating musicians' and artists' actions. I am confident that I have made important progress in bringing new possibilities to concert spaces while remaining conscious of issues that may come up and knowing how to solve them. As a result, I have further developed my interest in challenging the limitations of concert halls and conventional performance spaces. Having had my music performed in art galleries, I have observed how audiences behave differently than in a concert hall. The atmosphere in galleries is more relaxed and open to wider sensorial experiences. As a consequence of the experiences I have gained through my PhD research with live art performance, I am now studying this topic further, seeking out the potential for constructing multidisciplinary spaces where any combination of art disciplines could be possible.

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Appendices

I. Poems and libretto

Philomela by Georgy Gill

Dreaming, Philomela walks her mind's full length, looking for her tongue.
Look – it's there – red stump, redundant stump nestled in a bin,
a bin overflowing with words,
with scraps of sound, of thought.
She clips it in between tonsils and teeth, Now, she will sing.
But,
she wakes to silence,
a chafing in her mouth, a chafing on her back.
She angles a handheld mirror against the vanity table to see two eruptions on her
back. Bones grapple through flesh, through skin; branch into tiny scaffolding.
Membrane tarpaulins are stretched tight, angry, bald. No bigger than a baby's ears.
She reaches her arms back in reverse prayer to test, to prod, curious about her
insurgent body.
Who'd have thought she had it in her?
Who knows what *it* is? Humans don't have wings. Birds have wings. Angels have
wings. And monsters.
Philomela stretches, flexes,
wants to dream,
to flee, to fly.
Goes nowhere –
these wings are mockery, deformity, neither use nor ornament.
Philomela stretches, flexes,
reaches no solution,
has only the consoling synchronicity of wings beating
in time
with her
heart.

Dans les Noirceurs – Three Poems by Georgi Gill

Poem 1 *- Darkness*
coal
hole
ebony
dots, strokes, dots
Foul anti-fouled hull of a ship
Black

Turkish olives – such salty gloss! Little black dress
sweet necrotic flesh
Black
Chimney soot, Lampblack, Smoker's lungs
Black black
Man-u-scripts smudged by typesetters' inky prints
The gloss-y oily snakebird wings hung up to dry
Black
Hot wet tar,
Black is around us like a Michelin tyre
Black
The nap of velvet, brushed wrong and fold-ed,
shut in the dark,
the back of the drawer,
the heart of the abyss
Black black black

Poem 2 - A Black Object

Let me define you, delineate you. Meet your edge – know yourself. Know what you
are – who you are – by the boundary with what you are not. Risk the abyss
and together we can eclipse the sun.
Apply me with a thick scrape of spatula, trace you in me - a fine, knife-edged line,
curve me along your contours, continuous then broken
this play of dots, strokes, dots.
We can do this on the cheap: grind burnt roots to powder, collect some sooty
lampblack. Or stretch to fired ivory?
To oak apples dried all summer long?
I can capture you naïf in a grotto, or bawdy in a Hogarth.
Glossy in a Brassaï photograph,
arms stretched –
a snakebird's wings hung up to dry. Noir in a Renoir,
the nap of your velvet brushed wrong.
Trust me, trust you – explore: let's get horizontal, vertical, parallel, perpendicular.
Let's overlap. Let's cross-hatch.

Poem 3 - *Shadows*
Eclipse
Light hits the waves (- is waves) a Morse code message tapped onthesea-
bright dots, strokes, dots - overwritten as waves overlap,
cross-hatch, ripples
of hot wet tar that slaps
the foul black hull
of the ship and we watch
the glossy oily snakebird,
the nap of its velvet, brushed wrong. It absorbs the light.
we risk the abyss,
we are shut in the dark,
just sooty scrapes of lampblack,

we are shut in the dark,
we risk the abyss.
It absorbs the light,
the nap of its velvet, brushed wrong. The glossy oily snakebird
of our ship and we watch the foul black hull
of hot wet tar that slaps cross-hatches, ripples
- overwritten as waves overlap,
bright dots, strokes, dots
on the sea -
a Morse code message tapped; light hits the waves (- is waves).

In the Hope of Rain – Libretto by Andrew Turner
NARRATOR
Here is the law:
an object that sinks displaces an amount of water equal
to its volume
So on a night when everything is strung back together on threads of rain
and the lost are almost found again......
RAIN
We are almost we are almost together again together again
NARRATOR
A lost daughter, lover, friend drips her way along
the canal path past a cross marking her spot where
her last drink was far
too deep
EMILY
can you hear me? Can you see me?
NARRATOR Puddles for footsteps a passing trail back to what she still thinks of as
home
EMILY
can you hear me? can you see me?
TOM
inside my room are marks on the ceiling
on the walls
half remembered tales
of when things were happy as sand
EMILY
can you hear me? can you see me?
TOM
I still live by the canal it licks the walls whispers to me
come on in
the water's lovely
CANAL
I keep my truths stretched like a dragon's tongue taut as a final heartbeat come on in
the water's lovely
follow the rain
come on in

RAIN
We are almost we are almost together again together again
EMILY
if you can hear me
if you can hear me leave me to the rain leave me to the water
NARRATOR
See how wanted he is
the wet sip of creation would pull him under
in the twitch of a fish's gill in the snap of a ripple
EMILY
he stands on the edge
they have their slippery fingers in his dreams where I used to be
RAIN AND CANAL
We are almost we are almost together again together again come on in come on in the water's
so lovely so lovely
EMILY
leave me to the water
TOM
It's a single step forward or back it's a single step.

II. List of Compositions from 2017 to 2019

The following list shows all my works composed within the period of this research (January 2017 - September 2019) in chronological order. The selected portfolio of compositions related to my research can be found in Appendix III.

Title: *Philomela*
Composed: January - March 2017
Instrumentation: flute, vibraphone, alto voice, cello
Duration: c. 6'
First Performance: Rosamund Prize – Carol Nash Recital Room, RNCM, Manchester - 28th April 2017
Performers: Hannah Clark (flute), Tom Birkbeck (vibraphone), Nina Whiteman (voice), Alice Luddington (cello)
Second Performance: Iglesia Mare de Déu de Loreto. Xàbia/ Jávea, Alicante/ Alacant (Spain) – 21st April 2018
Performers: ArsFutura Ensemble, Teresa Albero (voice)

Title: *Tres Poemas de Julio Cortázar (I. Una Idea, II. Ceremonia Recurrente, III. Encargo)*
Composed: January - April 2017
Instrumentation: 2 flutes, piano
Duration: c. 24'
First Performance: Primavera Musical de San Pedro del Pinatar. Murcia (Spain) - 28th May 2017
Performers: trio Hecuba

Title: *Chronoscope – Journey through A note*
Composed: March - April 2017
Instrumentation: open instrumentation
Duration: c. 10'
First Performance: Liverpool Lightnight – Liverpool Central Library - 19th May 2017
Performers: Liverpool Improvisers

Title: *Unité d'habitation (Cité Radieuse)*
Composed: April - May 2017
Instrumentation: wind quintet
Duration: c. 7'30"
First Performance: In Focus: Paul Patterson Festival – Carol Nash recital room, RNCM, Manchester – 9th June 2017
Performers: Sonaré Quintet

Title: *Triptych*
Composed: June - September 2017
Instrumentation: Bb clarinet, bass clarinet, viola, cello, live painting
Duration: c. 12'
First Performance: Grosvenor Gallery, Manchester – 19th October 2017
Performers: Freya Chamber (clarinets), Beth Willet (viola), Mario Castelló Córdoba (cello), Roland Keogh (painting)

Title: *Quand les pôles opposés…*
Composed: July - September 2017
Instrumentation: flute, bass clarinet, piano, violin, cello
Duration: c. 8
First Performance: Allegro Festival, San Pedro del Pinatar, Murcia (Spain) – 13th October 2017
Performers: ArsFutura Ensemble

Title: *Veil(i)ed*
Composed: August - October 2017
Instrumentation: organ
Duration: c. 10'
First Performance: ACOCA (Asociación para la Conservación de los Órganos de Cantabria) Iglesia de Nuestra Señora de las Lindes, Suances (Spain) – 29th December 2017
Performers: Jorge Gómez

Title: *Schattierungen*
Composed: January - February 2018
Instrumentation: flute, cello, live painting
Duration: c. 12'
First Performance: Women's Day event 2018 organised by collective31, SheTogether18. International Anthony Burguess Foundation, Manchester – 9th March 2018
Performers: Hannah Clark (flute), Mario Castelló Córdoba (cello), Caroline Bordignon (painting)

Second Performance: Cross-arts weekend at APT Gallery, London, organised by 2021Concerts – 5th May 2018
Performers: Irene Jiménez Lizcano (flute), Mario Castelló Córdoba (cello), Caroline Bordignon (painting)

Title: *Ma(Ris)Ma*
Composed: February 2018
Instrumentation: percussion (1 performer: suspended cymbal, bass drum), piano, violin
Duration: c. 8'
First Performance: 8 cubed organised by the Centre for Practice & Research in Science & Music (PRiSM). Carol Nash recital room, RNCM, Manchester – 12th March 2018
Performers: William Graham (percussion), Aaron Breeze (piano), Stephen Bradshaw (violin)

Title: *In the Hope of Rain*
Composed: June - July 2018
Instrumentation: voices (2 sopranos, mezzosoprano, countertenor, baritone, bass), bass clarinet, trumpet, trombone, percussion (1 performer: glockenspiel, woodblocks, cymbals), violin, viola
Librettist: Andrew Turner
Artist: Roland Keogh
Duration: c. 8'
First Performance: Manchester Contemporary Youth Opera 2018. Anthony Burguess Foundation, Manchester – 7th September
Performers: Manchester Contemporary Youth Opera 2018 participants and Vonnegut Collective

Title: *Dans les Noirceurs*
Subtitle: *Three Stages of Colour Black*
Composed: April 2017- September 2018
Instrumentation: voices (mezzosoprano, tenor, baritone, bass, bass), contrabass clarinet
Poet: Georgi Gill
Video artist: Èlia Navarro Valverde
Duration: c. 7'
First Performance: Spotlight: #Incógnito1. Carol Nash recital room, RNCM, Manchester – 11th October 2018
Performers: Phoebe Rayner (mezzosoprano), Phil O'Connor (tenor), David Cane (baritone), Leung Wilcox (bass), Einar Stefánsson (bass), Jason Alder (contrabass clarinet)

Title: *Pavel's Film*
Composed: November 2018 – January 2019
Instrumentation: flute, bass clarinet, voice (mezzo soprano), percussion, cello
Video artist: Pavel Prokopic
Duration: c. 24'
First Performance: Unperformed

Title: *Pigments*
Composed: January - June 2019
Instrumentation: contrabass clarinet, mezzosoprano, cello, live art
Duration: c. 9'
First Performance: Spotlight: Concerning the Music in Art. Carol Nash recital room, RNCM, Manchester – 26th June 2019
Performers: Jason Alder (contrabass clarinet), Phoebe Rayner (voice), Lili Holland-Fricke (cello), Teresa Cabrero Moreno (art)

Title: *Tom's Piece*
Composed: January - June 2019
Instrumentation: contrabass clarinet, cello
Artist: Thomas Sloan-Kirton
Duration: c. 9' 30"
First Performance: Spotlight: Concerning the Music in Art. Carol Nash recital room, RNCM, Manchester – 26th June 2019
Performers: Jason Alder (contrabass clarinet), Lili Holland-Fricke (cello)

Title: *Bodypainting*
Composed: January - June 2019
Instrumentation: mezzosoprano, cello, bodypainting
Duration: c. 6'
First Performance: Spotlight: Concerning the Music in Art. Carol Nash recital room, RNCM, Manchester – 26th June 2019
Performers: Phoebe Rayner (voice, bodypainting), Lili Holland-Fricke (cello), Rachel Routledge (bodypainting)

Title: *Audiovisual Conversations*
Composed: June - August 2019
Instrumentation: tuba, piano
Artists: Ali Barker, Roland Keogh
Duration: c. 15'
First Performance: New Music Manchester Festival – #Incógnito2. Carol Nash recital room, RNCM, Manchester – 31th October 2019
Performers: Jack Adler-McKean (tuba, piano), Bofan Ma (piano, tuba)

Title: *One, Two, (HIDDEN), Four*
Composed: June - August 2019
Instrumentation: 3 percussionists (marimba, bass drum) (vibraphone, suspended cymbal) (marimba, whip), live painting
Duration: c. 8'
First Performance: Open Circuit Festival – Freedom of movement. VG&M – Leggate Theatre, Liverpool – 1st November 2019
Performers: Line Upon Line (percussion), Roland Keogh (painting)

Title: *Smooth Pinball*
Composed: July - August 2019
Instrumentation: flute, Bb clarinet, bassoon
Duration: c. 5'

First Performance: #MusicSaysDataSavesLives. Manchester Museum – 19th September 2019
Performers: Members of Festivo Winds

Title: *Dans les Noirceurs*
Subtitle: *Three Stages of Colour Black*
Composed: June - September 2019
Instrumentation: orchestra and 3 soloists (baritone voice, bass voice and contrabass clarinet)
Poet: Georgi Gill
Video artist: Èlia Navarro Valverde
Duration: c. 7'
First Performance: Brand New Orchestra. RNCM Concert Hall, Manchester – 9th October 2019
Performers: RNCM Symphony Orchestra conducted by Rebecca Tong, David Cane (baritone), Einar Stefánsson (bass), Jason Alder (contrabass clarinet)

III. PhD compositions portfolio and online links

Music and live painting

Triptych (2017) Bb clarinet, clarinet, viola, cello, live painting
Video Recording (12'11"): https://youtu.be/NLYRCKPKfIA

Schattierungen (2018) flute, cello, live painting
Video Recording (12'28"): https://youtu.be/dUS_uDtDNq4 (second performance)

Collaborative works

Philomela (2017) flute, vibraphone, alto voice, cello
Audio Recording (6'34"): https://soundcloud.com/isabel-benito/philomela

Dans les Noirceurs (2017-18) voices (mezzosoprano, tenor, baritone, bass, bass), contrabass clarinet
Video Recording (7'41"): https://youtu.be/luAQfPCOFbg

Dans les Noirceurs (Orchestra) (2019) orchestra and 3 soloists (baritone voice, bass voice and contrabass clarinet)
Video Recording (7'08"): https://youtu.be/xkFSegwuXL8

In the Hope of Rain (2018) voices (2 sopranos, mezzosoprano, countertenor, baritone, bass), bass clarinet, trumpet, trombone, percussion (1 performer: glockenspiel, woodblocks, cymbals), violin, viola
Video Recording (7'54"): https://youtu.be/t5iX1t00geE

Art and graphic scores

Audiovisual Conversations (2019) tuba, piano
Video Recording (15'26"): https://youtu.be/ndlAUTWW4iQ

Pigments (2019) contrabass clarinet, mezzosoprano, cello, live art
Video Recording (8'48"): https://youtu.be/C1KrFAN3atA

Tom's Piece (2019) contrabass clarinet, cello
Video Recording (9'38"): https://youtu.be/X0Vim9ykw1M

Bodypainting (2019) mezzosoprano, cello, bodypainting
Video Recording (6'06"): https://youtu.be/_LKCBBkl4N4

One, Two, (HIDDEN), Four (2019) 3 percussionists (marimba, bass drum) (vibraphone, suspended cymbal) (marimba, whip), live painting
Video Recording (8'25"): https://youtu.be/X6N52No5Ul0

Total duration: 95'45"

All scores and their supporting documents can be found at:
https://drive.google.com/drive/folders/11cO3A7sC7Aj56Oz2hmKjEzbAOi-SvPrb?usp=sharing