

**The Space Between and Beyond Notes:
Practice-led Exploration of Graphic Notation as Compositional Method for Song,
Music Performance, and Recordings**

By

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Dedication

For my father: Dad, jeg elsker dig far, du er grunden til, at jeg er modig og en risikotager. Min kærlighed til dig løber lige så dybt som fjorden, du kastede ringene ind i. Vi bærer dit navn med kærlighed og stolthed for evigt, indtil vi ses igen. For my sons, Raphael Gabriel Petersen-Duffy and Leo Valentino Petersen-Duffy, my mother Barbara Petersen, my husband John Duffy, my brother Christian Martin Carlsen Petersen, Aurelie Seiler, my nephew, Hugo Carl Joseph Petersen.

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Biography

Eva Petersen is a qualified lawyer, singer, songwriter, vocalist, performer, and fulltime lecturer at LIPA (Liverpool Institute for Performing Arts). Throughout her professional music career, Petersen has utilised graphic notation as a compositional method when writing music. It was the re-discovery of diaries containing graphic notation from her touring days with her group The Little Flames which led to this current PhD research. Discovering the notation as artwork provided the initial inquiries into creating graphic notation for composition and performance within site specific environments. The objective was to release the music through streaming platforms such as Apple Music and Spotify. The work also explores the visual response to singing, melody, and harmony and the visceral relationship between vocal composition, interpretation, and performance – specifically through memory and genealogy. In 2019, as part of this PhD research, Petersen was awarded a prestigious grant from Arts Council England to record her album *Voices of Winter Palace* (2019) with the Budapest Symphony Orchestra. The collection of songs accompanying this research thesis was released in January 2020 on all digital platforms and as a special limited edition vinyl record.

In 2002, Petersen founded Liverpool band The Little Flames as lead singer and was signed to Deltasonic /Sony BMG. The band toured the UK, Europe, and Japan with The Arctic Monkeys and The Coral and released their album *The Day Is Not Today* (2007) to critical acclaim. Eva has given many interviews with publications such as Mojo, Q, NME, The Guardian, The Independent, The Telegraph, Elle and leading publications in Japan. She has also been interviewed for BBC Radio 6 Music, BBC Radio d BBC Radio Merseyside in the UK, and numerous Japanese, American and European radio stations. Petersen signed to Deltasonic Records in 2004 as the lead singer of The Little Flames, together with Dr Mathew Gregory and Miles Kane (*Last Shadow Puppets*). She toured continuously across the UK and internationally, including twice in Japan, with the Arctic Monkeys on their first national tour. The Little Flames received widespread airplay on TV and Radio and performed live sessions for radio stations such as BBC Radio 2 and 6 Music. The Little Flames' debut album was recorded with acclaimed Swedish producer Tore Johansson (*The Cardigans*, *Franz Ferdinand*, *Martha Wainwright*) and was re-released in 2016 on Deltasonic Records.

In 2011, Eva Petersen wrote and recorded with songwriter/producer Guy Chambers at Sleeper Sounds Studio, London, and released her first solo album (*Emerald Green Eyes* (2012) on Porcupine Records, in collaboration with Will Sergeant (*Echo and the Bunnymen*). The critically acclaimed album received coverage in publications including Mojo, Q and The Guardian. Petersen has produced work for commissions from Mojo magazine and filmmaker John Davide. Petersen is a member of the Colin Fallows Ensemble, an electric guitar group, with whom she has performed at venues including Wilkinson Gallery London, and the Walker Art Gallery, Liverpool. Petersen has taught on the Fine Art (BA Hons) undergraduate degree and has mentored postgraduate students at the Liverpool School of Art and Design, LJMU. In 2018, Petersen was invited by LIPA to deliver one of their prestigious Masterclass sessions to all Music (BA Hons) undergraduates and subsequently gained a teaching position within the LIPA Music Department. She is currently a Lecturer in Popular Music at LIPA on the BA (Hons) Music programme where she lectures to students across all undergraduate programmes and postgraduate students on the MA Music Industry Professional Management programme.

Abstract

The overarching aim of this practice-led research is to explore a series of academic and cultural discourses and to bring together concerns regarding artistic practice, artistic research, and work as a musician. Specifically, the research aims to explore and document the historical backstory of the artist's graphic notation and the application of experimental methods of composition, such as graphic notation, to the production of a series of autobiographical songs. The research has also been undertaken to address the paucity of literature in this area. The thesis explores a particular definition of graphic notation, which has historically been a musical notational method from the improvisation of jazz musicians to the current technological advances in compositional software. When considering ancient Egyptian forms of musical notation versus the modern-day software Sibelius, musical notation has always been innovative. Therefore, graphic notation is embraced to realise the potential of artistic practice, to encourage artistic freedom, to improve communication between artistic performance and the audience; and to challenge the way we create, experience, and consume music and visual art. The thesis is practice-led; however, the historical and theoretical backstory acts as a framework for the practical part of the thesis. It contextualises experimental musical composition through the analysis of the innovative women pioneers of electronic sound, Daphne Oram and Delia Derbyshire.

The graphic notation system I have used throughout my career as a musician and singer/songwriter was the compositional method used to create the major practical work for this thesis entitled *Voices of Winter Palace* (2019). The project is an autobiographical story which maps the lives of my grandparents Leo and Gwen Petersen. Leo was from the Faroe Islands and Gwen was from Liverpool, UK. Gwen's alternative approach to communication with Leo (she did not speak any Danish or Faroese and he spoke little English), and the hurdles she faced with regards to communication, not only due to the language barrier but also the fact that Leo lost his speech, mirrored my experiences of creating an alternative method of communication through experimental graphic notation. The research and recording of *Voices of Winter Palace* (2019) was awarded Arts Council England funding and my songs were recorded with the Budapest Symphony Orchestra in Hungary. This internationally renowned orchestra has worked with numerous world-famous composers including Ennio Morricone amongst many others.

The thesis explicitly advocates the necessity of employing a rigorous method to the practice-led research, namely reclaiming creative autonomy by taking control of the complete process of creating an album and a series of visual artworks to integrate the vision for the production of the work as a whole. This work makes an intervention into the fields of music composition, notation, visual art, and performance. The term graphic notation or graphic scores was a recognised experimental musical approach post-World War II, however, the thesis argument is that my work is not only experimental notation, but also a form of language that communicates sound, music, and narration. It is a score created for music, but the score can also be seen as visual art in its own right.

Keywords: graphic notation, music performance, women pioneers of graphic scores, music industry, performance space, graphic score, mark-making, experimental sound, composition, synesthetic language, musique concrète.

Introduction

As neither the individual nor the environment is a static entity, music and art also become fluid, changing under different circumstances, developing organically in new ways, both visual and aural.
(Sauer, T., 2009, p.11)

The practical element of my thesis was borne out of the memory and genealogy of the Petersen family, namely the relationship between my grandparents and their son (my father). The ability of my grandparents to find a way to communicate without speaking a common language, to bring children into the world and raise a family provided the foundation for this research. The deeply personal and biographical nature of the subject matter provoked the use of a diverse range of methods that draw on auto-ethnography, biography, and autobiography. The “spaces” created by the lack of a common language were filled with written symbols, visual diaries and exploratory language and these techniques informed the methodological approach I took.

My grandparents’ story encapsulates the ethos behind this thesis and practical work. Their ability to create a life together despite language barriers and experiences as ‘aliens’ in unfamiliar parts of the world was the catalyst to creating a form of communication that worked and existed beyond and between the musical notes. Whilst many musicians and artists use creative compositional techniques, it is unique in this area of research as it is based upon ethnography, my grandparents’ story, hidden diaries, and personal experiences as a woman in the music industry. When we find common ground in communication, be it language, writing, music, visual art, there is a sense of freedom but also a sense of belonging, a space in which you are welcomed and supported. This is reflected in two parallel universes: from Gwen and Leo Petersen and the Faroese fairy-tale, to my studio time in

Budapest and Liverpool, creating the songs for *Voices of Winter Palace* (2019).

Winter Palace is my name for the Faroe Islands; however, it is also the space that we can find ourselves in when we feel we do not belong, a haven where we are free to exist and to flourish creatively.

The aims of the research are to use experimental musical composition to explore and document the historical backstory of graphic notation and to apply experimental methods of composition - such as graphic notation - to the production of a series of songs which is autobiographical.

Listening is an integral part of the discoveries within the thesis, it forms a major part of the methodology, e.g., listening to the music created by Daphne Oram and Delia Derbyshire. Pauline Oliveros' *Deep Listening* (2005) method is a major influence which has been used throughout the MRes research journey to the PhD. Although argued throughout the initial MRes thesis that sound can be studied as its own element without the visual, we cannot escape the obvious relationship between sound and visual, they exist together in unison and the PhD research expands this argument. This research explores graphic notation in depth, from the artists' visual interpretation of experimental composition, collage, sound and plastic arts, artists' relationship between music and visual art including Wassily Kandinsky to Bridget Riley. The thesis explores visual compositions of male artists Luigi Russolo and John Cage to the post war pioneers Daphne Oram and Delia Derbyshire. It focuses upon artists' fascination with the relationship between music and visual art using contemporary examples.

The practice-led research focuses upon experimental musical composition and the reclamation of creative autonomy as a woman occupying a space between music

and art. The practical work is based upon graphic notation, which was created for the purposes of the practical application of the historical and theoretical concepts of experimental sound works and visual art. By using a non-traditional Western traditional notation system, this open and global language exists parallel to the actual narrative of the album – the global connection to other humans across the world using a global language. Western notation may not be suitable for every type of music globally, hence the creation of the new language that is inclusive and unrestricted. The practice-led study focuses upon two case studies to illustrate the impact of two pioneering women who not only created sound using experimental notation, but also built the machinery to create new and exciting sound and noise. This research commenced during an MRes thesis entitled *Sound Cinema: A Practice-led Exploration of Experimental Soundworks for Recordings and Site-specific Environments* (2014). This was an in-depth analysis of the effect of experimental sound and film, which unravelled the historical backstory to the use of experimental sound in Hammer films from 1955-1968 and the BBC Radiophonic Workshop's use of experimental sound at the same time, for radio and television.

It is interesting to note that my background consists of both law and music, as did those of Wassily Kandinsky and Henri Matisse. Traditional Western notation, it can be argued, is similar in a way to the strict legislation which stifled my freedom of thought and creativity, as eloquently expressed by Bathory-Kitsz, it could be argued that it '...engenders disagreement and passion because it is so tightly bound to legibility, meaning, and especially physicality' (Bathory-Kitsz, D., 2007). The thesis hypothesis is that by creating a new language, a visual set of symbols that can be communicated to other musicians, without the restriction of traditional Western notation, is '...the best way to widen our perspectives, understand ourselves more deeply, and consequently, be more creative...' (K. Nakakoji, 1996). The thesis echoes the approach of Sauer, T., (2009) and explores the exciting possibilities of

creating alternative musical scores: ‘...the identity of notation comes from its purpose for the creation of music, a phenomenon that can allow for spectacular variations in musical scores.’ (Sauer, T., 2009, p.10).

The research aimed to write series of songs using an experimental non- traditional Western notation method which was then recorded and performed by an orchestra and choir to take creative control of the creative process, which includes the creation of the narrative, melody and lyrics, graphic notation, artwork, and photography, plus creation of a record label, Rotolok Records, and a release of a special limited edition 10” vinyl. The aim was to use the unique notation method to work and record the album with an orchestra and releasing the album commercially, which was completed in January 2019.

Voices of Winter Palace (2019) has been published via Apple Music and Spotify as well as a limited-edition LP, 10” vinyl record. The lyrics are central to the practice. The composition of these lyrics represents intimate aspects of family history, and they are the artistic interpretation of the primary source material. Thus, these lyrics form the libretto for *Voices of Winter Palace* (2019). The lyrics are autobiographical, they introduce the story of my grandparents Leo and Gwen Petersen and narrate the complete journey from Leo’s childhood in the Faroe Islands to Leo meeting my grandmother in the UK. The lyrics then end with my grandparents being reunited. My father Carl Petersen travelled to the Faroe Islands a few years before he died to throw my grandparents’ wedding bands into a fjord, to finally reunite them.

In the seven songs recorded on the LP, the story starts with *Leo (Pt. 1)* (see p.149). Leo had a strong connection with the sea, as detailed in Chapter Three, he came from a long family line of fishermen. Similarly, his wife Gwen lived by the sea in

Liverpool City Centre during World War II when the Port of Liverpool was thriving. The nautical references throughout the suite of songs on the LP emphasises the important role the sea has in the lives of both Leo and Gwen. Both came from islands surrounded by sea, and both had to make treacherous journeys via boat to spend time with each other in Liverpool, Denmark and the Faroe Islands.

Winter Palace is the name I gave to the Faroe Islands, and the lyrics in *Voices of Winter Palace (Pt. 1)* (p.146) refer to leaving home and facing life as an immigrant in a strange land. The lyrics in this song also bring together art and musical references, highlighting crossovers between art and music, a key theme of the research. The lyrics reference Bridget Riley's artworks, namely *Fall* (1963), *Blaze* (1964), *Late Morning* (1967-8) and *Chant 2* (1967). Bridget Riley's artwork is referenced to highlight the methods I used in the practical work to create the graphic scores which were inspired by Riley's methods, including collage, the use of black and white, and the musical titles she has given to some of her artwork, such as *Chant* (1967), her first foray into colour. The lyrics feature a 'wondrous place' with reference to *Wondrous Place* (1960) by Liverpool Musician Billy Fury.

The English Woman (Pt. 1) (p.147) moves on to Gwen's journey from Liverpool to the Faroe Islands and features the name the locals gave to Gwen as she was the stranger, experiencing new hurdles both culturally and through lack of speaking Faroese. *Voices of Winter Palace (Pt. 2)* (p.148) follows as a short set of lyrics that describes Leo and Gwen living together in the Faroe Islands where they thought they could settle. The brevity of the lyrics is a metaphor for their short time spent on the islands, which was due to Gwen wanting to be close to her parents who were both very ill at the time.

Side Two of the LP starts with *The Fur Coat* (p.149), the lyrics describe Leo and Gwen's return to Liverpool. The young couple were not wealthy, and the lyrics focus upon the financial pressure they faced. Despite this, Leo bought Gwen a fur coat from a shop in Liverpool, which was subsequently handed to me after Gwen passed away. *The English Woman (Pt. 2)* (p.150) describes Gwen's reclamation of her identity upon her return to Liverpool where she would settle and have children. It is interesting to note that Gwen would have stayed in the Faroe Islands despite the hurdles she faced. The song emphasises Gwen's strength as a woman to create a life and family within a culture so different from her own, without any of her own family to support her.

Leo (Pt. 2) (p.151) is the final song on the LP which continues to narrate Leo's journey but focuses on his final journey to Liverpool where he settled. The lyrics become harsher, referencing bright lights, smoke, and noise to describe Liverpool, in contrast to the natural Faroese landscape and a longing to return home. The lyrics form the narrative essential to the title *Voices of Winter Palace*. As mentioned above, Winter Palace is the name I gave to the Faroe Islands, and the voices refer to the different languages that both Leo and Gwen spoke, and the voice we hear singing the lyrics throughout the LP. The voices are a method for me to make a connection with my grandparents and my father, from Liverpool across the sea to the Faroe Islands. The lyrics link to the title of the thesis, specifically *The Space Between and Beyond Notes* as Leo and Gwen existed in between the spaces of language. Their ability to sustain a relationship and create a family unit despite not speaking each other's language also connects to my work that exists between art and music and the use of alternative methods of communicating a musical language.

My work spans the fields of art and music. I wondered if this space I was inhabiting existed in other forms of communication and creativity. As I decided to use my graphic notation as a form of communication, I realised that the notation system existed in a space between the language of music and visual art, just as I was existing and creating. Occupation of this space seemed to be the motivation for the thesis as it required further research into performance, music, visual art, place, and space; particularly the challenges to what we are told are the benchmarks, and how these challenges could be put into practice to create a collection of songs and visuals that could be accessible to a wide audience through platforms such as Apple Music and Spotify. The questions the thesis explores have been addressed by artists, writers, and theorists; however, the thesis is contributing to this ongoing discourse with a unique contribution, which is the autobiographical art practice. The practical work acts and functions as a critical response to the issues identified throughout my experience as a woman artist and musician, such as the lack of creative autonomy and the patriarchal norms and expectations of what it means to be a woman in the music industry. The thesis and art practice address these issues by reclaiming autonomy, control, and choice within the creative process. Whilst taking creative control of this project, a new type of musical visual language is also being created. The series of songs have been created from the viewpoint of a woman artist, concerned with ideas and expression, rather than a musician within a music industry environment with the pressure to create a hit single. Why? Without the constraints of a money-making music industry driving hit singles, this produces creative autonomy for the artist. By creating, choosing who to collaborate with and being in control of the visual elements of the album *Voices of Winter Palace* (2019), I was free from a rigid oppressive environment, free to choose who to compose the sound with and free to create visual art, to be in control of the voice and to claim the space between music and art.

As a practicing, published artist, my previous work has heavily influenced this practice-led thesis. Previously, there have been six published CDs, which led to the practical part of the thesis. The vocal performance is the unique contribution to the existing knowledge in this field. The thesis approach is that an album should be a total work of art, the music, performance, and visuals should not be separated, but controlled by the artist as a *gesamtkunstwerk*, a total work of art. Often, as a singer and performer in the music industry, song writing, recording, performing, album artwork, photography, visuals, stage set, costume and lighting are all created by several people, rather than the artist themselves. This approach can become obsessed with result rather than idea, and it is the thesis theory that an artist can never communicate their work true to form, unless they have created it themselves, or had the freedom to decide who to collaborate with.

During the PhD research, there were several points of dissemination during the development of the thesis such as a project entitled Visual Scores that was delivered to second-year undergraduate Fine Art BA (Hons) students at the School of Art and Design, LJMU (2017/18). The project tested the theory that through rigorous deep listening methods, creating a series of visceral responses to vocal performances and then creating a personal notation system because of the visceral responses, the audience can compile a notation system and compose a visual score to be performed as a vocal piece within a site-specific environment. The compositions were free from restriction and from the restraints of Western notation. The students had little or no experience as singers or composers but composed a notation system and ultimately a visual score which was then installed, exhibited, and performed as a musical performance piece by the students. As a result, the students responded positively and created graphic scores which they exhibited and performed in site-specific environments as part of their undergraduate assessments.

To put the theory into context, it is important to consider childhood experiences when learning a musical instrument, or learning to sing. Usually, we are taught that we should play music and create music 'correctly' and if you could not read Western notation then you could not become a musician or study music. This early musical pedagogical approach resulted in my decision to avoid a conventional path into music, despite playing piano and cello as a child. With Western music, we are usually taught to follow method and follow the 'correct' way, even though creating music is arguably one of the most emotional, free, and expressive of the arts. With visual art, the pedagogical approach was different: there was an emphasis on freedom of expression, that there was no right or wrong way to create a piece of visual art. Why is this the approach when arguably, music and art are two inextricably linked practices? Classical music and visual arts have always been linked closely, such as visual artist Wassily Kandinsky and composer Arnold Schoenberg's relationship and their parallel lives as documented in their collection of letters *Arnold Schoenberg Wassily Kandinsky: Letters, Pictures and Documents* (1984). Why is it still deemed acceptable to use experimental methods in the art world but not as much in popular music? It was not until attendance at art school that there was encouragement to use creative, expressive, and experimental musical compositional methods. At this stage in my academic career, I had been signed by Sony BMG/Deltasonic, completed a law degree, been called to the Bar having qualified as a Barrister and was about to embark on an MRes in experimental sound composition. I did not feel confident to create a musical composition using graphic notational method whilst I was a signed artist until enrolment at art school. The main catalyst which ignited the PhD thesis idea was the discovery of Daphne Oram and Delia Derbyshire; both events provided the confidence and permission to create a musical composition for an orchestra which could be distributed to a mass audience via conventional platforms such as iTunes and Spotify, which I thought was impossible due to the belief that it could only be

achieved by using the 'correct' notational methods. Whilst the mention of graphic notation may recall John Cage and the artists of the 1950s and 1960s, the method has experienced a resurgence thanks to Theresa Sauer's publication *Notations 21* (2009) which will be discussed in the Literature Review. The thesis chapter structure enables the positioning of rigorous historical research which is vital to the practical element of the research.

This practice-led research was a natural continuum from previous publications, and the desire for experimental sound flowed naturally through to the creation of the practical work at the very beginning of this PhD research journey, which was the creation of a film without visuals, *Rider of the Red Roses* for my MRes (2012) using experimental compositional methods, right up to the current PhD practical work. The initial practice-led research focused upon the concept of Sound Cinema, a new art form created for the purposes of the practical application of the historical and theoretical concepts of musique concrète and experimental sound works. The practice-led study focused upon two case studies to illustrate the effect of these sound works upon a mass audience: Hammer Films and the BBC Radiophonic Workshop. This research commenced with an exploration of the effect of experimental sound in the films of Alfred Hitchcock, until it was discovered throughout the research that it was a Hammer Horror film score which was created using an experimental approach (inspired by musique concrète) which influenced arguably the most recognisable horror film sound ever made, that of the shower scene in Alfred Hitchcock's *Psycho* (1960) (Huckvale, D., 2012, p.49). As well as creating practical work using experimental musical methods, the initial research focused attention upon the unravelling the historical background to the use of experimental sound in Hammer films from 1955-1968 and the BBC Radiophonic

Workshop's use of experimental sound at the same time, for radio and television.

The initial research analysed the concept that audio culture is a diminutive interloper, a newcomer adding contextual breadth and perspective through its concentration of auditory experimentation (Toop, D., 2010, p.37). This approach has continued to influence this current research and emphasises this exploration through the practical work.

The practical work forms the unique contribution to this field, the practice-led research, concluding with a selection of recorded songs performed within a site-specific setting to ensure complete engagement with the listener. The setting for the performance was the Gustav Adolf Kyrka, or the Scandinavian Seaman's Church in Liverpool due to the autobiographical connection and due to the belief, that the aim of the practical work cannot be properly achieved if exhibited within a traditional music performance or art exhibition space due to the sterile environment a gallery can produce and the sometimes-lawless nature of the 'gig' performance space. My grandparents Leo and Gwen Petersen were married at Gustav Adolf Kyrka, their children Carl Petersen (my father) and his sister Olga were both christened there. I was married at the same church in 2011, and unexpectedly, my father Carl's funeral was held there at his request on 21 April 2022. The church was chosen as a sitespecific space to perform *Voices of Winter Palace* (2019) due to the autobiographical connection and due to the dome shaped roof which acts as a natural amplifier to the singing voice. The space was the theatrical backdrop to the narrative nature of the practical element of the thesis.

The thesis intention was to contribute to the work of current composers such as Bjork, whose album *Medulla* (2004) consisted of vocals only, an experimental approach to creating an album within the music industry. The aim was to produce a

body of practical work to exhibit and portray how graphic scores and experimental musical notation can be used to create a commercial record, the sensations sound produces, and to reinforce Toop's theory that sound is a highly significant component to the entire map, (Toop, D., 2010). Whilst the initial MRes research was a mapping of sonic genealogy, the development and relationship of sound, music and visual art and experimental music and its integration into Hammer Horror, the current research builds upon this initial research journey by expanding the application of experimental compositional methods albeit within a much larger space. The initial MRes research focussed upon the reaction a mere mention of a Hammer Horror film would invite, a laugh or a snort from contemporary spectators due to their B-movie style heaving bosoms and garlic fearing vampires, although it was a little-known fact that the actual inspiration for Alfred Hitchcock's *The Birds* (1963) to which scholars have devoted much time, came from a Hammer Horror film (D. Huckvale, 2012). The current research built upon the MRes work introduced earlier this similar approach to addressing the sometimes-negative attitude towards experimental non-traditional Western musical notation and composition. Similarly, this current research discovered that again, it was experimental compositional and musical methods of Daphne Oram and Delia Derbyshire who created the platform for the thesis and the practical work and who both inspired famous bands such as The Beatles (Llewellyn Smith, C. 2011), The Beach Boys and Pink Floyd (Coventry Music Museum, 2023, p.96), Daphne Oram, British pioneer of electronic and experimental sound, states that her research and practical work examines what actually '...lies between and beyond the notes' (Oram D, 1972, p.5), which eloquently describes this thesis research aim from the beginning of the research journey into creating sound and music using non-traditional Western notational methods. Unlike the MRes thesis, this research explores the importance of the visual and sound being experienced by an audience as one. The visual is as important as the sound it produces or creates.

The practical work exists within the art and music world. Sound art can be a term which is used to describe experimental composition, music sound and noise. Once the term sound art is mentioned, it can compartmentalise graphic scores into a genre in which it does not exist. Such labelling can be very restrictive which goes against the whole aim of graphic notation and scores. This approach was supported by leading scholar David Toop, interviewed in 2013 as part of the MRes thesis when asked about the possible complications of using the term sound art he stated:

The problem is the word Art, with another problem attached to the word Sound. The moment it becomes art than it attaches itself to the art world, with a particular history, environment and economy. (Toop, D., 2013, Appendix 5).

Furthermore, the term sound art was defined by LaBelle as 'Art forms that utilize sound as a material and that investigate the conditions and potentialities of listening.' (Petersen, E., Interview with LaBelle, B., 2013, Appendix 5). As with Toop, the thesis agrees that sound is a highly significant component to the entire map (Toop, D., 2010). Another unique contribution to the already existing knowledge in this field of research is the two interviews conducted by me in 2013 of leading scholars Brandon LaBelle and David Toop. LaBelle and Toop provide an exclusive insight into the world of sound and its relationship with visual art. There appears to be a problem with the terms 'experimental musical' or 'notational methods', considered by some as 'sound art' rather than music. This thesis is multidisciplinary and explores and exists between art, music and language and is not confined to such terms as 'sound art'.

The thesis argues that such labelling confines the research and ultimately can present hurdles that the research rejects. However, it is important to acknowledge the concept of sound as art, a term which can be traced as far back as the Zurich

Dada period of 1916. It is the work of sound artist and experimental musician John Cage in the 1960s which arguably is the most influential and ground-breaking foray into sound as art. Cages' work became the platform for sound artists to investigate and research sound as art, its scope, and its potential. The initial research critically analysed five case studies with an introduction of the pioneer of experimental sound Italian Futurist artist Luigi Russolo. The case studies have been chosen due to their theoretical and practical work which inspired my own approach to the research, as a theoretician and practitioner in the field of sound and art. The case studies concentrate on experimental sound innovator Delia Derbyshire, to cinema sound scholar Michel Chion, John Cage to contemporary artists Brandon LaBelle and David Toop. Each case study influenced my research in theory and practice which is a direct continuation and expansion of the thesis. It is important to address the term musical notation, specifically the Western musical notational system. How is it defined? (Grier, J., 2021, p.1) approaches it as a symbolic language and states that it is the latter theory that is relevant to this research. It is an autoethnographic piece of research led by experimental musical notation. The thesis challenges the laborious process and the level of sophistication seemingly required to create a piece of music using experimental graphic notation. It argues that these requirements are a little archaic and restrictive to the musician, who can create a sophisticated piece of music using an experimental notational system, free of the laborious process and in complete contrast, the process being part of the musical performance. The thesis does not seek to ask if this can be fulfilled if the creator does not read Western musical notation - it can (Elton John, Louis Armstrong, Prince, Jack White, David Bowie, Paul McCartney, Michael Jackson, Keith Moon, Noel Gallagher, Jimi Hendrix (Barnes, T., 2014)). It is not a new concept, but the thesis unique contribution to the existing knowledge in the field is the voice and the song writing. It is seeking to debunk the usual reception to experimental composition and graphic scores - reception of which is usually suspicious, deemed

as elusive, or evokes reference to *4'33* (1952) by John Cage. The thesis and practical work demonstrate that experimental musical composition can employ the rigour and level of sophistication required to be played by an orchestra, so it plays exactly what has been composed, without free interpretation. The compositional methods need not be a restriction to working with musicians and in this case, the Budapest Symphony Orchestra. The thesis also asks the questions what other methods can we employ to create a composition for orchestra? What are the hurdles and challenges? What can we create if we take complete creative control over the process from the collaboration process to the album artwork. As stated before, graphic notation is not a new concept, but it was a radical move in the 1950s and 1960s, breaking tradition of using the five-bar stave and moving into a world of experimental notation, sound, electronic sound, and noise. Upon commencement of this research, the discovery was that experimental graphic notation first appeared with John Cage, Edgard Varese, Morton Feldman, Cornelius Cardew, Steve Reich, Krystof Penderecki, Brian Eno, R. Murray Schaeffer, Tom Phillips, George Crumb, Gyorgi Ligeti. All the experimental composers were men and there appeared to be a paucity of literature available and little research about women who were using experimental musical compositional methods and techniques. These women must not be omitted from the historical backstory of experimental notation. Two of the main pioneers of the electronic sound and composition as mentioned, are Daphne Oram and Delia Derbyshire. The thesis draws upon these women's experimental compositional methods and pays homage to them both as leading figures in the world of experimental composition and sound. The focus is not upon John Cage and his male peers, but upon Daphne Oram and Delia Derbyshire. The composition and recording of the album *Voices of Winter Palace* (2019) in Chapter Three has been influenced by theorists, pioneers of experimental sound and visual art and compositional techniques analysed throughout each chapter, namely those of

Daphne Oram, Delia Derbyshire, David Toop, Brandon LaBelle, and Luigi Russolo. This research has established a niche for the study into the creation of, a series of songs based upon the melodies created as a result of graphic notation.

The research makes a further contribution to existing knowledge in this field in the form of new interviews with two world renowned scholars, David Toop and Brandon LaBelle in which they provide their theories on the relationship between sound and visuals (see Appendix 5). The thesis includes a specific genealogical mapping of the history and theories of graphic notation, to the specific case studies of Daphne Oram, Delia Derbyshire, and their respective work at the BBC Radiophonic Workshop.

Chapter One explores the background to graphic notation as a compositional method, particularly the history and theory, as mentioned, with a particular focus upon Daphne Oram and Delia Derbyshire. Chapter Two investigates and analyses the practical elements of the thesis, specifically graphic scores, workshops, performances, and knowledge transfer. Chapter Three reflects upon and documents the practical work, *Voices of Winter Palace* (2019), practice- led autoethnographic research and audio publications. The research centres on finding alternative forms of communication through musical composition when traditional forms are inaccessible, and to challenge the norms and expectations and traditions within Western musical notation and composition. The methods used throughout the research has resulted in a unique contribution to the existing knowledge in the field which is manifested in *Voices of Winter Palace* (2019). The exploration of graphic notation and utilising experimental musical notational methods to create a piece of music without the constraints of Western musical notation resulted in the creation of

new knowledge, a piece of music that is accessible to a wide audience demographic, despite the methods being experimental.

The appendix to this thesis contains a glossary of terms, a set of illustrations contextualising *Voices of Winter Palace* (2019) and a further set of contextual images in relation to the historical and theoretical aspects of the thesis.

Literature Review.

The breaking up of the stagnated hierarchies and politics of the composer/interpreter relationship also emerges with the idea of open works. (Magnusson, T., 2019)

It is important to explore the historical and theoretical approach to graphic notation and the concept of sound as art before analysing graphic notation and the practical application of this method. A contemporary concept which underpins this thesis approach is of a 'new trust', by allowing oneself to trust other forms of composition beyond the staff. *Arnold Schoenberg, Wassily Kandinsky: Letters, Pictures, and Documents* (1984) is a leading scholarly text that has influenced the approach, methodology and aim of the thesis and practical work: specifically, their approach to creating compositions both musically and visually and their gesamtkunstwerk, a total work of art ethos is a major influence upon the practical work and methodology. The practical work is a total work of art and does not exist within the music world solely as perhaps the previous publications had. The practical work encompasses music, visual art, light, collage, photography, poses inspired by ballet movements (Port de Bras, for example), sculptural poses such as Contrapposto and song writing. As a musician and visual artist, the relationship between Arnold Schoenberg and Wassily Kandinsky encompasses the thesis aim of bringing the visual and the sonic together and existing within music and art. Melo J. (2001) states that it is important to discuss Schoenberg and Kandinsky's similar theories and approach to conceptions of the creative process with regards to music and painting and states that in his first letter to Schoenberg on 18 January 1911 to Kandinsky, after hearing his music wrote: 'In your works you have realized what I, albeit in uncertain form, have so greatly longed for. The independent progress through their own destinies, the independent life of the individual voices in your compositions is exactly what I am trying to find in my paintings.' (p. 34). Schoenberg

states:

Painting was the same to me as making music. It was to me a way of expressing myself, of presenting emotions, ideas, and other feelings; and this is perhaps the way to understand these paintings -- or not to understand them. I never was very capable of expressing my feelings or emotions in words. I don't know whether this is the cause why I did it in music and also why I did it in painting, or vice versa.
(Ibid, p. 138)

Both artists were taking an abstract approach to their respective compositions, incorporating tone, colour, rhythm in both the visual and the sonic. Painting the graphic scores is similar to composing music, both have rhythm, tone, colour, and space. The influence of Kandinsky, Schoenberg and the Dada movement is the interdisciplinary approach, an open free way to create both visually and musically creating a total work of art. The practical work is not influenced by the actual music or paintings by either artist but the space and environment both enhance the listening experience greatly due to the physical attributes of the surroundings, for example, when performing the practical work for the MRes thesis in 2014 at the Woolton Picture House, Liverpool, the dusty chairs which had welcomed cinema audiences over 87 years and the dark, dense atmosphere which creeps over you as soon as you walk into the cinema. With *Voices of Winter Palace* (2019), Budapest in snowy January seemed to be the perfect location for the recording due to its winter backdrop, the musicians of the Budapest Symphony Orchestra, their connection with playing for Ennio Morricone and its authentic recording studio. The importance of listening is again discussed by Toop, D. (2010), and a supernatural twist is applied to sound as Toop describes sound is a ghost, a phantom, which confuses what we see as reality, deliberately misleading us (Toop, D., 2010, *Sinister Resonance: The Mediumship of The Listener*).

Toop and LaBelle are the two main artists and theorists who have also influenced this thesis. In particular, Brandon LaBelle's argument regarding 'spatiality' and 'ghosting' in his book *Background Noise, Perspectives on Sound Art* (LaBelle, B., 2006) is a vital component to the thesis practical work. Akin to LaBelle, this thesis states that it is more than the location such as the church setting, in which the practical part of the research is exhibited, which acts as a springboard for the sounds to evoke emotions. The church, Gustav Adolf Kyrkya, Scandinavian Church, or as it is known locally, the Scandinavian Seamen's Church, built between 1883-84 on Park Lane, Liverpool, was chosen due to the historical backstory, the place being of paramount importance as the meeting place of Leo Petersen and Gwen Petersen, the two main characters of the story of the practical work, *Voices of Winter Palace* (2019).

It was also chosen due to the resonance of the space, its absorption of sound, whispers, and human experiences which the thesis argues haunt the building and overwhelmingly lingers in the atmosphere like a perfume or a cloud of smoke, thus heightening the sonic and emotional experience of the audience. The church is of paramount importance to the performance of the album as it ensures an all immersive experience, as well as autobiographical importance, the voices of the singer tell the story of two people who met at the church and reunites the characters with their initial meeting place. The importance of listening is again discussed by Toop, D. (2010) and a supernatural twist is applied to sound as he describes sound as a ghost, a phantom, which confuses what we see as reality, deliberately misleading us. He states that sound as a chilling medium stops short at film, and so the paucity of literature in this area exists evermore, inviting my own research and contribution into is area (ibid). Since the unexpected passing of my father Carl Petersen on 11th April 2022, the venue has taken on an even more vital role to the thesis as the funeral service took place at the same church in April 2022. The

venue is a sacred place which acts as another instrument, a main character in the story of *Voices of Winter Palace* (2019).

Pierre Schaeffer's *In Search of a Concrète Music* (Schaeffer, P., 2003) impacted and informed Chapter One of the thesis. As Chapter One is an introduction to experimental compositional techniques and graphic scores, it is imperative that such a discussion must include the concept of musique concrète, 'a new metal framework of composing,' a form of electroacoustic composition, into mainstream cinema developed by French scholar Pierre Schaeffer in Paris in 1942 (Schaeffer, p., 1942). This is considered a classic text on electroacoustic music and the invention of musique concrète, a series of step-by-step diary entries which explain Schaeffer's theory of musique concrète. This has been an essential text throughout each of the three chapters which has shaped the foundations for the research and has provided a platform to develop the practical research and has inspired the compositional techniques in that the thesis graphic notation is also as Schaeffer put it, a 'new metal framework of composing' (Schaeffer, P., 1942).

The thesis analyses specific aspects of the works and methods of Daphne Oram and Delia Derbyshire. Each scholar has influenced this thesis application of graphic notation and the composition of the practical outcome, *Voices of Winter Palace* (2019), as discussed in Chapter Three. These pioneers of sound were chosen particularly within a historical context, from what this thesis argues is the start of experimental composition, to the relationship between sound and experimental composition via Michel Chion, to the contemporary practitioners Karen Rosenbaum and Jennifer Walshe whose experimental compositional and performance techniques are in a sense continuing the work of Delia Derbyshire and Daphne Oram as is the practical part of this thesis.

This thesis argues that we need visuals and sound together to experience a completely immersive experience. We cannot completely remove sound from visual, even if we put our fingers in our ears to block out sound it never completely removes the sound: a finger only dampens, not obliterates sound waves (Lerner, N., 2010).

The approach of the thesis draws upon Didier Anzieu's theory of immersion explained by Caleb Kelly in his book *Sound: Documents of Contemporary Art* (Kelly, C., 2012). Kelly introduces critical papers from leading scholars in the field of sound and visual art who analyse the term sound art and the difference between sound and music when discussing experimental sound and noise. Kelly argues that his practical work is akin to his theory of a 'sonorous envelope' – a completely immersive experience we are surrounded by sound as a foetus, 'sound puts us in the world from which vision requires us, however minimally, to withdraw' (Kelly, C., 2012, p.135). Whilst the practical work embraces this idea of the 'sonorous envelope' particularly when recording with the Budapest Symphony Orchestra, during which if you closed your eyes, it was the most immersive sonic experience: as if you had jumped into the ocean feeling the pressure of the water around you. The sound was everywhere, you couldn't block it out even if you put your fingers in your ears, it made the heart pound. However, the thesis builds upon this concept by challenging the approach that we must withdraw however minimally from sound. The graphic scores and the photographs of the Faroese landscape together with the music create a total immersive experience, the visuals inform the narrative and without these it could be difficult to understand the lyrics or to follow the story. The thesis focuses upon the importance of the audio visual; the graphic notation is as important as the sound it creates. As mentioned in the introduction, the importance of the audio visual was researched initially in the MRes thesis namely with reference

to the importance of sound and visual in cinema, particularly British Hammer Horror films.

The thesis echoes the approach of Robert Barry who states: 'Today it is almost impossible to think of music as anything other than immediately audio-visual' (Barry, R. 2015) in *Graphic Scores: from the Symbolic to the Indexical* the two exist together and must be studied together for the purposes of this thesis. When considering this audio-visual relationship and the importance of such, it is helpful to consider Michel Chion's (2009) approach. One of the main scholars who has influenced this research, Chion argues in his book *Film a Sound Art* (2009) that there is no soundtrack, and that sound cannot be studied separately from image, and that sounds, and images seek to translate audio visual as well as the sensational. Further, Chion's theory surrounding the relationship between the audio and visual is useful to this thesis even though Chion is referencing his theories in relation to film it is still important to the theory throughout this thesis specifically surrounding the important of experiencing sound music and visual together. Chion, M. (2009) argues that watching film is more than just a visual exercise—it enacts a process of "audio-viewing". Gorbman, C. (1987) takes this argument a step further in her book *Unheard Melodies, Narrative Film Music* and argues that there is no soundtrack, and so one cannot study a film's sound independently of the image and vice versa. This thesis intends to go a step further than Gorbman, by comparing her theory to that of Antonin Artaud in *Antonin Artaud: A Critical Reader* (Artaud, A., 2004) who argued that sound engulfs a room creating its own visuals, without the need for imagery. This thesis challenges Artaud in that whilst sound and music alone can create imagery and conjure up places, memories, emotions, and event scent, when presented with visuals this allows for a completely immersive sensory experience.

When listening to *Voices of Winter Palace* (2019) chronologically, there is a corresponding photograph to each song as referenced in the List of Illustrations: fig. 10-19. As the strings soar throughout *Leo (Pt. 1)* [fig.13]), whilst looking at the archival photographs of Leo's home, Esturoy (List of Illustrations [fig.2]), through to his journey to Liverpool on the Danish trawler which carried him over to Liverpool (List of Illustrations, [fig. 5]) it is difficult to imagine the impact upon the audience if there were no archival images. *The English Woman (Pt. 1)* comes alive when we see the photographs of young Gwen in Liverpool (List of Illustrations [fig.8]) to when she lived in the Faroe Islands [fig.1]. The story then moves onto *Voices of Winter Palace (Pt. 2)*. *The Fur Coat* is unravelled visually when we see Gwen wearing the coat that Leo had bought for her [fig.9]. *The English Woman (Pt. 2)* tells us about Gwen, her reception by the locals in the Faroe Islands and her return to Liverpool via Denmark, the visuals show us the impact this moniker may have had upon Gwen at the time. Finally, *Leo (Pt. 2)* brings a hopeful yet sad ending to the story which is reflected in the photograph of Leo [fig.7], gifted to Petersen by her father before he passed away in 2022. As the audience, we feel like we know the couple and that we have followed their journey with them due to the impact of the audiovisual.

Alan Licht's book *Sound Art: Beyond Music, Between Categories* (Licht, A. 2007) has influenced Chapter One, specifically the critical analyses of sound as art, separating sound from music for the purposes of this research. However, the thesis argument remains that sound and visual must exist together to create a complete visual acoustic experience. The graphic score is not merely an aide memoir to the music. As well as analysing sound and its relationship to art, Brandon LaBelle's argument regarding 'spatiality' and 'ghosting' in his book *Background Noise*,

Perspectives on Sound Art (LaBelle, B., 2006) has heavily influenced the thesis practical work. Akin to LaBelle, this thesis states that it is more than the location in which the practical part of the research is exhibited, which acts as a springboard for the sounds to evoke emotions. With the initial MRes research, the place in which the sounds were performed, the Woolton Picture House, built in 1926 in Liverpool, was chosen due to the ghostly atmosphere of the building, its absorption of sound, whispers, human experiences which the thesis argues haunt the building and overwhelmingly lingers in the atmosphere like a perfume or a smoke, thus heightening the sonic and emotional experience of the audience.

The history and theories of experimental sound works must be analysed before its effects are critically questioned and evaluated. Chapter One opens the thesis with the aim of defining the terms sound art. It is only natural for the reader to ask what the difference is between sound as art, sound, and music. The thesis analyses specific aspects of the works and theories of Delia Derbyshire, Daphne Oram, Michel Chion, David Toop and Brandon LaBelle. Each scholar has influenced this thesis theory but most of all the experimental compositional techniques of Daphne Oram and Delia Derbyshire. These pioneers have informed the composition of the practical outcome, *Voices of Winter Palace* (2019) as discussed in Chapter Three. These pioneers of sound were chosen particularly within a historical context, from what this thesis proposes are the most influential of experimental compositional methods and graphic notation. Louis Neibur's *Special Sound: The Creation and Legacy of the BBC Radiophonic Workshop* (Neibur, L., 2010) are both extremely influential particularly to Chapter Two of the thesis as it explores the history of the BBC Radiophonic Workshop specifically with reference to Daphne Oram and Delia Derbyshire, and how the experimental methods and approaches to musical composition influenced the history of music, particularly electronic music.

Toward the end of my research for the thesis, a number of influential and important publications were released about Delia Derbyshire that I related to as a musician, artist and researcher. Firstly, the soundtrack by Cosey Fanni Tutti, *Delia Derbyshire: The Myths and the Legendary Tapes* (2022). Tutti was commissioned to create the soundtrack to accompany the documentary of the same name by Caroline Catz (Garrett, 2022). Tutti created the soundtrack as a result of rigorous research of Delia Derbyshire's archive, a method and approach that I connected with specifically in relation to creating my practical work *Voices of Winter Palace* (2019) after my own historical and archival research of Derbyshire and Oram. The archival research directly influenced the creation of both Tutti's and my soundtrack work and I sensed a parallel research and practitioner methodological approach. As musicians, artists and researchers existing in a space 'outside of the norm'. Furthermore, Tutti used original recording and compositional techniques to create the soundtrack, which was a similar approach to my compositional methods, inspired by both the original recordings and methods by both Derbyshire and Oram.

Additionally, Tutti's soundtrack for the film provided a framework for her book *ReSisters: The Lives and Recordings of Delia Derbyshire, Margery Kempe and Cosey Fanni Tutti* (2022), which was released a year later in 2023. Tutti, like myself, identified with Delia Derbyshire as an innovative, revolutionary woman in the world of sound, music and art. I specifically identified with the methods Tutti had adopted in relation to the soundtrack, the musical element of her work complements the narrative of her literary work. The intrinsic link between her soundtrack and narrative is autobiographical and mirrors the approach I have taken to adopt an interdisciplinary methodological approach to my practice and research. Tutti's approach reflects the practice-led methodology I have used throughout my research and supports the connection between autobiographical narratives in both written and sonic forms. As well as the context of the book, the autoethnographic method

Tutti embraced mirrored my approach to my practical work as she stated 'I can't be me through someone else's work. I am giving something of myself to people that's come from a true source – me.' (ibid). It was this statement that gave me reassurance that my methodological approach was the most appropriate. Tutti discusses the interlinking lives of Delia Derbyshire, Margery Kempe, a 15th century psychic, as well as her own life, specifically their social and structural hurdles as women occupying a space outside of what was traditionally accepted, confronting the challenging infrastructure of a patriarchal society during the 1500s and the 1970s. It is not surprising that not much has changed from Delia Derbyshire and Tutti's work in the 1960s and 70s to my own experiences as a woman in the music industry challenging societal norms and expectations as a woman composer, artist and musician.

The release of the documentary *Sisters with Transistors* (2020) narrated by Laurie Anderson was another pivotal moment that impacted my research as it was highlighting the leading women in electronic music, including my two-case studies Delia Derbyshire and Daphne Oram. Finally, the unsung pioneering women of electronic sound and music had been given a voice, a platform, the facts no longer hidden or wiped from history. Experimental composer Holly Hendon eloquently sums up the impact that the documentary has, "There is something psychological that happens when you can see yourself in the people who are being celebrated" (Felperin, 2021). This was a turning point for my practical work as my case studies were finally being recognised - I believed my work was situated well existing alongside the documentary and Tutti's publications, as researcher practitioners communicating biographical narrative through experimental compositional methods, music and writing. These pivotal sources continue to support the thesis' argument that experimental compositional techniques are not merely used within experimental or specialist areas – historically they have been widely used to create commercial

films/records/radio shows/plays that have been consumed by a large audience usually unaware of the experimental compositional techniques used as the end product has been accessible by a wide range of audiences – just because experimental compositional techniques are used to create a piece of music does not necessarily mean that the end product sounds ‘experimental’ or is inaccessible to a wide-ranging audience. This will be explored throughout the methodology and demonstrated throughout Chapter Three.

Daphne Oram was a pioneer in electronic experimental sounds, creator of electronic synthesisers, spearheaded the BBC Radiophonic Workshop in the UK in the 1940s and created *Oramics*, drawn sound using her Oramics machine. Not only was she an experimental musician, but a scientist and a visual artist, challenging the traditional methods of musical composition and sounds, creating futuristic yet accessible music and sounds for the BBC, television, radio, and theatre. It is her use of experimental visual methods of composition through Oramics namely through her written work, lectures, recording, notations, and archives which make her one of two of the leading exemplars in this literature review and throughout the thesis and practical work. Delia Derbyshire is the second most prominent case study whose recordings, compositions and methods are crucial to informing and influencing the thesis written and practical work, specifically, her work which is available at the DD Archive at the University of Manchester. Daphne Oram’s visual work and recordings have been the main influence upon the methods used within the practical work. Her books, recordings, lectures, soundtracks, notations, and archival work were of paramount importance to the exploration and findings of this thesis. Thematically, Oram’s’ graphic notation system Oramics is a contextual touchstone, and a historical example of how

experimental musical notation can be used to create new sound and new knowledge.

The research methods draw inspiration from the recordings of Daphne Oram, namely Daphne Oram Oramics, *Daphne Oram Electronic Sound Patterns* (1962) vinyl EP, *Daphne Oram The Oram Tapes: Vol. 1* (2012), Young Americans. Upon discovering *Electronic Sound Patterns* (1962) after the creation of the unique graphic notation system, the similarities with this notation system and the visuals on the front cover of the EP were striking, Oram's work inspired the use of the notational system to create a limited-edition vinyl 10" record and to release it to the public. The recordings such as *Still Point* (1950), *Daphne Oram Four Aspects* (1968), *Daphne Oram Snow* (1963), *Daphne Oram The Innocents* (1961), provided the permission and the confidence needed to create and to release a vinyl recording of songs that were created using experimental notational techniques but to a mass audience. Oram's vinyl recording *Electronic Sound Patterns* (1962) is one of the main audio recordings which has inspired this thesis as Oram created her collection of visual patterns – *Oramics*, which produced sounds using tape recorder, splicing, looping, to help children to dance in response to the sounds. It is the shapes and patterns which have influenced the thesis compositional methods and graphic scores. These recordings exist between the visual and sonic worlds, just as this research and practical work does. Not only has Oram's *Oramics* influenced the method of creating graphic notation, but also provided the confidence to produce accessible music using non-traditional musical notation, which is consumed by an audience on digital and vinyl platforms. Oram did exactly this with her sounds for radio, cinema, film, and theatre. The Delia Derbyshire recordings that have informed this research specifically concerning the compositional methods used are: *The White Noise: An Electric Storm* (1969), *BBC Radiophonic Music*, *Doctor Who Volume 2: New Beginnings* (1972), *Doctor Who Volume 1: The Early Years, 1963-*

1969 (2005), *Delia Derbyshire archive*, University of Manchester.

Before any analysis of experimental compositional music methods, it is important to consider the historical context in relation to experimental sound, noise, music, and composition. Futurist painter Luigi Russolo's *The Art of Noises* (1913) (Apollonio, U., 1973), provides the foundation for the thesis and lays the foundations in Chapter One, enabling the following chapters to develop the thesis theories and the practical further. To understand the relationship between experimental sound and visual art, specifically graphic notation, one must discuss the historical timeline of experimental sound and its origins. *The Art of Noises* (1913) (Apollonio, U., 1973), is considered the definitive text for sound and visual artists. Russolo's text is part of the Futurist Manifesto of 1913, and is a letter written to the Futurist composer Francesco Balilla Pratella. The text is a declaration of the importance of new noise, the introduction of a new method of creating new noise, and the importance of a non-restricted compositional method of creating unimpeded noise. The theory states that pre 19th Century, life was silent, and it was the introduction of machinery in the 19th Century which introduced exciting new noises. Russolo, a painter, argues that music and sound failed to arouse any emotion and that audiences were requesting bigger acoustic sounds. Russolo focused upon 'noise sounds,' which he theorised, were a completely innovative approach to sound and music. Russolo focused upon the importance of noise sound, and surprisingly as he was a painter, argued that the ear is more tentative than the eye.

This leading text paves the way for the thesis critical analysis and practical work due to the approach concerning new methods of composing: the importance of a non-restricted compositional method of creating unimpeded noise. Russolo's experimental approach to creating new sound and existing between the musical and

visual worlds provided the permission needed to create and exist confidently, between two worlds, art, and music. The relationship between painting and sound plays a key role in the creation of the graphic notation for the practical work in Chapter Three. The paintings which have influenced the graphic scores for the practical part of the thesis are the paintings by Op Artist Bridget Riley. Whilst not specifically graphic scores, Bridget Riley's approach, methodology and musical references in her titles have been as influential upon the graphic scores as Daphne Oram's *Oramics*. Specifically, it is the movement and rhythm in *Movement in Squares* (1961) (App. 3 [fig.20]) that inspired the black and white collage used for my initial graphic scores. The practical work contributes to the existing knowledge in the field in that the intention was to create visual art that the audience could look at but could also imagine what it would sound like. It can be argued that the simplicity of Riley's colour scheme and the movement of the paintings heightens awareness to the connection between visual art and sound. When looking at her paintings it is possible to hear what they could sound like, which is how the graphic notation in Chapter Three works.

Riley's paintings have been interpreted by musicians such as Steve Reich and Georg Friedrich Haas Luke, B. (2019), the lines and shapes emit a repetitive rhythm, shapes dance in front of the viewer's eyes, and it is as if they are creating a sound. However, the thesis is concerned with the experimental approach to composition, including the visual and sonic and how they exist together, the thesis does not concentrate upon whether sound influences the visual or vice versa. In *Concerning the Spiritual in Art* (1912), Kandinsky states:

Generally speaking, colour is a power which directly influences the soul (i.e., the feelings). Colour is the keyboard, the eyes are the hammers, the soul is the piano with many strings. The artist is the hand which plays, touching

one key or another, to cause vibrations in the soul. (ibid, p.25).

Kandinsky's relationship with sound is illustrated through his musical titles of paintings such as in his book *PPPPP: Poems Performance Pieces Proses Plays Poetics* (2001) Kurt Schwitters states:

What art is you know as well as I do: it is nothing more than rhythm. And if that's true, I ... can modestly and simply give you rhythm, in any material whatsoever: bus tickets, oil paints, building blocks, that's right, you heard me, building blocks, or words in poetry, or sounds in music, or you just name it. That's why you mustn't look too hard at the material, because that isn't what it's all about [Just] try, in spite of the unusual materials, to catch the rhythm of the forms and the colours. Every artwork throughout history has had to fulfil this primary requirement: to be rhythm, or else it isn't art. (In *Poems Performance Pieces Proses Plays Poetics*, Cambridge, MA., Exact Change, 2002, p.229.)

Schwitters' approach is akin to that of Daphne Oram's theory of looking between and beyond the musical notes: the thesis supports both approaches, rather than focusing upon the 'correct' building blocks, the Western notation, the practical work considers the graphic notation, the visual art works as the rhythm, the pitch, the notes. By looking beyond, the notes we are uncovering new modes of unrestricted creative communication. This thesis continues Schwitters's approach as it is concerned with what lies between and beyond the staves, clefs, crotchets, and quavers to uncover an alternative method of communicating stories through music and visual art. Edgar Varese, Pierre Schaeffer, Karlheinz Stockhausen, John Cage, Bernard Herrmann, and Gyorgi Ligeti, all inspired the initial research especially the album *Forbidden Planets - Music from the Pioneers of Electronic Sound* (2010) as they were an introduction to experimental sounds that have inspired and informed the thesis' practical work. However, it was the absence of women on this album which highlighted the paucity of literature within the area and inspired further

research. Women pioneers of experimental sound are extremely important to the practical research and strength has been drawn from Daphne Oram's compositional technique *Oramics*, and her invention of her machinery to create these sounds which sparked the interest in experimental sound. Likewise, Delia Derbyshire's pioneering experimental compositional techniques used in the BBC *Dr. Who* (1963) theme has ignited the passion for research into experimental sound. Daphne Oram's *An Individual Note: of Music, Sound and Electronics* (1972) is the main text which has guided this research which is a continuation of Oram's work in that the methodology is influenced by her theories and methods in the way that the practical work creates graphic scores which are then interpreted into sound.

Notations 21 by Theresa Sauer (2009) is another key text that has informed this research as it revisits the history of the graphic score and brings it into modern day. When researching graphic notation initially, there was a paucity of up-to-date modern literature and research surrounding the subject. A lot of the literature, artwork and recordings were centred around male artists in the 1950s and 1960s with an overused phrase being used continually: 'avant-garde' which seemed out of touch and out of date with regards to my graphic notation system. Whilst John Cage was important to the initial research, it was Sauer (2009) who addressed the gap in graphic notation literature. Sauer revisits John Cage's *Notations* (1969) and presents a catalogue of artists who have created and continue to create graphic scores, artists making a breakthrough with their experimental musical notation systems, illustrations, and art works. This research is invaluable to this thesis as it highlights and celebrates contemporary artists and contemporary graphic notation. It is a fresh approach to graphic notation and reintroduces it into the 21st century by advocating creative communication ideas and systems and looking to the future of

musical composition. Although an homage to John Cage, it introduces and celebrates global artists creating graphic scores and notation such as Karen Rosenbaum, composer, who states:

...Expanding music beyond sound to image, movement, smell and taste is the most natural way for creating true interdisciplinary performative language, within which the role of music as an art form is established in a new trust.
(Rosenbaum, K., 2021)

The thesis and practical work echoes Rosenbaum (2021) and her approach to contemporary graphic notation. *Voices of Winter Palace* (2019) is an interdisciplinary exploration of music beyond the traditional expectations of Western notation, it pushes this form of communication and its creation.

Methodology

...there is much more to a musical composition than just the notes. (Oram, D., 1972, p.12.)

The combination of autoethnography, interviews and creating the visual graphic notation are the most appropriate research methods. The autoethnographic research also aims to make a unique contribution to the existing knowledge in the field. Creating the visual graphic scores enabled the creation of musical melody and narration for *Voices of Winter Palace* (2019). Bolton & Delderfield (2017, p.1) state that:

...autoethnography has been used as a way of telling a story that invites personal connection rather than analysis (Frank, 2000), exploring issues of personal importance within an explicitly acknowledged social context (Holt, 2001; Sparkes, 1996), evaluating one's actions (Duncan, 2004), or critiquing extant literature on a topic of personal significance (Muncey, 2005).

First, through autoethnography, I am exploring the genealogy of my family. This is essential to the creation of the practical component of the thesis as it has uncovered the autobiographical story of my father and grandparents which became the inspiration for the lyrics, music, and visual artwork for the album *Voices of Winter Palace* (2019). This autobiographical information and the interview with my father intertwine with my family history and the connection with exploratory language and new forms of communication, from the spoken word to music. The story of my grandparents and the untimely passing of my father in April 2022 towards the submission date of this thesis have both acted as a catalyst for the research. Their story enabled me to draw deeply on the methodology as multi-disciplinary and multi-method. The methodology uses biography, memory, and nostalgia as well as drawing on autoethnographic approaches which was an essential combination to successfully create unique contributions to the existing research in the field.

According to an interview with my father Carl Petersen in 2015, Leo Petersen was born in Gøta, full name Norðragøta, Faroe Islands in 1934 to Gabriel Petersen and Elsa Poulsen, he was one of eight brothers and sisters. Leo's wife, Petersen's grandmother, Gwen Petersen neé Williams, was born in Caergrwle, North Wales but grew up in Liverpool, UK. Despite a language barrier, they managed to have a family and a life together. Gwen met Leo at the Scandinavian Seaman's Church known as Gustav Adolf's Kyrkya, Park Lane, Liverpool during the Second World War and married at the same church. They had two children, my father Carl and his sister Olga were both christened in the Scandinavian Church, and subsequently I was married there in 2011.

Leo Petersen was trained to sail by his father Gabriel, on their family boats as a young teenager in the Faroe Islands, to seek work on trawlers. Leo then moved to Denmark to seek further work on the trawlers, he sailed under the Danish flag which was a natural progression for him and his brothers. Leo initially came to Liverpool on a Danish boat around 1942, at a time when there were more Scandinavian boats in Liverpool than any other nationality. Leo's brother Hans Petersen was a captain of one of the Danish trawlers. A year before the start of World War Two, Leo met Gwen in Liverpool at Gustav Adolf's Kyrka, Liverpool. Many Scandinavian travellers would be welcomed to the church for prayer, food, and a bed and it was considered bad luck if the seamen didn't attend church. Leo was a Lutheran and was keen to attend the services at the church. Gwen and her sister Dolly Williams played the piano there. The trawlers brought cargo into the UK and Leo's last ship was SS Linda. He was at sea during the Battle of the Atlantic which was sunk by German

U - Boats, and then again off the coast of Cork, Ireland. When World War Two was declared, all ships that came into the UK ports were recruited into the British Merchant Navy. Leo was aboard one of these ships which was seized in the port of Liverpool, he and his fellow seafarers were then sent to train as engineers with the British Navy to enable them to use the anti-aircraft guns which had been fitted onto the Danish fleet. Leo was trained in Wales, returned to his ship, and then sent out into packs of thirty to forty ships all sailing to America. On board Leo's ship was food and ammunition sent over from America; the German army discovered this and then started to use U-boats to destroy the ships.

At the end of WW2, Leo and Gwen went to live in the Faroe Islands for a brief time and Gwen was called 'The English Woman' by the islanders. Whether or not this was in an affectionate or hostile manner, Gwen enjoyed life on the island and adapted to the desolate island life, despite not speaking any Faroese or Danish. Gwen would look after the family's sheep only to experience a daily thick fog which would descend upon the island, forcing her to lie down in case she fell off a nearby cliff. The Faroese language was not really acknowledged as a 'real' language – derived from old Norse, based on Viking words with a similar alphabet to Icelandic, it was a language that few people spoke. Leo however spoke Danish, which led him to being able to speak some English, and after a year living in the Faroe Islands, they moved to Denmark. Gwen and Leo loved Denmark and were welcomed with open arms, they lived there for two years but their stay was cut short when Gwen came back to Liverpool when her mother passed away. Upon their arrival back into Liverpool Leo had to report to the police as an 'alien' and was refused a war pension despite fighting for the UK in WW2. Whilst Gwen was 'The English Woman' on the Faroe Islands, Leo was seen as a stranger who did not look sound or act like the local Liverpoolians. This must have been an exceedingly challenging time not

only financially but due to Leo dressing differently and of course, the language barriers. Leo wore a beret and a roll neck Faroese sweater which was an odd sighting in the Old Swan area of Liverpool in the 1950s. Leo and Gwen welcomed their first child Olga in 1950 and their son Carl in 1953, but in 1960 Leo sadly suffered a stroke and lost the ability to speak. Leo returned to the Faroe Islands many times despite this, to visit his mother, Elsa. Regardless of not being able to speak, Leo was hugely communicative through handwritten letters from Elsa which were written in Faroese, and he also still attended church to listen: the power of listening was vital to Leo's life at the time which included listening to the songs in church and stories from fellow Scandinavians. The songs on the album tell the story of Leo's journey from the Faroe Islands to Liverpool, his life as an immigrant and his new family in Liverpool. The gaps between language and communication are identified in this thesis as a space for going beyond what we are taught about language and communication: whether it is through music or the way we communicate with our loved ones. There is common ground between Leo and Gwen's journey as communicators, unwelcome strangers and the musical notation system presented within this thesis which exists in the space between the crotchets, quavers, staves, bars, and brackets; there is much more to be found, understood, created beyond and between the notes.

This research utilises several methods with reflective practice as the overarching method and foundation for the study. The research also utilises primary source methods, including listening, composition, interviews as well as secondary source methods including discography research, literature review and archival research. The interviews conducted as part of this research with Carl Petersen (Petersen, 2015 and 2022) and two of the most important leading scholarly figures on sound and art, David Toop (2013) and Brandon LaBelle (2013) are unique contributing

factors to the research. Carl Petersen has provided the essential autobiographical backstory of Gwen and Leo Petersen. Toop and LaBelle have informed the practical work in that their arguments and theories support the research argument and have provided a platform to research deeper into this under-researched area.

Furthermore, both Toop and LaBelle are theorists and practitioners, an approach adopted throughout this research. The main aim of the interviews was to gather the key scholarly and artistic theories on sound as art in film, to compare these theories and to test such theories on the audience during my practical part of the thesis.

Toop and LaBelle share the thesis theory of the importance of listening, whilst not focusing upon the term sound art too much. For example, when interviewing David Toop about whether he would define sound art, he had a particularly refreshing outlook; he did not present a definition and stated:

The problem is the word Art, with another problem attached to the word Sound. The moment it becomes art than it attaches itself to the art world, with a particular history, environment and economy. My experience as a specialist in this area for more than 40 years is that there were many beginnings to sound art. But sound also suggests an outgoing; in recent years I've become more interested in what it means to listen.
(Petersen, E. Interview with Toop, D., 2013)

David Toop was chosen as an extremely important case study as a leading current scholar who prefers to focus upon the importance of listening rather than sound as art. The practical part of the thesis focuses upon listening as one of my most important research methods. The importance of Brandon LaBelle is that he, akin to David Toop, is one of the leading scholars and artists on sound. A theorist and practitioner, his theory of spatiality has influenced this research theory that where you listen, is important to the experience. For example, the performance of *Voices of Winter Palace* (2019) would not be as effective within the usual clinical gallery space; it is the environment which heightens the listening experience.

Over the past six years, at the outset of the thesis research, there was little enquiry as to the experimental sound explorations of the BBC Radiophonic Workshop, however, there has been increasing attention upon the leading women pioneers of electronic music specifically the music documentary *Sisters with Transistors* (2020) a celebration of the women pioneers of electronic music and how they have shaped modern music. Narrator Laurie Anderson introduces the audience to pioneers such as Maryanne Amacher, Eliane Radigue, Clara Rockmore and Suzanne Ciani, an exploration of the leading trailblazers of experimental sound and composition, finally. However, the film is hopefully the beginning of a celebration of the many incredible women who have paved the way for so many musicians and DJs throughout popular music history and contemporary popular music. The film has been released at the same time as this thesis which will hopefully raise the much-needed awareness of these women and how important their contribution to music, composition, sound, and technology really is.

The interviews act as an anchor within the methodology as they are primary resources which are unique to this area of research. The interviews are the first of a series of case studies which are now to be published at PhD level. These are a unique set of interviews which explore the relationship between sound, art, and music. The importance of the interviews is that they have shaped and informed the whole thesis in that Carl Petersen was able to provide the historical backstory to *Voices of Winter Palace* (2019) at a time when he was extremely ill and facing his own mortality.

Revisiting musical notation and the practice of creating the visuals was inspired by the realisation that creating a musical language requires more than one of our senses, it is not an isolated, calculated mathematical method but a creative process that involves sense, touch, listening, seeing; as Popova, M. (2023) states: 'There's

something especially mesmerizing about the cross-pollination of the senses, particularly in visualising music'. Popova (ibid) was referencing Theresa Sauer (2009) *Notations 21* in which Sauer revisits John Cages' Notations and delivers an anthology of one hundred and sixty-five artists reimagining musical notation through graphic scores. It is Sauer's homage to international contemporary composers and musicians internationally who 'are experiencing, communicating and reconceiving music visually by reinventing notation.' It is interesting to note that Sauer (ibid) appears to move on from the 1960s experimentalism associated with graphic scores which seems appropriate especially now in 2023 when composers and musicians are using software such as Logik and Sibelius to compose music. Combining the visual and sonic is an everyday method for musical composers, especially with Music (BA) Hons students at LIPA who study modules based upon using the software to write music.

Musical notation is a language, a means of communication to express ideas, but Western notation has been unchallenged and continues to dominate, maybe not so much in the rock world but specifically the classical. The aims of this research being to compose melodies using graphic notation for an album that is part pop music part classical, with the Budapest Symphony Orchestra and choir, but which also sits within the rock genre also. The aim is the use experimental compositional methods that challenge the dominance of traditional Western notation and to prove that all notation is simply language, which can be created and communicated through traditional classical, pop and rock music practices. It aims to dispel the perception that experimental composition is limited to the production of experimental music. The thesis' concept of graphic scores involved using a unique musical notation system to create the components required to compose a piece of music, including melody, tone, pitch, volume, and speed. The notation was pieced together and then the melody was played on piano sung and then recorded using the Apple iPhone

recording device as a selection of audio files. There were three stages to the compositional methods this thesis used for the creation of the practical work: there were a series of nine symbols that were created as a 'key', a compositional toolbox. Each symbol represents tone, pitch, volume, speed, pause, timbre, emotion, resonance, and reverberation. The second stage is that the symbols were then laid out onto paper and a note chosen to start the melody using a piano. When the melody was constructed into a set of verses and a chorus, the nine symbols were arranged almost as a map to create the structure and foundation of the melody. This notation mapping was then painted with acrylic paint onto paper and given a song title. The graphic score can then be performed vocally and recorded using the memo application on iPhone. The voice memo was then sent to a collaborator, in this case, Dr Mat Gregory (Konstfack University, Sweden), who would then listen to the melody and for the purposes of the orchestra, write down the corresponding musical Western notation and to co-write the music for the piece. He would then correspond with my melodies which enabled the Budapest Symphony Orchestra to interpret and play the melodies. The graphic notation method has been progressed and developed since it was first discovered and used merely as an aide memoir. Whilst researching, the graphic score methodology was influenced by chance methods and began as a series of shapes painted onto paper, cut out to create a collage which were then placed randomly onto a separate piece of paper.

The notation system was then pieced together, and a melody is created as a result [see fig.3-10]. The collage approach was inspired by Dada artists Hugo Ball, Hans Arp, Tristan Tzara, André Breton, in particular Hans Arp's *Untitled (Collage with Squares Arranged according to the Laws of Chance)* (1917, torn- and-pasted paper and coloured paper on coloured paper, 19 1/8 x 13 5/8", 48.5 x 34.6 cm, see App. 3, [fig.11]). However, when creating the graphic scores for *Voices of Winter Palace*

(2019), whilst there were 9 symbols used to create the graphic scores, there are also four steps in the narrative and four songs entitled: *Voices of Winter Palace (Pt. 1)*, *Leo*, *The English Woman*, *The English Woman (Pt. 2)*, *The Fur Coat and Leo (Pt. 2)*. There are separate graphic notation compositions for each one, (List of Illustrations, [fig.22-30]). Each composition has a colour theme, *Voices of Winter Palace* (2019) a green colour scale, *Leo* orange, *The English Woman* a nude colour theme and *The Fur Coat* layered pink and orange. Each song is represented by a certain colour which includes some theory of chromesthesia and is also inspired by the works of Wassily Kandinsky and Arnold Schoenberg (Kandinsky, W.,1984). Visually, the green and blue colours represent the cool landscape of the Faroe Islands, the sea and the sky and the journey Leo took on the boat over to Liverpool. Sonically, the green and blue scale represents the slow, haunting melody that was created and the sombre feeling of leaving home for the first time. The specific lyrics and melody colour represents is as follows: The orange scale represents Leo and his journey as a young man to another country, hope even though the journey would have been difficult. Orange represents the higher vocal key in the chorus of the song. *The English Woman* vocal melody is confident and strong yet also delicate and fragile which is represented though the lyric and melody:

No one will say your name, A stranger you remain.
(Petersen, E., *The English Woman*, 2019)

As stated in the introduction, the lyrics are integral to the practical research. When narrating my grandparent's story, the composition of the carefully chosen words describe the difficult living conditions on the Faroe Islands as a suite of sound poems. In particular, the lyrics are concerned with the terrain, the weather, and the rough seas – specifically the Norwegian Sea, and the North Atlantic Sea. The lyrics are the poetic manifestation of a rigorous research process that combines

biography, autoethnography, practice as research, history, compositional methods and context. The key lyrical themes were formed as a result of primary source interviews with my father, and from the stories Gwen would tell me when I was Gwen was a strong independent woman who was able to lead a happy family life despite the hurdles she faced. Occasionally, I felt I was living a parallel life to Gwen when I was working in the mainstream music industry. This feeling also resonated when I travelled to Budapest to make the recordings with the Budapest Symphony Orchestra, especially when I was communicating with the orchestra and conductor despite me not speaking Hungarian.

The practical work is influenced by the musique concrète techniques of Delia Derbyshire and the drawn sound techniques of Daphne Oram in that the practical work consists of drawn sound and melodies for *Voices of Winter Palace* (2019). The reflective practice is a mapping of the genealogy of graphic notation from a music and art historical viewpoint. Initially, early research focused upon performances and exhibitions by John Cage, David Toop, People Like Us and Pak Seng Chuen whose experimental sound techniques influenced the initial practical work. This led to the drawn sound techniques of Daphne Oram - current research involved the rigorous listening to Daphne Oram's work and the meticulous research documenting her collection of drawn sound at the Daphne Oram Collection, Goldsmiths, University of London.

The practical work makes extensive reference to the techniques of Delia Derbyshire and Daphne Oram in that it has used experimental compositional methods inspired by Oram's *Oramics* technique. Oram would paint shapes onto 35mm film and feed the film into her Oramics machine which could be described as working in a way similarly to that of a compact disc in that light would read the shapes on the film and

then emit a sound (App. 3, [fig.25-27]). This work has been enhanced by visits to the Daphne Oram Archive, Goldsmiths, University of London, and reference to the Delia Derbyshire Archive, online, at the University of Manchester. Oram's *Oramics* is the most influential method which has inspired the methodology when creating the graphic score as upon the discovery that Oram painted shapes onto 35mm film was a direct connection to the thesis method of painting black shapes onto paper and creating sounds as a result. Whilst Oram used her *Oramics* machine to read and play the sounds the shapes represented, the vocals in *Voices of Winter Palace* (2019) would act as the *Oramics* machine, interpreting and creating the sound that the images and shapes represented. The advantages are that the methods are experimental; they are new findings which create an archive for future scholars.

However, the disadvantages of trying to adopt the techniques and styles used by Delia Derbyshire and Daphne Oram, Oram in particular, were the restrictions of time and finances. Oram built her synthesiser; with the restriction of time and finances, this was not possible. However, there was no need to build a synthesiser or an app to apply and create the drawn sound method of composing sound. To compile a comprehensive comparative study of the sensory effect and an exploratory mapping of the genealogy of graphic scores, the most appropriate method of measuring this is by way of practice due to the reflective nature of the research. The methods challenge the conventional roles of composer and performer working within classical music. The performer creates the melodies using graphic notation and performs within non-traditional performance spaces. Further, two critical theories which have influenced my experimental practical side of the research are those of Earle Browne whose graphic notations were created with gestural ambiguity which allowed for interpretation by the performer '...the ambiguity of the notation produced an infinite number of interpretations and spontaneous reactions' (Kim, R.Y., 2017). Unlike Brown, the graphic scores, whilst subjective, are not open to interpretation and are a

static collection of symbols which are not intended to produce spontaneous performances or reactions. When composing, there is no chance method or technique like Brown or John Cage's *I Ching Oracle* (1951). Brown however, argued that although he used number table to compose, he was not a chance performer:

Well, it depends on what I want to happen. I am not a chance composer." frequently, Brown made a point to distinguish himself from cage, particularly in his later career: See I always did the opposite of John. I composed the content and left the form open like a Calder mobile, which was the influence for open form and John worked with rhythmic structures and let the content be by chance and I did the opposite.
(p.13 *ibid.*)

Brown did not use chance methods again, perhaps to distance himself from John Cage. It could be possible that chance was a youthful experiment Brown tried out without being fully committed to it, and that he abandoned it and tried to distance himself from it to avoid being seen as a protégé of Cage. (p.13, *ibid.*)

The thesis notation system is planned and restrictive, it is this prognosed method which allows me freedom to compose. However, there is some similarity to Brown in that within the practical work there is use of collage when composing the graphic notation as he did in his work *Sunder Rounds* (1983), for which he used scissors to cut shapes from his original pre-compositional sketches—rather than from an entirely different piece, several of Brown's scores were in fact created in several iterations. He notated the material, photocopied it, cut it up, reassembled it into a score, photocopied it again, and usually made additional notations on the new photocopy (p.19 *ibid.*). Steve Reich, Brian Eno, John Cage, Karlheinz Stockhausen are all important names when analysing the historical backstory of graphic notation but none of whom the thesis has drawn inspiration from – Daphne Oram remains

the central figure who has directly inspired the thesis methods of musical composition.

The above combination of methods was used in the production of the following published works in conjunction with the thesis: *Emerald Green Eyes* (Petersen. E., 2012), *Jewelled Moon* (Petersen. E., 2012), *Don't Bother Me* (Petersen, E. & Sergeant, W., Mojo Magazine, August 2013), *Rider of the Red Roses* (Petersen, E. 2013), *The Day Is Not Today* (The Little Flames, 2007), *Isobella* (The Little Flames, 2007), *Goodbye Little Rose* (2005), *Put Your Dukes Up John* (The Little Flames, 2005). Reflecting upon personal diary entries as a research method has been essential to the thesis. As White, L., (2021) states, diaries are a valid qualitative research method to study socio-historical contexts. She cites Bates (2011) when analysing the importance of diary research:

As physical objects, the journals added their own sensual materials to the project. the paper, ink and other made and found objects – postcards, drawings and ticket that were inserted between the pages, rooted the written words in the materiality of the journal'.
(Bates, 2011: 187).

Whilst travelling on tour from 2002 as a signed artist with The Little Flames, my hidden diaries became the basis for my graphic notation for my song lyrics (see App. 4) and became a lifeline and the handbook on how to perform the songs whilst on tour. Upon reflection, these hidden diaries represented the challenges I had to overcome in a male dominated music industry. As I felt I did not neatly fit in, I tried to find a space and a new language to compose new music.

These diaries connect back to my grandparents' story and how they found a way to communicate with each other - using signs, symbols, notation to communicate. This also has a link to Daphne Oram's Oramics, her signs and symbols occupying the

space between the English language and Western notation. Every song was handwritten into the diaries with the notation symbols on the top of each line to remind me about pitch, emotion, key, tone, timbre, timing, emotion, and volume. Little did I know that these hidden diaries were the foundations to this PhD thesis and the platform for the vinyl *Voices of Winter Palace* (2019). The diaries were hidden on tour as I did not want anyone to discover my inner thoughts and the compositional key, I was using due to a lack of confidence and self-belief as a musician and song writer. As I collected the diaries, I realised that I was using the same symbols each time, therefore it became easy for me to use the notation system and I relied upon the symbols throughout the recording in studios and written on my hand during live performances. I saw the timing, pitch, volume, and emotion as marks on the paper, their curves would guide me through a song and I did not realise how important it had become to her as a performer, songwriter and musician, but also as a visual artist. I started to create collages and acrylic paintings based upon the notation system (see List of Illustrations [fig. 10-20]). This was my secret language between me and my diaries (see Appendix 4), a language between and beyond the musical notes, the main method that I used throughout the practical work and continues to use at the time of writing. The diaries will be discussed in further detail in Chapter Two.

Deep Listening, as a method, and particularly the work of its chief proponent Pauline Oliveros (Oliveros, P., 2005) is important to the research. One of the arguments of the thesis is the importance and power of listening and this echoes Oliveros' theory and method which is discussed in Chapter Three. The thesis practical work proposes that without listening, the audience cannot connect with sound, time, and space, and therefore this method is pivotal to the theory within and throughout the thesis. Listening is an important method in this research, as listening sharpens attention to detail as stated by Oliveros (2005) and LaBelle (2013). The thesis

theory further states that listening creates another world of sound in which the listener imagines their own story lines and allows for expansive creativity in which sounds become and represent whatever the listener so wishes through the creation of a graphic score. Deep listening was vital when recording with the Budapest Symphony Orchestra and choir. The composer and orchestra would play the melodies and then ask if they were correct. It was at this point that the years of practicing deep listening became of paramount importance to ensure the melodies were being played as they had been written initially. When I discovered that my grandfather Leo used listening as his key method of communicating and keeping up to date with the world when he lost his ability to speak, again, I was struck by how vital listening is to the creation of the story *Voices of Winter Palace* (2019). The advantages of the methods are that they are experimental; they are new findings which create an archive for future scholars. However, the disadvantages of using the techniques and styles adopted by Delia Derbyshire and Daphne Oram are that Oram built her own sound making machine. The thesis is influenced by these pioneers but in no way replicates their techniques or work. It does, however, continue their work.

Reflective Practice is another important research method in relation to this research subject. For the purpose of this research, it is defined as 'The process of retrospectively examining one's own professional performance in order to clarify the reasons for one's actions and decisions, and to learn from them' (*Oxford Reference*, 2021). Bolton and Delderfield state that reflective practice is a 'state of mind': 'Reflective practice is a state of mind, an ongoing attitude to life and work, the pearl grit in the oyster of practice and education, danger lies in it being a separate curriculum element with a set of exercises' Bolton, G., & Delderfield, R., 2017, p.1). For the purposes of this thesis and practical work, reflective practice has been used

as a 'means of explicitly linking concepts from the literature to the narrated personal experience (Holt, 2001; Sparkes, 1996) and support an approach as rigorous and justifiable as any other form of inquiry (Duncan, 2004) (ibid).

To compile a comprehensive comparative study of the sensory effect and an exploratory mapping of the genealogy of graphic notation, the most appropriate method of measuring this is by way of practice due to the reflective nature of the research. The unique aspect of the practical research is that there are no known women artists in Liverpool who are exhibiting practical pieces of graphic notation in connection with the Faroe Islands. The graphic scores and melodies are unique in this area of research, and it will enable the thesis to present its theory that graphic notation is a form of communication and language that can be used to create a series of songs for a diverse and inclusive audience.

This thesis does not intend to illustrate or demonstrate that graphic notation can be used as a way of free performance and free interpretation, quite the opposite – the thesis graphic notation is a strict set of symbols that can be communicated to a collaborator who can translate it into Western notation to allow an orchestra to play my music. Of course, this is a subjective approach, and the interpretation of the graphic notation depends upon the delivery to the interpreter - but there is no free interpretation per se, the notation has pitch, tone, timings, all the same qualities as Western notation. The work created for the purposes of this thesis exists between art and music; however, it is not labelled as sound art as this could restrict the audience for which the practical work is intended. It is a series of songs and visuals that are accessible to a wide audience – it does not belong solely in the art gallery, in a record shop or iTunes/Spotify.

Literary criticism has highlighted important and influential theories for this research; the writers are experts in their field and are either Professors of Art, Music or lecturers and published/exhibited artists. The core of this research is founded upon historical and theoretical research and the two case studies Delia Derbyshire and Daphne Oram. The journals that have influenced the thesis are *Organised Sound* which can be found in the Cambridge online journals, whose scholarly contributors are prolific sound artists such as Alan Licht and *The Journal of Popular Music Studies, Popular Music* (Cambridge University Press); periodicals used are *The Wire* and sound magazine *Audio Arts* by William Furlong. The core of this research is founded upon historical and theoretical research and case studies. There is also an anchoring discussion of Luigi Russolo's *Art of Noises* (1913) and of artist John Cage, although there is already an abundance of texts written about these two case studies, it is important to analyse Russolo and Cage to understand the thesis intention. The thesis emerging theory is that melody is not bound to Western notation theories and an album can be created using experimental compositional techniques.

Chapter 1

The Research Journey and Graphic Notation as a Compositional Method.

Some also think graphic notation is an outgrowth of the desire to berate traditional notation. But I see it more as an extension or expansion of traditional practise.’

(Kyong, cited in Sauer, T., 2019, p.53)

This chapter explores the history and context of graphic notation as a compositional method. It reflects upon the effect Russolo’s theory has had upon experimental composers such as Daphne Oram and Delia Derbyshire and explores theories such as those of David Toop and Brandon LaBelle that have responded to Russolo on current theories on sound, music, and visual art. The chapter also considers the concepts of experimental sound, musique concrète and sound art and critically analyses two case studies. The thesis compares theory of graphic notation and how the practical work has applied the techniques of the case studies, to the composition, performance and recording of the *Voices of Winter Palace* (2019). To frame this thesis within a theoretical context, the literature of Daphne Oram, Delia Derbyshire, Luigi Russolo, Brandon La Belle, David Toop and Alan Licht are important and relevant critical theorists who have informed the research. This chapter includes three subsections: 1) History and Theory: Archives and recordings, experimental music, musique concrète; 2) Case Study: Daphne Oram; 2) Case Study: Delia Derbyshire. This chapter introduces the historical and theoretical principles of graphic scores and to present the hypothesis and critical context of the thesis.

History and Theory: Archives and Recordings: Experimental Music, Musique Concrète

This section defines the terms and practices of graphic notation specifically within the context of the research. It introduces the central ideas underpinning the research and shall discuss key concepts in relation to the form of graphic notation.

A question which this research poses is: What lies between and beyond traditional Western musical notation? David Toop (Petersen, E., 2013) addresses the term 'sound art', which often appears throughout journalism, books and art works concerned with graphic notation. Toop (ibid) stated in the 2013 interview with Petersen (see Appendix 5) that the problem with the term is '...the word Art, with another problem attached to the word Sound. The moment it becomes art then it attaches itself to the art world, with a particular history, environment, and economy.' Toop stated that the term is associated with fluidity, rather than fixity, which is the approach throughout this thesis, particularly within the methodology could be argued that the use of graphic scores is achieving more mainstream recognition through the wide usage of digital musical notation software tools such as Sibelius and Logik. So, graphic notation is now used by a wider range of composers in addition to those concerned with experimental sound works and sound art. The theories throughout this research draws upon the work of Alan Licht, including indepth primary source interviews with the artist/author. Licht states that sound creates '...the kind of cosmic consciousness that so much art aspires to' (Licht, A., 2007, p.218), that 'Sound Art belongs in an exhibition situation rather than a performance' and that 'Music, especially pop music, unlike sound art....' has a

beginning, middle and an end to it 'whereas sound art is less restrictive in its composition' (Licht, A., 2007, p.14). The thesis uses Licht's definition of music as opposed to sound art; the music that has been created for the purpose of this thesis has a beginning, middle and end as do the graphic scores – this is a piece of music created with the foundations of a piece of visual art; the graphic score. Sound is an integral part of art, yet its presence is often ignored (Kelly, C., 2011, p. 13). Kelly's reasoning for this is that critics from a visual art background have difficulty describing sound, however since the 1960s art has dealt with non-visual concepts such as minimalism and conceptualism, sound as a phenomenon such as Alvin Lucier's *I am Sitting in A Room* (1969) to sound walks inspired by John Cage and Max Neuhaus to the sound installations of artists such as Janet Cardiff and Akio Suzuki (see List of Illustrations [fig.31 and 32]).

Historically, there have been several large-scale sonic exhibitions such as *Live From The Vinyl Junkyard* (1997), Bluecoat, Liverpool; *Waves In Particles Out* (1998), CCA Glasgow; *Sound Drifting* (1999), *Ars Electronica*, Linz, Austria; *Sonic Boom* (2000), Hayward Gallery, London; *FutureEverything Festival* (2004), Urbis, Manchester; *Her Noise*, South London Gallery (2005); *See this Sound*, Lentos Art Museum, Linz (2005); *Sonica* festival, Glasgow (2022); and *Sonic Bloom* (2022) designed by Yuri Suzuki, to bring people of London together following the COVID 19 pandemic lockdowns. Whilst there are advocates for the appreciation of sound as art, there are those against. Michael Serres states that we breathe noise, it should be celebrated as it is in our very being, however Paul Virilo's contrasting criticism of sound art is that sound pollutes art: noise in art is 'in the process of lastly polluting our representations' (Kelly, C., 2011, p.16). Chapter One explores graphic notation case studies around the period of the 1950s and 1960s, specifically

Daphne Oram's drawn sound technique *Oramics*. This chapter analyses the theory of musique concrète, discusses experimental composition, and then presents a critical analysis of the theory and methods of experimental sound and noise by using contrasting case studies from past and present, Delia Derbyshire, Daphne Oram, Michel Chion, John Cage, Brandon LaBelle, and David Toop with reference to the following:

The entrance of sound, both heard and unheard, into the plastic arts heralded nothing less than a new beginning. In this beginning was the word, ambient sound, noise, music and silence allowed artists to transform the visual arts into a new and third realm.
(Kelly, C., 2012, p.62)

Nevertheless, the difference between sound, noise and music varies according to our own personal preferences and cultural references. What does lie between and beyond musical notes? If we go beyond Western musical notation, what can we create? sonically and visually?

Futurist painter Luigi Russolo stated that noises were compiled of everyday sounds, those of which had no structure (Filliou, R., 1967, p.6) unlike the strict aesthetics of European classical music at the time during the early 20th Century. A so-called non-musician, Russolo theorised that he could compose new music from everyday sounds and envisaged his theory of *The Art of Noises* to be a fresh approach to creating new sounds free from the rigid compositional rules of classical musical composition. Christoph Cox states that from the 1950s, amongst John Cage and his circle, there was an explosion of interest in the history and anthropology of the auditory (Cox, C., 2006, in Kelly, C. 2012, and p.80). The problem which faced and arguably still faces the term sound art is the connection of sound with music.

It was established at the start of this thesis that this is not a musicology thesis; however, both do overlap so it is important to distinguish the two:

The terms experimental music and sound art are considered by some to be synonymous and interchangeable...it is difficult to identify an art of sound precisely because of its historical attachment (Lander, D., 1990, in Kelly, C., 2012, p.64).

Max Neuhaus argues that visual and sound art have never been separated and that in art, the medium is not often the message (Neuhaus, M., 2000; Kelly, C., 2012, p.72) and further, Mitchell, W.J.T. argues that 'visual media is a colloquial expression used to designate things such as television, film, photography, and painting etc. But it is highly inexact and misleading. On closer inspection, all the so-called visual media turn out to 'involve other senses' (ibid). Mitchell goes on to argue that 'for art historians today, the safest conclusion would be that the notion of a purely visual work was a temporary anomaly...' (ibid). This thesis states that whilst it can be argued that all media encompasses a hybrid of all the human senses, it is specifically researching the effect of graphic notation on all the senses. Sounds are anything perceived by the human ear, music is sounds organised by a composer to convey significant beauty and noise, unwanted sound (Dwyer, T., 1971, p.5).

Before we consider the term graphic notation it is imperative to explain the terms experimental sound and musique concrète. Alan Licht's definition of musique concrète presents a springboard for the practical side of the thesis, as he offers a positive definition which the thesis builds upon: '...the missing link between music and sound art' (Licht, A., 2007, p.8). Dwyer, T. states that musique concrète is a '...fascinating new line of musical adventure' (Dwyer, T., 1971, p.1), which enables the artist to '...record and organise sounds into real compositions' (ibid).

It is important to analyse musique concrète and its historical significance to the analyses of experimental sound works and methodologies. Musique concrète is translated from French as concrete music, an unrestricted style of composing new music and sound by using electro acoustic sounds, voices, synthesisers or sounds from nature.

The practical work is based upon the theory of musique concrète discussed in Chapters Two and Three: a composition of experimental sounds, not just a collage, but a real composition. The theory of musique concrète was to enable the composer to create sounds beyond the expected, in a non-styled manner, using every day sounds recorded using magnetic tape, the sounds would be spliced, looped, reverbed, and oscillated to create evocative resonances. Musique concrète figures sound as a subject of research as well as musical medium (LaBelle, B., p.24, 2006).

LaBelle states that musique concrète:

....locates sounds liberation through ideal configurations, harnessing sounds intrinsic ambiguity or malleability so as to create distinct auditory experiences abstracted from an original source, beyond or in spite of material reference. (LaBelle, B., p.25, 2006.)

Dwyer, T. advocates the fact that the artist does not have to be a classically or technically trained musician to compose musique concrète, '...sounds, 'musical' or otherwise, which by the composer's manipulation are sifted, altered, superimposed, edited, etc. to become new creation justifying the title of music' (Dwyer, T., 1971, p.2). It is the freedom of creating new sound and music which Dwyer celebrates when analysing musique concrète:

Whether the sound be a musical one (like a violin playing), a quasi-musical one (like a bee humming or a door-bell), a sound of nature (wind, sea), or what one usually calls noise (like dust bins clattering); we may, if we wish, use it for tape music (Ibid, p.5.).

Further, musique concrète offers the possibility of registering ‘...individual sounds, transform them, and put them together again as a unified whole’ (Spearman, N., 1961, p.16).

Pierre Schaeffer the pioneer of musique concrète and a sound technician for Television Française in 1948, decided to transform everyday sounds by speeding them up and reversing them, to ‘...free his material from its native associations...’ (Griffiths, P., 1971, p.12), by using turntables and discs - so every day sound could be distorted to sound like a different sound altogether. In 1948, Schaeffer delivered his *Concert of Noises* which was broadcast on the Parisian radio station RTF. This caught the attention of fellow musique concrète pioneer Pierre Henry, who assisted Schaeffer on his first major work of musique concrète, *Symphonie Pour Une Homme Seul* which was played publicly for the first time at the École Normale de Musique in 1950, Paris (Griffiths, P., 1971, p.13). Schaeffer’s studio officially became the Group de Musique Concrète in 1951 which attracted a number of famous pioneers of such as Edgard Varèse, who in 1954 arrived at the Parisian studio to complete his musique concrète composition *Deserts* (1950-1954) a piece for wind and percussion which was one of the earliest pieces of musique concrète broadcast in stereo on 2nd December 1954 which predated his later renowned 8-minute composition *Poème Électronique* (1958) (Griffiths, P., 1971, p.13). As mentioned, the thesis explores two case studies Daphne Oram and Delia Derbyshire, however it is important to discuss Luigi Russolo’s *The Art of Noises* (1913) before moving on to the case studies to lay the foundation of the concept of sound as art:

...since the beginning of the century, composers and avant-garde artists have been following the lead of the Italian Futurist Luigi Russolo (Kelly, C., 2012, p.135).

This text is considered the definitive text for those interested in sound and visual art. The introduction of sound as art and sound art theory began in 1913, with the Futurists Manifesto by Luigi Russolo, a letter written to the Futurist composer Francesco Balilla Pratella. The Manifesto is a declamation of the importance of new noise, the introduction of a new method of creating new noise, and the importance of a non-restricted compositional method of creating unimpeded noise. The theory states that pre 20th Century, life was silent, (Filliou, R., 1967, p.6) and it was the introduction of machinery in the early 20th Century which introduced exciting new noises. Russolo, a painter, argues that music and sound failed to 'arouse any emotion' and that audiences were requesting 'bigger acoustic sounds' (ibid).

As a visual artist, he advocated the magnitude of sound and noise: 'Noise accompanies every manifestation of our life. Noise is familiar to us. Noise has the power to bring us back to life.' (ibid, p.9). Russolo stated that there was a need for the creation of new chords to provoke new sensations, and that audiences were 'waiting for the extraordinary sensation that never comes' (ibid). The theory argues that there are six categories of sounds and noise which Russolo would compose through new machinery that was not yet built. These six categories are:

1. Roars, claps, noises of falling water, driving noises, bellows
 2. Whistles, snores, snorts
 3. Whispers, mutterings, rustlings, grumbles, grunts, gurgles,
 4. Shrill sounds, cracks, buzzings, jingles, shuffles
 5. Percussive noises using metal, wood, skin, stone, baked earth etc.
 6. Animal and human voices, shouts, moans, scream, laughter, rattling and sobs.
- (ibid, p.12).

The thesis acknowledges how artists and composers have responded to the *Art of Noises* manifesto since. Russolo was allegedly not a musician, but a visual artist, a

futurist painter who conceived the reinvention of music through the *Art of Noise* using practice led methodology (ibid) Russolo's methodology first, was by way of literary device, the letter, to composer and musicologist Balilla Pratella. Unusually, as manifestos are usually didactic in tone, Russolo's letter was an open method, an invitation to invite further and speculative practice led artistic research into the field of music. It could be argued that Russolo's methodology introduced a new art form, Sound Art, from a visual artistic philosophical viewpoint. Russolo's practice-led research was to 'realise' (ibid, p.10), and not merely imitate the above six categories of sound noise through new machinery which would replace traditional orchestral instruments and their restrictive rhythms and chord structures. Russolo invented his own mechanical orchestra using phonographs called the Intonarumori, along with his own noise orchestra, and performed in Modena, Italy in 1913, his *Gran Concerto Futuristic* which caused a riot amongst the audience (ibid, p.14). However, this methodology has influenced the European Post World War II sound artists and composers of musique concrète, such as Pierre Henry, who adopted this futuristic methodology of creating new machinery to create a new avant-garde sound (Chion, M., 2003, p.187).

The thesis supports the approach of French critic and composer Michel Chion's concept that sound is not hierarchical to image. Chion's critique on sound in film, unlike Russolo, states that that sound cannot be studied alone; it should only be studied in conjunction with image, in what Chion calls the Audio-Visual Analysis (ibid, p.187). Even though Chion accepted innovative approaches to classification of sound that were not usually used within the scope of music theory (ibid) he still argued that to effectively measure the sensory effect of sound upon an audience specially, it must be combined with image. When critically analysing both Russolo and Chion's theories on sound and noise, it is important to note that Russolo, a futurist painter, stated that image is less important than sound and noise, as a

painter, we would assume that his theory would be the opposite of the one he argues. Chion argues that sound is much more difficult to categorise than image, however Russolo's theory categorised sound and noise into six neat categories. His model of Audio-Visual Analysis was tested through his practice led methods (ibid p.187); his practice led methodology consisted of the 'Masking' method to analyse sound in film, Chion argued that this method was the most appropriate. Chion would screen a given sequence from a film several times to a class of students, the students would watch the sequence with sound and image, then a couple of times the image would be masked, then the sound would be removed, then the students would watch the sequence with sound and image together again. After the observation, Chion would ask the students to write an analysis of the sound and image in the film. Chion's theory was that this method allowed the audience to hear the sound as it was, and the image as it was. Masking, Chion argued, ensures listening and viewing is fresh, and the listener/viewer can truly state what they really hear without stating what they think they know, without any preconceptions (ibid, p.187). However, Chion, unlike Russolo also predicted the problems of this method. He stated that the audience could be lazy (ibid, p.188) in their description of what they heard/viewed, and that the audience would have to be disciplined and be prepared to concentrate (ibid, p.187). Chion also stated that listening to sound acousmatically was difficult because you had to ensure the sound was heard in a silent environment, with a technologically sound piece of equipment. When applying this theory to the practical work in Chapter Three, the audience member experiences the songs from the album and the visual elements of the graphic scores which are displayed over the performance using an overhead projector to create an audio-visual immersive experience and to visualise what Winter Palace looks like. Chion's philosophy, that we are not used to listening to non-musical sounds, can be starkly contrasted to Russolo, whose theory was that an artist who presents noise to an audience will obtain 'special acoustic pleasure' (Filliou, R.,

1967, p.9) from the audience. Chion predicted problems with the effect of isolating sounds and noise and presenting it to an audience, whereas Russolo saw only a positive life changing acoustic experience from presenting new sound noise to his audience. Chion's method of 'Forced Marriage' again focused upon the importance the effect image has on sound and noise, and vice versa. Chion would screen a sequence to his students, but he would remove the original sounds and noises, and would replace them with diverse sounds and noise – the effect of this, Chion argues, is that sound and noise will at some point always synchronise with the image, even when it is not meant to, and so reinforcing the power and the importance of image upon sound and noise in film, that sound and image 'reinforce, illuminate and influence each other' (Chion, M., 2003, p232), just like the graphic scores do with the songs of *Voices of Winter Palace* (2019).

Chion admitted that problems could occur with his method, such as reverberation blurring and diluting sound making it difficult for the listener to accurately describe the sounds; there could be technical problems, such as the quality of sound and image screened. He stated that the problems encountered with his observation method of his students writing up critical analyses of his methodology were that students may not be precise when describing sound, they could be ambiguous in their use of descriptive language, some students would imagine sounds that they did not hear and would describe sounds and noises in keeping with their cultural references which they were accustomed to. Chion also observed that students would categorise and justify sounds in a political/gender specific way which he states must be avoided when using Audio Visual Analysis (ibid, p.197). He argued that his theory could pose these problems as the film audience would require training and vigilance, and to be expected to precisely describe what is heard in a sequence is difficult because of the many potential sources for sound and noise, so that the listener could not always identify the source of the sound or noise and may

give in to a lazy description, which as a result, could cause inaccuracy in and with the research method. Further, Chion stated that we have a small dictionary of recognisable sounds (ibid, p. 209) which poses the problem that each listener will interpret sound and noise differently. It can be argued that Russolo predicted the future of new music, just as Daphne Oram did. His notion of *The Art of Noises* (1913) was not based on any previous research or theories, he declared that new music could be made by inventing new mechanical alternatives to traditional instruments, and built his own prototype, then performed his theory to an audience.

The limitations of Chion's methods are that 'masking' could affect the audience's honest description of audio once they have viewed the visual as well, thus an audience may report what they saw rather than what they heard, or what they wanted to hear, whereas listening to sound and noise alone as per Russolo's performances, allows the spectator to be completely immersed in the sound without any other distractions. Russolo was writing in the early 20th century when machinery was limited, and the quality of sound was completely different from the quality of technological equipment Chion would have had available to him. It is arguable that this would distort *The Art of Noises* (1913), in that Russolo may not have been able to create what he envisaged, however it is also arguable that technology in the 21st century would be too refined, which could be detrimental to the listener if sound is too sterile and non-immersive. Russolo's invention of his own machinery was organic and could have proved to be a natural and non-electronic hypnotic experience. Russolo could have interpreted his noise categories by using classical instruments, and it could be argued that an audience would be less sceptical of a less experimental approach to noise as music, however this may defeat the object of creating new music, and creating new machinery, which in essence influenced the creation of electronic music by composers such as Pierre

Henry, Pierre Schaeffer, Delia Derbyshire and Daphne Oram, all of whom created their own machines to produce new music. As there are a collection of songs which have been created using experimental notational methods in the practical part of this thesis, the limitations of Russolo and Chion's methodology could also be present in this research, for example, there was little time and finances to build any machinery to produce sound!

Although there is a plethora of literature written on John Cage when analysing experimental sound and music, it is important to discuss Cage's theories in reference to this thesis research questions. Cage, a forerunner of experimental music, the driving force for the aesthetic project of the neo avant-garde throughout the sixties (LaBelle, B., 2006, p.3) and reminded music that it was made of sound. LaBelle points out the importance of Cages theories of sound, as he turned the musical framework completely upside down:

Cage sets the stage for a heightened consideration of listening and the 'place' of sound by developing a form of critical practise. Specific works such as 4'33" and his Black Mountain performance is investigating as a means to uncover the principles by which sound art developed...
(LaBelle, B. 2006, p.13)

Both Cage and musique concrète open a completely new framework of creating sound and music. Cage's composition 4'33 (1952) famously instructs the performers of the piece not to play their chosen instrument at all, but to listen to the environment in which the piece is performed, as Cage argued that there is no silence, as our heart continually beats for example (Toop, D., 2004, p.40). Cage's listening theory was and is a ground-breaking approach to composition and

performance, an experimental pioneer of sound as art. It is Cage's theory of listening which initially, informed this thesis and its practical work. Pauline Oliveros' Deep Listening (ibid, p.40) is central to this thesis, particularly the practical work, namely hypnotic sound, refining sound through deep listening. Oliveros' two tape pieces in 1966 and 1967, *Alien Bog* and *Beautiful Soop*, were influenced by the noises frogs made outside her window, a hypnotic sound which she imitated using Don Buchla's *Buchla Box 100* series synthesizer at the Tape Music Centre, Mills College, Oakland (ibid. p.191). In contrast to the historical theory of Luigi Russolo and the sound theories of Michel Chion, it is important to discuss the theories of contemporary sound artists Brandon LaBelle and David Toop, and how their theories are relevant to both my thesis and ultimately, the practical as both scholars have informed the thesis approach to graphic scores and compositions, namely the importance of listening when creating new sound and the importance of the space in which the sounds are performed or exhibited.

New forms of music composition are certainly nothing new. Bach provided virtually no expressive details; Beethoven was the first composer to employ metronome markings linking tempo to real time; and dynamics have only been in common use for a couple of hundred years' (ibid). Conceptual, graphic, and verbal scores challenge the immovable scholasticism of music theory as it has been taught since the medieval times in music theory courses world-wide, the kind that discourage so many brilliant music students from studying music theoretically' (Goode, D., cited in Sauer, T., 2019, p.86). The practical work illustrates the link between the conceptual, historical, and technical aspects of graphic scores how these influences and inform the practical work. The thesis revives and revisits experimental musical notational techniques and composition and merged them with contemporary digital

technology alongside a choir and classical orchestra. The autobiographical practical work has informed this thesis and informs the academic debate.

Upon conception of the idea to create an album of songs derived from the unique graphic notation system, the aim was to find a collaborator, an orchestra and choir to perform the album. Upon re-connection with Dr Mat Gregory, co-founding member of The Little Flames and now Head of Fine Art at Konstfack University of Arts Craft and Design in Stockholm, Sweden, both decided to collaborate on the thesis practical work. One of the main overarching aims of the research was to reclaim total creative autonomy over the next piece of music, and the starting point was to choose a collaborator who shared similar ideas, goals, and creative awareness and that was Dr Mat Gregory. The initial melodies I created for *Voices of Winter Palace* (2019) derived from a series of graphic scores initially created using my notational method. This method developed from my time as lead singer and cofounding member of the band The Little Flames. When practicing songs and learning the lyrics, I would use a shorthand above the lyrics as an aide-memoir to remind me of melody, pitch, speed, volume, breaks and intonation. I did not realise that at the time I was using graphic notation that I would continue to use to create melodies and eventually use as the foundation for the composition of *Voices of Winter Palace* (2019). In January 2019, the music was recorded with the Budapest Symphony Orchestra and chamber choir at their studio in Budapest.

Musical notation is a language, a means of communication to express ideas, but Western notation has been unchallenged and continues to dominate, maybe not so much in the rock world but specifically the classical. The aims of this research being to compose melodies using graphic notation for an album that is classical, with the Budapest Symphony Orchestra and choir, but which also sits within the other genres also. The aim was to use experimental compositional methods that

challenge the dominance of traditional Western notation and to prove that all notation is simply language, which can be created and communicated through traditional classical and contemporary popular music practices. It dispels the perception that experimental composition is limited to the production of experimental music. Creatively, the aim of the project was to bring together concerns that run through my artistic practice, artistic research, and work as a musician. To apply experimental methods of composition - such as graphic notation - to the production of a music that has the capacity to be at once critical, complex, rich, and interdisciplinary. The methodology has been inspired by the methods used by pioneering women in experimental sound and music.

Theresa Sauer, American musicologist states:

I thought to myself, 'What has been going on since [Notations], on a global scale?' and that was the inspiration for the book," Sauer says. "What fascinated me was the interdisciplinary approach: not everyone was trained as a classical musician, but they looked beyond the staff and clef to create these new devices to communicate their ideas into sound performance. (Battle, L., 2013)

This is the foundation of the thesis approach and argument, just like Daphne Oram, as a scientist an artist and a composer with an interdisciplinary approach.

Thematically, as mentioned, the work is based upon the life of Leo and Gwen Petersen. They shared no common language but succeeded in sharing a life together. This album centres upon their story and, consequently, aims also to be a reflection upon themes of multiculturalism and inclusiveness, and the importance of tolerance and openness in society. As a musician, I have established a track-record of working with collaborators in different contexts: from work with Dr

Mat Gregory and Miles Kane in *The Little Flames*, to collaborations with Guy Chambers and Will Sergeant as a solo artist, to the performances undertaken with the Colin Fallows Ensemble. Having recorded with top producers such as Tore Johansson, and worked under the supervision of Director of Studies, Professor Colin Fallows, I understand what is required when undertaking such a project as this: whether in terms of the creative quality and originality of the work; the rigour and criticality of the research methodologies; the level of organisation, planning and timing involved; or the necessity for developing high quality and productive collaborative partnerships. A graphic score was created first before the melodies. The melodies for the album were recorded and sent to Dr Mat Gregory to enable him to arrange the music. Each symbol represents pitch, harmony, melody, speed, volume, timbre, and time. The graphic score began as a written piece of work, however the score started to take on a collage effect inspired by Op Artist Bridget Riley. This thesis analyses the question: can experimental compositional techniques be used to create a series of songs that are published and released through music industry platforms such as Apple Music and Spotify? When exploring experimental musical compositional techniques within an art school setting, there is a tendency to be categorised as a sound artist, or research being concerned with sound art. This thesis is not particularly exploring sound art, it is analysing experimental techniques of composing music which are inspired by the methodologies used by pioneering women working within art, music, and sound. It is important to consider the scholarly research and approach to sound and art however when introducing this thesis and the power of sound and its influence upon the visual arts because the thesis and practical work are positioned between art and music. The theory throughout this thesis draws upon the work of sound artist Alan Licht who states that sound creates ‘...the kind of cosmic consciousness that so much art aspires to’ (Licht, A., 2007, p.218), that ‘Sound Art belongs in an exhibition situation rather than a performance’ and that ‘Music, especially pop music, unlike sound art...’ has a beginning, middle

and an end to it 'whereas sound art is less restrictive in its composition. '(Licht, A., 2007, p.14). Sound is an integral part of art, yet its presence is often ignored (Kelly, C., 2011, p.13). Kelly's reasoning for this is that critics from a visual art background have difficulty describing sound, however since the 1960s art has dealt with non-visual concepts such as minimalism and conceptualism, sound as a phenomenon.

This chapter analyses experimental composition and then presents a critical analysis of the theory and methods of experimental musical composition by using contrasting theorists and practitioners from past and present, Delia Derbyshire, Daphne Oram, John Cage, Brandon LaBelle, and David Toop with reference to the following:

The entrance of sound, both heard and unheard, into the plastic arts heralded nothing less than a new beginning. In this beginning was the word, ambient sound, noise, music and silence allowed artists to transform the visual arts into a new and third realm.
(Kelly, C., 2012, p.62)

As mentioned, Futurist painter Luigi Russolo stated that noises were compiled of everyday sounds, those of which had no structure (Filliou, R., 1967, p.6) unlike the strict aesthetics of European classical music at the time. A so-called non-musician, Russolo theorised that he could compose new music from everyday sounds and envisaged his theory of *The Art of Noises* (1913) to be a fresh approach to creating new sounds free from the rigid compositional rules of classical musical composition. It is this argument, which is adopted within this research, that experimental musical composition can be the method when creating popular music publications intended for a wide audience rather than a niche audience. This is not a new approach or method. Since the 1960s, artists have mixed the transitional with the experimental transitional materials of the plastic arts (Kelly, C., 2012, p.56), from Hugo Ball at the Cabaret Voltaire in 1916, the simultaneous poetry, to artists such as John Cage, to

Gilbert and George, George Maciunas, Charlotte Moorman, Henning Christiansen, Nam June Paik, La Monte Young, John Cale, Yoko Ono, the list is non exhaustive. One of the world's leading scholars on sound art, Brandon LaBelle states where the term sound art belongs and argues that we should not try to resolve the issue of where the term belongs:

I think generally sound art occupies this in between space, between art and music, space and time, looking and listening, which for me is extremely provocative and something to embrace rather than try and resolve. (Petersen, E., Interview with LaBelle, B., 2013.)

There has been a well-documented relationship between visual artists and music, such as 20th century painters Paul Klee and Wassily Kandinsky. Composer Arnold Schoenberg and his desire to create and define new composition: 'the art of inventing a musical idea and the fitting way to present it' (Fleisher, R., cited in Sauer, T., 2009, p.73).

Noise, such as the radio, television, street sounds, nature, your lover's voice, are all noises 'ripe with meaning and content distinguishable from the meaning and content of musical expression' (Lander – *ibid*) – thus allowing for an art of sound.

It is important to discuss Cage's theories in reference to my own research question. Cage, a forerunner of experimental music, the driving force for the aesthetic project of the neo avant-garde throughout the sixties (LaBelle, B., 2006, p.3) and reminded music that it was made of sound. Both Cage and *musique concrète* reveal a completely new framework of creating sound and music.

As mentioned, graphic scores and the visualisation of music is of course, not at all new. The first recording of musical notation (see App. 3 [fig.13]) is a clear example of the historical backstory to the visualisation of sound and music. This Egyptian 'graphic score' is the 'first set of six parchments from Egypt containing coloured circles that date from the 5th to 7th centuries C.E.' (Neuman, P., and Neuman, G., in Sauer, T., 2019, p. 291). 'The parchments appear to depict musical notation in which the colours of the circles indicate pitch, and the sizes indicate duration' (ibid). It is important to examine how the visualisation of music has been represented historically particularly when comparing the experimental methods used within 20th century painting, to pioneers of sound in the UK in the 1940s-1960s to date. The graphic scores created for *Voices of Winter Palace* (2019) connects visually to the simplicity of the shapes and restricted colour scheme not only of the ancient Egyptian 'score' as well as the experimental approaches of the pioneers of musique concrète to the sound drawing of Daphne Oram, whilst adopting an organised and systematic approach such as that of Op Art painter Bridget Riley. Sauer (2009) is integral to the explanation of experimental notation and the importance of innovation when creating music as she states:

The music history taught to Western scholars typically impresses the idea that creativity and innovation in composing have held infinite possibilities while confined to the clef and staff of traditional notation.
(Sauer, T., 2009, p.10)

Sauer (ibid) explains one of the first innovators of new compositional method, Earle Brown's theory behind new composition: '...the identity of notation comes from its purpose for the creation of music, a phenomenon that can allow for spectacular variations in musical scores' (ibid). The thesis explores new compositional form and

its impact upon performance and the audience, as consumers of music and art (ibid. p10).

The thesis theory is that often graphic scores and the performance of are often perceived or categorised into the term 'sound art' rather than musical composition. Whilst this thesis is not a sound art piece of research, when introducing the thesis experimental methodology of creating music, it is important to cite Russolo's Art of Noises (1913), however this was a discovery in the early stages of this research, albeit an important starting point, which most importantly led to the major discovery of the two main scholars, Daphne Oram and Delia Derbyshire.

Daphne Oram

Do we, both humanly and musically, walk a tightrope? If we lean one way, we plunge into the futile void of the ineffectual sine wave; if we lean the other way we fall into the abyss of annihilating noise. To keep our balance, we must have individuality- individuality of character, individuality of style. (Oram, D., 1979, p.49.)

Daphne Oram and Delia Derbyshire have been selected as theorists and practitioners due to their experimental techniques, their creation of their own machinery and instruments to create new sound, in a male dominated subject matter and environment. Both Derbyshire and Oram were sound obsessed, and created modern, experimental sounds which were presented to the masses. Both employed methods which this thesis has also employed, they are theorists and practitioners whom this thesis has founded its practise upon.

Daphne Oram, arguably the pioneer of electronic sound and music, joined the BBC in 1943 aged 18 years old whilst Britain was in the throes of war, an opportunity for Oram to find an opening at the BBC and to persuade the BBC to build its own

Radiophonic Workshop in 1957 of which she became the unofficial Director and became acquainted with such composers as John Cage. Oram even invented her own *Oramics* machine, and her own compositional method of converting pictures into sounds and would draw on 10 strips of 35mm film, which were then read by photo-electric cells and converted into sound – these became known as *Oramics*. (Wilson, G., 2003). Oram was not only building her own machinery and creating her own compositional methods, as the unofficial head of the BBC Radiophonic Workshop, her ambition was to ensure the Workshop rivalled the electronic epicentres of Paris, Cologne, Milan, or Columbia-Princeton (Neibur, L., 2010, p.56). As discussed earlier, in contrast, John Cage was a forerunner of experimental music, the driving force for the aesthetic project of the neo avant-garde throughout the sixties (LaBelle, B., 2006, p.3) and reminded music that it was made of sound. LaBelle points out the importance of Cage's theories of sound, as he turned the musical framework completely upside down.

Cage sets the stage for a heightened consideration of listening and the 'place' of sound by developing a form of critical practise. Specific works such as *4'33"* and his Black Mountain performance is investigating to uncover the principles by which sound art developed... (LaBelle, B., 2006, p.13). Cage's listening theory was and is a ground-breaking approach to composition and performance, an experimental pioneer of sound as art. It is his theory of listening which has influenced this thesis and its practical work, from the methodology to the practical work. Pauline Oliveros' *Deep Listening* (ibid, p.40) is central to this thesis, particularly the practical work mentioned on p.70. These pieces have influenced my practical work as the opening sounds of the installation were recorded outside my own window in the early hours of the morning during Summer 2013. Prior to the ground ground-breaking discovery of the female pioneers of experimental musical composition, the thesis and practical

work was informed but not inspired by a non-exhaustive list of male pioneers of experimental sound and musical composition such as Earle Brown, composers Karlheinz Stockhausen, Edgard Varèse, Pierre Boulez, Pierre Henry, John Cage, Steve Reich, Brian Eno, Krzysztof Penderecki, Cornelius Cardew, Terry Riley and rock and psychedelic musicians and bands who were influenced and used musique concrète techniques such as Frank Zappa, The Beatles, Pink Floyd, Brian Jones of the Rolling Stones. It was a pivotal moment, the discovery that a woman had transformed and helped shape mostly male rock and psychedelic bands of the 1960s and 1970s. Due to her unmatched new sounds she created, Oram was visited by The Who, Mick Jagger and Brian Jones of The Rolling Stones and The Beatles in search of Oram's help (Williams, H., 2017).

When listening to their records, the influence of Oram can be heard especially on the *White Album* (1968). The fact that a woman pioneer had predated all the male contemporaries that I had been researching, changed the path of the thesis and the practical work. A cathartic process followed which felt like a continuation of Oram's work in the field of music. Not only did I discover Oram but further influential pioneers of experimental notation and music post Oram, such as Kathleen St. John, Centipede, Eliane Radigue, Elsa Marie Pade, Meredith Monk, Pauline Oliveros, Laurie Spiegel, La Donna Smith, PARTBE, Kay Gardner, Atlantis Rising, Daria Semegen, Jeux des Quatres, Heidi Von Gunden, *Whistle Music: A Sonic Exorcism*, Beth Anderson, *The People Rumble Louder* (*Heresies* magazine #10, Women and Music New York, 1980.) One artist, Joan La Barbara is particularly influential upon this practice-led research as she states:

I see sound. It's as simple as that. When I hear a sonic gesture in my mind, I see a corresponding shape that informs its energy, dynamic and pitch trajectory.'

(La Barbara, J., *Vizualising Sound*, cited in Sauer, T., 2019, p.123)

Akin to La Barbara's approach to performing graphic scores, this thesis argues that when we sing and when we hear sound in our minds, we can see or sense a visual shape. In the thesis graphic notation, the shapes are presented in the way the sound 'appears' visually. Western notation is only a representation of the sound, a system, agreed upon by many musicians, which approximates what the composer hears in his or her mind' (ibid p.124). When discussing the reason for using graphic notation as well as pitch notation using traditional Western system she states: I feel I am approaching a system that allows my internally experienced sound to be expressed and potentially reproduced with as much accuracy and originality of spirit as possible, allowing for the creative interpretation of the performer (ibid).

The BBC Radiophonic Workshop provided women with the opportunity to work in an environment usually controlled by men - women include Delia Derbyshire, Daphne Oram, Maddalena Fagandini, Elizabeth Parker and Glynis Jones. The BBC Radiophonic Workshop was set up in London in 1958 until it closed in 1998. The Workshop has limited scholarly enquiry about the post-war musical avant-garde. Louis Neibur states that scholars focus upon Cologne and Paris but ignore the UK and its contribution to avant-garde sound. (Neibur, L., 2010, p.4). At a glance, the BBC Radiophonic Workshop could be viewed as a post war modernism exploration into a futuristic world via sound, however it was pre-war that the Workshop became involved in innovative avant-garde sound compositions during the 1920s and 1930s through the Drama department and its experimental producers, Lance Sieveking, and Val Gielgud. (ibid., 2010, p.8). The Workshop embraced peculiar unfamiliar and revolutionary sound during this pre-war period, in a way which was unique to Britain via radio comedies of the 1950s such as *The Goon Show*, which by the end of the 1950's had incorporated 'Continental academic electronic

techniques' (ibid., 2010 p.10). the first programme on British radio to use electronic sound effects was a children's science fiction programme *Journey into Space: A Tale of the Future* by Charles Chilton. It was this period, the 1950s in which Britain was obsessed with the future, the unknown, science and technology, which is evident in the sounds used not only within science fiction film and radio in Britain.

The BBC Radiophonic Workshop was creating such experimental sound works so much so that a German broadcaster approached the Workshop and commissioned the BBC to compose a theme tune for a radio news programme; the BBC were flattered that the country which arguably invented experimental sound were now recruiting the sound pioneers of the Radiophonic Workshop, and in this case, Delia Derbyshire (Briscoe, 1983, p.86). During the 1950s right up to the 1970s, sound at the Workshop journeyed from the terrifyingly unknown science fiction doomed world to a promising future of technological utopia (Niebur, L., 2010, p.64). This can be illustrated in the Workshop's 1950s version of the radio play *Quatermass* (1958), which utilises terrifying scientific sounds of the unknown which seem to aim to terrify the listener with doomed theme to the ending which offers hope within a brighter world. We must not forget the philosophical scientific and cultural changes in the 1950s and 1960s which would have influenced composers' experimental compositions, advances in tape recording, speaker systems, electronics, space exploration, computer television and radio were all moving through extensive change and advancement. It is important to study these parallel events in both film sound and radio sound in Britain in the 1950s and the 1960s as they both utilised experimental sound techniques favoured by the European composers, whilst creating a unique British sound on its own, a:

...rhythmic regularity, tonal progressions, recognizable structural forms, and familiar, albeit treated, sounds with the modernity of contemporary recording methods, electronic sound production, and truly challenging timbres, a 'difficulty' in spite of bouncing melodies, left its audience with an experience of the modern. (Neibur, L., 2010, p.65.)

The BBC Radiophonic Workshop composed 'complex works of art with a uniquely British populist modernism' (ibid). The Workshop would utilise European techniques such as those involved with *musique concrète*, but they were utilised in very accessible productions for radio and television, available to a wide-ranging audience rather than a specific genre. When researching experimental sound composition as a woman working within this area of research, it is imperative to discuss the British pioneers of electronic music and sound, Daphne Oram and Delia Derbyshire, and to compare these sound pioneers with those of the European masters at the same point in time. Daphne Oram, arguably the pioneer of electronic sound and music, joined the BBC in 1943 aged 18 years old whilst Britain was in the throes of war, an opportunity for Oram to find an opening at the BBC and to persuade the BBC to build its Radiophonic workshop in 1957 of which she became the 'unofficial' Director and became acquainted with such proficient composers as John Cage. Oram even invented her own *Oramics* machine and developed her compositional method of composing and converting pictures into sounds (see App. 3 [fig.27]). Oram would draw on 10 strips of 35mm film (App. 3) [fig.30]) which were then read by photo-electric cells and converted into sound – these became known as *Oramics* (Wilson, D., 2003). Oram was not only building her own machinery and creating her own compositional methods, as the 'unofficial' head of the Workshop; her ambition was to ensure the Workshop rivalled the electronic epicentres of Paris, Cologne, Milan, or Columbia-Princeton (Neibur, L., 2010, p.56). Upon my discovery of Daphne Oram, there was a visit to the Daphne Oram archive at Goldsmiths University, London (3rd July 2017) and a discovery of a number of graphic scores, lecture

notes (App. 3 [fig.24]) recordings and experimental scientific experiments and plans for the drawn sound which she was creating via her machinery which Oram had written and drafted when creating her *Oramics* method of drawn sound (App. 3 [fig.25]). Oram encompasses the interdisciplinary researcher and practitioner that she is combining her composition skills with the world of electronics when she states she is ‘...exploring aspects of electronics and acoustics in relationship onto only to the composition of music but also to the world in which we find ourselves’ (Oram, D., 1972, p.2). Oram was discovering the relationship between composer and capacitor, composing with electronics and it is this interdisciplinary approach which also provided a platform and the permission to approach composition not only as a musician but as a researcher and visual artist. Oram explains her drawn sound technique when she introduces a simple graph and explains that it could represent climaxes and relaxations in a piece of music, but that the drawn line could also represent a musical note itself ‘...a mere moment of sound...’ (ibid). She states that a musical note needs energy held by tension and then released by a resistance (ibid, p.4) – she was stating that the artist / creator and the scientist can exist together – can work together even. So, any expectation of the composer’s method should only follow Western music theory is challenged as Oram concerns herself, as does this thesis, with the exploration of ‘...what lies between and beyond the notes...’ (ibid, p.5) which is the main aim of the thesis and practical work. As Oram states, ‘...there is much more to a musical composition than just the notes’ (p.12). Her symbols and drawn sound describe the tangible and the intangible (p.13). Oram states that by integrating two of her symbols they become a whole (p.14), a theory and approach which has inspired my compositional method particularly when bringing all the graphic notation symbols together to form each of the songs on *Voices of Winter Palace* (2019).

Oram describes a simple sine wave which she states is not very interesting but should not be ignored as it '...is the basic building brick of all sound' (ibid, p.17). This supports the thesis theory that an organic and simplistic, free approach to composition can be used to create complex melodies that can be interpreted and played by a full orchestra and choir. When discussing symmetry when composing, Oram poses the argument that this can be restrictive and even boring:

we need a mixture of both worlds, symmetrical and asymmetrical, so that we can jump from aspect to aspect and compare results. We need a certain amount of unforeseen impediment and, later on, we might muse upon the thought of how much aleatoricism (chance happening) is beneficial in filling out the symmetry.
(ibid, p.19.)

... who wants to hear just sine and square waves? It would be rather like eating watery porridge, together with ginger snaps, for every meal! A meagre diet when you think of the range of delectable dishes which are described in most recipe books.
(ibid, p.23.)

It is this approach that has influenced the use of colour, collage, mixed media such as light, projected images on walls, acrylic and fabric, within the graphic scores for *Voices of Winter Palace* (2019) to create an exciting tactile graphic score. There is no restriction as to what the notation system should and should not look like. However, balance is needed to create the graphic score, there is a system when creating the score as it follows the patterns created using the notation symbols, they are always fixed, but their position can change. The score is not completely free to interpretation as some restriction and organisation is needed to progress musically and ensure that the music can be enjoyed by a diverse and wide audience. The freedom to compose in this unrestricted way provides an individuality; the composer's identity can be both heard in the music and seen in the actual score; as Oram notes:

Do we, both humanly and musically, walk a tightrope? If we lean one way, we plunge into the futile void of the ineffectual sine wave; if we lean the other way we fall into the abyss of annihilating noise. To keep our balance, we must have individuality- individuality of character, individuality of style. (ibid, p.49).

Oram refers to Francis Bacon's *New Atlantis*, the 'Sowld Houses', his imaginary

Utopian Island, he writes:

Wee have also diverse Strange and Artificiall Eccho's, Reflecting the Voice many times, and as it were Tossing it: And some that give back the Voice Lowder then it came, some Shriller, and some Deeper; Yea some rendring the Voice, Differing in the Letters or Articulate Sound, from that they receyve. (ibid, p.64).

The question of balance when creating the graphic score is not a problem solely for musicians however as Oram purports, it is how often we should think about applying this balance, which is what the approach to creating the thesis' practical work was constantly considering, the series of sounds were created with an experiential compositional method yet the songs have been distributed on Apple Music and Spotify, include classic contemporary pop melodies, they are not difficult to listen to and follow a classic Western popular music song writing structure including verses and a chorus. There are experimental compositional methods, but the outcome is easily accessed by a wide audience. Oram states:

The problem of how much to control, how much to leave to chance, and to whim ... is not a problem we meet only in music! Obviously, educationalists, town and country planners, market researchers, holiday travel agents, and many other people come across it often- how often do you consider it? (ibid, p.83).

There is no improvisation with the graphic notation and composition as the thesis' approach is that there must be some compositional rules, as supported by Oram:

So, the boundaries of control must not be too cramping; yet complete lack of control would lead to chaos. 'Order is heaven's first law' says Alexander Pope. 'Genius is the talent which gives art its rules' says Kant. (ibid, p.85).

There are boundaries in the musical world that are there naturally and some that have been placed before us (ibid, p.85) and that some of these are outdated:

Some established by nature, some. by usage. A study of the human ear and the psycho-logy. of music give us some of the first clues, and twentieth century musical grammar shows us that certain usage has outworn its welcome. To establish boundaries regardless of the limits of the ear's comprehension seems just as absurd as establishing boundaries which only allow the clichés of the past (or those of the present day!). (Ibid, p.85.)

When discussing her *Oramics* machine, Oram explains her approach and the tools required to create drawn sound using her 'music machine':

now we could make out a specification for our music machine. We will require these facilities:

1. Freehand drawing of all instructions.
2. Facilities for drawing, separately, the instructions for each parameter.
3. A monitoring system to allow immediate, or almost immediate, 'feedback' of the result.
4. Easy access to the separate parameter instructions so that, after monitoring, alterations can be made, and the results re-monitored. (ibid, p.96).

In comparison, this is similar to the graphic score notation method for *Voices of Winter Palace* (2019). Rather than building a machine to carry out steps three to four above, the monitoring system is the vocal rehearsal of the graphic score before it is then recorded. However, in a similar approach, Oram was creating a new musical notation system through her machine (ibid, p.96). When explaining how she creates this new musical notation system she explains which shapes will represent musically:

So, let us take each parameter in turn and decide what notation will be suitable. The parameters we will consider are volume, duration, timbre, pitch, vibrato and reverberation. If we think of the volume (amplitude) of a musical note we might consider that the terms loud or soft would be sufficient to define it. But when we display musical notes on the oscilloscope screen we see that the amplitude graphs of a 'loud' note, played successively on two different instruments, can be strikingly different. (Ibid, p.97.)

This description can be heard throughout my recordings however it is the six tracks on the *Electronic Sound Patterns* EP (1962) which has been the most influential and profound recording, Oram's first published recording and arguably the first ever dance record. The cover artwork encompassing the shapes and patterns of Oram's drawn sounds which were the visual representation of the actual new musical sounds looked extremely familiar, and once again, gave me permission to create a 10" vinyl recording of six songs created from patterns with the graphic score becoming the artwork for the front cover of the record sleeve in homage to Oram.

Upon discovery of the drawn sound images there was a realisation that the thesis graphic notation model was not too dissimilar, which gave me the confidence to believe that her musical composition was a valid approach to creating music and sound. Whilst the thesis graphic notation was not created in the exact same way as Oram's, there is similarity visually. Oram's musical notational system also gave me the permission to take notation further, to develop it, to research, to apply it and to use it in the practical work with the Budapest Symphony Orchestra. It was not only Oram's notational system that influenced this thesis and practical work. Following the visit to the Oram archive, I discovered that Daphne Oram had also taught students how to draw sound, which was the basis of a module I wrote and delivered to Fine Art BA (Hons) students at Liverpool John Moores in 2017. There were

similarities with the graphic notation and the approach to teaching students how to visualise sound and create experimental sounds from their graphic scores.

Delia Derbyshire

Alongside Daphne Oram, Delia Derbyshire was a pivotal pioneer behind the electronic experimental sound movement in Britain (see App. 3 [fig. 31-33]). When listening to her rerelease of *Oramics* (2012), it is an incredible audio experience, and impressive to note that during post-war Britain, as mentioned, Oram built her own machinery and composed her own genre of experimental music which, if listened to, is far beyond its time. A futuristic, almost frightening sound oscillates towards the listener; could we name any such comparison today? It can be argued that such experimentalism does not exist within mass media today, even though we, as a society are so technologically advanced, any desire to produce experimental sound through radio, television or cinema is reserved for the independent genre, and not a mass audience. Akin to Daphne Oram, Delia Derbyshire was an innovative pioneer of experimental sound techniques. With a background in mathematics and music from the University of Cambridge, she was relatively new to the world of sound when she was spurned by Decca Records for the reasons that they did not employ women in their sound department, to being accepted into the BBC Radiophonic Workshop in 1962 and eventually being given the task of composing probably one of the most famous and well-known British radio and television theme tune ever written, *Dr Who* (1963). The production team at the Workshop wanted a tune, but one which was unrecognisable, hence Derbyshire's composition alongside the BBC's Ron Grainer and Dick Mills which was a result of her analysing complex concrète sounds, using oscillators to create the strange sounds of *Dr Who* (App. 3 [fig 30]). Derbyshire's recollection of the creation was as follows:

It was a matter of translating the notes on the page into cycles per second. Then translating the duration of notes into inches of tape at fifteen IPS...We used some old valve oscillators to generate the initial sound. It was very hit and miss, in fact it was a nightmare.
(Neibur, L., 2010, p. 99).

A mathematician musician, a woman, creating her own experimental sounds and machinery/oscillators during the post war period of Britain is a stark contrast to the pioneers of musique concrète in Paris, who at the same time were realising compositional techniques through the theory of musique concrète, but they were not creating their own machinery to create these sounds. What is unique to the British experimental sound works of the Workshop is that it was started by a woman, in a time when Decca Records would not employ women to work in their recording studio, and those women spearheaded an electronic sound revolution by not only utilising European techniques, but by building their very own workshop, their own machinery to create the sounds, and new compositional methods that were unmistakably British. When listening to the album *Electric Storm* by White Noise (1969), of which Derbyshire was a member, like Oram, Derbyshire was creating haunting, experimental sound which is still arguably many years ahead of its time in the late 1960s.

It could be argued that Oram and Derbyshire were directly influenced by Luigi Russolo and his machinery, and were, like Russolo, the unsung pioneers of experimental sound art in film, television, and radio of the 1950s and 1960s, no doubt a profound influence upon the young James Bernard and his Hammer compositions. Derbyshire's life during post war Britain was a stark contrast to the pioneers of musique concrète in Paris, who at the same time were realising

compositional techniques through the theory of musique concrète, but they were not creating their own machinery to create these sounds. What is unique to the British experimental sound works of the Workshop is that it was started by a woman, Delia Derbyshire is such an important figure not only within the field of experimental sound, broadcasting, and composition but also a huge influence on the world of pop and rock music. Paul McCartney visited Delia Derbyshire (Llewellyn Smith, 2013) to ask her to reimagine the song Yesterday:

"I even found out where Miss Derbyshire lived, and went round to visit her," McCartney told Q magazine. "We even went into the hut at the bottom of her garden. It was full of tape machines and funny instruments. My plan in meeting her was to do an electronic backing for my song Yesterday. We'd already recorded it with a string quartet, but I wanted to give the arrangement electronic backing. (McCartney, Llewellyn Smith, 2013.)

Derbyshire's influence upon popular music can be seen in the works of artists from Pink Floyd, Roxy Music, Mike Oldfield to Portishead, The Orb, Four Tet, Orbital, Hot Chip and Aphex Twin (Hughes, 2017). Arguably, Pink Floyd's album *Dark Side of The Moon* (1973) may not have been as successful without Derbyshire's influence, a little known or celebrated fact. Derbyshire was also on hand when Pink Floyd visited the studio in October 1967. Noting their interest in electronic music, she directed Floyd to Peter Zinovieff, her colleague in avant-garde group Unit Delta Plus, who in turn introduced them to the VCS3 synthesiser. The latter would become a key feature of *Dark Side of The Moon*, while Floyd sampled Derbyshire on *One of These Days* (ibid). It is a fact that there is still a paucity of literature on, or acknowledgement or celebration of Derbyshire and Oram's influences on all-male rock and pop bands particularly in popular music history and is this paucity that ignited the PhD research into the pioneers of electronic music, not only for their experimental approach but also their monumental influences upon the history of

popular music. It is the influence and existence of these leading women that influenced my pedagogy from teaching Fine Art (BA Hons) undergraduates at Liverpool John Moores University about Graphic Scores to re-writing a Popular Music History course on the Music (BA Hons) undergraduate degree at the Liverpool Institute for Performing Arts and delivering dissertation modules to postgraduate students at LIPA. These two pioneers have shaped not only the research but all of my undergraduate and postgraduate teaching which will be explored in the next chapter.

Chapter 2

Practical Experiments, Recording, Publication and Knowledge Transfer

Chapter One provided an analysis of the history and theory surrounding graphic notation and the relationship between sound and visual art. It provides the contextual backstory which is essential to understanding graphic scores, how they are created and what their purpose is in relation to the development of my graphic notation on tour with The Little Flames to writing the songs for *Voices of Winter Palace* (2019) and working with the Budapest Symphony Orchestra. Chapter Two is divided into subsections: Practical Experiments and Recording, Publication and Knowledge Transfer. The intention behind this structure is to illustrate, highlight and demonstrate the research journey from the practical experimental part of the practical work to its publication and how I transfer this knowledge to HE providers, specifically in relation to my current teaching practices at LIPA, to undergraduate and postgraduate music students.

Practical Experiments and Recording

Having spent five years in a signed band as a musician and songwriter confined to the boundaries and expectations of a record label, I did not have the belief or the confidence that the graphic notational system I had been using in my lyrics books whilst on tour with the band could be used to compose melodies that one day would be released and published via music platforms such as Apple Music and Spotify. I did not realise that graphic notation existed, and my set of symbols were to be hidden within my diaries (Appendix 4), out of fear of someone questioning me about

why I did not read or write traditional Western musical notation. Hidden in a notebook for years, after the band disbanded and the money from the record label stopped, the graphic notation remained in the notebooks for many years. It was only when I started a MRes in Art and Design at Liverpool John Moores University and met Professor Colin Fallows, Professor of Sound and Visual Art that my graphic scores were revisited. Professor Fallows introduced me to graphic notation and the history of the pioneering women of experimental notation and music creation such as Daphne Oram and Delia Derbyshire. It was not until this PhD commenced until the real exploration and research of graphic notation and the pioneers really began and resulted in shaping not only the thesis practical work but also the workshops and lectures to Fine Art undergraduates at LJMU and music students at the Liverpool Institute for Performing Arts. Suddenly, upon researching and discovering these pioneers, the graphic scores made sense. The graphic scores became not only a piece of artwork on their own right but an actual notation system that could be used to create and arrange melodies and sounds, specifically vocals. The initial symbols within the diaries were used as a key to create the visual scores and pieces of artwork in Appendix 4. Whilst the graphic scores were created initially in the days in the band, the Little Flames, as a response to sound, pitch, volume, emotion, melody and harmony, the system developed to allow for creation of the scores and then to create the sounds and music afterwards. My intention with the practical part of the thesis was to mirror the work of Delia Derbyshire and Daphne Oram specifically their creation of music and sound, through unconventional compositional methods. I had discovered that two women were using experimental compositional methods for outputs for television, theatre and radio, whereas my research before this discovery led me believe that experimental methods of composition would be compartmentalised into experimental music, without the appeal or accessibility to a wide and inclusive audience. It was interesting to note that the male contemporaries of Oram and Derbyshire discussed in Chapter One

were allowed to create whatever sounds and noise they so wished, for whatever purpose they desired, however the women were struggling through such a patriarchal infrastructure of the business they worked in, and society as a whole, to even be considered for a role at the BBC or indeed with a record label, yet here they were, experimental, but with the outputs of some of the most influential music and sounds in television and popular music that are still relevant today. The creation of the practical part of the thesis mirrors the life that my grandparents lived. For my grandparents, their creative attempt to find ways to communicate despite their language barriers was their experimental method, in parallel to my experimental methods of musical notation. Both experimental methods of communication achieved the ordinary using the extraordinary, my grandparents led a conventional life as parents and as a married couple, my practical work resulted in a collection of songs released through music platforms Spotify and Apple Music, as well as limited edition vinyl. The initial graphic notation system consisted of blank ink on paper, but as the research progressed and there was a discovery of artists who visualised music, sound, and rhythm such as Wassily Kandinsky (Appendix 3 [fig.14]) and Paul Klee's connection structurally between music and art specifically when analysing colour theory and giving his paintings musical titles, as in '*...In the Style of Bach* (1919) (App. 3 [fig.17]) for example, where Klee reimagines a musical score as an arrangement of graphic symbols like foliage, a crescent moon, and stars' (Richman-Abdou,2019) and even the movement within Bridget Riley's musically titled *Song of Orpheus* (1978) (App.3 [fig.18]) and the rhythm and movement in *Movement In Squares* (1961) (App. 3 [fig. 19]) even though not intentionally a graphic score, it resonated with my graphic notation methodology and approach, as the shapes seem to emit a sound and a rhythm as they have an almost dizzying effect that a drum loop can have upon the listener, for example.

Bridget Riley's method of creating her artworks have directly influenced the compositional approach to creating the graphic scores for *Voices of Winter Palace* (2019), specifically her works *Kiss* (1961), *Movement In Squares* (1961), *Chant 2* (1967), *Black to White Discs* (1952), *Composition with Circles 5* (2005), *Fall* (1963), *Pause* (1964), *Descending* (1966), and *Breathe* (1966). Upon discovery of these works, there was an instant connection with the use of shape and how the shapes Riley used were similar to my graphic notation system symbols. Riley's acrylic and collage method of creating her pieces inspired the graphic score compositional method seen in (List of Illustrations), [fig.10-20]. The graphic score symbols would be drawn, painted, and then layered into specific systems which were intended to produce a rhythm to the eye. Having initially worked with just black and white acrylic paint, eventually colour was introduced to the graphic scores, particularly regarding *Voices of Winter Palace* (2019) colour key, as mentioned in the methodology.

Matisse's collage approach to his cut-outs such as *L'Escargot* (1953) (App. 3 [fig.20]), *Le Lagon* (1947) and *The Swimmer in the Tank* (1947) [fig 21 and 22] particularly influenced the development and progression of the methods adopted to create the graphic score particularly when introducing colour to the scores. The simplicity of the cut-out method appealed to the simple approach of composing the music for *Voices of Winter Palace* (2019). The approach was the most appropriate medium as the cut outs can be used to create a portable exhibition, the scores can be placed in a neat pile and carried from exhibition or performance space with ease.

The musical symbols above the lyrics from my hidden diaries as shown in Appendix 4, *Goodbye Little Rose* (2005) and *Jewelled Moon* (2012) were copied and painted onto paper and cut out. They were then placed on an A0 piece of card in a sequence that corresponded with the melody for each song on the *Voices of Winter Palace* (2019) ten-inch vinyl record (List of Illustrations [fig. 10-20]) and formed the visual scores for each song on the vinyl recording. The discovery of the women pioneers of experimental sound and the visual artists working between the

construction of music and visual art together inspired the graphic notation compositional methods namely the development from ink and paper to painting the scores using acrylic paints, collage and light projections and self-portrait. The graphic score developed from the musical notation pages to the freedom of the canvas and the tools of the visual artist. This can be illustrated through Appendix 3 which demonstrates the progression of the graphic scores alongside the discoveries throughout the PhD research journey and reflects visual artist Bridget Riley's work, from 1970 onwards. The graphic scores used for *Emerald Green Eyes* (2012) were before the discovery of Daphne Oram and Delia Derbyshire and so adhered to the simplistic ink and paper composition. The graphic notation is not simply a collage of random symbols and shapes. The sounds were notated in correlation with my set of notation symbols (List of Illustrations [fig. 22-30]) with the intention of creating an awareness of space and time, melody, harmony, pitch, rhythm, volume and feeling. When writing the lyrics for the songs which are autobiographical, they also reference Bridget Riley and the titles of her paintings which inspired the graphic score compositional method. *Emerald Green Eyes* (2012) (see App. 2 [fig.1]), was a musical collaboration with guitarist and Echo and the Bunnymen founding member Will Sergeant in 2012. This was the first time that the thesis graphic notation method was used to create melodies and harmonies for vocals. The process was like the compositions created in the Little Flames in 2002 however the notation system was broken down into separate symbols. Each symbol represents tone, pitch, melody, harmony, how long the vocal note lasts, emotion, timbre, pauses in the vocals, breathing and volume. For the collection of songs on this album, the graphic notation and the vocals coexisted, some melodies were created before the scores were added and some preceded the melody, employing chance methods to create some of the vocal melodies.

For example, the vocals for the song *Melody* were created from graphic score, however, the title track *Emerald Green Eyes* was created and then the graphic score was added as an aide memoir rather than a compositional method. As this was the first foray into using graphic notation as a compositional method, there was doubt that whole collection of vocal melodies using non-traditional Western musical notation could be created. Once the vocal melodies had been sung these were then sent to Will Sergeant (Echo and the Bunnymen) via voice note using Apple iPhone. Sergeant would then create the music and instrumental around the vocal melodies. This proved a highly successful creative and artistic collaborative project. A similar approach was taken with the second collaborative project with Sergeant in 2012 with the commission by Q Magazine to cover George Harrison's *Don't Bother Me* (1963) from the album *We're With the Beatles* (1963) for a CD that was featured with Q Magazine issue (App. 2) Sergeant sent the musical recording over via file transfer and Petersen used the amalgamation of her graphic notation system and piano to create the melody for the song.

Publication and Knowledge Transfer

Following the successful creation of vocal melodies by using the graphic notation method and with both *Emerald Green Eyes* (2012) and *Don't Bother Me* (2012) published and critically acclaimed, this provided the platform on which to transfer all the knowledge inferred during the recording and publication process to transfer teaching at HE institutions Liverpool John Moores University and the Liverpool Institute for Performing Arts. In 2016, I was invited to write and deliver a series of workshops to Fine Art BA (Hons) undergraduates at the Liverpool School of Art and Design, Liverpool John Moores University. The workshops were delivered over two

academic years and were based upon her graphic score technique. They were a combination of contextual lectures in which I introduced the students to

Daphne Oram and Delia Derbyshire, pioneers of graphic scores and the painters who had inspired me to create the visual representation of sound such as Bridget Riley, Wassily Kandinsky and Paul Klee. The lectures and workshop mirrored the PhD research, a mixture of contextual and practical work. The workshops invited the students to adopt the methodology used to visualise sound through the attendance of deep listening workshops and sound walks to hone their listening skills before they could start to create the visualisation of music and sound. The students then spent time in the painting studios listening to a varied music set list which included pop, rock, classical, folk, opera, experimental, hip hop, and rap and using their deep listening skills, responded visually to the different beats, tones, sounds, vibrations, movement, volume, and emotion within the songs by using acrylic paint and brushes.

Each week, the methods of creating the score developed as their confidence grew which eventually resulted in students using lighting, sculpture, and dance to create the visual graphic score, the visual representation of the sounds they were listening to. The aim was for each student to identify a visual pattern they were creating in response to sound. The students would see a pattern emerge and explain what each symbol represented musically. The students collected their notation systems in their notebooks and developed their scores into pieces of artwork on their own right, the students brought their unique notation symbols to a group and created a collage together into one large musical composition. This was rehearsed and delivered live in the foyer of the LJMU School of Art and Design. The students used Vox amplifiers and SM58 microphones to deliver the vocal piece whilst the graphic score was suspended from the top floor of the building. The students also created their own

publications of their graphic scores and notation systems they had developed as part of their assessed work. In 2017, Fine Art (BA Hons) students used light, guitars, pedals, and Logic to create a graphic score they performed at the Caledonia, Liverpool. The aim of the workshops was to introduce students to alternative and experimental musical notation, to read between the lines and to create their own musical unique language that they could perform and publish as part of their undergraduate degree and beyond. The workshops delivered the message to the student that a Fine Art space can be loud and full of noise, it challenged the preconceptions that students felt that they could not compose music if they did not read Western musical notation.

The workshops were exhilarating and mirrored my own progress and confidence I had built throughout my PhD research as the students connected with the contextual backstory of Daphne Oram and Delia Derbyshire which gave them confidence to create music and performance in a non-traditional musical way. In comparison, when securing a lectureship at The Liverpool Institute for Performing Arts in 2018, I was teaching students who had studied music theory to a very high standard and level, most from a very young age, however it was interesting to hear from these students that they enjoyed the freedom of composing music using different experimental methods rather than be restricted to one way of composing through traditional Western music theory. It can be argued that all we need is permission to create music any way which is desired, and this permission came from a woman who was doing exactly this and creating music for the BBC seventy years ago. It was the central aim of the thesis and research to expose this little-known fact amongst music students, particularly highlighting the absence of Daphne Oram in Popular Music literature and within the modules which concerned Popular Music history. Students who were exposed to this fact started to write about Oram in their essays, particularly with regards to women in sound, the history of electronic to

dance, pop and rock music. When teaching students about Oram it can be bittersweet – whilst it is positive in that informing students about Oram could be providing them with the confidence they may be seeking, to compose in any which way they wish, it is also somewhat sad to think that in 2023 we are surprised that in the UK a British woman created the first synthesizer (of course Dr Lee de Forest's 'Audion' triode vacuum tube valve was created in 1907 [Britannica 2024] – the first 'electronic' audio oscillator, however, the thesis focuses upon the women inventors of early synthesisers, not men) and that she is still omitted from vital musical texts which students rely upon in their undergraduate degree. However, Oram's presence and trailblazing impact on popular music remain the central theme to the pedagogy in my role as Lecturer in Popular Music. In 2016, I was invited by WISWOS, *Women In Sound Women on Sound*, to create a series of online tutorials for women of school age across the UK based upon my PhD research namely two online tutorials about the pioneering women of electronic sound, Daphne Oram and Delia Derbyshire. These tutorials were delivered to UK secondary schools nationally with the aim of igniting women's interest in electronic music, sound, technology, and composition. The online tutorials were split into Discovering Daphne and Discovering Delia, two important videos to highlight the critical importance of both women and their gargantuan impact on popular music, science, and technology. In 2018, I was invited to speak at the Liverpool Institute for Performing Arts' prestigious weekly Masterclass session which artists such as Paul McCartney, Peter Capaldi, Rowan Atkinson, Steven Fry, Woody Harrelson, Danny Boyle, Toyah Wilcox, Damon Albarn to name a few, had delivered in the Paul McCartney Auditorium at LIPA. The lecture was delivered to all undergraduate students and resulted in a lecturing position being offered to me following interview, within the Department of Music at LIPA. The masterclass explored the hurdles faced as a woman within a rock band signed by a record label however it also delivered advice

to students regarding choosing management wisely specifically to avoid being taken advantage of financially. It also discussed the approach to the lawless nature of the performance space, sexual harassment, and life beyond the record label. The masterclass also introduced the students to Daphne Oram and Delia Derbyshire, and how the discovery of these two women influenced not only my song writing but also how to reclaim creative autonomy within a patriarchal society particularly within the music industry. The masterclass then developed into a series of lectures that I was invited to deliver by LIPA which explored Popular Music history from 1920 to present day. Throughout the lectures, there was always a focus upon the pioneers and influences of each decade, particularly with reference to Daphne Oram's work in the 1940s and how this influenced electronic and dance music throughout the 1970s to present day. Oram and Derbyshire's influence upon the thesis' practical work *Voices of Winter Palace* (2019), from the composition to the song writing and artwork were directly influenced by the work of both pioneers, which will be analysed in the next chapter. This chapter draws upon the theories and techniques of graphic scores and experimental sound and will apply them to the experimental methodology and concept of *Voices of Winter Palace* (2019).

At the outset of the project, I composed a series of vocal melodies and lyrics based on my grandparents' story which were based upon a series of my graphic scores. The melodies were sent to Dr Mat Gregory who then composed the orchestral scores and music which were sent to the Budapest Symphony Orchestra and Choir. I travelled to Budapest in January 2019 to record with the BSO. The recording session took place on 19th and 20th January 2019. The vocals were recorded at Parr Street Studios, Liverpool with Andrea Wright, and the mixing was undertaken by Bill Ryder Jones at his studio in West Kirby, Wirral in April 2019. The series of songs were pressed onto a 10" vinyl record in December 2019.

As mentioned previously, thematically, the work is based upon the life of my grandparents. The series of songs addresses love, loneliness, loss, language, a sense of belonging and hope. Creating the series of songs has required me to bring together two different methodologies she uses as both an artist and a musician; using an experimental compositional method to create classic pop melodies. Working with an orchestra and choir has provided me with a set of new skills as I had to communicate my melodies and theme with the orchestra and choir, something I had never done before, and which will be invaluable with regards to future projects. The research into graphic scores has been a long-term project from the first album *The Day Is Not Today* in 2007, the second experimental pop collaborative album in 2013, the MRes thesis and ultimately to the practical work of this thesis, *Voices of Winter Palace* (2019). There is a direct link between my recordings and this thesis practical work as all have been influenced by women experimental composers. *Emerald Green Eyes* (2012) was influenced by composers of musique concrète such as Pierre Henry, and musicians who have also been influenced by musique concrète such as Frank Zappa, who even name checked Edgar Varèse on the front cover of his album *Freakout!* (Mothers of Invention/Frank Zappa 1966). Further examples include experimental German band Can, formed in Cologne in 1968, Neu!, considered to be the founding fathers of 'Kraut Rock', formed by members of Kraftwerk, 1968 New York psychedelic band Silver Apples, and The Velvet Underground. The sounds composed and recorded for *Rider of the Red Roses* were also influenced by the oscillations and stripped eerie sounds adopted by these European and American experimentalists, whose sounds were hypnotic, looped, mesmerising, which is how I intended my album *Emerald Green Eyes* (2012) to be, in the pop world, and how I intended *Voices of Winter Palace* (2019) to sound and to completely immerse the listener. My experimental learning has paved the way to my current theory surrounding my graphic notation. Each experience of practice and method has influenced my

practical work such as the compositional methods and the experimental approach to composition.

I am a long-term collector of sound and have long collected field recordings. I have been fascinated about listening since a child, preferring talking books, listening to the radio, particularly listening to the Shipping Forecast, which I still listen to, and which still evokes a dreamlike state when immersed. It is also a way of connecting with my father who would listen to the Shipping Forecast every evening. When tuning into the programme, I feel a sense of connection with him that is extraordinarily strong, an ability to communicate with him. My passion for listening and sound then continued in my adult life when as a professional musician decided to further my study by combining my skills acquired from a law degree, love of sound and experience as a musician, by enrolling onto the MRes Art and Design course at LJMU in 2012. At the same time, I began writing and recording my solo debut album *Emerald Green Eyes* (2012), with guitarist Will Sergeant from Echo & the Bunnymen, released through Porcupine Records to critical acclaim in November 2013. The album is influenced by my fascination with sound in cinema, particularly of the Hammer Horror and the Italian Horror films of the Giallo genre (Giallo, translated into English means yellow, because of the colour of the cheap paperback books in which Giallo horror, fiction and mysteries were published). This research is undertaking two functions, presenting the concept of graphic notation, and presenting the recorded series of songs *Voices of Winter Palace* (2019), melodies and vocals within the concept and framework of popular music. This chapter draws upon the theories and techniques of experimental sound and will apply them to the experimental methodology and concept of graphic scores.

Taking control of the artwork, photography was a particularly important part of keeping creative control. The main image on the 10" vinyl was taken by me, a self-portrait, standing in front of one of the initial graphic scores. The intention was that it was deviating away from the usual rock photography I have experienced whilst in the rock scene in Liverpool. I knew exactly what I wanted and could control the gaze, look, clothing, make up and artistic direction which is a vital part of the whole piece of practical work. Firstly, the graphic notation. As previously mentioned in the introduction of this thesis, the graphic notation transpired from a simple aide-memoir whilst I was learning lyrics and melodies whilst in the band The Little Flames. I then developed this key into an artwork and continued to use the notation system throughout my solo career and realised upon commencement of this PhD thesis that the graphic notation was pieces of artwork that could be exhibited as stand-alone pieces from the music itself. I created an album from experimental compositional methods including painting, mark making and graphic scores with the aim of creating songs using graphic notation, that were accessible to a wide audience. I wanted my work to be inclusive as I had found that the experimental music and sound works I had discovered on the research journey were filed under genres such as 'avant-garde' or 'experimental'. I positioned my work in between artists such as White Noise, of whom Delia Derbyshire was a member. The band released their album *An Electric Storm* (1969) through Island Records which was created with experimental techniques but was released via a major record label. This was the album that inspired me to create *Voices of Winter Palace* (2019) which was a pivotal publication that helped me decide that I wanted to create a similar output using a similar approach. A record released through a streaming platform within the music industry, to a wide audience: I could demonstrate that just because you are using experimental musical compositional methods you are not restricted to creating experimental sounds that are aimed at specific audiences and could be difficult to

access- unless that is what you wanted to achieve. The aim of my work as a woman in the music industry and as a lecturer in music is to promote inclusivity, equality and diversity through music creation, production and performance, to inspire and extend the possibilities for future researchers. The practice and publication will be analysed and discussed in further detail in the next chapter.

Chapter 3

Voices of Winter Palace: International Practice and Publication

...all sounds can be used to make music. It's the organising that counts!
(Dwyer, T., 1971, p.6).

Originality and Insights

In this chapter, I critically analyse the practical research, namely *Voices of Winter Palace* (2019) as an experiment in compositional graphic notation distributed through music industry platforms such as Apple Music and Spotify. I critically analyse the practical genealogical research which employed experiments in graphic notation to the composition of the core sonic artwork and physical output of the research. As a researcher, my work has always been practice-led. The thesis uses self-reflection, first-hand experiences and the practical work is entirely autobiographical. The practical work uses autobiographical elements and connects them to a wider audience in the sense that it is engaged with and analyses wider discourses such as language, communication, immigration, relationships, and geographical movement. The reflective practice is essential to the research outcomes as the entire methodology and theory of the graphic score has developed organically from practice into research and teaching practices. Each development has informed the progression of the graphic scores used to create pieces of music and which also form the basis of my lectures and workshops including BA (Hons) Fine Art at Liverpool John Moores University and more recently, to BA (Hons) Music and MA Music Industry Management degrees at the Liverpool Institute for Performing Arts.

Practice-led and Autoethnographic Research

As explained in the thesis methodology section, the rationale for the use of family genealogy as the narrative for the practical work was to provide an original, unique contribution to the existing knowledge in the field and to put into context the autobiographical information and the interview with my father which intertwines with my family history and the connection with exploratory language and new forms of communication.

At the outset of the project, I composed a series of vocal melodies and lyrics based on my grandparents' story which were based upon a series of my graphic scores. As stated previously, the lyrics are an important component of the practical research work. The autobiographical nature of the lyric poems provides the substance and the core element – they are the nucleus of the sonic narrative. In addition to the personal nature of the lyrics, they also describe the universal challenges that we face when we exist between parallel worlds, unable to communicate with the restrictions of only one way of communicating. This narrative mirrors the main approach to graphic notation in this research and adds context to the alternative method of musical notation used in the practical work. When brought together, the connections and crossovers between the graphic scores, lyrics, and recordings, opened up the possibilities of music creation through non-traditional Western notational methods.

The practical work was at times met with logistical problems, mostly related to childcare issues when attending studio sessions. Challenges were also met and overcome when communicating with the conductor of the Budapest Symphony Orchestra. The practical work represents these challenges of communication in a non-traditional, non-linear context, and illustrates that through practice-led research,

the work pushes the boundaries and conventions of academic research. In turn, this work can contribute to extending the possibilities for future researchers. As Daphne Oram stated, rather than follow strict convention, we can create new possibilities by looking between and beyond the musical notes:

...the Italians have a word MUSARE: 'to sniff the air to catch a scent'. It is an appropriate word for this book, for here we shall be sniffing the air in all directions to see whether we can catch a scent or two of intriguing interrelationships between electronics and music, to see whether we can break open watertight compartments and glance anew-from various aspects and in various states of mind.
Oram, (1971, p.1).

During my time as lead singer of The Little Flames, I was working alongside the band's songwriter and fellow founding member Dr Mat Gregory. This is where I first encountered collaborative and performative methods which were to shape my future career and current Sound Cinema work. I co-wrote the album *The Day Is Not Today* (Deltasonic Sony/BMG 2007) whilst a member of the band The Little Flames, of which Dr Gregory was a co-founding member. This experimental learning led me to further collaborative work with Echo and The Bunnymen guitarist Will Sergeant and my album *Emerald Green Eyes* (2013). Whilst working alongside Sergeant, we had a specific method of songwriting and composition. Sergeant would send me a piece of music he had written, and I would write the melody and lyrics using my visual scoring technique (List of Illustrations [fig. 22-30]). This experimental approach proved a successful collaborative experience which led to my becoming a member of the Colin Fallows Ensemble. The components from my experiences working within Law to The Little Flames, my solo album and the Colin Fallows Ensemble have provided me with the experience and common strands which have led to my current practice. *Voices of Winter Palace* (2019) is an accumulation of everything I have learned and experienced to date. My experimental learning has paved the way to my current theory of graphic scores. Each experience of practice and method has

influenced my practical work such as the compositional methods and the experimental approach to composition. Bringing together Chapters One and Two, this chapter analyses critically the practical application of graphic scores, experimental sound techniques and musique concrète specifically. It discusses the techniques that have influenced the practical, and why I chose these techniques. Upon commencement of the thesis, the main research questions were could I record a series of songs with an orchestra and a choir with melodies composed using my musical notation system? Is there a limitation to the notational system? Can experimental composers be taken seriously and work with a renowned classical Western orchestra and choir? How restricted are we as composers? What hurdles do we face? Will the initial melodies be lost in translation? will it sound like we first imagined? Will it be categorised and filed alongside the post-war European 'graphic score' movement of the 1950s and 1960s? Will it be received as inauthentic and irrelevant? Could I compose music using my notation system without reference being made to John Cage, Morton Feldman, and Cornelius Cardew? Whilst in the middle of my research, I felt a connection with Daphne Oram (particularly) and Delia Derbyshire in that when explaining my research, I would be included alongside the above male composers whom I have respect for, but little to no reference was made to leading women who have created a bridge between the music and art by using experimental techniques in notation, recording and performance. Whilst it is vital to this research to mention the work of pioneers Pierre Schaeffer, Edgard Varese, Karlheinz Stockhausen, Cornelius Cardew, Gyorgy Ligeti, George Crumb, Tom Phillips for example, I see my research and practical work as a continuation of the work of Daphne Oram and Delia Derbyshire, pioneering women who were creating the bridge and existing between music and visual art. The collaboration was a lengthy process when creating the practical work for the thesis. I probably encountered some of the similar hurdles that perhaps

Oram and Derbyshire experienced as women in the music industry. When I started The Little Flames in 2005, although I felt I had creative autonomy, I found that as a woman, I was still facing certain hurdles that my male contemporaries were not experiencing, such as decision-making and ensuring creative control over the entire process. When comparing this experience to recording *Voices of Winter Palace* in 2019, I still felt that I was experiencing these hurdles but also with a newborn baby and a toddler to care for during the practical work. I was limited as to what I could control due to time restrictions and caring duties as a mother. I had to communicate with my collaborator that whilst I had initially agreed to record my vocals with a male engineer, and upon reflection, I did not feel comfortable with the engineer simply as I was used to the engineer I have always recorded my vocals with.

Performing such personal songs was challenging both physically and mentally, putting one into a vulnerable situation. I knew that I would have to record with Andrea Wright; this step made me feel like I was regaining creative autonomy and control over the practical work. I composed the lyrics after I heard the melodies and music together in a draft version. The notation not only served as a means of communicating music but also, visually, they inspired the lyrics. When reflecting upon this experience and the challenge to the norm of the music industry and music composition, I was reminded of my grandmother Gwen and the struggles she faced as she challenged the conventional life of wife and mother whilst living in the Faroe Islands. I felt a sense of kinship, a parallel experience to Gwen's, challenging the traditional norms of communication and challenging what society tells us what we should do as both women and mothers. Both Gwen and I were finding ways of communicating within our unconventional patriarchal cultures, the spaces in between. The story of Leo and Gwen runs parallel to the methodology within the thesis and practical work. The notation is a language that exists in the ether, the space between languages, where even if we cannot speak each other's language, we can still communicate, crossing cultural divides and boundaries. The thesis

hypothesis is that by creating a new language without the restriction of traditional Western notation, is '...the best way to widen our perspectives, understand ourselves more deeply, and consequently, be more creative...' (Nakakoji, K., 1996). Taking control of the artwork, photography was a particularly important part of keeping creative control. The image on my 10" vinyl was taken by me, a selfportrait, standing in front of one of my initial graphic scores. The intention was that it was deviating away from the usual rock photography I have experienced whilst in the rock scene in Liverpool. I knew exactly what I wanted and could control the gaze, look, clothing, make up and artistic direction which is a vital part of the whole piece of practical work.

Performance, Recording and Publication: *Voices of Winter Palace* (2019)

Through my practical work, I demonstrate the link between the conceptual, historical, and technical aspects of graphic notation from the time I have chosen and how I am using these for my own work which exists between music and art. *Voices of Winter Palace* (2019) is a series of autobiographical songs which enabled me to test the effect of graphic notation upon an audience live but also through platforms such as Spotify and Apple Music. The collection of songs was performed live at the Gustav Adolf Kyrkya or Scandinavian Seamen's Church, Liverpool in 2021 and was chosen due to the church being the space where the two main characters, Leo, and Gwen, met, and so this space was chosen not only due to its geographical importance but its autobiographical nature and the actual resonance of the church itself. The church has a dome shaped roof which creates beautiful resonance when singing, an amplifier and microphone are not required due to the natural reverberation when singing. Having previously performed several times at the Scandinavian Seamen's church and due to the autobiographical connection, it was the perfect performance space to choose.

It is my argument that our environment influences our emotive and sensory responses to sound; it is not just the sound alone which makes us feel terror/ assurance/ sadness/ elatedness. My experiences of recording vocals in different environments and buildings have shaped the way I recorded and chose my performance venue. Recording vocals with specific engineers in a recording studio has been a 'flat' and static experience for me and left me feeling as though I was constantly battling with either the engineer or the other instruments and the vocals were added onto a track at the end, as if a mere addition. Performing vocals, live or in a studio surrounding is extremely personal and a situation in which you must feel comfortable, or you will not perform at your best. When singing lyrics that have a personal connection, one must find the right engineer to work with otherwise it could mean that a true performance is withheld due to feeling inhibited, embarrassed, or uncomfortable. During the live performance, I experienced an overwhelming feeling of presence. The walls, seats and ceiling at the Scandinavian Seamen's church emitted a resonance, a 'Ghosting' to use LaBelle's argument – '...messages, forces, voices ripple through the environment...' (La Belle, B., 2010). Since the passing of my father in April 2022 this space has even more importance to the thesis and practical work as my father's funeral was held there. As with LaBelle's theory of Acoustic Spatiality, the church setting is an important part of the completely immersive intensive experience of the practical work. I intended to evoke emotions, as LaBelle states when explaining his acoustic paradigm theory, my installation will set in motion '...not only the material world but also the flows of the imagination' (ibid). The church provided an enveloping reassuring backdrop to the sonic journey that the audience experienced. Similarly, my experience with the Colin Fallows Ensemble, particularly the piece titled *Bells*, as part of the *Reverbs* (Fallows, 2015–17) series of performances in resonant spaces, produced oscillating overtones and

psychoacoustics that I would not have experienced had we played in a recording studio due to soundproofing.

The performance with the Budapest Symphony Orchestra was a similar immersive experience. I felt that the journey to Budapest from Liverpool reflected my grandparent's story, namely travelling to a different country, being a stranger, not speaking the local language and communicating only with the language of music. Furthermore, Budapest in winter seemed like a perfect geographical location which fitted perfectly with the *Winter Palace* title. When recording at Tom Studio in Budapest with the orchestra in January 2019, it started to snow, which provided the perfect winter scenery and backdrop to the recording sessions. It was an incredible experience to work with the Budapest Symphony Orchestra, specifically experiencing a live full orchestra play the initial melodies from the graphic scores I had created. The orchestra listened to the series of songs and played along whilst we stood in the recording studio section of Tom studio and communicated with the composer and orchestra through the engineer. This approach reflects the methodology used to create the graphic scores and melodies for the practical work. Just as I would stop and reflect upon the melodies I was creating to reflect upon if they were good enough, the same approach was taken with the live compositional approach with the orchestra and choir. It almost seemed as if the collage method I was using for the graphic score was also being used with the live orchestra; for example, each instrument was recorded separately and then pieced together using the recording technology to create the finished record. The methodology and process reminded me of Delia Derbyshire's description of creating the *Dr Who* (1963) theme song, especially when she discusses threading rolls of tape through the corridors of the studio.

Whilst nowhere near as laborious, I wondered how Daphne and Delia felt when they were leading the BBC Radiophonic Workshop and how they too must have encountered many hurdles. To be able to write melodies using the unique graphic score method but then to have them developed and interpreted by an orchestra and choir confirmed the aim of the thesis. The Deep Listening method discussed in the Methodology was an essential part of the recording process. We had to concentrate and listen to the live orchestra to ensure they were playing the right notes/speed/timbre. As I had practiced Pauline Oliveros' Deep Listening methods previously, it was an essential tool to ensure that the melodies were being correctly played by the orchestra and sang by the choir. Oliveros' states: 'Sounds carry intelligence. Ideas, feeling, and memories are triggered by sounds.' (Oliveros, P., 2005, p. 25) and that: 'Listening is not the same as hearing and hearing is not the same as listening. The ear is constantly gathering and transmitting information – however attention to the auditory cortex can be tuned out' (ibid, p.21). Oliveros argues that musicians do not listen, and therefore disconnect from the audience in the process (ibid, p.17). Further, Oliveros argues that listening is completely different to hearing, listening is a conscious effort which her Deep Listening practise intends to address by heightening consciousness of sound: 'Learning to expand the perception of sounds to include the whole time/space continuum of sound encountering the vastness and complexities as much as possible' (ibid, p.23). It was this method that ensured that the orchestra was responding to the score in the right way, the way in which the initial melodies intended them to do so. I adopted Oliveros' methodological approach to ensure that I was listening and not just hearing. The process of recording with an orchestra was entirely new as I had only recorded with a band, drums, two electric guitars and bass in typical rock/pop studios in the UK and Sweden. Whilst listening to electric instruments, a lot of incidentals can happen, however with a live orchestra there does not appear to be any room for error as it is easier to detect mistakes with the acoustic orchestra; therefore, the Deep Listening

method was so important at this stage and within this recording environment. There was no time to waste in the studio as we only had a limited time to record due to a tight budget. The recording process with the Budapest Symphony Orchestra choir was a completely different recording studio experience. The large choir had listened to the recordings and sang whilst I followed the melodies using my graphic scores which I had brought with me to the studio. My compositional methods can be summed up neatly by Paul Griffiths when writing about Edgard Varèse, the inventor of Organised Sound:

...though the piece ranges so widely and swiftly, every event appears to have been chosen and placed with great care, the composer attentive not only to its expressive effect but also to its properties of rhythm, colour and pitch. This is indeed 'organised sound' to use Varèse' own term, and not just a collage.

(Griffiths, P., 1979, p. 33.)

As mentioned earlier, when composing sounds and melody, I devised my own compositional scoring method using paper and pencil as explored in Chapter Two, I used my own symbols to represent pitch, tone, speed, colour, and mood. This visualising of sound has always been a natural concept to me which I have always used as an artist before I commenced this research and discovered Daphne Oram's *Oramics*.

As the recording brought together experimental compositional methods, graphic scores, conventional tonal music and visual art, the approach to the creation of the record was to create a total work of art including an interdisciplinary approach to allow freedom from restrictions usually experienced within the music industry. The photograph for the cover is a self-portrait, taken with a timer and an SLR camera. The self-portrait approach is rarely used within the pop and rock music genre, with a penchant for stereotypical 'urban decay' photographs particularly when I was in The

Little Flames. The self-portrait was a step away from the gaze of another photographer and away from their idea of what I should look like. This approach was to ensure creative autonomy was completely recovered after many years of working with specific music industry photographers. The design for the cover sleeve of the record was inspired by Oram's use of her drawn sound patterns on the cover of her LP *Electronic Sound Patterns* (1962) as the backdrop is the graphic score for the title track *Voices of Winter Palace* (2019). The inclusion of the graphic score is completely deliberate. Whilst the image of me on the front cover is extremely typical of a music album/ publication, the addition of the musical score is not. The eyes of the artist and the position of the hand across the face was again inspired by visual art, namely Caravaggio's *Medusa* (1527) (App.3 [fig.33]) which I saw on a trip to Florence at the Uffizi Gallery. The light around the eyes of the Medusa were the inspiration for the gaze of the artist. The artist is looking straight at you, as Kress and Van Leeuwen call this a demand gaze, where the person is looking directly at you, the audience, in a bid to demand a reaction from the viewer (Kress and Van Leeuwen, p.122) which is exactly the aim of the self-portrait. Furthermore, the orange lipstick symbolises the orange colour used in the score for the track Leo. Every part of the visual work was created in synchronization with the graphic score so they could exist in unison together to represent the importance of the audio-visual. Projecting the graphic score over the artist's face was inspired by the cinematography in the Giallo film *Suspria* (1977) and a homage to my MRes research and the album *Emerald Green Eyes* which were both influenced by Italian Horror Giallo films particularly the photography, lighting, and colour (Appendix 3). Lyrically, my approach to composition was more experimental than my usual song writing. This was partly due to my desire to 'empty out' the lyrics, to move away from the usual approach I had been accustomed to, to reflect the isolation my

grandparents felt in Liverpool and Faroe Islands/Denmark, but also to reflect the space within the music, which is to represent the geographical location of the Faroe Islands and my grandparents' respective journeys across the sea. The emptying of the lyrics also felt like the right approach as the minimalism acts as a metaphor for how we can approach the hurdles faced when we do not speak each other's language. Further to this, as mentioned in Chapter Two, the practical work was inspired by the White Noise album *An Electric Storm* (1969) not only with regards to the experimental compositional approach but also lyrically. The lyrics are minimal on the record which adds to the space created through the sounds used. There is no standard verse/chorus structure, which allows for space and atmospherics throughout the record. Apart from the lyrics being autobiographical, they also draw inspiration from and cite the works of Op artist Bridget Riley particularly in the title song *Voices of Winter Palace*:

Bridget, she knew, Fall as she moves, Blaze in my head, Late Morning it grew,
Chant through my head.
Voices of Winter Palace (2020)

One verse refers to *Fall* (1963), *Blaze* (1964), *Late Morning* (1967-8) and *Chant* (1967), the four main paintings which inspired the graphic scores and the melodies. The score is very rarely on the cover of a contemporary pop record however its importance is illustrated through its position on the record sleeve, existing not as a backdrop for the self portrait of the composer and singer but as an immersive all encompassing, sonorous envelope, almost as a gossamer thin aural mist that drapes over the whole project, the spine of the body of work. Without it there would be no *Voices of Winter Palace* (2019) and perhaps no other future musical publications.

This practice-led research was a natural continuum from previous publications, and the drive for experimental notation flowed naturally through to the creation of the practical work. The intention was to create a unique contribution to the already existing literature in the field of experimental musical notation, music, and visual art, whilst exploring the history behind experimental notation and how they have influenced my own work. The analysis can be neatly summarised by Colding-Jorgensen (1979) as regards the main purpose of creating music no matter how it is created:

Regardless of our level of professionalism we can focus on the music, forget time and place, and share-with the audience – the intense, suspended moments of expressive life. Isn't this what music is about? (Colding-Jorgensen, H. (1979) cited in Sauer, T. p.54).

All my previous writing, recording, and listening experiences have been combined to create a new form of notation. From compositional methods such as starting and ending *Rider of the Red Roses* (2013) with the same sounds to create fluidity, to recording vocals in specific buildings, site specific recording namely choosing a country to record *Voices of Winter Palace* (2019) in; travelling to Budapest to record with the Budapest Symphony Orchestra in winter to ensure the recording was created in the right setting and environment. My experiences have provided me with key skills when composing my experimental sound works, international collaboration and international recognition, funding from Arts Council England and now published research. The thesis includes a specific genealogical mapping of the history and theories of experimental notation which underpin the theory that an orchestral/classical piece of music can be created using non-traditional Western musical notation, recorded, and distributed commercially, whilst reclaiming creative autonomy from melody creation, choice of collaborator to album artwork and

photography. The aim of this thesis was to explore and apply experimental notation methods to my own practice-led research to illustrate the power of visualising music, to look beyond traditional Western notation methods to create new artworks, new ways of communicating music and a new language to communicate storytelling. The practical work is commercial and includes traditional Western melody / composition. The theory is that the term 'experimental' in music can be met with criticism and lacking authenticity. Although the compositional methods are experimental does not necessarily mean that the result, the sounds, and songs will be experimental, quite the opposite. The aim was to break the barriers and the perceptions that experimental musical composition is limited to the work of sound artists or that it is too experimental to co-exist alongside 'regular' Western pop/rock/soundtracks. The problem could be the preconceptions when the terms experimental and sound art are used. This thesis avoids the term 'sound art' as an unnecessary label which contains many negative connotations. As David Toop states:

The problem is the word Art, with another problem attached to the word Sound. The moment it becomes art than it attaches itself to the art world, with a particular history, environment, and economy.
(Petersen, E., 2013, appendix 5.)

Creating music need not adhere to one specific type of composition as musical composition consist of many languages and modes of communication that should not be restricted to Western musical notation. Listening and environment are both integral parts of the discoveries within the thesis. Not only does it form a major part of the methodology, e.g., listening to Daphne Oram and Delia Derbyshire recordings but also forms the main theory of the practical work. We cannot escape the relationship between sound and visual, they exist together, in unison. *Voices of Winter Palace* (2019) not only exists between art and music, but it also combines

visual art, photography, sculpture, dance, lighting, film, and music to produce the
gesamtkunstwerk.

Conclusion

Whilst the aim of the thesis has been delivered, this is not the end of the research. The discovery of Daphne Oram and her occupation of the spaces between music, composition, science, sound and communication, has resulted in the thesis. It has led to internationally published practical work, lectures, workshops and seminars for both Fine Art and Popular Music undergraduates. Future research and publication will further explore gender issues within the music industry globally, specifically the spaces that women occupy, challenging the lawless nature of these performance spaces including studios, gig venues, television and radio spaces, tour buses and social media. The findings of this research are that the graphic notation system I have developed is like all forms of communicating, a form of language to communicate sound, music, and storytelling. It is possible to create a commercial record using experimental compositional techniques, one that is accessible to and inclusive of a diverse audience. Due to the practice-led nature of the research, this exploration has shown that a rigorous historical and theoretical backstory to graphic notation was required to put the practical work into context, to highlight the unique contribution to the existing knowledge in the field and to build upon and continue the work of Daphne Oram, as a woman who is an experimental composer, musician, and visual artist.

The thesis has shown how the initial notation symbols used in the hidden diaries in 2005 and 2012 (Appendix 4) were used as the archetype for the composition of *Voices of Winter Palace* (2019). The notational symbols have been developed and reimagined from pen on paper in notebooks to collage, cut-out, mark making and painting to becoming the actual artwork for the vinyl record sleeve for the practical work (see List of Illustrations [fig. 22-30]).

The utilisation of autoethnographic research methods and the autobiographical backstory to the practice-led thesis have ensured that the scope and depth of this research have been narrow, in-depth, specific, and unique in its approach to the analysis of the space between and beyond the notes. The interviews, reflective practice, diaries, songwriting and working with the Budapest Symphony Orchestra have revealed that it was possible to create a series of songs for music performance, recording, publication, and distribution by using graphic notation as a compositional method, and particularly, a set of songs that are easily accessible to an audience. This was a main concern throughout the thesis, one of accessibility as if I was existing between the art world and the music world, it was important to me to create the music that I wanted to create, which is popular music, rather than creating music and sounds I thought I should be creating just because I was using experimental notational methods. *Voices of Winter Palace* (2019) is a unique contribution to the existing knowledge in the field as it is a piece of artwork in its own right. The lyrics, visuals and melodies are autobiographical and mirror the life of Gwen Petersen, in that we were both creating alternative methods of communication to create a universal experience that we can enjoy even if we do not speak the same language. Gwen kept a family together and created a new life in an unknown space and place, and I was creating a selection of songs and visuals as a stranger both geographically and within the art and music world. My grandparent's story has been brought to life by the practice-led part of the thesis which has been supported by rigorous historical and theoretical research in experimental composition. The findings could be used by other researchers who intend to create a piece of visual artwork or music through experiential compositional means, specifically in a historical, family, and autobiographical context.

Chapter One and Chapter Two have analysed and explored the rich contextual historical backstory of graphic notation and the research methods employed to create the practical work. In Chapter Two I critically analysed the practical and commercially viable experiments of graphic notation into a selection of songs, recording and knowledge transfer, specifically the creation of a module delivered to BA (Hons) Fine Art students at Liverpool John Moores University (2016). It analysed the techniques that have influenced my practical work and why I chose these, as well as the differences in technology used by the pioneers of the 1950s and 1960s to the vast array of compositional technological techniques available to the 'Apple generation', how this affects graphic notation/ experimental composition. The chapter presents the process taken to create the graphic scores, the hidden diaries, the melodies, the artwork for the vinyl and the images of the technological process are presented as an appendix to this chapter.

This autoethnographic practice-led research has analysed and explored a unique method of communication, a form of language that we as artists and composers can use as an alternative method of communicating commercial music but through experimental non-traditional methods. The thesis and the practical work demonstrate the unique graphic notational system and how I have translated music into a score, which mirrors how my grandparents communicated and translated in another way despite not speaking the same language. Music is a language that should not be restricted to strict regimented notation, if I had adhered to the Western notational method of composing music then I may not have been able to create *Voices of Winter Palace* (2019). My research methods have been rigorous, the creation of the practical work has included a multimodal approach that was essential to create a reflective autoethnographic piece of research that is

supported by rigorous academic research. These methods have resulted in the creation of new knowledge, a new piece of research and practical work that has been successfully published and is the foundation of a postgraduate research methods module in my current role as Lecturer at the Liverpool Institute for Performing Arts. Since my time as lead singer in The Little Flames, I have been composing a unique compositional graphic notational system which has enabled me to compose music, arrange instrument and vocal parts of songs, write lyrics, and perform live and in a studio space without being aware that I had created the notational system that would eventually become the main analytical and practical element of the thesis.

Through careful analysis and exploration of the historical and contextual backstory to the graphic score, I have been able to develop my graphic scores and notations from an aide memoir in my lyric books on a tour bus in the early 2000s to an actual piece of art in its own right; one that has been developed through careful analysis of practitioner methods and approaches to create a notational system that has enabled me to not only work with a rock band but also with a completely different genre which has been a real test of how far I could push the graphic notational method. I forced myself out of my comfort zone from using the notation method secretly in a practice room with my band to using it to communicate my music, lyrics and autobiographical story to a collaborator, the Budapest Symphony Orchestra, classically trained conductor, and the Budapest Symphony Choir.

Classical music was a genre I had never worked in, it was an impossible task at first to think that I could compose and write my music using my notational system which would eventually be translated to a world-renowned orchestra and released on all major distribution platforms, as well as a limited edition ten-inch vinyl record.

Initially, I was immersed in research keywords such as avant-garde, sound art and experimental notation; I found this to be a little restrictive as a practitioner as to the type of music I could create. I wanted to use an experimental method of composition to create music that is easily accessible to a wide-ranging demographic audience and not placed within an experiential sound art category. As mentioned, literature surrounding graphic notation tends to gravitate towards the 1950s and 1960s as explored in the literature review, with a plethora of literature dedicated to male pioneers of experimental sound such as John Cage, Earle Brown etc. The thesis identifies the paucity of literature in this area of research and the lack of focus on the women pioneers of experimental notation and sound. Furthermore, literature appears to centre upon graphic notation as an experimental or avant-garde method which can alienate artists and audiences alike for fear of rejection from the music world due to being deemed as deviating from traditional Western musical notation. However, graphic notation is an ongoing, methodical, and modern approach to creating music. The methods used to create the graphic notation for *Voices of Winter Palace* (2019) were created in response to Oram's belief that one cannot be too strict or too lax when it comes to creating music, we must embrace our individuality of style and ensure there is a balanced approach to the creation of music using graphic notation. This is imperative to the thesis as it is not an experimental sound art thesis: the practical work may have been created using experimental musical notational methods, but the result was a collection of songs which is available to a wide audience through Apple Music and Spotify.

Graphic notation methods of composition do not have to be retro or pastiche – akin to this thesis, Daphne Oram and Delia Derbyshire were certainly looking to the future, not to the past, when they were creating modern sounds and composition. Graphic notation is a language, a form of communication via signs and symbols. Whilst it may be deemed as an experimental approach to Western musical notation,

it is just that. As a result of this research journey, the findings were twofold: firstly, there is a paucity of literature within the historical backstory of experimental sound and composition specifically regarding the women who revolutionised, inspired, and changed music and composition forever. The aim of this thesis was to address this paucity, contribute to the existing knowledge and raise awareness of the case studies, of Daphne Oram and Delia Derbyshire by way of transferring this knowledge and raising awareness through workshops and lectures on the Music BA (Hons) undergraduate and postgraduate degrees at the Liverpool Institute for Performing Arts and the Fine Art BA (Hons) undergraduate degree at the Liverpool School of Art, Liverpool John Moores University. Secondly, the thesis aim was to create a series of songs using a non-traditional Western musical notation system. The graphic notation was used to create a series of melodies which were then communicated to the Budapest Symphony Orchestra, resulting in a limited edition 10" LP record and a release through Apple Music and Spotify. There is no reason we should feel held back as musicians if we do not read traditional Western notation. Again, the thesis and practical work are continuing the work of Daphne Oram, particularly her drawn sound technique. To echo Oram, we must not walk a tightrope when creating art or music, the key is balance, and it is this equilibrium that has been cumulating throughout years of experience of existing as an artist between art and music and finally came to a crescendo when creating *Voices of Winter Palace* (2019). The permission to embrace the individuality of style and character when creating visual graphic scores to create a collection of songs was undoubtedly the result of discovering Daphne and Delia.

The significance of the research findings and the impact, and potential impact, of the findings, are that they demonstrate a rigorous approach to practice-led research, enabling future researchers to embrace the autoethnography, reflective practice and

practice-led research in relation to their research. It will enable future researchers to realise that there are alternative methods of creating music using graphic notations for example. The practice-led method approach is challenging traditional research methods and allows future researchers to push these boundaries. Discovering Daphne Oram's method of *Oramics* gave me the confidence to start this PhD research; the findings of my research will hopefully inspire and give confidence to those researchers who want to pursue experimental musical notational practices to publish work, unrestricted by strict Western notational methods of composition.

As stated throughout, it was Leo and Gwen Petersen's story that provided the catalyst and the framework for this thesis and practical work. Now, Carl Petersen is a central figure to the thesis and his passing in April 2022 has given the thesis and practical work new meaning. The thesis is dedicated to Carl Petersen. Gwen Petersen and I have both experienced (and in my case, continue to experience) the discovery of new and innovative ways of communicating which challenged the norms of what society, indeed a patriarchal society, expects us as women, to do; both were and are occupying the space in between what language is and what it can become. The intimate connection between Gwen Petersen and my approach to challenging these communication methods is celebrated and will continue to be part of my postdoctoral research. Not only does this thesis continue the work of Daphne Oram, but it also centres upon women's occupation of the unconventional spaces of experimental musical composition, language, and communication.

The current research journey ends where my narrative began; I visited Denmark to present my research at the University of Copenhagen in February 2024.

Just as my father returned my grandparent's rings to the fjord at my grandfather's birthplace, I returned with their story and my practice-led research to push the boundaries and conventions of academic research and extend the possibilities for future researchers.

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Eva Petersen Commissioned Work

Petersen, E. & Sergeant W. (2013) Mojo Magazine Issue 237, August 2013, CD
We're with The Beatles, Don't Bother Me,
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Eva Petersen Exhibition / Installation / Live Performance. *Voices of Winter*

Palace (2019)

Adolf Kyrkyas Church, Park Lane, Liverpool

Eva performed a live performance of the limited-edition EP accompanied by choir and piano with an accompanying exhibition of the graphic scores which were projected over the performance space for a completely immersive experience at the church in which the leading characters Leo Petersen and Gwen Williams first met.

9/Yes, I Am Looking Straight At You (2016) Live performance, installation and exhibition of Eva's visual scores and vocal works. As a singer and performer, Eva created a notation system which she used purely as an aide memoir when rehearsing melody and lyrics before vocal performances. Throughout her experience as a singer and artist, she has developed her notation system as a piece of art in its own right and creates vocal compositions which she then performs live within a resonant site-specific environment. The singing voice is not an instrument. When singing, the voice emits different tones, colour, depth, emotion, pitch, and volume each time, similar to the visual scores Eva creates. Unlike the end production of recording studio vocal recordings, the live performances are stripped bare and are different each time they are performed. Unlike her previous performances as a musician, Eva does not use lyrics as part of her composition. The vocal performances are rich melodious layered vocal harmonics which reflect the movement and depth of her visual scores. *9* is a collection of visual scores created in response to the vocals on Eva's album *Emerald Green Eyes* (2012). The visual scores were performed by Eva live using a VOX amplifier within the exhibition space.

Colin Fallows Ensemble

In 2013, I was invited by Prof. Colin Fallows, to participate in regular rehearsals towards a series of sound performance productions as a member of the Colin Fallows Ensemble. This work with an artist's professional practice involved entering a process of questioning and deconstructing the conventions of electric guitar playing and opened up new areas of enquiry. The Colin Fallows Ensemble is an

electric guitar group dedicated to the performance of multi-layered soundworks, dense with microtones which generate numerous overtones through bespoke tuning to resonant performance spaces. The CFE performed *Reverbs* (2015–17), a series of related compositions by Fallows for prepared and treated electric guitars, at Wilkinson Gallery, London - staged in collaboration with Boudicca fashion house, and recorded in ambisonic surround-sound by the British Library Sound Archive for audio publication. Through participating in this rigorous rehearsal and performance series, I was encouraged to embrace sound in relation to space. I developed the capacity to perform artwork in the context of the creative possibilities of composition for resonant spaces and the generation of overtones.

Colin Fallows Ensemble Performances

Fallows, C. (2015), *Winter Reverb*, Colin Fallows Ensemble performance (with

Fallows, C., Hughes, B., Petersen, E. & Hill, S.). Composed, arranged, directed and produced by Fallows, C. Wilkinson Gallery, London. 16/01/15

Fallows, C. (2015), *Summer Reverb*, Colin Fallows Ensemble performance (with

Fallows, C., Hughes, B. & Petersen, E.). Composed, arranged, directed and produced by Fallows, C. Wilkinson Gallery, London. In collaboration with Boudicca Fashion House (Broach, Z. & Kirkby, B., Royal College of Art, London). 23/06/15

Fallows, C. (2015), *Autumn Reverb*, Colin Fallows Ensemble performance (with

Fallows, C., Hughes, B. & Petersen, E.). Composed, arranged, directed and produced by Fallows, C. Wilkinson Gallery, London. In collaboration with Boudicca Fashion House (Broach, Z. & Kirkby, B., Royal College of Art, London) and the British Library Sound Archive. In association with East End Night / Frieze Art Fair. 14/10/15

Fallows, C. (2015), *Winter Reverb II*, Colin Fallows Ensemble performance (with Fallows, C., Hughes, B., & Petersen, E.). Composed, arranged, directed and produced by Fallows, C. Wilkinson Gallery, London. In collaboration with Boudicca Fashion House (Broach, Z. & Kirkby, B., Royal College of Art, London) and the British Library Sound Archive. Catalogue/programme with accompanying essay by Michael Bracewell. 15/12/15

Fallows, C. (2017) *Light Night Reverbs*, Colin Fallows Ensemble performance (with Fallows, C., Hughes, B., Lawrie, L., & Petersen, E.). Composed, arranged, directed and produced by Fallows, C. Gallery A, Special Exhibitions, Walker Art Gallery, Liverpool. In association with LightNight, Liverpool. 19/05/17

Fallows, C. (2017) *Analogue*, Colin Fallows Ensemble performance (with Fallows, C., Hughes, B., Lawrie, L. & Petersen, E.). Composed, arranged, directed and produced by Fallows, C. Wilkinson Gallery, London. In collaboration with Boudicca (Broach, Z. & Kirkby, B.) and the British Library Sound Archive. Catalogue/programme with accompanying essay by Michael Bracewell. As part of *The Expanded Analogue: Re-thinking the*

Analogue through Technology, Art and Philosophy conference hosted by Kingston University in conjunction with Wilkinson Gallery, London. 29/06/17

Fallows, C. (2017) *Spring Reverb*, Colin Fallows Ensemble performance (with Fallows, C., Hughes, B., Lawrie, L., Petersen, E. & Chambers, A.). Composed arranged, directed and produced by Fallows, C. Wilkinson Gallery, London. In collaboration with Boudicca (Broach, Z. & Kirkby, B.). In conjunction with *The Last of England* paintings by Derek Jarman; Catalogue/programme with accompanying essay by Michael Bracewell. In association with Art Night curated by the Whitechapel Gallery, London. 01/07/17

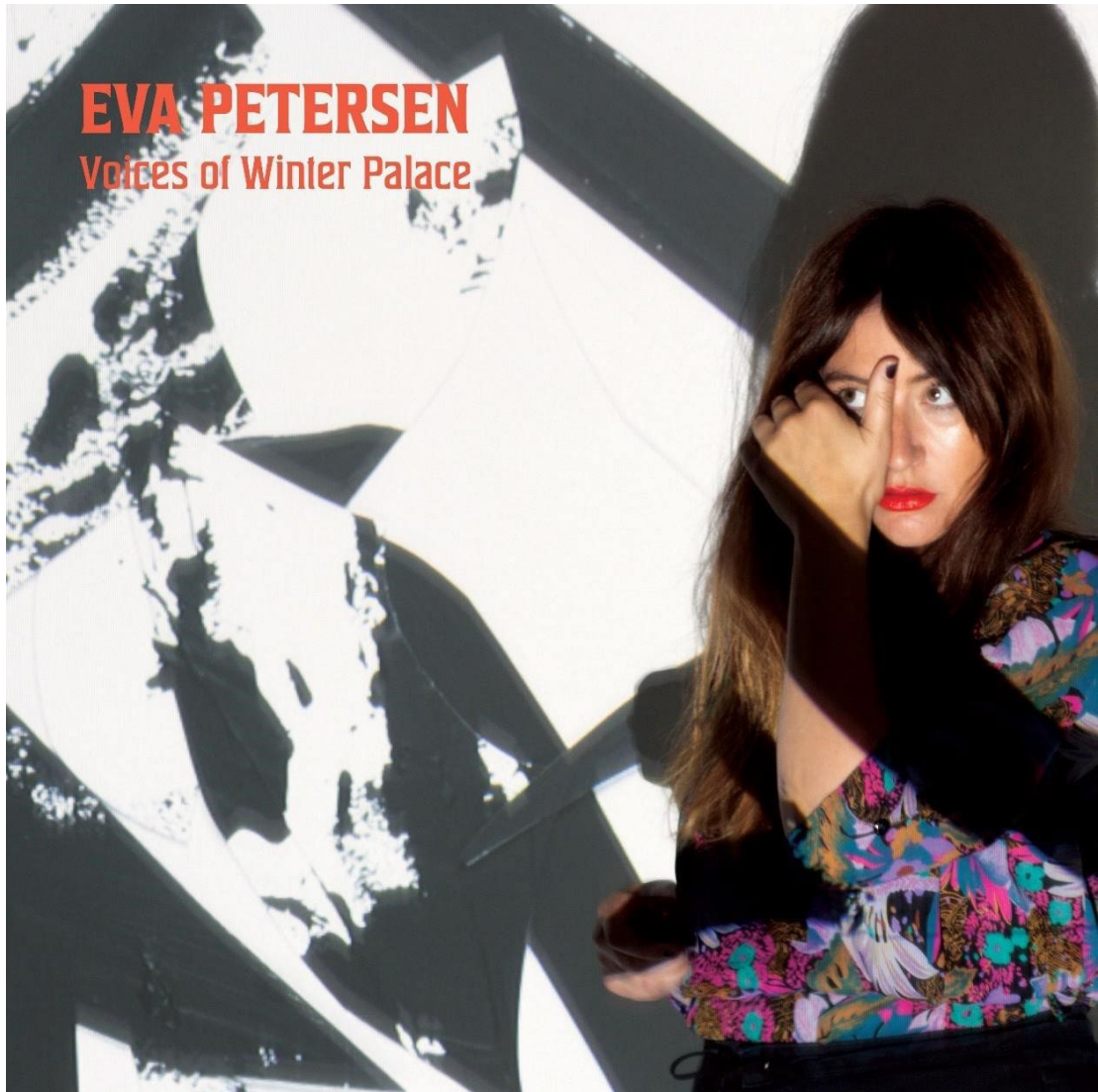
Colin Fallows Ensemble Audio Recordings

Fallows, C. (2019) *Reverbs*, Colin Fallows Ensemble vinyl LP. Electric guitar group performance recordings (with Fallows, C., Hughes, B., Lawrie, L. & Petersen, E.). Composed, arranged and produced by Fallows, C. (2015, 2017, 2019). Recorded live at Wilkinson Gallery, London. Mastered from original ambisonic recordings made by the British Library. Liner notes by Michael Bracewell. Limited edition of 300. 180-gram audiophile vinyl. Audio Research Editions, ARELP103, UK.

Fallows, C. (2019) *Reverbs*, Colin Fallows Ensemble CD. Electric guitar group performance recordings (with Fallows, C., Hughes, B., Lawrie, L. & Petersen, E.). Composed, arranged and produced by Fallows, C. (2015, 2017, 2019). Recorded live at Wilkinson Gallery, London. Mastered from original ambisonic recordings made by the British Library. 12-page booklet with liner notes by Michael Bracewell. Limited edition of 500. Audio Research Editions, ARECD103, UK.

Fallows, C. (2020) *Reverb Variations 1 & 2*, Colin Fallows Ensemble vinyl LP. Electric guitar group performance recordings (with Fallows, C., Hughes, B., Lawrie, L. & Petersen, E.), Composed, arranged and produced by Fallows, C. (2015, 2017, 2020). Recorded live at Wilkinson Gallery, London. Mastered from original ambisonic recordings made by the British Library. Limited edition of 300. White vinyl. Audio Research Editions, AREMLP103, UK.

Voices of Winter Palace (2019) Recordings



Eva Petersen.
Voices of Winter Palace (2019). LP Record Released:
January 2020
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EVA PETERSEN

Voices of Winter Palace

Side One
Leo (Part 1)
Voices of Winter Palace (Part 1)
The English Woman (Part 1)
Voices of Winter Palace (Part 2)

Side Two
The Fur Coat
The English Woman (Part 2)
Leo (Part 2)

Research, concept, theme and graphic scores by Eva Petersen.
Lyrics and vocal melodies composed by Eva Petersen.
Orchestral music composed and arranged by Mat Gregory.

Music performed by:
Vocals – Eva Petersen.
Guitars and Piano – Ben Gordon.
Additional Guitars – Mat Gregory.
Drums – Péter Szendófi.
Bass Guitar – Péter Szuna.
Piano and keyboard – Áron Romhányi.

Budapest Symphony Orchestra and chamber choir.
Conductor – Dániel Dinyés.
Orchestra Manager – Rebeka Drahos.
Musical Director for the live orchestral recordings – Ben Gordon

Eva Petersen vocals recorded by Andrea Wright at
Parr Street Studios, Liverpool.
Orchestra recorded at Tom Tom Studios, Budapest.
Chamber choir recorded at Rottenbiller Studio, Budapest.
Mixed by Bill Ryder-Jones at Yawn Studios, West Kirby.
Mastered by Karl Daniel Lidén at Tri-Lamb Studios, Stockholm.
Studio Production by Mat Gregory and Ben Gordon.

Executive Producers: Eva Petersen and Mat Gregory.
Voices of Winter Palace is an Eva Petersen special project
for Rotolock Records.

Supported by:
Arts Council England.
Professor Colin Fallows.
Institute of Art and Technology, Liverpool John Moores University.
Mat Gregory.
Ben Gordon.
Budapest Symphony Orchestra.

Thanks to:
Professor Colin Fallows, Dr Siân Lincoln, Bee Hughes,
Milos Simpraga, PTMadden, Dr Amel Alghrani, Rebeka Drahos,
Ben Gordon, Arts Council England.

Special thanks to:
Gwen and Leo Petersen, Raphael and Leo, John Duffy,
Barbara and Carl Petersen, Christian Petersen,
Karin Bergström and Ossian Gregory Bergström,
Maria Bridges, Chris and Steve Edwards.

Theme, graphic scores, lyrics, vocal melodies
and vocal recordings © 2019 Eva Petersen.
Orchestral compositions © 2019 Mat Gregory.
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Rotolock Records
ROTOMLP101



Eva Petersen.
Voices of Winter Palace (2019). LP Record Released:
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To listen to Side One, click the link below: [Voices of Winter Palace \(2019\) Side One](#) Eva Petersen.
Voices of Winter Palace (2019). LP Record Released:
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To listen to Side Two, click the link below: [Voices of Winter Palace \(2019\) Side Two](#) Eva Petersen.

Voices of Winter Palace (2019). LP Record Released:
January 2020 © & © 2020 Rotolok Records.

Voices of Winter Palace (2019) Lyrics

Leo (Pt. 1)

A Fall from the stars,
Straight into his Mother's arms, The moon played a part, In
the storm to the calm.

Leo,
I'll whisper gently to you, Leo,
Will you listen to clues? Will you ever promise, You'll love her to the end?

Leo,
Remember you will need her, Remember that she saved you, When nobody cared.
Swim,
Through the wandering tides, Watch,
The impeccable lies, Don't,
Overshadow the prize. Leo,
I'll whisper gently to you, When you see the sun rise, It's time to go.

Leo,
Remember that she saw you,
The golden rings she threw down, Deep into the blue.

Eva Carlsdóttir Petersen.
Leo (Pt. 1)

Voices of Winter Palace (2019)
© Eva Petersen.

Voices of Winter Palace (Pt. 1)

The home I once knew, Winter Palace, Bridget,
she knew, One time we met.

Bridget, she knew, Fall as she moves, Blaze in my head, Late Morning it grew,
Chant through my head.
Voices... of Winter Palace, All you dream, A
wondrous place.

Heart set to raise, Back to the start, Blind through the ride, Into the dark.
Fall as You Are, Into my arms,
Lightning grows close, Lay down your palms.

Voices... of Winter Palace, All you dream, A
wondrous place.

Eva Carlsdóttir Petersen.
Voices of Winter Palace (Pt. 1)
Voices of Winter Palace (2019) ©
Eva Petersen.

The English Woman (Pt. 1)

See her standing, All alone,
Snow falls round her, Send her home.
Winter Voices, Call her name, Ride the wave, To Leo's rain.

A stranger you remain, No one Will
say your name.
English Woman, Can you hear?
Lay your head down, Close your eyes.
Leo's here,
He is watching you, He will wait, He
will find you.

A stranger you remain. No
one
Will say your name.
Golden rings will fall, When you reach the end, And They will Know
your name.

English Woman, Under milky skies, A
stranger you remain.

Eva Carlsdóttir Petersen.
The English Woman (Pt. 1)
Voices of Winter Palace (2019) ©
Eva Petersen.

Voices of Winter Palace (Pt. 2)

You follow the stars, The cusp of the sea, Black to white lines, Led you to me.
Descending, you fall, Throw down the rings, He now hears you sing. Voices...of
Winter Palace, Voices...of Winter Palace.

Eva Carlsdóttir Petersen.
Voices of Winter Palace (Pt. 2)
Voices of Winter Palace (2019) ©
Eva Petersen.

The Fur Coat

Sapphires and rubies, Don't inspire me to sing, But what is our love Without
diamond rings?

I saw you looking, Through sparkling glass,
The streetlights were flickering, The fur coat, at last.

Wrapped up Together, Your arms Round my
waist, And each day Without you,

I don't want to face.

What will become of Our wonderous place? The night times
Were filled with

Our dancing and chase.

I saw you looking, Through sparkling glass,
The streetlights were flickering, The fur coat, at last.

Eva Carlsdóttir Petersen. *The
Fur Coat*
Voices of Winter Palace (2019) ©
Eva Petersen.

The English Woman (Pt. 2)

A stranger you remain, But I, will say your name.

English Woman, Can you hear me? Lay your head down, Close your eyes
I am here,
I am watching you, I will wait, I
will find you.

A stranger you remain,
But who will say your name?

Eva Carlsóttir Petersen.
The English Woman (Pt. 2)
Voices of Winter Palace (2019) ©
Eva Petersen.

Leo (Pt. 2)

Shimmer, shimmer city lights,
The ships grow smaller, in the night, Chaos sounds,
Iron falls,
Black, blue velvet skies are born. Smoke rings dance before your face, Leave
behind forgotten place,
Eyes are heavy look around, Don't hesitate Don't
make a sound.

Leo, don't you wait, Heavy heart, Sail
away,
Who are you now?

Heavy, heavy winter glow, Icy rooftop from below, Sense so close,
So far away,
Can you stand another day?

Leo don't you say, Wait behind, Pave the way. Leo
don't you say, Wait behind, Pave the way.

Eva Carlsdóttir Petersen.
Leo (Pt. 2)
Voices of Winter Palace (2019) ©
Eva Petersen.

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Fig. 1
Gwen and Leo Petersen (1950). Photograph.



Fig. 2
Esturoy, Faroe Islands, the birthplace of Leo Petersen. Photograph.



Fig 3.
Carl Petersen (1953). Photograph.



Fig. 4
Esturoy, Faroe Islands Photograph.



Fig. 5
Esturoy, Faroe Islands Photograph.



Fig. 6
Esturoy, Faroe Islands. Photograph.



Fig. 7
Leo Petersen (1954). Photograph.



Fig. 8
Fur Coat, Gwen Petersen, (1985). Photograph.



Fig. 9
The English Woman, Gwen Williams (1947). Photograph.



Fig. 10
Eva Petersen
Voices of Winter Palace (2019) LP Record with Visual Score Released:
January 2020
© & © 2020 Rotolok Records.

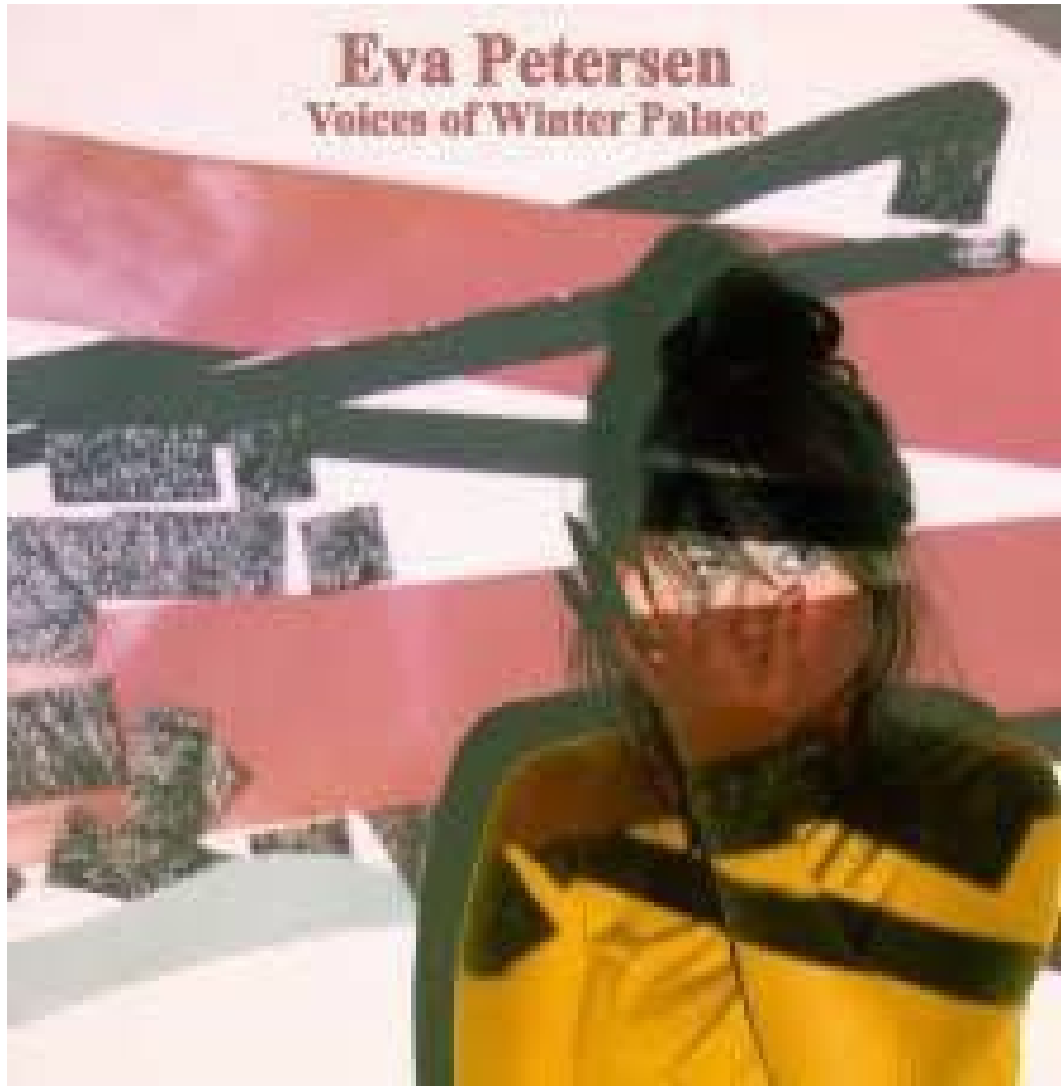


Fig. 11
Eva Petersen
Voices of Winter Palace (2019) Single, Record with Visual Score ©
& © 2020 Rotolok Records.



Fig. 12
Eva Petersen
Voices of Winter Palace (2019) LP Record with Visual Score, inner sleeve Released:
January 2020

© & © 2020 Rotolok Records.



Fig. 13
Eva Petersen
Voices of Winter Palace (2019) *Leo* (Pt. 1) LP Record inner sleeve artwork, Visual Score Released:
January 2020

© & © 2020 Rotolok Records.



Fig. 14
Eva Petersen
Voices of Winter Palace (2019) *Voices of Winter Palace* (Pt.1) LP Record with Visual Score Released:
January 2020

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Fig. 15
Eva Petersen
Voices of Winter Palace (2019) *The English Woman* (Pt.2) LP Record with Visual Score Released:
January 2020

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Fig. 16
Eva Petersen
Voices of Winter Palace (2019) *Voices of Winter Palace* (Pt. 2) LP Record with Visual Score
Released: January 2020

© & © 2020 Rotolok Records.



Fig. 17
Eva Petersen
Voices of Winter Palace (2019) The Fur Coat LP
Record with Visual Score Released: January 2020 ©
& © 2020 Rotolok Records.



Fig. 18
Eva Petersen
Voices of Winter Palace (2019) The English Woman (Pt. 2) LP Record with Visual Score Released:
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Fig. 19
Eva Petersen
Voices of Winter Palace (2019) Leo (Pt. 2)
LP Record with Visual Score Released:
January 2020
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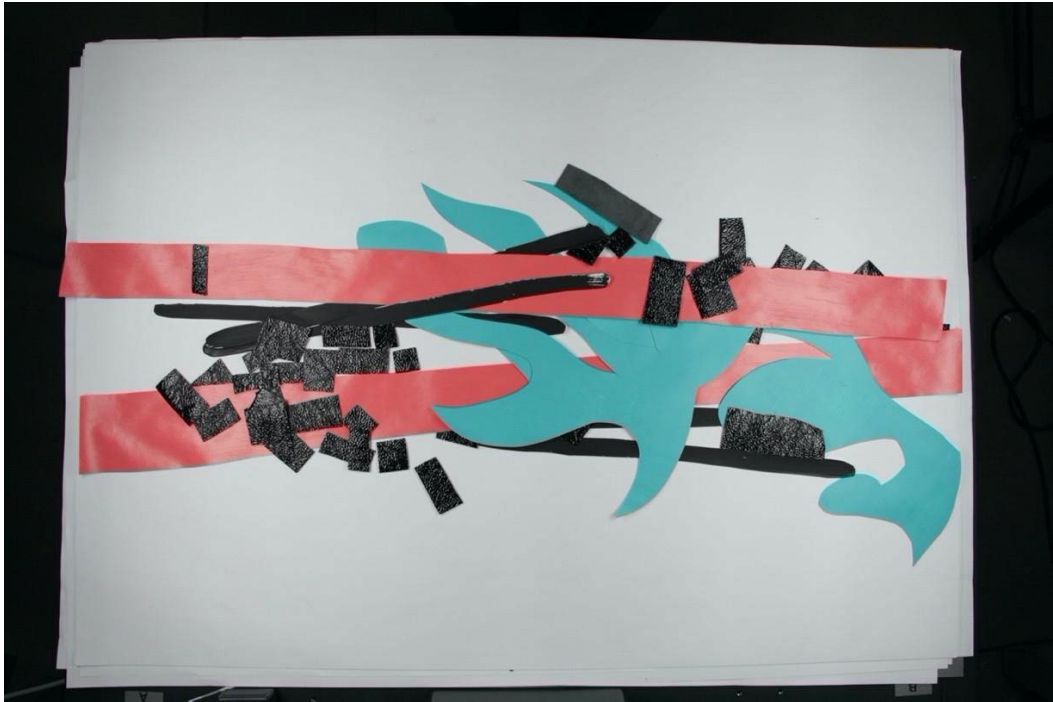


Fig. 20
Eva Petersen
Voices of Winter Palace (2019) Creating the graphic scores December 2019.



Fig. 21
Eva Petersen (2018)
Creating the Visual Score for *Voices of Winter Palace*
Photograph of graphic score light projected onto white background.



Fig. 22
Eva Petersen (2017) Graphic Score key 1
Pencil and acrylic on paper. Collection of the artist.



Fig. 23
Eva Petersen (2017) Graphic Score key 2
Pencil and acrylic on paper. Collection of the artist.



Fig. 24
Eva Petersen (2017) Graphic Score key 3
Pencil and acrylic on paper. Collection of the artist.



Fig. 25
Eva Petersen (2017) Graphic Score key 4
Pencil and acrylic on paper. Collection of the artist.



Fig. 26
Eva Petersen (2017) Graphic Score key 5
Pencil and acrylic on paper. Collection of the artist.



Fig. 27
Eva Petersen (2017) Graphic Score key 6
Pencil and acrylic on paper. Collection of the artist.



Fig. 28
Eva Petersen (2017) Graphic Score key 7
Pencil and acrylic on paper. Collection of the artist.



Fig. 29
Eva Petersen (2017) Graphic Score key 8
Pencil and acrylic on paper. Collection of the artist.



Fig. 30
Eva Petersen (2017) Graphic Score key 9
Pencil and acrylic on paper. Collection of the artist.

Fig. 31
Janet Cardiff (2001) The Forty Part Motet
40 loudspeakers mounted on stands, placed in an oval, amplifiers, playback computer 14 min. loop
with 11 min. of music and 3 min. of intermission.

Fig. 32
Akio Suzuki
Space in the Sun, (1988) Photo by Junko Wada.

Appendices

Appendix 1: Glossary.

Acousmètre

Term coined by the French composer Michel Chion, a voice-character specific to cinema that derives mysterious powers from being heard and not seen.

Audiovison

French composer Michel Chion's term used for his study of the relationship between sound and image in audio-visual perception.

BBC Radiophonic Workshop

Set up in 1958, the original workshop was known for its pioneering use of electronic sounds for television and radio, most famously, Delia Derbyshire's Dr. Who theme.

Cinema pour l'oreille

French term coined by composer Michel Chion – meaning cinema for the ears, without visuals.

Collage

Also known as montage, the putting together of sounds which can be previously taken from previous compositions. For example, sampling sound from vinyl and 'gluing together'.

Diegetic sound

Sounds directly related to the visual in cinema.

Echo chamber

A hollow piece recording piece of equipment to create an echo like sound.

Graphic Score

Scores by 20th-cent. avant-garde composers which employ drawn visual analogues in order to convey the composer's intentions regarding the required sounds and textures.

Immersive sound

Noting or pertaining to digital technology or images that deeply involve one's senses and may create an altered mental state.

Intonarumori

Large speaker system comprising of phonographs developed by Luigi Russolo in 1913.

Magnetic tape

A plastic tape coated with iron oxide for use in magnetic recording.

Musique Concrète

Developed by the French Composer Pierre Schaeffer in Paris in the 1940's, a form of electroacoustic music that is made in part from acousmatic sound. In addition to sounds derived from musical instruments or voices, it may use other sources of sound such as electronic synthesizers or sounds recorded from nature. experimental technique of musical composition using recorded sounds as raw material. The fundamental principle of Musique Concrète lies in the assemblage of various natural sounds recorded on tape to produce a montage of sound.

Non-diegetic sound

Sound not directly linked to the visual in cinema.

Oramics

Technique developed by Daphne Oram, British composer and electronic musician, Studio Manager at the BBC Radiophonic Workshop - drawn sound technique, the method of music composition and performance was intended by Oram to allow a composer to be able to draw an "alphabet of symbols" on paper and feed it through a machine that would, in turn, produce the relevant sounds on magnetic tape.

Ostinato

A continuous repeated phrase or note.

Phonograph

Introduced in 1877 for the playing and recording of sound.

Reverberation

The collection of reflected sounds from the surfaces in an enclosure like an auditorium – also known as reverb.

Synthesiser

Machine that electronically modifies sound.

Sound Art

Diverse group of art practices that considers wide notions of sound, listening and hearing as its predominant focus.

Sonic boom

Sound heard when an object travels faster than the speed of light.

Studio D'Essai

Club founded in 1942 by composer Pierre Schaeffer in Paris, the center for the French Resistance Movement in French Radio, following Schaeffer's work with Studio D'Essai he was credited as the originator of the theory and practice of Musique Concrète.

Trautonium

Monophonic electronic musical instrument invented about 1929 by

Friedrich Trautwein in Berlin, used by composer Oskar Sala in Alfred Hitchcock's film *The Birds* to create bird sounds.

Timbre

Tone colour and quality of a musical note.

Appendix 2: Eva Petersen Recordings

Eva Petersen (with Will Sergeant) *Emerald Green Eyes*



Fig. 1

Eva Petersen, *Emerald Green Eyes* (2012) (CD recording). Eva Petersen, *Jewelled Moon* (2012) (iTunes download).

Emerald Green Eyes was a collaboration with Echo and the Bunnymen guitarist Will Sergeant. The album was influenced by Ennio Morricone's film soundtracks and each song represented a film scene.

Released: Nov 23, 2012
© 2012 Porcupine Records

Tracklisting:

1. Jewelled Moon
2. Too Late For Tears
3. Little White Lies
4. Emerald Green Eyes
5. Femme Fatale
6. Don't Be Shy
7. Sunday Love Affair
8. Melody

Eva Petersen *Jewelled Moon*

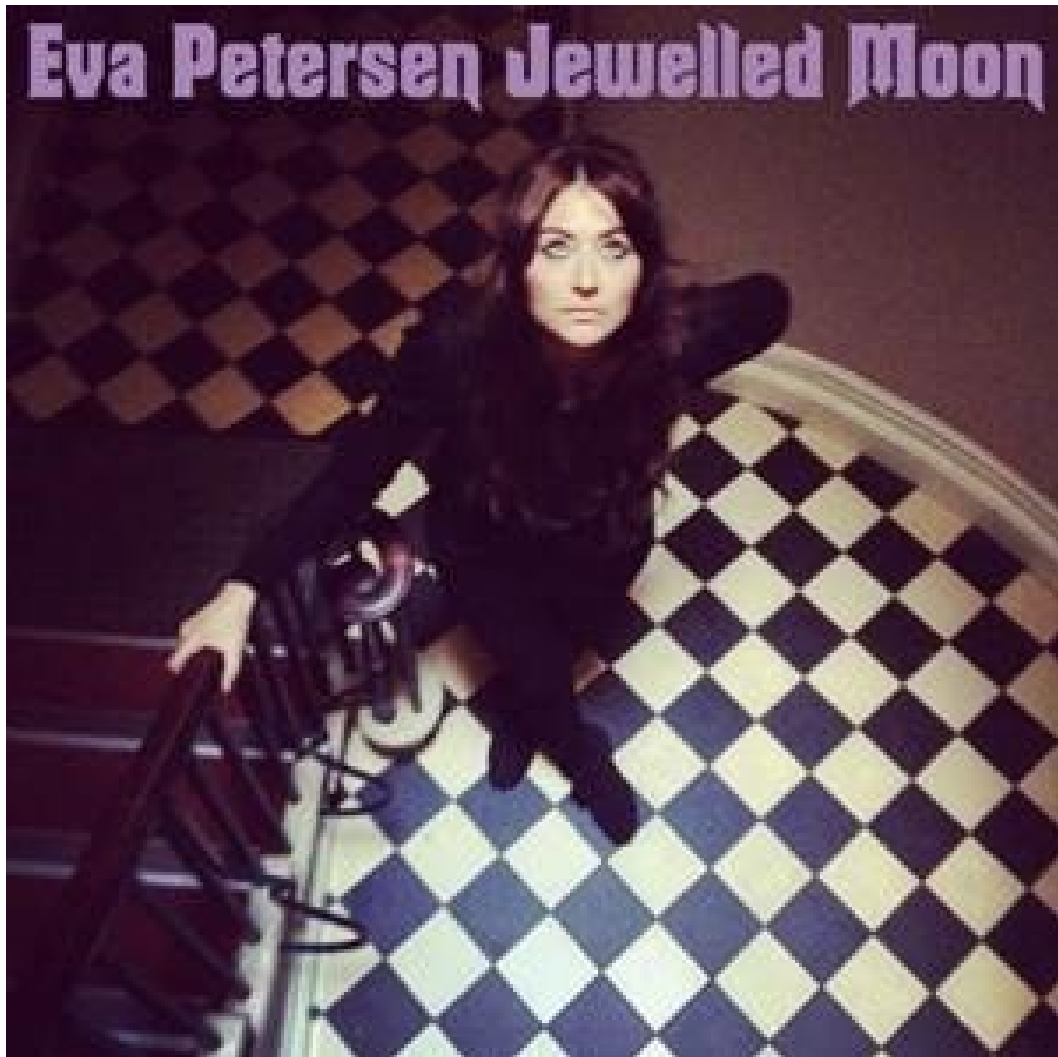


Fig. 2

Eva Petersen

Jewelled Moon (2012) (iTunes download).

Released on iTunes as a download only, *Jewelled Moon* is the first track on the album *Emerald Green Eyes*. As with the album, my collaborative methods with Will Sergeant and the experimental approach we took with the single influenced *Rider of The Red Roses*, such as the way in which I composed the sounds using my visual scoring.

Released: Sep 28, 2012

© 2012 Porcupine Records Track listing: Jewelled Moon

Eva Petersen – Version of The Beatles' *Don't Bother Me*

Fig. 3

Eva Petersen Version of The Beatles'
Don't Bother Me CD recording.

Mojo Magazine, We're With the Beatles Issue 237, August 2013 <http://www.mojo4music.com/3198/mojo-issue-237-august-2013/> <https://pl.rateyourmusic.com/release/comp/various-artists/were-with-the-beatles/>

The accompanying CD with the August 2013 issue of Mojo Magazine consisted of the band's 1963 album revisited. Will Sergeant and I collaborated on a cover of the George Harrison track *Don't Bother Me*. We took an experimental approach to the song so it did not sound like a Beatles cover version. Will Sergeant's instantly recognisable guitar sounds transformed this track into an exciting take on a classic Beatles track and sung by a female gave the song a new dimension. It is the experimental approach to sound throughout my publications which are reflected in *Rider of The Red Roses*. For example, my method of visual scoring and the dark, haunting sounds both musically and vocally we used throughout the track echo within the practice-led research.

Appendix 3: Contextual Images

Fig. 1
Luigi Russolo, (c. 1913) Getty Images.

Fig 2.
Luigi Russolo, (c.1913) Getty Images.

Fig. 3
Luigi Russolo *Intonarumori* (c. 1913) Getty Images.

Fig 4.

Luigi Russolo, Ugo Piatti, and the Intonarumori, 1913.

Photograph first published in Russolo's *The Art of Noises*, futurist manifesto, 1913.

Fig. 5
John Cage preparing a piano, (c.1954) Courtesy of the John Cage Trust.

Fig. 6
John Cage, David Tudor, Gordon Mumma Variations V (1965) Courtesy
the John Cage Trust.

Fig. 7
John Cage, *Variations III, No. 14* (1992).
MoMA, Manhattan, New York. ©
2023 John Cage Trust.

Fig. 8
John Cage, *Changes And Disappearances* (1979-82)
#31 from 35 related colour etchings with photo etching, engraving and dry point in two impressions
each, 11 x 22".
© 2023 John Cage Trust. MoMA, Manhattan, New York.

Fig. 9
John Cage, *New River Watercolour Series 1, #5* (1988).
© 2023 John Cage Trust. MoMA, Manhattan, New York.

Fig. 10
John Cage, *River Watercolor, Series IV, #4* (1988) in 'Wabi Sabi in the West' ©
2023 John Cage Trust..
A.V.C. Contemporary Arts Gallery, New York.

Fig. 11
Jean (Hans) Arp (1886),Untitled (Collage with Squares Arranged according to the Laws of Chance)
Torn-and-pasted paper and coloured paper on coloured paper, 19 1/8 x 13 5/8" (48.5 x 34.6 cm).
MoMA, Manhattan, New York.

Fig. 12
Taken from Sauer, T (2019, p.290).

Fig 13.
Kandinsky, W. (1923), Composition 8 Oil on canvas 55
1/4 x 79 inches (140.3 x 200.7 cm).
© 2023 Artists Rights Society (ARS), New York/ADAGP, Paris.
Solomon R. Guggenheim Museum, New York, Solomon R. Guggenheim Founding Collection.

Fig. 14
Kandinsky, W (1922), No. III, Die Kleine Welten, four-color lithograph, IO
15116 x 9 1/16" UNL- F. M. Hall Collection. MoMA, Manhattan, New York.

Fig 15
Kandinsky, W. (1926) Three Sounds
Oil on canvas
23 3/4 x 23 1/2 inches (60.3 x 59.7 cm).
© 2023 Artists Rights Society (ARS), New York/ADAGP, Paris.
Solomon R. Guggenheim Museum, New York Solomon R. Guggenheim Founding Collection.

Fig. 16
Kandinsky, W. (1936) Oil on canvas 44.7
x 76.8" (113.5 x 195.0cm)
Centre Pompidou, Paris, France.

Fig. 17
Klee, P. (1919), In The Style of Bach
Medium: Oil transfer drawing and watercolour on primed lined on cardboard Dimensions: 17.3 x 28.5
cm, Gemeentemuseum, the Hague, Netherlands.

Fig. 18
Bridget Riley (1978) Song of Orpheus IV acrylic on canvas
195.6 x 259.7cm
© 2011 Bridget Riley. All rights reserved. Karsten Schubert, London.

Fig. 19
Bridget Riley (1961) Movement in Squares tempera on hardboard
123.2 x 121.2cm
Arts Council Collection, Southbank Centre, London.
© 2016 Bridget Riley. All rights reserved. Karsten Schubert, London.

Fig. 20
Henri Matisse (1953), L'Escargot
Gouache on paper, cut and pasted on paper mounted on canvas Support: 2864 × 2870 mm frame:
2954 × 2962 × 100 mm. Tate Modern, London, UK.

Fig. 21
Henri Matisse (1947 Lagoon (La Lagon)
One from a portfolio of twenty pochoirs composition (irreg.): 16 9/16 x 25 3/8" (42 x 64.5 cm);
sheet: 16 9/16 x 25 11/16" (42.1 x 65.3 cm). MoMA, Manhattan, New York.

Fig. 22
Henri Matisse (1947) *The Swimmer in the Tank* composition (irreg.): 16 x 24
3/4" (40.6 x 62.8 cm); sheet: 16 5/8 x 25 11/16" (42.2 x 65.3 cm). MoMA,
Manhattan, New York.



Fig. 23
Daphne Oram
Daphne Oram Collection
Goldsmiths University of London.

Daphne Oram

Daphne Oram has lectured widely on the subject of Electronic Music - including lectures at Harrow, Cambridge, Roedean and to the Physical Society, and a lecture-recital at the Edinburgh Festival 1961. As well as composing music for Films, T.V. and the Theatre, she has herself appeared on T.V. and in Cinema Films. Last year she composed electronic tapes for the Treasures of the Commonwealth Exhibition at Burlington House and for the Electronics Centre at Mullard House. She recently received a second Galbenkian Foundation Grant for her research work. She is a member of the Executive Committee of the Composers' Guild.

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Fig 24
Daphne Oram Collection Goldsmiths University of London.



Fig. 25
The Oramics machine Daphne Oram Collection Goldsmiths
University of London.



Fig. 26
Daphne Oram Collection Goldsmiths University of London.

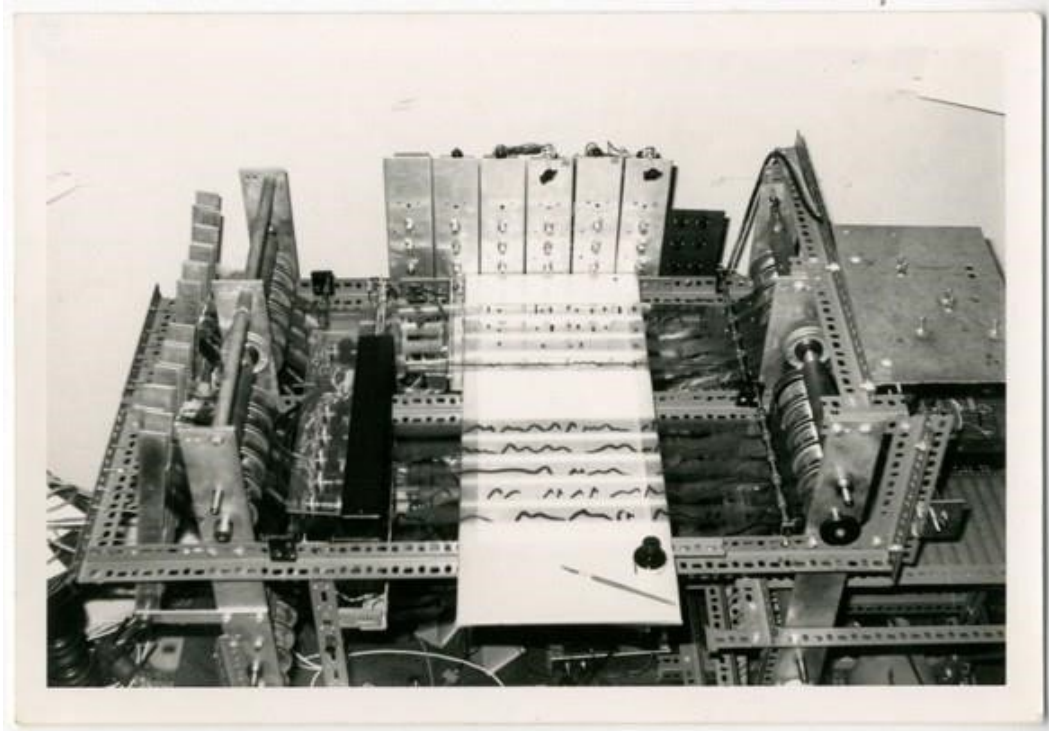


Fig. 27
Daphne Oram Collection Goldsmiths University of London.

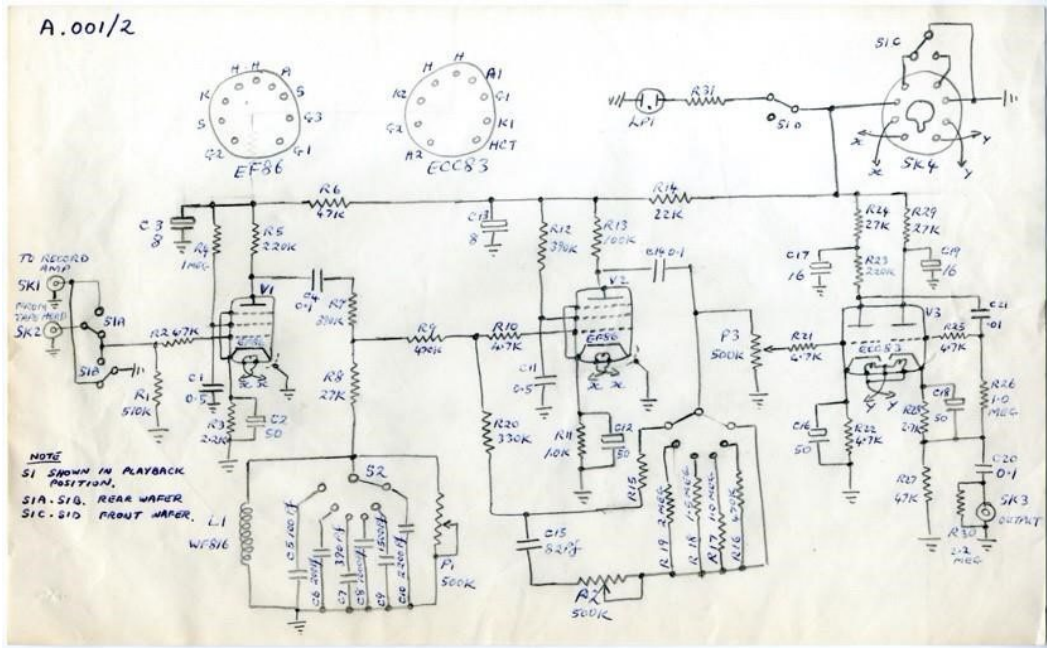


Fig. 28
Daphne Oram Collection Goldsmiths University of London.

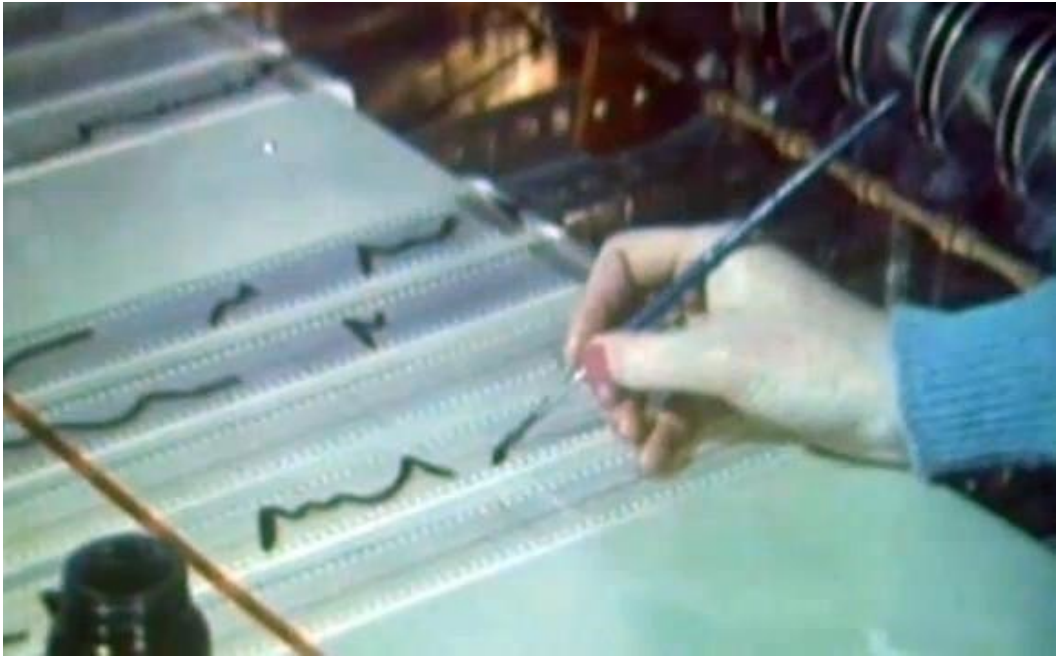


Fig. 29
Daphne Oram Collection Goldsmiths University of London.

Fig. 30
Delia Derbyshire
Delia Derbyshire at the BBC Radiophonic Workshop, 1965. BBC, London.

Fig. 31
Memo from Martin Esslin to Desmond Briscoe, 30 June 1964. Image: Delia Derbyshire Archive,
University of Manchester Library.

Fig. 32
Theme from *Dr Who* (1963) YouTube
Moonraker79 <https://www.youtube.com/watch?v=8NPJ6GMXM3E>.

Fig. 33
Caravaggio (1595–1598)
Medusa (Scudo con testa di Medusa) Canvas
60 cm × 55 cm (24 in × 22 in) Uffizi, Florence, Italy.

Fig. 34
Suspiria (1977) Director: Dario Argento. Production
company: Seda Spettacoli.

Appendix 4: Hidden Diaries

E.G.E. 2012

Jewelled Moon

① You are the new star
in the sky
You are the lunar
hypnotised
A jewelled moon
in your sky
A jewelled moon
set to die
A jewelled moon sky

} (1)
Ch.

② Treasured lost possession
Number 9
Running just like this
To the white
Ch.

Fig. 1
Eva Petersen
Hidden Diaries
Jewelled Moon (2012)

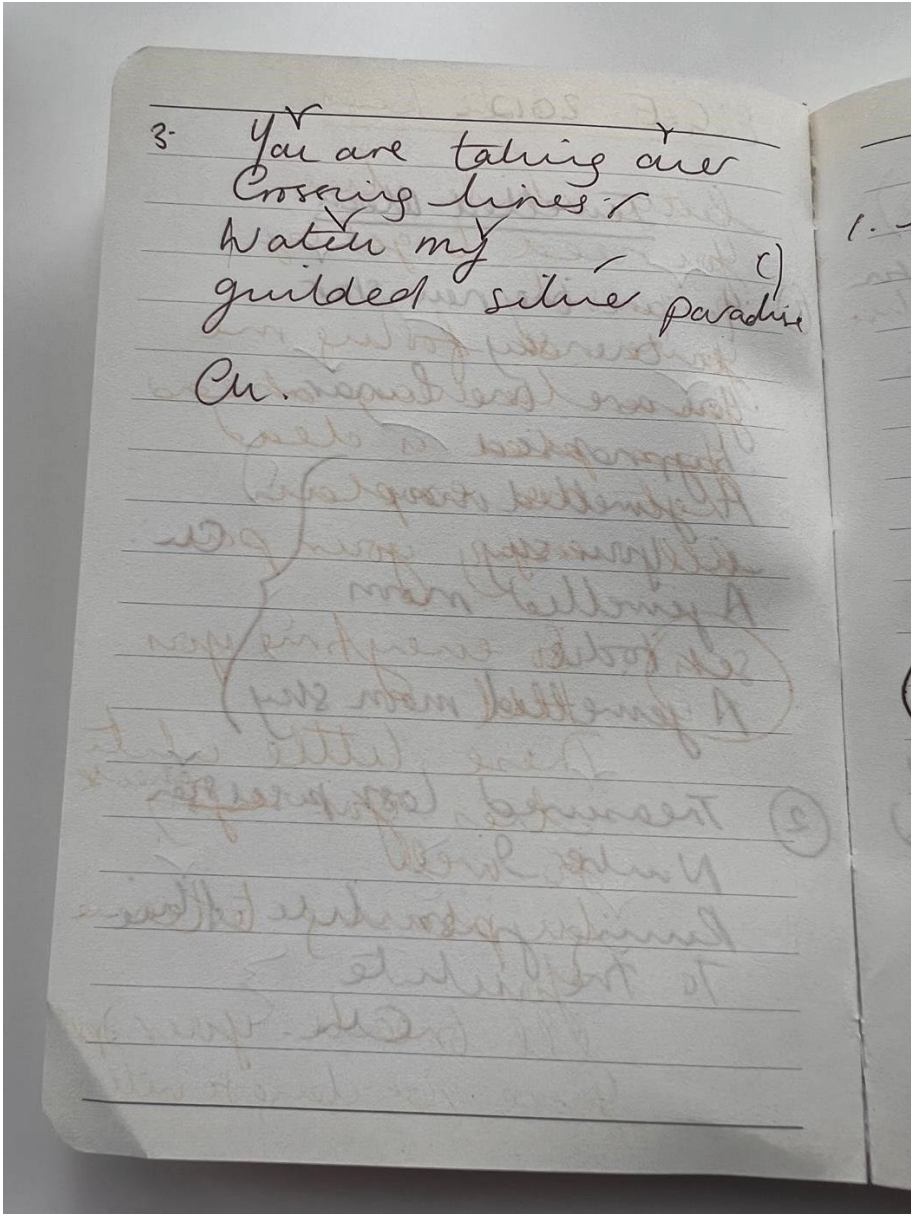


Fig. 2
Eva Petersen
Hidden Diaries
Jewelled Moon (2012)

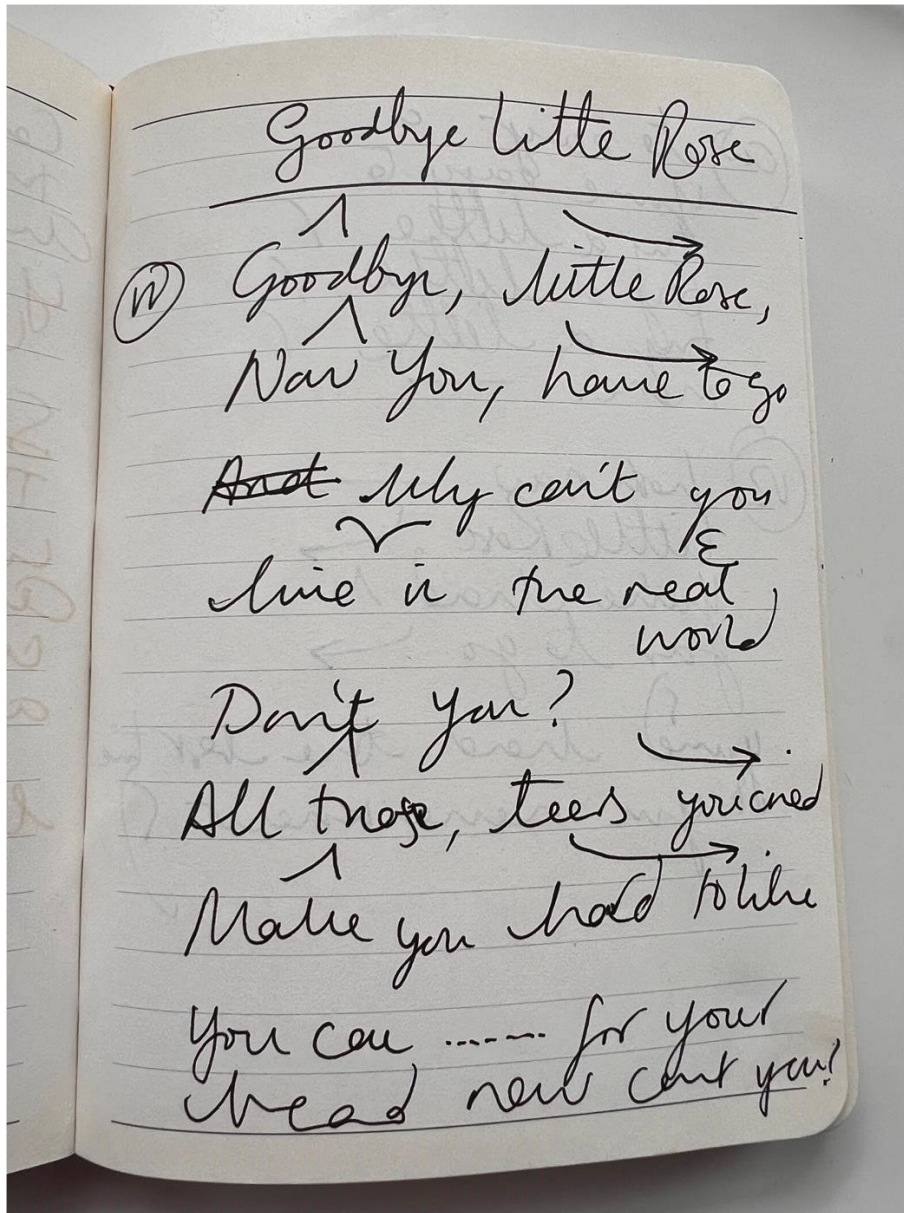


Fig. 3
Eva Petersen
Hidden Diaries
Goodbye Little Rose (2005)

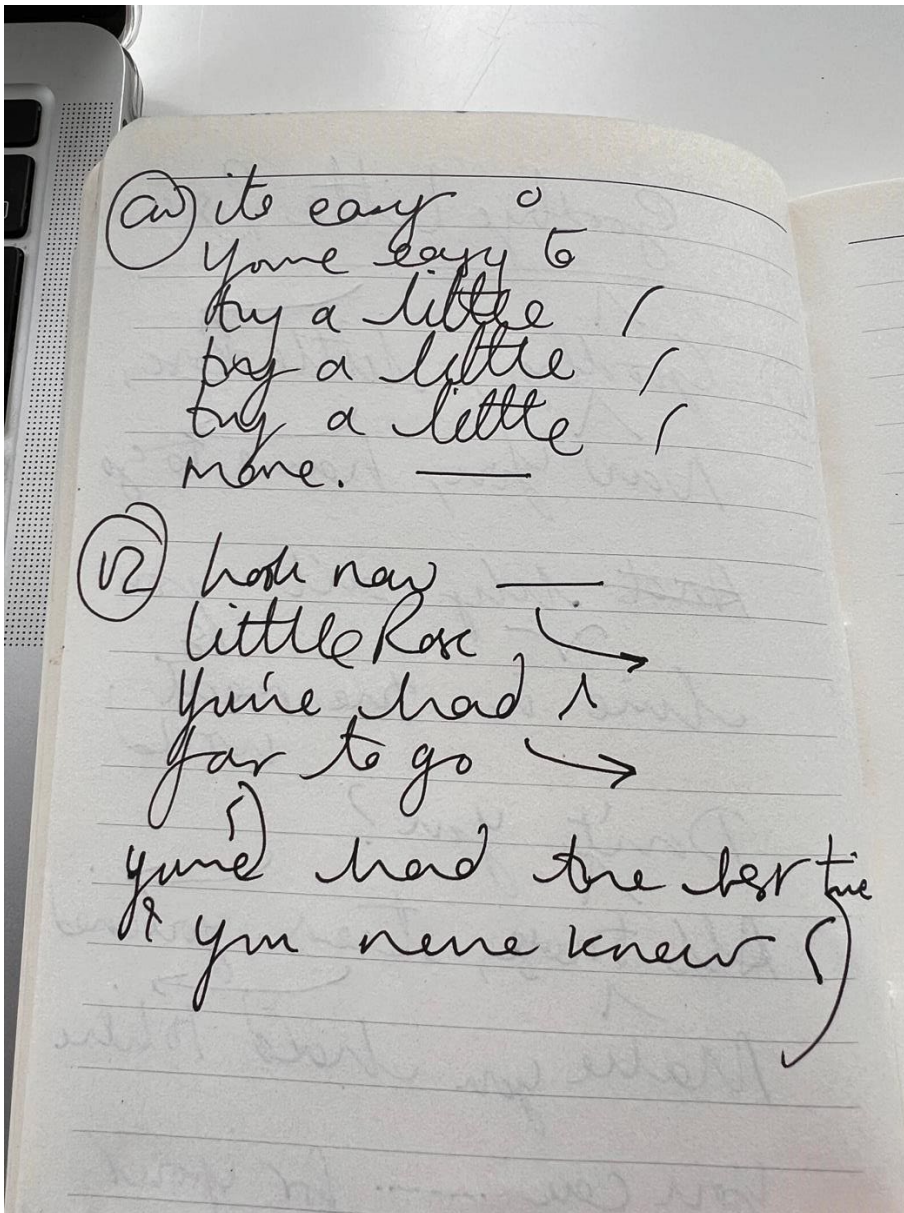


Fig. 4
Eva Petersen
Hidden Diaries Goodbye
Little Rose (2005)
Collection of the artist.

Appendix 5: Interviews with Brandon La Belle and David Toop

INTERVIEW QUESTIONS – BRANDON LABELLE

CONDUCTED BY: Eva Petersen

SCHOOL: Sonic Arts Postgraduate student at Liverpool John Moores University 2012-2013.

TITLE OF RESEARCH:

Chilling Sounds in Cinema: exploring avant-garde sound and noise as a suggestive medium in hammer horror films from 1955-1965.

1. How would you define Sound Art?

Art forms that utilize sound as a material and that investigate the conditions and potentialities of listening.

2. Hammer recruited avant-garde composers to compose such films as *Dracula*, and *The Quatermass Xperiment*, which were considered as mass-market films. Do you think there is more of an experimental approach to sound in cinema present day than during the 50's and 60's or do you think technology has quashed real possibilities of creating experimental sounds for a mass market?

I think there remains a dynamic potential for the use of sound in cinema; while forms of surround sound and digital sound have greatly enhanced this through what we might call a "special effects" approach, I remain very interested to see more experimental uses of this technology.

3. There appears to be a paucity of literature where sound as art in cinema is concerned – do you agree and why do you think this is?

Yes, I think you identify an area in need of deeper attention; though it would be important to define more clearly what "sound art" in cinema is, distinct from soundtrack or sound effect, for instance.

4. I think of sound as a perfume, intoxicating, and all encompassing. I read a quote from you regarding acoustic spatiality, namely that 'the relationality of sound brings us into a steady face of interferences, each of which announces the promise or problematic of being somewhere.' What problems would you say sound, and say its lack of clarity would present? My practical is set in an old picture house, do you think that this will assist the audience when listening to my work to relate to the sounds geographically, or do you think sound alone even presented in a sterile gallery space enables the listener to feel that they are 'somewhere'?

Of course, every space carries its own qualities and references, which any sound will inevitably relate to or negotiate. I think this is certainly a special and unique aspect of sound: to operate as an (virtual) overlay onto an existing environment. This for me is its potentiality, that also wields a certain problematic: to introduce another "layer" while always masking another; or by creating opportunities for experiencing a

difference, which may at times always overwhelm or disrupt. This points toward the affective nature of auditory experience. Maybe with your cinema house it becomes an opportunity to play with expectations (a listener that is also waiting for something to see?), and to introduce another mode of listening within this type of space.

5. I have stated at the forefront of my thesis that my thesis is an arts thesis, not music or cinema study. Do you think sound artists fit into a particular category? Are they accepted by the arts world or the music world?

I think generally sound art occupies this in between space, between art and music, space and time, looking and listening, which for me is extremely provocative and something to embrace rather than try and resolve.

6. Hitchcock once suggested that a good film does not need sound – do you agree?
No.

INTERVIEW QUESTIONS: DAVID TOOP

CONDUCTED BY: Eva Petersen

SCHOOL: Sonic Arts Postgraduate student at Liverpool John Moores University 2012-2013.

TITLE OF RESEARCH:

Chilling Sounds in Cinema: exploring avant-garde sound and noise as a suggestive medium in hammer horror films from 1955-1965.

1. How would you define Sound Art?

I wouldn't, or couldn't. Having said that, I do feel a commitment to an open and perpetually re-defining definition. Perhaps most of my work, right from the beginning of thinking seriously about sound and listening in c. 1969, has been a project more concerned with opening out and fluidity rather than closure and fixity. The problem is the word Art, with another problem attached to the word Sound. The moment it becomes art than it attaches itself to the artworld, with a particular history, environment and economy. My experience as a specialist in this area for more than 40 years is that there were many beginnings to sound art. But sound also suggests an outgoing; in recent years I've become more interested in what it means to listen.

2. Hammer recruited avant-garde composers to compose such films as Dracula, and The Quatermass Xperiment, which were considered as mass market films. Do you think there is more of an experimental approach to sound in cinema present day than during the 50's and 60's or do you think technology has quashed real possibilities of creating experimental sounds for a mass market?

As a child I was profoundly affected by Quatermass and the Pit, produced for television in 1958 with music by the BBC Radiophonic Workshop. Watching it again recently I was struck by the disturbing atmosphere of the serial, much of that coming from the electronic sound. I strongly believe that this emotional and rather frightening exposure to electronic sound contributed to the experimental tendencies of the UK post-war generation. Many films of the post-war period treated every part of the process as an experiment, sound design and music included; I would say that continued well into the 1970s, in mainstream cinema as well as small independent films. I don't quite understand your question about technology. What happened to sound design and music in mainstream cinema was a cluster of events, a creeping conservatism as much as anything, produced by the economics of scale. Watch the first few minutes of Alien, for example, and it's a beautiful reflection of the emergent electronic world; Star Wars, on the other hand, used a triumphalist orchestral score and ended up being more influential. So many scores now are basically 19th century romantic music and not at all interesting. There have been exceptions like David Lynch but many of them have stopped making films. I get the feeling that cinematic production values have soared but the care given to music is negligible.

3. There appears to be a paucity of literature where sound as art in cinema is concerned – why do you think this is?

Because the focus is on music as an accompaniment to drama. I'm very fond of Michel Chion's book on Jacques Tati because he treats sound/music as an integral part of the process (as did Tati). There should be a book on sound as art in Japanese post-war cinema, for example, or Tarkovsky's use of sound but I wonder if there is even the interest among readers?

4. You state that '*Sound is a highly significant component of the mental map – matching memory to the delicate overlapping of perceptions, memories and a shifting predictive sense of where and how and how long. On the other hand, sound's boundaries lack clarity, spreading in the air as they do or arriving from hidden laces, and its significance potentially vague, closer to a perfume or a smoke than the solidarity of touching another person.*' (Toop, D. 2010, p.36)

I really like the idea of sound as a perfume, an intoxicating substance that encompasses the whole body and mind; it sums up my practical work. Do you think that the clarity that sound lacks enables to the listener to create their own narrative or do you think it causes confusion, and that visuals are needed for a listener to connect with a narrative?

It's a difficult question. Environmental field recordings convey a particular atmosphere of a place or event but often lack the specific information that allows detailed recognition of what we consider 'reality'. Sound seems to penetrate more deeply into memory, or feelings of connectedness that integrate the body. It's as if sound is lacking in 'facts'.

5. You also state "*Through the midwifery of film, creativity in sound has finally begun to be appreciated on an equal footing with traditional music practice*" (p.72). I have stated at the forefront of my thesis that my thesis is an arts thesis, not a music or cinema study. Do you think sound artists fit into a particular category? Are they accepted by the arts world or the music world?

Did I really write that? It doesn't sound like me. All of my books are in storage so I can't check the reference but I can't believe I used the word 'midwifery'. In one sense I do think that sound artists fit into a category, a broad category of people who listen in a certain way, or engage with sound to a degree that is unusual. They find their own 'facts' within sound. As for where they are accepted, I tend to think of them as homeless.

6. I have used one of your quote to open my third chapter of my thesis: '*When the lights go out, hearing stays awake.*' (Toop, D. 2010, p.125)

My practical, Sound Cinema: Rider of the Red Roses is in complete darkness in a traditional cinema setting. I personally prefer to listen to films and soundtracks without any visuals at all as I can immerse myself in an imaginary world, however do you think the audience would be more attuned to the sound when the lights go out or do you think that this presents disorientation and confusion?

Your question is not so clear. You could be describing a concert of music. To show a film without the images would certainly cause disorientation and confusion. It's a device used very effectively at the end of Bela Tarr's film, The Turin Horse. The world goes dark. Personally I found it terrifying, despite the disappointment of the film up until that point. There was the sensation of the world disappearing, very powerful and perhaps a reminder that film in all its aspects is an imaginary world. We are invested in it as an embodiment of a second life, a dream life, and then it slips away. Something similar happens during technical silence in a film, those occasional moments when the sound is taken out – the world has gone wrong, suffered a fault.

7. Hitchcock once suggested that a good film does not need sound – do you agree?

No, but you can see what he was getting at, the desire for film not to be a hybrid, the dream of film as a pure art form rather than the consequence of carpentry, make up, light bulbs, the acting profession, shadows, finance, etc. He's talking about a form of poetry or music, music without music or poetry without words, but then Hitchcock began in the silent era. He learned immediately to use sound very well. There is something beautiful about watching film without sound, particularly an early film, like a shimmering of silver light. Narrative diminishes in importance; the theatre starts to fade. But sound can create the same effect. Personally I'm fascinated by moments in film without dialogue or music. During such moments we seem to be within film, rather than within theatre or opera. Such moments are rare, a reminder that the potentiality of 20th century media has never been fulfilled.

EVA PETERSEN

Voices of Winter Palace

Side One
Leo (Part 1)
Voices of Winter Palace (Part 1)
The English Woman (Part 1)
Voices of Winter Palace (Part 2)

Side Two
The Fur Coat
The English Woman (Part 2)
Leo (Part 2)

Research, concept, theme and graphic scores by Eva Petersen.
Lyrics and vocal melodies composed by Eva Petersen.
Orchestral music composed and arranged by Mat Gregory.

Music performed by:
Vocals - Eva Petersen
Guitar and Piano - Ben Gordon
Additional Guitars - Mat Gregory
Drums - Peter Szondi
Bass Guitar - Peter Stearns
Piano and keyboard - Aron Kumbhani.

Budapest Symphony Orchestra and chamber choir.
Conductor - Gábor Dörös
Orchestra Manager - Rebeka Drahos
Musical Director for the live orchestral recordings - Ben Gordon

Eva Petersen vocals recorded by Andrea Wright at Park Street Studios, Liverpool.
Orchestra recorded at Tom Tom Studios, Budapest.
Chamber choir recorded at Komoróssai Studio, Budapest.
Mixed by BR Ryan-Jones at Yawn Studios, West Kirby.
Mastered by Karl Oskar Lohr at Tin-Linn Studios, Stockholm.
Studio Production by Mat Gregory and Ben Gordon.

Executive Producers: Eva Petersen and Mat Gregory.
Voices of Winter Palace is an Eva Petersen special project for Rotolock Records.

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Ben Gordon,
Budapest Symphony Orchestra.

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(2019) LP Record
Released: January 2020
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