SAXOPHONE LIVE EXCHANGES.

AN EXAMINATION OF INTERCONNECTIVITY IN ART PRACTICE THAT DEVELOPS NEW WAYS OF WORKING THROUGH DIALOGUE BETWEEN ART, MUSIC, SOUND, RHYTHM & TONALITY.

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Abstract

I am an internationally exhibited UK mixed-media, multi-disciplinary artist based in Lincoln and London. My artwork incorporates migration, ecology and dialogue through non-hierarchical methods of working. I work with the development of sound, words, saxophone playing, photography, silent/non silent video, and share my art practice in co-productions and collaborations. The artistic practice-led research project was initiated in order to discover how specific artists' tools and media can impact and expand my own art practices when saxophone playing.

Through this art practice-led Phd I aimed to discover, critique and understand what are the notable changes in tonality and rhythm that occur in my improvised saxophone playing, when in dialogue with another's art practice during a live performance. During this research visual and sound files were collected through a series of three live events, working with three different art practitioners to produce case studies that could be used in an art practice research framework. Each art practitioner was chosen for their use of different media: visual or sound materials. The artists included a fine artist; an artist working with spoken language (performed by avatars), and a sound artist who utilised sound files, electronic sound devices and computer software. The case studies documented the live production of an 'art work' and the resulting written reflection analysed the changes made in my saxophone playing techniques.

This artist research project is practice-led, and not only resulted in me making my own work but also involved an in depth analysis of the video and sound recordings made during the live performances. I set up the use of dialogue and not-knowing as a method to induce risk taking, the results of which were later used in live performances with performers and musicians. When comparing the three case studies, I was able to recognise how and when my playing responded to other art practitioners' tonal shifts and rhythmic actions. As a result, I was able to apply this new knowledge into my own art practice. The contribution to new knowledge is in how artistic

practice-led research produced critical insight into the development of tone and rhythm in my improvised saxophone playing. Demonstrating how different art practices produced different responses both from each other and those using a music score. Furthermore, through discussion with art and music practitioners, these practitioners have adapted dialogue and other aspects from the findings, that include not-knowing as an apparatus and tool in their practice.

As this is an artistic practice-led research project it is essential that the reader listen to the practice as they navigate the thesis. I have embedded the video and sound files throughout the chapters, to illustrate my points. The three live events formed case studies establishing interconnections between Bracey, Dutton and McArthur, and my saxophone sound. The live events can also be listened to or watched in their entirety through the following links.

The following are complete versions of the three case study files.

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Videos 1-10 can be found at: https://m0rrad.tumblr.com/videos

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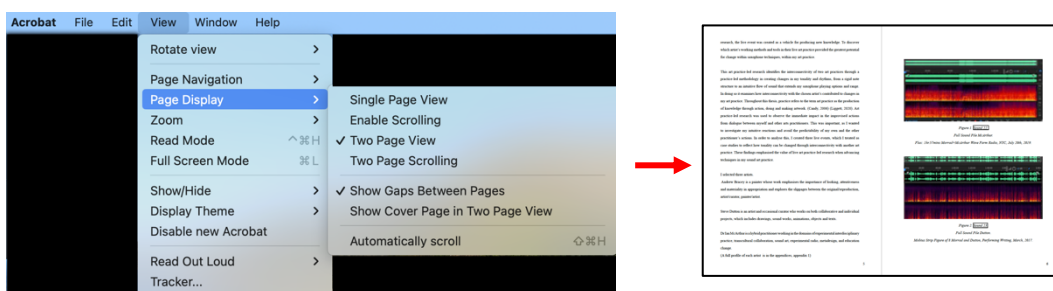
If you read it in a single page view you will encounter a number of blank pages, which are a deliberate design feature of the written thesis.

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<u>Chapter 1</u>

Introduction

I am an internationally exhibited UK mixed-media, multi-disciplinary artist based in Lincoln and London. My artwork incorporates migration, ecology and dialogue through non-hierarchical methods of working. I work with the development of sound, words, saxophone playing, photography, silent/non silent video, and share my art practice in co-productions and collaborations. The artistic practice-led research project was initiated in order to discover how specific artists' tools and media can impact and expand my own art practices when live saxophone playing. The outcomes of which revealed how art practice, as an alternative to traditional music training, can be used as a method to create ways of expanding personal music technique. For example, instead of using a music structure from a music score to create changes in my improvised saxophone playing in a live event,. I used observation of the tonal changes made by an artist in the process of producing change in his painting. In another live performance I investigated live how electronic delay glitches produced different timbres. Both these events were used to analyse the other practitioner's practice for effectiveness in changing my tonal and rhythmic and differences in techniques in my live saxophone playing.

The specific research questions that I sought to ask:

- What are the underlying elements that I draw unknowingly upon when improvising in live events. In order to analyse interconnectivity with one other art practice and how it changed my own art practice.

- What key factors are learned through analysis of my improvisational practices when working with other artists? When using the saxophone as my artist medium, how do other artists influence what I do?

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- What are the notable changes in tonality and rhythm that occur when in dialogue with another's art practice during a live performance?

- How does dialogue contribute to changes in tonality and rhythm in my practice and what can others learn from this? How this demonstrates the potential for developing tonality and rhythms.

This thesis demonstrates how art practice; more specifically live art events can produce knowledge thereby contributing to practice-led art research (Candy, 2006) (Liggett, 2020). The thesis demonstrates the importance of knowledge gained through live art performance and its impact, engagement and change in my art practices. This signifies how a live event has unique properties for research through the immediacy of interconnectivity with one other art practice, and dialogic exchange contributes to practice-led research within live events with specific consideration to working with different art practices. The use of working across multiple art mediums such as paint, electronic and vocal sound demonstrated how knowledge of tonality and rhythms changes.

As a researcher and practising artist, I am continuously exploring new ways to develop and enhance my techniques and processes that I use in my artwork. I used a saxophone as my artistic medium to create improvised interactivity with live visual performers, still and moving artwork and other sound art. What was examined was how artistic practice-led research led to working in dialogue with different art practices, creating specific changes in my saxophone playing techniques. The art practice-led, research written thesis will articulate how each event produced a different set of changes in my tonality and rhythms. In addition, this led to an understanding of how different art mediums affect the tonality and rhythmic changes in my live performances, discussed in the thesis case studies.

My objective in this practice-led research was to analytically explore how live events influence and interconnect with my use of tones and rhythms in my saxophone playing. During this

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research, the live event was created as a vehicle for producing new knowledge. To discover which artist's working methods and tools in their live art practice provided the greatest potential for change within saxophone techniques, within my art practice.

This art practice-led research identifies the interconnectivity of two art practices through a practice-led methodology in creating changes in my tonality and rhythms, from a rigid note structure to an intuitive flow of sound that extends my saxophone playing options and range. In doing so it examines how interconnectivity with the chosen artist's contributed to changes in my art practice. Throughout this thesis, practice refers to the term art practice as the production of knowledge through action, doing and making artwork. (Candy, 2006) (Liggett, 2020). Art practice-led research was used to observe the immediate impact in the improvised actions from dialogue between myself and other arts practitioners. This was important, as I wanted to investigate my intuitive reactions and avoid the predictability of my own and the other practitioner's actions. In order to analyse this, I created three live events, which I treated as case studies to reflect how tonality can be changed through interconnectivity with another art practice. These findings emphasised the value of live art practice-led research when advancing techniques in my sound art practice.

I selected three artists.

Andrew Bracey is a painter whose work emphasises the importance of looking, attentiveness and materiality in appropriation and explores the slippages between the original/reproduction, artist/curator, painter/artist.

Steve Dutton is an artist and occasional curator who works on both collaborative and individual projects, which includes drawings, sound works, animations, objects and texts.

Dr Ian McArthur is a hybrid practitioner working in the domains of experimental interdisciplinary practice, transcultural collaboration, sound art, experimental radio, metadesign, and education change.

(A full profile of each artist is in the appendices, appendix 1)

Figure 1. <u>Sound 22.</u>

Full Sound File McArthur.

Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

Figure 2. <u>Sound 23.</u>

Full Sound File Dutton.

Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

The Three Case Studies

The three case studies enabled me to identify the key components that affected my playing, that I unknowingly made when interconnecting with the other art practice, namely changes in tonality and rhythm. During The live events I was actively engaged in a dialogue, a term I use to define the interconnectivity, cooperative exchange of art processes that took place between my saxophone playing and the other artists work/medium i.e paint, sound or text as their medium. During these encounters, my own practice began with an ordered sequential system evolving into separated parts, leading to unique sequences. Therefore, in order to evaluate the changes in my tonal and rhythmic sound, I formed a pre-ordained structure, based on my understanding of music theory to produce a dialogue, which engages and integrates with the other art practice. The outcome produced strategies that I used for improvisation and dialogue in the case studies. Consequently allowing a critiqued expansion in tonal and rhythmic ranges in my own practice. This practice research project is situated in art practices that use painting, text, and electronic sound. From these established art practices, I explored how my saxophone playing was used as a tool within art practice, in a dialogue with another art practitioner within a live event. This practice- led research questions how one language (music, based within western music theory) can be interpreted by the three different art languages, separately based within the participants' art practice genres of electronic sound; painting and the direct use of language in English words, spoken by computer avatars. These interpretations are communicated through art practice, investigating how artwork uses live, unrehearsed dialogue as an artist's approach to this dialogue. The case studies involved one art practitioner using their art practice to initiate a response from one other artist's practice, during a live event. The responses to each of the practitioner's practices created connections with each other's practices; for example, as evidenced in sound in the case study with McArthur, where electronic sounds from McArthur were heard simultaneously with my saxophone playing. By using live events I was also unable to predict the other art practitioner's actions, which led to my spontaneous saxophone playing achieved by using the saxophone sound conceived at the point of playing.

Figure 3. <u>Video 11.</u> Full File Bracey.

Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

The musicologist, Philip Ball, has evidenced how the listener perceives the use of tonal harmonic structure. Ball writes, "...harmonic progressions from the tonic (to major chords IV and V and minor chords ii, iii and iv) will "sound right" (2011, 192), to the listener. I used adaptations of Ball's tonal structure, to interconnect to the artist's Bracey, Dutton and McArthur live production. My initial intention was to create a familiar stable sound to enable each artist to relate it to their own particular understanding of music. However, the findings showed that repeating and changing saxophone sound patterns, altered my rhythmic and tonal content. Therefore providing a more efficient playing technique, as a tool for recognition, evidenced through the actions of the other participants. The extension of tonality and rhythms informed my own practice, as the connector link when working with the visual; spoken word and electronic sound.

Music is defined in this research as a sound structure formed from a theoretical historic position, within a western understanding of sound frequency placements. Sound frequency is defined as my use of sound, within my art practice, that has been appropriated from a structural situation of sound frequency ranges in reference to music, through the transferring of sound as an object of music genre into my art practice (Barthes, 1982).

The three live case studies used dialogue as a tool in this art practice-led research. Dialogue is defined as a cooperative, two-way exchange without one participant leading the dialogue. The aim was for participants to exchange information and build interconnected relationships. These interconnected relationships were made through the art practitioner's working processes with their use of their individual materials. This exchange of information consequently changed my use of tonality and rhythm.

During the live case studies I produced synergy between the different individual artists' content, through my rhythm and tonality. By initiating changes in, for example, intervallic tonal changes, I was able to influence change in the other artist's artwork.
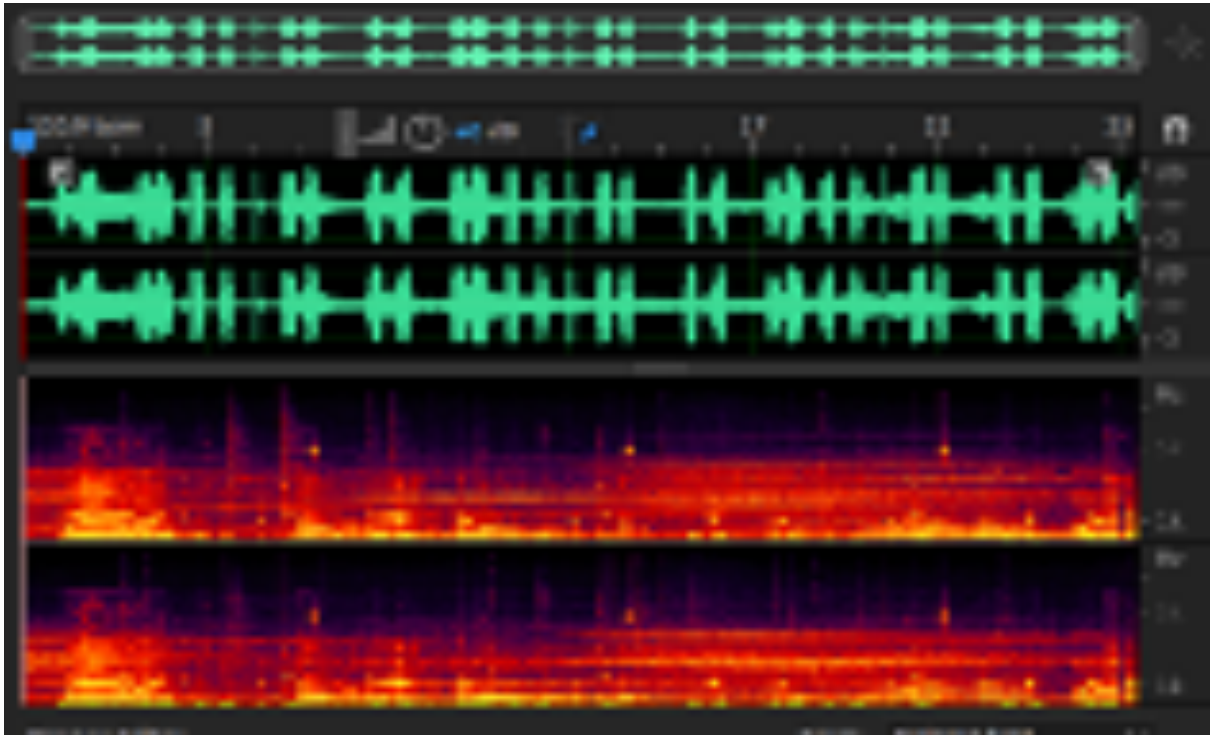
Figure 4. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur Sound 18. Time on timeline, 57.16-58.00.

Figure 5. Project Space Plus

The different case study scenarios produced a disparate interaction, leading to discord in both my use of rhythm and tones. The evidence presented in the sound and video files revealed the interchange in my note playing in relation to the rhythm. For example, a dissonant sound from my saxophone playing would not produce a similar tone in the other practitioner's practice. Therefore instigating changes in both of the original artworks, as referenced in this case study with McArthur's sound artwork (fig 4). There was also a uniform rhythmic construction through using the temporality nature of Skype internet software. This software produced a pronounced difference in the dialogue with McArthur's artwork. McArthur's use of elongated digitally enhanced sound countered my rhythmic positioning of differencing tones. I was able to counteract this with dissonant frequencies that became interwoven with my own sounds. Subsequently allowing me to break away from the dialogue with the other artwork extending my tonality through small nuances in timbre.

The art practitioners and their artwork were chosen for the differences in their practice, outlined below: Andrew Bracey in a gallery space; Steve Dutton in an invited interior space and Ian McArthur using an online space. The saxophone is a physical instrument: I wanted to explore how my body would develop the tone over long periods of playing. Allowing for reflection on the changes incorporated in my rhythms in tones. Each of the case studies were live, unrehearsed and had designated time lengths from two hours to just under four hours, depending on locational commitments. Andrew Bracey is a fine artist, whose practice, to quote Bracey in conversation with myself '…hovers on the fringes of painting as it crosses over and expands into installation, curating, sculpture, drawing and animation' (Bracey, 2020). Bracey's artwork was particularly selected for his use of the gradual transference of a photograph into a painting, accomplished through the artist's physical actions, thereby using an artwork that was processing one aesthetic into another. In the case study, Bracey's working process encouraged a dialogical approach with me. It generated interrelationships of tonal action, resulting in surface changes on his canvas. Bracey's working approach with rhythmic brush strokes and limited tonal range, opened up possibilities with the saxophone sound frequencies to interlock into single tonal changes within Bracey's artwork. The saxophone sound orchestrated a different

Figure 6. 'The Stag and Hound,' Steve Dutton 2011
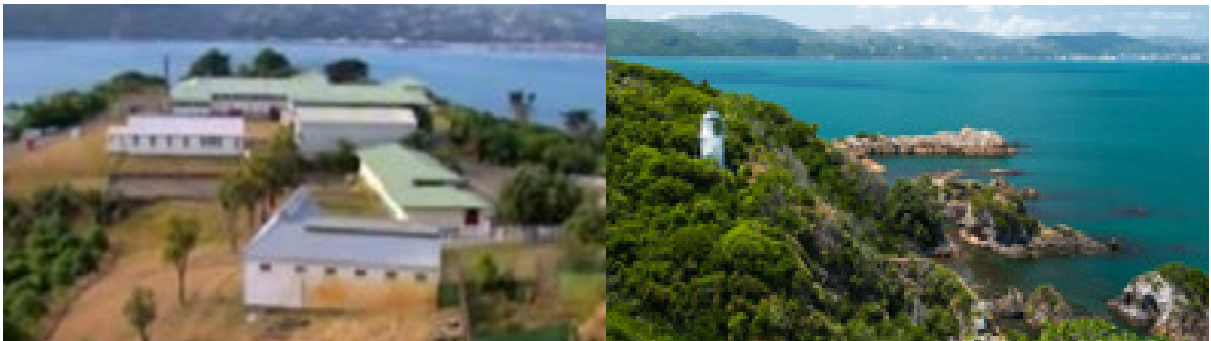
Figures 7 and 8. 'Performing Writing' Image of the venue, Maitu, Somes Island, Wellington

Harbour, (Image by New Zealand Department of Conservation).

direction in the dialogue, through changes in single tone rhythm which transpired in Bracey's artwork. The three-hour dialogue in this research was engaged with, in the gallery space, Project Space Plus in order to unite the research in a gallery platform, (fig 5).

Steve Dutton's artwork includes working with language (fig 6), when collaborating with my research he used live computer voice avatars as orators of Dutton's written language. In the dialogue with the saxophone sound frequencies, Dutton's writing was unrehearsed and produced and spoken by the one male and one female voice avatars at the time of the dialogue. Dutton's artwork presented limited tonal exchanges; however, the saxophone sound was able to interchange sound frequencies, departing and returning to the consistent tonal range emanating from the two separate computer voices. The rhythms and tones emerging from Dutton's writing techniques gave rise to both a polymeric synchronicity and entrainment with the saxophone sound, inviting the saxophone to intertwine through rhythmic interchange and tonal interlinking. The three hour and forty minutes dialogue was undertaken at the 'Performing Writing' symposium, (fig 7 and 8) Wellington, New Zealand, chosen for this inquiry for being a neutral space that was hitherto unexplored by either artist, presenting each artist with the same conditions.

Ian McArthur (fig 9) is based in Sydney, Australia and is a musician who utilises sound files, electronic sound devices and computer software in his artwork. McArthur was selected for this research for his use of field recordings and digital delay glitching that were initiated through internet delays when playing live. McArthur uses sound that emerges from electronic sources and is compared to my use of tones and rhythms developed from a live embodied sound frequency, originating from a different sound framework. This research was conducted in a one-hour live radio broadcast from New York City, as this presented the live unrehearsed possibilities to incorporate three locations in different time zones.

At the start of each dialogue, McArthur and I discussed behavioural strategies, in how we would relate to each other's art practice, resulting in protocols arising that included respecting the other's artwork. McArthur and I were not trying to engineer collaborative artwork, however

Figure 9. 'ALT DOC' exhibition at Verge Gallery, Sydney, Australia, 2018.

there were starting concepts and ideas based within each of our individual artwork that was outside the dialogue, which generated our individual contribution to the joint dialogue.

In answering, what are the underlying elements that I draw unknowingly upon when improvising in live events and how it changed my own art practice. The findings from each of the live case studies evidenced the key factors learned through analysis of my intuitive improvisational practices. These included the rhythmic use of staccato and intervallic structures in a dialogic exchange. What I observed throughout the practice-led research were the notable changes in my development of tonality and rhythm. These changes differed in each case study. This was partially due to my different tonal and rhythmic relationships to the other artist's processes. Therefore demonstrating the importance of research from practice-led analysis of live improvised events. These findings have now been applied to my working processes within my own art practice, resulting in changes to my published artwork.

Chapter 2: Key Terms and Definitions

Introduction

This short chapter provides the definitions of the key terms that I have used throughout the research, demonstrating and explaining their usage within the art practice-led investigation. These range from research based in art practice, through methods and knowledge. Defining the researchers understanding of tonality, timbre and rhythm, the research evidences a variety of tools used in art practice and how dialogue is utilised. Improvisation and not-knowing is defined in accordance with the changes producing art practice. Embodiment, intuition, the event and performance are explored through ideas that incorporate co-production, co-authorship, sound art, acoustics, resonance, space and installation. The amalgamation of all of these techniques enhance the development of art practice.

Practice-Based Research

In this thesis I will be using a definition of practice based research that is considered in relation to the writing of UK writer and researcher Linda Candy (2022), the UK artist and writer, Professor Ernest Edmonds (2022) and the UK Professor of Digital performance, Craig Vear (2022). Practice Based Research in this thesis engaged in the process of using creativity through a set structure in order to discover new knowledge. This practice based research involved, amongst other elements, embodiment and dialogue within live events. This was through observing my art practice together with other art practitioners' art practice in the process of making art work in conjunction with each other's art practice.

Candy, Edmonds and Vear in the Routledge International Handbook of Practicebased Research. 2022, define research as an activity to develop new and expanded knowledge, and that research that is embedded in practice produces.

"Practice-based research is a principled approach to research by means of practice in which the research and the practice operate as interdependent and complementary processes leading to new and original forms of knowledge. By 'practice', we mean taking purposeful actions within a specific context, typically in a creative or professional way: the making, modifying or designing of objects, events or processes" (Candy et al, 2022, 27).

Through utilising art practice my research was presented with opportunities to engage closely with existing art practice. Therefore, enabling research through live events with audiences and documented evidence, to develop questioning and consideration for future art practice, through the use of reflective processes new knowledge and understanding is evolved. An extension and contribution to new knowledge is enabled through sharing relevant research, on platforms of discourse. For example, published sites such as SAR, digital archive repositories, art organisations and galleries sites as well as in journal and article forms, symposiums and conferences are all provided by universities as points of reference. These forums demonstrate the value to other art and music practitioners of interdisciplinary methods and practice, to develop and inform their own practices.

When meeting research criteria Candy, Edmonds and Vear bullet point the follow essential areas.

- "Original: it is new in the world"
- "Validated: there are identifiable reasons to believe that it is true"
- "Contextualised: intended beneficiaries can understand its relevancy and reasons why it is new"
- "Shareable: others can benefit from it and understand it within its context"
- "Retainable: in archives in sustainable material of any form"

(Candy et al, 2022, 30).

Candy, Edmonds and Vear (2022), discuss cross-discipline collaboration between different academic areas, between science and art that evidences the willingness for inter-discipline

research. Therefore demonstrating how research within two separate areas can come together to form new understanding.

Knowledge

Candy, Edmonds and Vear ask the question, why is knowledge important? In this research knowledge is considered through arts practice. They propose that knowledge enables shifts in the directions of an individual's practice, allowing development of new areas of insight, awareness and innovative actions. This also enables others to consider how the knowledge relates to their art practice, with possibilities to contribute to a newness in the artists' development.

Candy, Edmonds and Vear suggest that "Knowledge can move the practice forward into new insights and areas of innovation or can bring small incremental nuance to the practice". (Candy et al, 2022, 193). Knowledge is something that can be substantiated and validated through rigour that leads to deeper and wider understanding of a considered subject. Candy, Edmonds and Vear write that "Knowing, defined as something felt within that can be demonstrated by actions, is often referred to by practitioners as a gut feeling or an intuition, something that is known but not consciously applied" (Candy et al, 2022, 196). In this research, the above definition is in relation to the use of 'not knowing' through the action of intuition in reacting to undirected situations, in order to produce new knowledge. This intuition was informed by embodied knowledge gained through continuous analysis when physically playing my saxophone. In recognition of embodied knowledge as an established source of art practice research in the advancement of new knowledge, later in this chapter, embodied understanding is explored through Candy, Edmonds and Vear considerations that "Knowing can be embedded in, embodied with, enacted through or extended by practice through touch, feeling, know-how, intuition, etc" (Candy et al, 2022, 197). Therefore, embodiment has become an intrinsic part of my art process.

Method

Throughout this art practice-led research, method is used as a tool of integration in the art practice and subsequent analysis. One method which has contributed to my practice-led research, I have used the method of live action in live events, which is demonstrated through the video and sound files throughout the thesis.

> "A crucial defining characteristic of practice-based research is that, not only is practice central to the research, but in certain cases, the knowledge that emerges can only be fully understood by access to the artefacts that are central to the research process in parallel with written texts that explain the context and results of the research" (Candy et al, 2022, 307).

There is a potential for reflection through action. Therefore the use of recorded live actions becomes intrinsic to the research process. Through reflective and analytic processes they are then considered for the development and expansion of knowledge. Candy, Edmonds and Vear further discuss that "All outcomes arising from practice-based research are relevant to the specific context but, at the same time, may offer knowledge that transcends the primary practice domain" (Candy et al, 2022, 307). Through the reflective action both when in live improvisation and in the analysis of the sound and video files, produced different understandings. Reflection in the initial use of improvisation provided immediate changes in my playing, whereas the further analysis of the video and sound files led to significant changes in my approach and technique in saxophone playing. These are demonstrated in the case studies chapters.

The Practice-Based PhD

The experimental music producer and sound artist, Iain Findlay-Walsh (2022) describes how autoethnography is used as a reflexive method of practice research. He Incorporates sound files through QR codes into his writing (Findlay-Walsh 2022, 492) to evidence the process and expand the methods by which the receiver understands the research. Therefore demonstrating

how a combination of information is brought together to discuss and evidence research.

Practitioners' Voices

Research practitioners were invited by Candy, Edmonds and Vear to share their experiences. The UK musician and music producer Corey Mwamba describes their critical use of improvisation and the vibraphone in his personal expansion. He uses the technique of varying the sound of a single music note (Mwamba, 2022). This demonstrates how musicians use improvisation and music techniques directly within practice research in order to expand existing knowledge. These techniques create new understanding in how they can be developed in live sound.

Tools

The American philosopher, Alva Noë (2015) describes artists tools as the elements by which artists make work, these include the processes of making, development and production. A tool is an appliance, an apparatus, a mechanism, aid, equipment, instrument, and device. In addition this research considers thinking and analysis as an art tool, along with reflection, and a dialogue both with ideas, other artists' art practice and my own artwork, with the thesis as a mirror from which to analyse. Listening is a tool for reflection and change. Whereas, hearing is a part of the physical action used in conjunction with my body's comprehension in making timbre and rhythm in the sound. Silence as an art tool presents choice through the action of not producing sound. The American musician and writer Pauline Oliveros describes silence as the space between sound, " There is no sound without silence before and after" (Oliveros 2005, 14). However, my perception is when in a social space, sound overlaps. Silence becomes an entity in itself, one that exists as a concept sitting beside the sound. Silence is a reflection that is opposite of sound, an invisible space that does not hold sound but encases it. In my art practice I utilise my neurodiversity as an art tool that enables my ability to consider unique and numerous possibilities. According to the British Dyslexia Association, dyslexia is considered to be about information processing (Reid, 2016) and in particular to art practise Noë (2015) refers to neuroscientist Semir Zeki's idea that the brain that sees art practice and makes artwork.

Noë (2015) indicates that there are contemporary conservatories where artists study circus techniques such as handstanding or rope walking. Although these could be more associated in the development of movement art, they are demonstrating evidence of an extension of knowledge from which to expand skills. Furthermore is a method of using a transference from another genre which produces evolution in one's own art practice as demonstrated in my choice of the art practitioners art practice to work within the case studies.

For this inquiry, dialogue especially is singled out when used with another art practice, including communities. As part of the process of art making, communities including the community of ideas, such as music, philosophy or film making play a part in dialogue. Discussion within these communities on the ideas and artmaking process become a productive tool.

In the instance of filmmaking; the arts practitioner's concept is not to be a filmmaker, but to understand how narratives are formed and structured. Also, with music, their role is not to become a musician, but again to understand another use of structure from which to shape and mould ideas. Through learning another discipline my understanding of the structure of music note positioning was enabled through Western Music Theory. Instead of using this within a music construct, I took the music structure and incorporated this into the production of sound, using this as an art tool. I manipulated the timbre used by each note on my saxophone forming three different timbres. Subsequently the different timbres I constructed produce a language structure. These findings were developed further in the case studies using improvisation.

Dialogue

In this research, dialogue is utilised as a method from which to expand knowledge. The American writer on relational communication, Leslie A. Baxter defines dialogue as the understanding of dialogism in a relationship between the self and other. Baxter writes about the use of difference and sameness in the expansion of understanding.

"...a simultaneity of sameness and difference out of which knowing becomes possible. In Bakhtin's words, I achieve self-consciousness, I become myself only by revealing myself to another, through another and with another's help....Cutting myself off, isolating oneself,closing oneself off, those are the basic reasons for loss of self". (Bakhtin, as quoted in Todorov, 1984, p. 96)" (Baxter, 2004, 108)

Baxter, further demonstrates how understanding is expanded through revealing. In this research the 'revealed' is through a live improvised interaction between two different art practices. Baxter determines that due to the occupation of the same space and time, the self and the other are similar yet different (Baxter,2004).

In order to define dialogue in this research, I feel it is important to describe how and why dialogue as a method for change. What this research set out to discover was a method from which to extend my saxophone playing improvisational skill in tone and rhythm. Alva Noë writes that "If the musical work is tied to the score, then the musical work is concerned with a problem: how to write itself" (Noë 2016,47). In order for my art practice to shift from the constriction of traditional methods of music learning via a music score, I developed an intuitive method of playing my saxophone sound. Dialogue with an unknown art practice that was distinctly different from my own, which presented possibilities of expansion, through having a live, unrehearsed dialogue in an event with an unknown audience, presented unpredictability. The unpredictable was from not knowing what would emerge from the other art practice or what would be manifested in my saxophone playing response.The resulting dialogue was used as an exchange of ideas between artists in what I describe as the activity of art which concurs with Cocker theory of "thinking in action" (Cocker, 2016). Through interlocutors, a new understanding of dialogue is revealed. Each of the chosen art practices engaged in the dialogue through their distinctly different working methods in painting, sound and voice. These were designed to present a unique dialogical experience to my saxophone sound. In order to develop my playing with three different approaches that use communication structure. These were understood by each participant through their particular knowledge of art language.

Tonality and Timbre

In music, tonality is recognised to be maintained when used with chords; as a set of three music notes played together, (Murray Brown, 1967). However, a saxophone, unlike a guitar, only plays one note at a time. Consequently the tonality engages with each individual note and is dependent on the player's use of the saxophone reed to create difference in timbre and intensity. Timbre is defined as the subtle change in sound that each individual music note has when played and is distinct from its pitch or original music note tonality. The American neuroscientist, Daniel Levitin (2006) describes how timbre changes the sound after the note has been played and that musicians often refer to timbre as the colour shading, equivalent to a use in visual art. The importance of defining timbre is to evidence how timbre produces a particular individual approach to the emitted sound. This was in reference to my live improvised saxophone playing, in the case studies.The American, composer and musician Mark Dresser writes about timbre, expressing that

> "Of the many parameters of music, timbre or tone colour, is the component of music most difficult to express in words and notation. Because of our notation system, timbre is generally and unfortunately reduced to hyper-specific technical descriptions of particular performance practices. This way of thinking about timbre is particularly problematic for the improviser whose personal sound vocabulary may be inseparably linked to the rhythmic and pitch considerations as well as physical continuity, energy dynamics, and tonal attitude" (Dresser, 2000, 251).

Dresser's theory addresses the independence of communication in art practice through timbre. In this research, intensity, when used with timbre, is defined as the loudness of the sound due to the physical amount of air applied by the player. Timbre produces subtle changes to the sound of each particular music note and extends my ability to produce a specific individual sound demonstrated in the dialogues in the three case studies chapters. The saxophone reed is usually made from bamboo. The importance of this for the research is in demonstrating how the choice reed is unique, creating subtle differences is sound. Thereby contributing to individualising my

art practice and particular artwork. The flexibility this material offers is complemented by the position of the player's tongue when placed against the reed and unique individual timbres are formed through their relationship with each individual reed, as each reed is also unique due to the plant growth and thickness.

Rhythm

My case studies highlight how rhythm creates an interconnection to expand and develop the dialogue. Rhythm is formed through a set of actions across a set time and within a set space. These are manifested as pulses, throbs or beats (Murray Brown, 1967). These are either uniformly placed or displaced to either disrupt or bring attention to the other elements in the dialogue. Thereby, using rhythm as a separate aesthetic entity and art tool that interweaves into the understanding of the artwork. This is contrary to the common usage which is in unifying groups of tonality in sounds, through a preformed music score, or as a precise sound texture that provides an unbroken source of sound as in electronic music. In the case study with Bracey (chapter 7), his painting made visual sense of my rhythm through his direct physical interaction. This was both through brush stroke movements and his positional changes in front of his painting. Due to the flow of his movement, the only visual record was in video. Therefore, not a static music score to be later referred to. This demonstrated and enhanced the importance of the live improvisatory nature of the rhythms produced by my saxophone playing. I also took reference from his movements to integrate the saxophone tonality with his painting. The resulting interrelationship of both practitioner's actions dynamically enhanced each practice, as referenced in the later case study chapters. When comparing this to practitioners such as the American filmmaker, Mary Ellen Bute, with her film 'Tarantella' (1940). Bute's film has a direct rhythmic connection with the sound, what my improvisation brings is the ability for rhythmic disconnection. That provides possibilities in change of rhythmic and tonal directions.

Improvisation

Improvisation can be referenced as a method of working where the participants work freely, without the constraint of pre-formed conventions within their discipline, such as the music score or a photographic client constraint. Improvisation is discussed in this research, using music notation and Western Music Theory as a structure from which to improvise. This consists of employing a variety of modes, scales and rhythms (Murray Brown, 1967). It does not adopt a Jazz method, which takes a set of notes from the melody, using these in a structured rhythm. Or the use of Free Improvisation in the use of connected sounds. The intention was to take recognisable notation and extend my ability with tonality and rhythm through an improvisation approach in a dialogue. It was designed to engage with another in order to reveal new ways of playing saxophone in tonality and rhythm. For the UK musician Derek Bailey the action of playing has to be "...realised that it is a person's own investigation of an instrument - his exploration of it - is totally valid." (Bailey, 1992, 98). Improvisation in the research is the incorporation of learning about the self through another. This refers back to Baxter from the definition of the use of dialogue as a "...a simultaneity of sameness and difference out of which knowing becomes possible" (Baxter, 2004). The sameness is in the adaptation of a structure from music, the difference is from the other art practitioners' use of their own materials. Therefore arising extensions of understanding and technique results from the application of improvisation.

The Turkish dancer and choreographer Beliz Demircioglu describes improvisation "as an intimate act" (Demircioglu, 2019, 23) implying that it is without rules, although leaving the practitioner vulnerable, Demircioglu's theory opens up endless possibilities in a quest for discovery. My perception is that this aligns itself to not knowing through exploring a working method without designed boundaries. Demircioglu's theory of simultaneously letting go and shaping (2019) was evidenced in the case studies opening up to the emergence of creative understanding through the dialogue between practitioners.

Bailey, when working with the group of musicians who named themselves 'AMM', described how their working methods included heurism and dialogue through the group and self definition. Bailey writes "The activities of problem- solving within performance and dialogue are techniques which eschew the certainties, the avowed immoveable givens. We are offered upon entry into this life" (Bailey, 1992, 130). In my perception of improvisation, heurism and dialogue are implicitly linked. Through the individual's freedom of communication from knowledge. Bailey's work is in contrast to producing work for a pre-scripted score, therefore perceived as being 'out of control' (Coursil, 2008). Subsequently, improvisation produces a method of communication unique to that individual at that moment of producing; in the case studies this was discovered through the individual art practitioners' art practice.

Although in my research co-production and co-authorship are not directly discussed, collaboration is enabled and realised through co-production and co-authorship. Collaboration in this research is defined as the emergence of an art work between two art practitioners, formed through a live process in what the French theorist and curator, Nicolas Bourriaud (2002) describes as a collective production process through social exchanges. Throughout the case studies there were collaborations formed between the art practitioners. These were in constant flux due to the adoption of improvisation and the different material contents of each of the art practices. The art practitioner's actions changed each of these materials throughout the process. Resulting in what was considered as co-production and co-authorship in the live improvised events. The participating artists were not pre-scripted or had any prior discussion on the outcome and the final artwork was developed through the art practitioners actions within a dialogue between their practices in the live improvised production, therefore collaboration was paramount in enabling the co-working of the art practices.

Not-Knowing

In this research the use of not knowing is defined from the writing of the following artists Emma Cocker, Rachel Jones, Elizabeth Fisher and Rebecca Fortnum. In this research the use of the unknown and risk was an integral element to expand my knowledge, when using

improvisation, that led me to discover how to extend my tonality and rhythm within my saxophone playing. Not knowing can result in changing art practice, as demonstrated in the case studies. An interesting outcome was one resulting in a fresh perspective involving rhythm and tonality. The writer and artist Emma Cocker writes that " not knowing can serve to rejuvenate ones experience of reality, enabling it to be encountered from a fresh perspective, seen through re-enchanted eyes" (Cocker, 2016,76). In the case studies the inclusion of not knowing led to new understanding through unpredictability. These were manifested through the actions of the other practitioners not being able to predict what happens. Which produced an immediacy in my response that was profoundly different to a pre ordered or earlier explored avenues of saxophone playing through a music score. Associate Professor Rachel Jones (2013) indicates that in the absence of knowing what something is or where we are going, we draw on many other kinds of knowledge to open paths. She further explores that practical knowledge through experiential bodily comprehension born of repeated gestures of habit. In this research it is demonstrated through music training which produces acculturation into difference. Change with playing technique was enabled through the techē with the craft and skill involved in making. Jones writes, not knowing presents the practitioner with "The genius to experiment without a plan and allow something unforeseen to emerge" (Jones, 2013, 27). By exploring the unpredictable it opens the receiver up to unique moments of change through the instantaneous reflex action. Which in turn creates new directions for understanding. The UK academic and artist, Rebecca Fortnum writes "...the experience of not-knowing can lead towards new lines of flight conceived as new forms of invention and intervention within reality, rather than performed as an escape from it" (Fortnum, 2013, 76). Arts practitioners require space in which to explore, create and have time for reflection "...for not knowing within the creative process we might be more visible in our accounts of practice" (Fortnum, 2013, 84). The UK writer and curator Elizabeth Fisher uses Mika Hannula's description of the artist research coming from the 'independent expert', as one that produces research through art work in the accumulation of knowledge (2013). When discussing the role of art, as opposed to the art object, the American poet and writer, Patty Holmes (2008) describes the creative potential of not knowing through art questioning our living and being. Holmes further discusses that researchers must step out of their comfort zone and embrace not knowing as a method of expansion to knowledge.

Learning how to let go and to relinquish control opens up possibilities of wider and deeper understanding through intuition. Therefore, allowing the analysis of new knowledge leading to wider and deeper understanding. The South African artist William Kentridge, speaks of his process in drawing and that understanding is established and constructed from mistakes. Kentridge considers that emergence happens through the process and meaning is constructed from that process. Kentridge in a Tate Modern Talk says "constructing meaning rather than receiving it from information" (Kentridge, 2018, 4.29). Therefore the process itself presents realisation using the unforeseen as a direct method in the production of artwork. When considering the theory of not-knowing in music, the American saxophone player Steve Lacy, in discussion with Derek Bailey, described using not-knowing as an essential element for him "For me that's where music has to be - on the edge - in between the know and the unknown and you have to keep pushing it towards the unknown otherwise it and you die" (Lacy in conversation Bailey 1992, 54). This evidence shows how practitioners from, and based in a structured method of learning and playing, recognised the importance of risk and unknown as an integral part of their music processes.

Music

How does music reside in this research in relation to an art practice and within a dialogue? The American ethnomusicologist and writer Professor Matt Sakakeeny writes that "Music is an idea, not just a form, and like any idea, music is a problem" (Sakakeeny 2015,113). In this research, the definition of music is recognised as a structural source of knowledge within the framework of western music theory. It is utilised in the dialogues to achieve an interconnection between the arts practitioners through recognisable patterns of sound. In this research, the definition of music is recognised as a structural source of knowledge within the framework of western music theory as demonstrated by Noë is an "organisation of sounds for listening" and that "Music can engulf us as sound" (Noë 2015, 184, 185). This research utilises dialogues to achieve an interconnection between the arts practitioners through recognisable patterns of sound. Similar patterns of sound occupy known music genres, such as classical, jazz and folk. However, in the case studies the music structure is shifted from the structured source, through

the implementation of intuitive improvisation saxophone playing. Sakakeeny suggests that although recognisable, music has the ability to invite a particular listening that becomes conceptual (2015). Sakakeeny also proposes that music is social through its ability to be in the air "...and thus always socially mediated" (Sakakeeny 2015,118). I would suggest that as all sound is a wavelength that permeates the environment, it, therefore has the obvious capacity for surrounding the listener. This presents opportunities where the visual capability holds restrictions due to the position of the eyes. Whereas sound's potential is expanded using reverberation and sound speaker positioning. This provides the arts practitioner with a set of social tools which include using silence or the lack of sound, together with field recordings, ambient sound and music. This was demonstrated in each of the case studies. Particular reference was made by McArthur's use of field recordings, ambient sound with Bracey's painting and Dutton's compositions using computer digital voices.

Experiences

Experience is the culmination of understanding from our encounter with all we engage. Noë writes "...experiences are temporally extended patterns of active engagement between whole living beings and their worlds" (Noë, 2015,124). He adds that this includes the social and refers to Francisco Varela and Evan Thompson in that brian, body, and the world make consciousness happen.

Noise

The writer and professor of music, David Novak suggests that Music is considered to have "... beautiful and desirable sounds" (Novak 2015,126) whereas, 'noise' does not have intention and is 'unmusical' (2015). Novak defines that through the German physicist Hermann Helmholtz (1885) categorisation of sounds cultural values were produced. This was due to the sound vibration position within the "periodic" or "nonperiodic" table that was devised through harmonic placement. As a consequence, percussive instruments were placed in the same category as incidental sounds from the environment, some of which are defined as noise.

Novak writes "The aesthetics of noise, then, correspond to different cultural valuations of sound, and reflect historical shifts in discourses of musical innovation" (Novak 2015,127). The importance of recognising Novak's position, for this research, was demonstrated in the different case studies with McArthur and Dutton, through their use of 'sound' in relation to my saxophone playing. Therefore two opposing aspects in "periodic" or "nonperiodic" were placed together. This became more apparent in the case study with McArthur, with the addition of digital time delay, distortion was created in addition to glitching sounds. These were produced from the live use of the online internet Skype platform.

Embodiment

Emma Cocker writes that "Knowledge can be concealed tacitly within the body, smuggled across borders". (Cocker,15, 2015). In this research a cycle is formed through my intuitive reactive improvised saxophone art practice within my artwork. I use my breath from deep inside my body to make the saxophone sound. As I play, I listen to and hear the creation of sounds. Making comparative decisions on the progress of the sound through listening, the emotion of the sound is enabled through hearing a personal physical connection. Both hearing and listening, take the sound back into my body. The British anthropologist, Tom Rice underlines that listening opposed to hearing, is the channelling of the attention of sound whereas hearing is often unclear (2015). However, the professor of culture and technology, Jonathan Sterne, writes that "hearing is about affect" (Sterne, 67, 2015). In order to hear, there has to be sound that forms a connection with another which as Sterne writes, presents mutual possibilities that are deeply personal (2015). The body's shape becomes different through the changes in listening and hearing to the produced sound. The unique quality of each body's resonance chamber produces sound that only exists for an individual person. The produced sound is only at that moment of time and has different responses when observing a live artwork produced by another practitioner opposed to reading a music score. These manifest in subtle shifts of attentive oneness with what is being observed as opposed to being guided by a pre-scripted idea of the sound. The American professor of performance studies, Deborah Kapchan writes that our senses through our bodily experience perceive the world through our direct

interconnection with what is being interacted with (2015). There is also a recognition of a multitude of parallel and simultaneous interconnections with the location. These include sounds other people present, smells, temperature and light. The influence of these upon the live event through the exposure to the embodied sound can only be demonstrated through comparison. The attention is narrowed into an inclusivity in what Oliveros describes as 'Deep Listening'. Oliveros writes that " Deep Listening has limitless dimensions…is related to the expansion of consciousness…Exclusive listening gathers detail and employs focal attention" (Oliveros, 2005,15). How would the difference through listening and perceiving the space change the emitted sound? I would suggest that the exposure to a multitude of influences during the live event. Encompassed my body's lived experience which produced an expansive understanding. Thereby this social interaction enriched the knowledge. The tonality and rhythm embraced the social aspect as a part of the widening transitional experience. Therefore, producing knowledge which, due to social inclusion, would have a wider potential in future artwork and research. Furthermore presented possibilities of using the social aspects as an art tool resource.

Intuition

The word intuition is understood as the resulting embodied knowledge from familiar methods. These are arrived at within repeated practice with my saxophone, drawing upon the philosopher and writer Donald Schon who describes as 'Intuitive judgement and skill, the feeling for phenomena and for action that I have called knowing-in-practice'. (Schon 1982, 241). Through a variety of repeated saxophone playing, skills are formed to welcome a form of improvisation that embraces 'not-knowing' (Jones 2013, 1 in Fisher & Fortnum: 2013) as a method of intuitive playing. From this understanding, I was able to reflect on how my intuitive playing was successful in the case studies with the other art practitioners using Schon's theories of 'reflection in action'. Schon writes "They (the musicians) are reflecting-in-action...thinking what they are doing and, in the process, evolving their ways of doing it" (Schon 1982, 56). Through embodied intuition based on prior learning, then using the thesis to reflect on the results and how to transfer these to my own art practice. This use of action and reflection

(Barrett and Bolt 2006) is embedded within the commentary as an investigative method of the art practice.

The Event

In the 'Pedagogy of the Event', Kettles Yard 2014 the British professor of educational studies, Dennis Atkinson defines the event as an exchange of ideas (2014). He sets out his vision, through a parameter or using a confine as a tool in which to deeply explore actions (2014). What is understood by this is that 'the event' itself provides a focus and confine in which to explore an idea, concept or question, in a set of laid out or stated conditions. The event presents a parameter for the possibilities in not knowing, to be utilised as a tool for the expansion of knowledge. In this research, the parameters consisted in a length of time, a designated space, the chosen participants and the particular framework of symposium, radio broadcast, and gallery presentation. In each of the case studies the event presented opportunities in territorial interrogation of sonorous and visual interaction. Generated by the dialogue being open to either participant taking a lead, to follow or to interrelate. This was enacted through the interrelationship and interconnectivity of the art practices. The Australian, professor of women's and gender studies, Elizabeth Grosz writes that "Territory is not the background or context for the eruption of sensory qualities, marks, significations…but rather it is the mark, sensations, qualities, that enable a territory to appear" (Grosz, 2008, 48). This was interpreted through the case studies, by the individual art practitioner's practice displaying its own independent voice. This was demonstrated through the dialogues in the case studies using not-knowing as an art tool in which to expand its own boundaries.

Performance

In the research case studies, a spatial area designed for a transmission of understanding was used to actuate performance. Demonstrated through the interactions of two art practitioner's in the process of exploring their own working methods in their individual art practices. The performance was enhanced through each of the arts practitioner's intuitive understanding in

their own art practice. The improvised performed actions were convened through a discursive dialogue in front of an audience.

The location was chosen for a designated gathering in a social context. The space was used for the production of ideas in what the French writer and theorist Henri Lefebvre described as a relationship "...set up by means of intellectual activity, between the component elements of the action undertaken on the physical plane" (Lefebvre, 2007, 71). In my perception the physical actions became 'performance' that demonstrated the creation of knowledge through art practice. This is in contrast to a performance that was prescripted and re-told.

Sound Art

The American writer, lecturer and musician, Alan Licht, has a two part description of Sound Art his first part being "An installed sound environment that is designed by the physical and/or acoustic space it occupies rather than time and can be exhibited as a visual artwork would be". The second "A visual artwork that also has a sound-producing function, such as a sound sculpture" (Licht, 2019, 6) Sound Art often involves movement, Licht emphasises that it heightens the listeners' sense of place and is a listener to listener experience . Whereas performed music has a transcending connection on the performance place and a relationship of player to listener. (Litcht, 2019, 6) An example of an artwork that both uses space to form an understanding of the sound and also seen as a sculptural artwork can be seen from the Canadian artist Janet Cardiff. She is well known for her "sound walks".

In Janet Cardiff's Sound artwork, 'Forty Part Motet', 2001, was experienced at Tate Modern, London 2017. Separate single voices were heard coming out of forty identical speakers on simple stands in a circular formation. The sound was a rendition of the English composer Thomas Tallis's sixteenth century piece "Spem in Alium". Cardiff's awareness of the sculptural possibilities through sensing the physical nature of the sound was when first hearing the piece on two speakers. The emitted sound for her, was reminiscent of a river flowing. She invited the audience to connect the sound together through their physical positioning in alignment with the speakers.

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Cardiff demonstrated an outside installed sound work when working with the Canadian artist George Bures Miller. One of their installation pieces was situated in a forest. Titled, 'FOREST (for a thousand years…)', (2012), this also has a series of speakers which were placed in a forest clearing. The audience sits on tree stumps. The visual aspect of the artwork is the agora space in which over thirty speakers are located. The sound is a rich mixture of the actual forest and mediated sounds, which includes commentary. Professor of Media History at University of Sussex, Kate Lacey "Sound Artists have long been driven by a mission not only to get people to listen to different things but to listen differently…to make listeners self-reflexively aware of themselves as listeners" (2020. Cardiff and Miller produced an interactive multimedia installation titled Escape Room (2021), Luhring Augustine Gallery, New York. This consisted of proximity sensors, lights, sounds, and handmade models. Demonstrating a constructed use of objects and sound communicating ideas. In this instance, they are conceptualising destruction.

In contrast, the writer and artist Seth Kim-Cohen (2009) references Luc Ferrari's sound piece that documented three hours every day of morning life on the Dalmatian Coast. Ferrari lived in a small fishing village, using microphones on his bedroom window to record the first sounds of morning life. He then produced a sound piece from the files titled 'Presque Rien ou, Le lever du jour au bord de la mer (Almost Nothing, or, Daybreak at the Seashore)' twenty one minute composition, (1967). This shows evidence of how sound artwork interconnects with everyday experiences from independent listening devices. As opposed to directed microphones at a subject. Then editing and re-placing the sound into an art work that engages with the location. Litch suggests that sound art has relationships to movement, including in the movement of people. Sound has the possibility of directing the receiver through different places. (2019). My observation is that sound can utilise space, as in, placing a sound within a located area, for example, a shell, cupboard, walkway, room etc. The individual sound leads the receiver to where it is situated. Therefore, a sound could be in one room and the associated visual image or moving image, in another. It entices the receiver to make a connected link between both entities. Within the case study with Dutton, I would move my live improvised saxophone playing to another room. Dutton's voice avatars would reference my movement with the phrase "I love the sound of the saxophone from the other room". Thereby making connections between the

two spaces. In the case study with McArthur, both participants were in separate countries in different time zones. The sound connection made through internet space encased and formed all of the live sounds, which included glitching, technological and saxophone, together.

Acoustics

Acoustics may be seen as a measurable feature from physics, The music historian and writer on music aesthetics Benjamin Steege illustrates that "...[acoustics] is a way of knowing about sound, one that brings into focus quantifiable aspects of matter, force, and motion involved with it" (Steege, 2015, 22). However, in this research the term is used as an overview in how a situation is heard. This is through the use of sonic containers in the case studies locations including the internet and rooms.

Resonance

The understanding of resonance, in this research, is open to the broader remits and expansion of this term.The German anthropologist and ethnomusicologist, Veit Erlmann writes that "Conflicting interpretations of resonance shed new light on contemporary debates about the precarious interrelationships between sound, aurality, cognition, subjectivity , and embodiment and their broader significance for a cultural critique of modernity" (Erlmann, 2015,181). What is explored in the case studies is the resonance chamber of my body, in transferring sound using my breath. The operation of which is generated through my body's live movement using, what could be considered as a bellows action, separately with my stomach and chest in coordination with my standing posture. There is also the resonance of the located space in which the live case studies take place, this includes the internet space and the two separate rooms in which each practitioner was playing.

Space

American professor of music and ethnomusicologist, Andrew J. Eisenberg outlines that regardless of their definition, sound and space are phenomenologically and ontologically intertwined. Sound has a relationship with motion that is demonstrated through visual and non visual wavelengths. Eisenberg describes that sound has an intimate connection with space, which is through the sound emanating, radiating and reflecting with surfaces.

Eisenberg observes that the sonic combines the physical vibration with the bodily sensation, in both private and public space. Eisenberg is discussing this in the use of sonic sound spaces in the city, where territory is constructed by the user. Whereas in my art practice through my saxophone playing, I see this as embraced through my physical body's interconnection from my private embodied space being placed into a public one via the live event.

Bourriaud (2002) describes how the individual space can offer sociability. Initiated in the aesthetic transposing an understanding both through dialogue with the work and the conversations between the receivers of the artwork. In the research case studies, coexistence that unified the two art practitioner's artwork was formed through the separate dialogues and the actions they deployed in making the individual artworks. Bourriaud asks "does this work permit me to enter into a dialogue? Could I exist, and how, in the space it defines" (Bourriaud, 2002, 109). This is expanded through what Bourriaud (2002) describes as a function of space in being a frame in which the artwork is placed, not unlike a photographic frame or image screen where the image sits, regardless of dimensions of the visual work.

Installation

I believe that installing an artwork, within a placement and positioning into a space adds to the understanding and connection with that artwork. It provides opportunities for development in the art process to change the perceived understanding of the receiver. This is achieved through explicitly incorporating the artwork into the space. For example in projecting into cornices or ceilings of rooms it establishes a direct contact with the fabric of the space. It also adds a temporal aspect throughout the duration of showing. When using sound, the acoustic nature of

the space changes the hearing experience. It presents possibilities for change in the understanding, exampled in the literature review chapter by Cox. The American professor of philosophy Alva Noë identifies that art situations, where art is experienced, are places that present possibilities for something to happen, but also where nothing can happen. The space can offer the artwork room for where transformation is possible (Noë, 2015, 11). The literature review demonstrated the important role that installation and placement of the art content plays within the communication of an idea or concept to a receiver. This is also demonstrated in the chapter on art practice through the work of Hiller, Deller and Birrell.

Chapter 3: Literature Review

Introduction

The literature review provides evidence where the art practice-led research is identified within the context of my own art practice as well as that of other art practitioners' work. I personally 2experienced the artworks enabling me to understand the underlying elements that I drew upon when improvising in live events. In order to analyse interconnectivity with one other art practice and how it changed my own art practice I formed three case studies. This review will demonstrate how visual, music and sound practices' are able to interact with each other in a pluralist environment. These are examined in relation to the research and where my own art practice is situated. The research has then been analysed to develop and enhance my own art practice, with particular consideration to tonality and rhythm.

3.1 Eclectic Methods of Working

This section explores a variety of artists and musicians who use eclectic methods of working. These are analysed in relation to the research, particularly in their use of materials.

Fluxus is considered as an artist group which engaged in the extension of art ideas, for example, Fluxus member Henry Fiynt in 1961 described his performance piece as concept art.

Further to this the Assistant Professor in Art History at New York University, Julia Robinson, discussed the Fluxus artist, Allen Kaprow, during a conversation with Melissa Rachleff Burtt, Geoffrey Hendricks, Hans Ulrich Obrist, and Robert Whitman at the Gallery, Hauser & Wirth, New York, 2018. Robinson, emphasises on how the use of materials is, in some cases, more relevant, than the chosen materials themselves. For example, an artist using a modern material such as perspex, in the recreating of a representation of a human body, merely adds to what has gone before. Whereas, when the material changed 'something' in time and space it became more intriguing to the viewer. Thereby contributing to our understanding on how materials themselves could alter a location, opposed to solely representing another art period. Fluxus was an art movement created around 1960 and by a number of artists including the Lithuanian

Figure 10. Yoko Ono, Serpentine Website, 2022

Figure 11. Moor Mother (2nd from the left) with Irreversibles Entanglements.

Barbican Website (2022)

American artist George Maciunas, who defined the movement as fluxus, derived from the Latin to flow. This movement echoed the changing nature of the group that included artists and untrained and trained music practitioners. Including the American composer John Cage, Japanese artist Yoko Ono, German artist Joseph Beuys, Korean artist Nam June Paik and American artist Rauschenberg. Maciunas described the group as " the fusion of Spike Jones, Vaudeville Gags, children's games and Duchamp" (2007). The American writer on Sound Art, Alan Licht, likened the movement to cabaret Voltaire and the art movement Dada-era performances. He noted the correlation between their non music training, performance and art fusion. Ono has continued to expand and present their artwork, in 2021 at the Serpentine Gallery, London, the exhibition '140 artists' there can be seen as a demonstration of a continuous exploration in this particular art practice. Ono's example demonstrates the expansion of understanding in art communication through text and buildboard use. See Figure 10. Camae Ayewa is an American writer and performer who also uses text in a contemporary manner in a similar way to Ono's artwork. Ayewa also is known under the name of Moor Mother, a spoken word artist. I was fortunate enough to listen to Moor Mother reading passages from her work in a performance with the musicians 'Irreversibles Entanglements' at the Barbican on the 2nd February 2019. Moor Mother uses the unexpected technique of using spoken words in conjunction with the improvised jazz playing from the musicians.

What I observed during their live performance was an interaction of voice and music, in which the relationship offered diversity against the traditional interlinking use of music notation in the vocals. Moor Mother's spoken words were entwined within the live music provided by the other musicians. This performance evidenced a unique and diverse interaction between voice and music. By observing the tonal and rhythmic shapes formed from her voice when using both sound and words expanded directions within my artwork.

Also performing in this live event with the Moor Mother and 'Irreversibles Entanglements' was the American saxophonist, spoken and written word and sound experimentalist artist, Matana Roberts. Roberts is renowned for her use of imagery and sound in live performances. In her web profile, Roberts writes that they are interested in sonic experimentation, through a

Figure 12. Image from Vimeo.com/ 226000316

lens, of amongst others, indurance, improvisation, and layers of cognitive dissonance (2022). Roberts also makes videos, spoken word and sound pieces. Her artwork reflects American Black history with a strong political ethos and spirit. In her black and white video 'Mississippi Moonchile', (2011), Roberts, plays saxophone, sings and shouts a statement repeatedly about representation and being a woman. In order to emphasise her message, her words become louder and less coherent with each repetition. Robert's combination of imagery, sound and video aesthetic potentially produces an eclectic contemporary statement of intent to the audience. As does her artwork at the Whitney Museum of American Art 'performance as process' (2019). Where she plays a saxophone whilst creating distinctive and defined paintings. Figure 11. Robert's interrelated use of her voice demonstrates how a musician is flexible with their instruments. This differs from a convention where a singer is led by and reliant on the music score, producing an expectation of the following sounds.

These techniques evidence how artists such as Matana Roberts, Angel Bat Dawid (see below) and Blanca Rangina (see below), who are predominantly musicians amalgamate other art materials to communicate their intention. By analysing how these musicians work with other art genres and materials enables me to compare their methods in relation to my art practice research. In particular, when exploring the research question 'What are the underlying elements that I draw unknowingly upon when improvising in live events'. I analysed interconnectivity with other art practices and how it evolved my own art practice. This analysis includes the following music artists integration of visual movement, voice and music. I explored their use of distinct visual aspects in their performance and how the artists communicated their perceptions. Through observing Moor Mother's and other artists Black culture in American music history, I was able to consider how to present my artwork within perimeters of an installation and further explore, is there a start and finish to the art piece within a context or is it more of a continuum? By considering other musicians' use of their performance I was presented with different working methods. One method is the placement of an artwork within a space irrespective of whether that space is a frame or room. Through analysis of how placement is explored through positioning of people and sound in a space, I was able to transfer these techniques into the use of rhythm and tones within a framed area.

The American, Chicago based musician Angel Bat Dawid, performed on 16th November 2019, at Kings Place, London. Bat Dawid captivated her seatless audience by entering the auditorium through the side door performing her introduction with her band. Each musician interacted with each other demonstrating communication through the use of sounds, spaces and physical gestures. The parameters of the work were; music, performance, spoken voices, which were enacted out in the opening and closing to the artwork, music event. My perception was that they were emulating the actions of street musicians, in a procession to announce an event. Also ending this music event through the procession exiting the auditorium by the same route. This action presented a traditional American black music context through a street performance underpinning a historic profile used in New Orleans.The relevance of this performance to my research was to further discover methods of instilling actions with sounds. The artists exhibited how placed music is interwoven with voice through exploration of different music playing avenues during the concert. For me this demonstrated a method by which to frame artwork. Achieved through the interaction between the live visual actions of the musicians when making their improvised sound. Directed and interacted by an overriding, but non-direct conceptual understanding. Therefore, demonstrating how a framework can be achieved through simple actions. This technique could be likened to the way an artist uses objects or devices within an installation, or the placement of content within a frame or edge to a video or photograph. A technique that connects to my own practice through my use of overlapping the visual frame with tonality in live sound and image placement.

Another live performance that provided Black Top is a jazz duo created by the London born pianist Pat Thomas and British, multi-instrumentalist, Orphy Robinson. Thomas and Robinson's performance methods differ from the more historically located performative one from Angel Bat Dawid. However, they utilise history through their use of a musical dialogue when playing their instruments. In each of their performances Thomas and Robinson invite various spactically chosen guest musicians from different music genres, including improvised jazz and classical music. One particular Thomas and Robinson performance I observed at Cafe Oto in Dalston, London, on 27th August 2016 included the American percussionist Hamid Drake and American bass player William Parker. Each musician engaged in an exchange of

ideas using music aesthetics. This inclusion of Black Top in their performance in the forming of live music, is to evidence how musicians were using what I perceived as dialogue. This dialogue was produced through knowledge of West African polyrhythmic playing, intervallic music note combination interactions with each other. The musician's communicated through a continuum of music for an hour. Their performing methods included techniques with visual expressions to one another, using smiling when individual unique playing techniques were applied, eye contact and self reflective nodding. Revealing a use of not knowing through what the artist and UK writer Emma Cocker writes as "Not knowing can serve to rejuvenate one's experience of reality, enabling it to be encountered from a fresh perspective, seen [heard] through re-enchanted eyes [and ears]" (2016, 76). Therefore, demonstrating, through these small nuances, the distinctive nature of the event. Subsequently suggesting new music note progressions or timing were being used for the first time. Therefore, they were using improvisation to produce new directions, in the dialogue using music as a device to exchange ideas.The dialogue was seen here through a live action event used to express ideas on cultural history through music interaction in front of an audience.

This example was important because this demonstrated to me a way in which dialogue could progress and develop new ideas between art practices. Initially used as a learning method to extend my tonality and rhythm within my own art practice. Therefore, developing the learned possibilities in order to advance my communication skills when working with a directed intention within a conceptual base. This event echoed the views of Pat Thomas in his article "The Trouble with Jazz history" (2019). When he writes that there is a lack of acknowledgement of the historic impact West African Music had on the roots and contribution to our understanding of Jazz. The performance at Cafe Oto personally allowed me to experience the West African Music roots. The musicians expressed themselves through their different methods of playing, choice of music notes and rhythm displaying their floorless interaction with each other, in what I perceived to be a dialogue.

I compared my experience of observing Black Top to when watching the British saxophonist John Butcher, again live at Cafe Oto. Butcher is a renowned composer and music practitioner in

the field of 'free improvised jazz'. He has performed with a variety of musicians and artists. An example of his music practice is the recordings from 'Ausland' weekend (2019), performing with other musicians, Magda Mayas and Gino Robair. I used these recordings as a reference of how glitching and industrial sounds combine with the saxophone as a technique in their performance.

However, in this review, Butcher is particularly referenced for his use of music theories within Levine (1995). This is in particular reference to when Butcher was playing with Liam Nobel on drums and John Edwards on bass. I was aware of their use of 'free jazz' as a concept, which appeared to be the overriding element. For myself, this use of a concept removed any direct dialogue between the musicians. When speaking with Butcher, after the event, he explained to me that my understanding was correct and the purpose of using 'free jazz' was to explore his theory through the live performance.

In comparison Butcher's free jazz playing techniques oppose the formulaic playing methods of the Julian Siegal Quartet, in that they present a difference in each hearing. Julian Siegal has an established use of music note structure and improvisation over a pre-structured music note combination. His music form has a precedence over improvisation that does not incorporate not knowing.

3.2 The Acoustic Element

This section analyses uses of space as an acoustic element within the research and is discussed within the case studies. In order to answer the research question, what are the underlying elements that I draw unknowingly upon when improvising in live events? It is important to investigate the role and use of the location and space in which the case study took place. In particular it will make reference to the influence this had on the changes made in my saxophone playing, especially with rhythm and tonality. Subsequently, the following section evidences use of acoustics within specific locations.

Figure 13. Trevor Cox Website (2022)

During another music event when listening to Butcher's acoustic saxophone playing I questioned his choice of saxophone playing in relation to different acoustic spaces, such as caves, industrial towers and tunnels. Butcher uses the saxophone music ideas above other possibilities. Which is an example of where the musician places his own saxophone playing language upon a place or space. He opposed using location as a place perceived as an entity to engage with eliciting an idea to form an exchange of sound with the location itself. Therefore making a comment on our physical coexistence within the acoustic space. An example of this is seen in the conversation on acoustic spaces between Bernard Leitner and Ulrich Conrads in 1985. Leitner suggested that acoustics tie a person into a room at a particular time in that a person creates the resonance by reverberation through an activity that creates sound, including the person's breath and steps. Leitner believed that when this is achieved this has an impact on "our innermost being" (Leitner, 2015). He suggests that this is a dialogue directed by the acoustic which enables the recipient to experience themselves in the sound of a room.

The British Professor Trevor Cox is a researcher in acoustic engineering at Salford University and defines himself as an explorer in sound and acoustics (2012). As part of his research he plays saxophone in similar acoustic places to John Butcher. In his research pieces he documented the relationship between his saxophone's sound's interrelationship with the space. Discussing how he achieved creating the longest recorded echo. By producing sound wavelength graphs which demonstrated the spectrum difference in the notation. This can also be heard on YouTube (url).

The research scientifically evidences a direct collocation, through sound, between the physical human body, and the acoustic space. This impacted on my research practice by evidencing the direct link between the acoustic space and the emitted sound from the human body via an instrument. I utilised the research in the case studies with both Barcey and Dutton.

I consider that Cox's interrelationship with the acoustic space has parallels with the American musician and writer, Pauline Oliveros embodied knowledge. Demonstration embodied knowledge through the human experience of direct connection to an object within the acoustic environment. This is reflected in my own art practice when I play my saxophone, particularly in my use of breath and with my physical connections in my body's frame and finger's touch to

convey the interrelationship with the acoustic space. Initially using memory of the music theory was overcome by intuition taking control of my saxophone playing improvisation. The Turkish dancer, teacher and choreographer, Beliz Demircioglu writes that when using improvisation, rules created in preconceived intellectual driven ideas are suspended. It is the intimate embodied actions the practitioner is left refreshingly naked and vulnerable to endless possibilities (2019). In her book, 'Deep Listening A Composers Sound Practice' (DATE) Oliveros writes that the breath is "the consciousness and unconsciousness, the inner and the outer" (PAGE), embracing the idea that improvisation is a performance of intuition using breath as a playful and resourceful use of sound. I relate this to Cox's use of breath when playing his alto saxophone in an interior man made concrete structure, where he plays one note at a time (2014). The space itself formed a music chord, through the echo of one note sounding upon the next played music note. Therefore there was a direct physical connection between the human body and the interior location that resonated into the production of sound. It also demonstrates our direct relationship to our surroundings and the use of a formed collaboration. Suggests that embodied shape of ourselves also produces an individualised sound shape in our world. A sound shape that when considered in my art practice resulted in the formation of an artwork, either in conjunction with visual imagery or performance or sound artwork.

During this practice research I used a precise interconnected approach influenced by the dialogic techniques used by Black Top to develop my saxophone playing. This can be seen in the case studies, I used the visual or sound that is returned to me, to not only expand my intuitive playing methods but also to extend my embodied knowledge that produced my saxophone tones and rhythms. These techniques enabled me to relate this to the development of my sound and visual art practice.

3.3 The Live Performance

This demonstrates how artists and musicians use visual art practice in live performances. In order to find ways of connections between sound and visual art practice I watched the London

Figure 14. Balance Ragina Whiteemotion Website (2022).

based, Spanish artist, teacher and curator Blanca Regina. I was looking for ways to both connect my saxophone sound with another art practitioner's work and integrate my sound within my visual art practice. This was, firstly, in order to extend my own saxophone playing. However, later, through experiencing this aspect of art practice, I recognised ways in which I could explore possibilities of interconnection with my image making and saxophone playing. Furthermore, gain a deeper understanding of how two art disciplines work together. I experienced a fascinating association of visual elements with sound. I was able to analyse the alternative approaches to deepen my own art practice. Primararly the case studies with Dutton and Bracey to forge interconnectivity with my live playing with live vocal sounds (Dutton) and live imagery (Bracey).   Regina uses an eclectic mix of video, voice and physical body movement with microphones. In Regina's video interview for the British Music Collection online she defines themselves as a "discovery platform" run by Sound and Music, an organisation for New Music. In the discussion Regina speaks of her preparation for her performances in free improvisation. She outlines the 'elements', that include toys, her voice, audio visual computer software and live projections. Using these to project sound and visual expression around a space in an illustration of free improvisation, objects, such as a glitter ball, were spun on a string. The resulting movement produced a sparkle of light around the performance space. In another part of the videoed event, Regina's vocals produced a projected visual white wavelength on two walls of the performance space. This demonstrates how an artist and musician incorporates a direct sound imagery form. Using this to demonstrate the momental qualities of improvisation, Regina unifying these momental qualities through both imagery and sound to the receiver. Figure 14. This archive resulted in my discovery of how the liveness of a performed improvised event contributes to an artwork. From my analyses of these achieve sessions, I adopted methods to explore within the case studies, especially with the use of the glitch from McArthur's artwork.

The British musician Steve Beresford, plays a variety of instruments that include piano and euphonium. Beresford predominantly uses free-improvisation to explore collaborative projects with musicians and non-musicians. These are viewed in live events throughout London venues,

Figure 15. Marclay and Beresford Siglio Website 2022

such as Cafe Oto. The inclusion of Beresford demonstrates the unison between musicians working with arts practitioner's such as Christian Marclay and other art genres. This includes photographers, filmmakers and digital artists. Beresford also expands his own music practice through his choice of different materials from which to make sound, these include plastic toys.

In 2020, Beresford with the Swiss artist Christian Marclay produced a book titled 'Call and Response' of photographs and music, Figure 15 . The isolation of Covid presented an opportunity for Marclay to photograph the deserted London streets. Whilst doing so he reflected on how the contents of the images would be represented in music. Sending these to Beresford, and through virtual discussion, asking the question, how would this image be translated through sound? The corresponding music responses formed an interconnected book that commented on the Covid situation, stillness and isolation. Marclay wrote that the images were of a world of barriers, enclosures and gates. That sound and notation broke through these. The resulting collaboration was a reflection of a poignant moment, through image and sound. Demonstrating a process of a collaboration of music and photographic practice that directly interacted with each other to form one understanding of a global event. The art work 'Call and Response' presented an interrelationship that echoed a method of working with another artist. Although not directly correlating to my use of a live event, however, offered an understanding of how image and sound impact on each other.

3.4 Responsive Actions

The following section explores performances that use responsive actions involving different objects and materials to produce live artworks. Thereby demonstrating the effective use of materials that are not traditionally connected to the music persa. This was further explored in order to establish alternative methods of production in relation to those utilised within the case studies.

Figure 16. IKLECTIK, an AV night Unpredictable Website (2022).

Together with Blanca Regina, Beresford co-curates live performance events, these include the "Unpredictable series" which illustrates how a variety of musicians work with video.

One of which was on 15th February 2020 at the London arts centre, IKLECTIK, an AV night curated and organised by 'Whiteemotion and Unpredictable' (Regina and Beresford) Figure 16. The online images present a variety of image and video techniques and subjects ranging from abstracted colour to graphic art.

Regina and Beresford's positive aspects and strengths of their music practice methods were the relationships in sound. These were developed with a variety of unique object paring, for example, Beresford, when using improvisation as a technique he opened the piano and played the interior strings with utensils including toys that created sound that related to piano string sound. Another example was when working with video visuals from very diverse starting points. In an interview between Beresford and the British writer, broadcaster and sound artist, Rob Worby in March 2020. Beresford's interview was part of his three day residency in Cafe Oto titled 'PIANO, TOYS, MUSIC & NOISE' (2020). Beresford speaks of being liberated from the formal aspects of music training when looking at artist methods of painting Beresford (2020 Time on sound file:105.56). Worby spoke about an interview he had heard by the British art historian and writer, David Sylvester. (2020 Time on sound file: 29.47) Who had interviewed and known a number of renowned fine artists, for example Picasso, Giacometti and Hepworth. Worby said " …the interviewer asked what do you think connects all of the people you have interviewed? He (Sylvester) thought about this and said. None of the people know what they were doing" (Worby, 2020). Therefore implying that there was an element of improvisation and not-knowing,in their working process. the UK artist and writer Rebecca Fortnum when writing on the use not knowing as part of the art making process, writes on "the quest to know" and quotes the artist TJDiffey

> "He (Diffey) explains the lack of an available predictive model for artistic endeavour"
> "To create is to engage in undertakings the outcome of which cannot be known or defined or predicted…" (Fortnum, 2013,70)

Figure 17. Regina and Beresford Unpredictable Website (2022)

The conversation between Worby and Beresford identified the connection between artists and musicians' practice. The beneficial discoveries I had from exploring their interrelated and individual artwork led to me developing strategies within my own art practice. Such as, opening up to possibilities of using moving images and also working with digital sound and live saxophone playing. These discoveries have led to the research investigating how musicians and artists relate with each other when in a live event, analysing their processes for use in the case studies.

3.5 The Interrelationship in Live Events

Section considers how musicians and artists interrelate with each other in live events. Beresford when speaking on playing with other musicians says he engages in " Group playing as negotiation" (2020). His use of the word "negotiation" implies to me a form of conflicting interaction, one where the other participant's artwork challenges another.

The reason I was looking for possibilities in dialogue was to observe how other artists use dialogue either through collaboration or co-production of an artwork. In order to compare and develop my use of dialogue in my research. The importance of analysing Regina and Beresford's working method was to question what factors influenced the development of a dialogue. Regina and Beresford's (Figure 17) method of playing was overridingly concerned with the conceptual idea of 'free improvisation', my perception was this did not create 'a dialogue' between the participants. Although very engaging and progressive in the use of aligning visual art and music. As with, Butcher's free jazz improvisation approach, which incorporated the concept of free jazz improvisation, took away direct dialogue with the other musicians.

The British percussionist and multi-instrumentalist musician and artist Terry Day is another participant who contributed to and is directly connected to the 'Unpredictable series'. I am particularly interested in Day because of his interaction between his own paintings and how these related to his music practice. In video interviews, 'The Art of Terry Day' (2015) Day

Figure 18. Time 6.25 https://www.youtube.com/watch?v=kUmPIPJfil8

'Unpredictable series' (2015)

speaks of his use of improvisation through his drawings and use of percussion. He explains how he does not hear music or see the image prior to playing or drawing. Therefore offering an example of how the process of making the artwork is inherently a part of the artwork itself. He exhibits the use of improvisation as an implicit action.

Day gave a performance piece with the British Artist Marcus Coats in 'bemagnificent.co.uk' 2017, at the William Morris Gallery, Walthamstow. The performance was part of an exhibition from the alumni of Walthamstow School of Art 1957-67. Throughout the performance, the audience were invited to verbally ask questions. Coats and Day offered an alternative response to the questions through the use of percussive instruments and physical body movement see figure 18. Thereby demonstrating how an artwork is used as a communication tool based on a position of art practice itself.

3.6 The Conceptual Art Approach

This section considers how artists use conceptual approaches within their artwork. The UK art museum and gallery Tate Modern, defines conceptual art as an artwork that is formed out of any art materials, including performance, writing and sound. Unlike painting or sculpture where the artist is concerned in how the materials created the artwork. Conceptual artists use any materials and form to communicate their ideas (Tate,2022). The term conceptual art was first defined by the American artist Sol Lewitt (1967).

> "In conceptual art the idea or concept is the most important aspect of the work. When an artist uses a conceptual form of art, it means that all of the planning and decisions are made beforehand and the execution is a perfunctory affair". LeWitt, 'Paragraphs on Conceptual Art', Artforum Vol.5, no. 10, Summer 1967, pp. 79-83

My use of music western structure is directed towards communicating a conceptual idea. As defined using Nicolas Bourriaud's reference, in the chapter on art practice, as 'a set of problems'.

Figure 19. Creed, Martin Creed Instagram 2022

In this review I reference a saxophonist whose work has a similar approach to a conceptual idea, opposed to a musician who has a traditional approach to music. The American musician, Steve Coleman, is a saxophonist who examines how music structure can be incorporated into what can be viewed as a music practice. His methodology is a resemblance of how an artist creates an artwork using a conceptual idea. In that Coleman's work is designed to connect with an outside concept initiated by the practitioner, using alignments of his saxophone sound and mathematical measurement with the Planets. He used Earth as a 3rd (note) in a relationship to Venus as the 7th (note). Coleman paid particular attention to his use of chord structures based on and his written commentary; 'concepts of dynamic equilibrium that exist in Nature which can be reflected in musical languages' (2010, 78), thereby specifically exhibiting his use of pitches in a relationship to his conceptual ideas.

The UK conceptual artist Martin Creed has been selected as a particular example of an art practitioners' approach to music within their artwork. Creed offers an alternative approach to Coleman's use of modern western music theory. Through Creed's use of actual objects, in pianos, lifts and asking musicians to perform actions.This research review focuses on the work performed at the Barbican Centre, Milton Court on 25th January 2019. During Creed's live talk at the event, on his use of music scales and notation in this performance, his relationship to western music theory is evidenced.

An example of this is identified in 'Work No.3025' for String Quartet. Figure 19. The Salome string quartet performs unified actions and vocalised sounds as well as the music from their instruments. As an audience member, I experienced what I considered a naive and clever use of basic music construction. To my trained ear this sounded, not unlike, warming up scales. My impression was that Creed was making a comment on how playful and unserious music could be. He continued the evening with his humorous take on music by performing the 'Work No. 2890 Bum Piano', in which he played the entirety of the piano from low to high notes whilst sitting intermittently on and off the keyboard. Creed used his musical ability and conceptual ideas in relation to western music note structures. Subverting these through his performic

Figure 20. Creed.youtube.com Website 2022

Figure 21. Nauman, Panzacollection.org Website

interaction with the instrument, leading me to see possibilities of interaction between two art genres.

Creed is also seen as an example of an artist known for an eclectic approach with materials in their art practice. For example, objects, sound and painting. These can be seen in 'Work No. 409 The Singing Lift' (2005), Figure 20. Mechanical metronomes Work No. 223 (1999), 'Toast' (2019) an exhibition of his paintings at his gallery representatives, Hauser and Wirth, London and live performance runners in the Tate Modern 'Work No. 850' (2008). In 'Work No. 409 The Singing Lift' 2005, Creed has produced a music piece for a choir and a lift in which there is a direct correlation between voice pitch and lift height. The inconnection between the actions of the lift and the pitch tonality of the choir's voices do not respond to an actual acoustic relationship. However, unity is applied through the understanding of the observer's knowledge of music note pitch and distances in height. The lift is a clever inherent part of the art work. Whimsical and a pionient reflection on our use of the ordinary and everyday that is often overlooked and undervalued. I consider this an example of Installation art, in the use of the lift itself and implanting of another entity. This conceptual use has both informed and developed my own installation art practice. The final application of my artwork content has a direct and considered relationship to the exhibited space whereby the location becomes entwined with the conceptual understanding of my artwork.

I would suggest that sound and dialogue, when viewed as a material for communication has the capacity to create change in the location's dynamic. Like Creed's lift, another demonstration of how this is used is evidenced in the artwork of the American artist, Bruce Nauman. An example of this is shown in his artwork 'Touch and Sound Walls' (1969). When the gallery viewer enters the space, they are invited to touch one of the two walls. They hear, after a short delay, an echo emulating from the second wall. This is due to the forty foot distance between the two walls, creating sound delayed confusion through the sound displacement (Lewallen, Bowen, Mann, 2018). In Nauman's 'Diagonal sound wall' (1970) (fig 21), acoustic materials are used. By using materials associated with the emitted sound reinforces the viewer, listeners perception of

The White Bear Effect 2012

The White Bear Effect 2012

The White Bear Effect 2012

Figure 22. Cornford and Cross www.cornfordandcross.com

the 'sound' nature of the artwork. In doing so, cleverly, bringing visual focus to the conceptual element of the work. Therefore, further illustrating how the situated artwork can control the located space. My question would be how does the initial purpose of the place or space contribute to the reading of the artwork by the receiver?

3.7 Artists' Use of Not-Knowing

This section looks at artists who use not knowing as an integrated tool in their art practice. The inclusion of not knowing is explored because of my continual integrated use for exploration and expansion within my art practice. The UK artist Emma Cocker speaks of not knowing in that "The experience of not knowing is conceived as provocation that prompts investigation…a gap in existing thought that must be filled " (2016, 69). Cocker continues that this produces a bridge from which grows the production of 'new knowledge'. The UK artists David Cross and Matthew Cornford, writing about their work in 'On Not Knowing' (2009), say that their working methods use discursive processes through dialogue. Cross writes on their method of "...making context - specific work involves sustaining a condition of 'not knowing' in order to engage openly with each particular situation" (2009,32). Continuing with that they use the context of their artwork to direct their actions and materials. Therefore, when viewing the location, neither artist has a predetermined idea but engages in a dialogue with both each other and the location itself. In their artwork 'The White Bear Effect' (2012), they comment on their use of the artworks screen as a technical artefact and perceptual phenomenon. The artwork used a light emitting, LED screen, presenting the viewer with both an 'experience' from an artwork. This displayed various videos from the Olympic Games from all around the world as a compilation of differences in cultures. Cornford noted that due to the technical components of the LED screen, emitted light either produced a flow of images or a 'wash of coloured light'. Therefore, the viewer's experience was dependent on them choosing to move in relation to the flow of images or have the colours' flow over them'. Thereby, according to Cross, the receiver engaged with 'not knowing' through the interaction with the condition of visual cultures (2013). Figure 22. I would also suggest that through the positional movement of the viewer, 'chance'

by artists on these processes when making artwork. Cocker expresses how new knowledge is arrived at through using not knowing as a working method. To conclude this has been evidenced through citing artists, ideas and personal live observations of how practitioners develop art practice and artwork. This chapter has demonstrated where the research and my art practice is situated within music, sound and visual areas.

Chapter 4: Art Practice

This chapter explores Art Practice used as a method of development.

This chapter will invite the reader to consider how art practice is continuously in development. The importance and value of this research is to reveal how art practices in general enable change when engaging directly with other artists' practices. In this research specific instances show how this has been achieved through direct interconnection with live improvisation that produces development and evolving self expression in tonality and rhythm. As a result the use of art practice itself formed directions in how to communicate my deliberate intentions manifested in my artworks. Bourriaud (2006) describes art practice as the creative behaviour of the artist that produces art work. He discusses the intention to communicate as a function through artist's presenting the receiver with a set of exchanges. I will discuss the definition of the art practice process of making work together with making a comparison between my own art practice research and that of art practitioners' art practice. In order to achieve knowledge in how to extend my abilities in tonality and rhythm. Bourriaud's theories enabled me to discover the variety in the content that is utilised within different art practitioner's art practice and explore the progression in change and how other art practices influence these changes.

This explores art practice through Bourriaud. Referencing his writing in 'Relational Aesthetics' (2002). Relational Aesthetics is how an artwork relates to something other, that is outside the artwork itself, for example, another artwork, location, musician, and artist in the process of making their artwork. In the live case studies I use, relational aesthetics through what Bouriaud describes as " interhuman relationships" (Bourriaud 2006) . This interhuman relationship with my artworks and the receiver is through my use of saxophone sound. In this context Bourriaud's theories are important because they identify with the artist's practice and their 'behaviour' as a producer. In each of the case studies with Bracey, Dutton and McArthur there was collaboration in the forming of artwork. Initiated through the methods and processes in working that included the use of glitching, brush strokes and spoken word. Collaboration was achieved through a

subtle interplay in the dialogue where each practitioner expanded their techniques. Thereby operating in the active production of an artwork often resulting in co-authorship. Alternatively, co-authorship in an artwork could also be enacted after the production through the observation of the artwork by a receiver. This includes the receiver's perception, through viewing and or hearing the artwork. Bourriaud determined how the artist has a relationship with people which stems from their interrelation with their artwork (Bourriaud 2006). In other words the art produced is a means of communication; it provides the intention, ideas and concepts which are communicated from artist to receiver.

In this research, collaboration was utilised as a tool in art practice, and is defined as using another practitioner's art work. This was as an integrated affiliate from which to ricochet ideas. It was achieved through an agreed set of conditions to work with a time limit, a location and a dialogue through live improvisation. Bourriaud continues that each artist's work uses 'forms', 'a set of problems' and the artist's own individual 'trajectory'. My understanding of the above is that this is a production process approach. I interpret Bourriaud's 'forms' as the tools, such as paint, sound, photography, stone and digital input which are used to communicate a premeditated intention. In addition, a tool in art practice can also be the usage of observation, thinking, reflection and assemblance of knowledge. Through personal observation of other practices in art, music, design, etc I saw their method of communicating a premeditated intention. All methods allow for the contemplation of ideas outside of the making of the art work, to include environmental, social and cultural. These are enabled through the implementation of dialogue, debate and discussion inside and outside the art sphere.

The following discussion will identify the processes in which artists' construct and transform their work into bodies of intention. This includes the physical production of an art work, influences, processes, ideas, materials, decisions, skills, and informed use of tools. For example, to express their intention an abstract painter using areas of painted colour next to each other. Whereas, to frame an area of my subject, I use a set of music notes, rhythms and the space in which the sound is received. This presents the receiver with a variety of timbres and rhythms

from an embodied source that engages the dialogue. My intention is to have a sound connection with the subject that produces a change in the observer or listener. In order to achieve this transference my artwork goes through transformations, I initiated and immersed myself in my previous understanding of my subject matter and implemented the continuous absorption of knowledge. Consequently allowing refinement of my art practice and enhancing my communication skills.

In Bourriaud's writing the 'set of problems' are the intentions that are to be communicated to the receiver from the individual direction of the artist. In my artwork I used photography and video as art tools including the use of colour and rhythm in photography and video. These are seen as an indexable process which conveys a recognised subject. However, my approach through my art practice is to work with 'a problem' as opposed to the subject itself. For example, in much of my artwork, 'the problem' is in the semblance of an encounter, designed to produce a transformation in the receiver's understanding of a non-human animal species. My intention is to use the concept of 'encounter' as the overarching device to create approaches and interconnections. Therefore, the final artwork produces an 'encounter' with the receiver. My artwork is produced through interlocutors using live dialogue which is formed with other art practitioner's artwork. Although there are other associated dialogues with materials, sounds, shapes as well as physical links to the event space as location. The artwork invites an exchange of ideas from artwork to recipient. Welcoming the cultural and historic perception of the receivers, viewer, and listener. As referenced in the literature review, Black Top refers to history through their choice of music forms using a Jazz foundation in their dialogue, both with each other and the audience. Thereby demonstrating how knowledge in music is transferred between musicians. From this collective knowledge the understanding is interpreted differently by each audience member, based on their own perception of the emitted sounds.

Noë asks us to consider an alternative idea to music being distinctively tied to sound and that when we listen to music we listen to the actions of the performers. Therefore sound has a relationship to the visual. Noë continues that paintings, although concerned with the visual, are

Figure 23. Acrylic on Canvas Southgate, G (2022)

also objects (2015). Noë writes "The idea that a piece of music is just a patch of sound is no more plausible than the idea that paintings are just visual impressions" (Noë, 2015,185). The relevance of demonstrating an artist's use of colour and analysis, is in consideration to my music tonalities evidenced in the case study with Bracey. Noë (2015) describes paying attention to the art work, demonstrates that the observation of sound is a tool used as part of their processes in making artwork. This next section explores artists and musicians with particular reference to painting and music. During live events I have experienced artists who produce paintings based on the music, while the musician plays on stage. The following artists demonstrate how art practice engages with and is dependent on working with live music and musicians. The UK artist Gina Southgate (Fig 23) is renowned for her production of live paintings during jazz music events. Southgate has worked with Regina, Beresford, and in residencies during the London Jazz Festival, We Out There Festival, and Jazz in The Round. Residencies are mentioned to demonstrate the live nature of her prestigious work, one where Southgate paints in the same space and at the same times as the musicians who she is with. Therefore the viewer is exposed to live paintings being constructed at the moment sound and music are also assembled together. The Netherlands band the EX, also have live artists painting at some of their music events. Both produced live painting however, the main difference was Southgate has a very figurative approach whereas artists working with the EX were producing abstract painting. When considering these artists working with musicians, I was struck by their visual predictability, and lack of independence to the music and emitted sounds. Through observing their processes I considered how the tonalities and rhythms in sound could be interwoven through dialogue. This question led to the case study with Bracey in using the relationship of my saxophone sound and a painter producing an artwork.

Bourriaud demonstrates how the 'trajectory' (Bourriaud 2006) is used as an individual method by which each artist chooses to develop their intention. Therefore, the individual artists' art aesthetics are the self expression and communication of an idea that is outside the produced artwork. It is constructed through actions in the process of making, reflection and analysis using art tools.

Figure 24. Rough Seas Hiller (2015)

The American, UK based artist Susan Hiller, in her exhibition at Tate Britain in 2011, presented different methods of working using a variety of materials. These included her artwork titled 'Dedicated to the Unknown Artists' (1972–6), where her photographic imagery was in the form of postcards. 'Rough Seas' (2015) Figure 24, also used postcards as part of a visual mapping of the UK coastline. Demonstrating how another's view of a place, object etc can inform your own and produce artwork. In 'Witness' (2000), 350 sound speakers were hanging from the ceiling, each with a different person vocally describing their psychic experience. The gallery viewer chooses which speaker to place against their ear. This allows them to listen to various people's visual recollection of their own psychic encounter. The incorporation of listening brings the audience into focused attention (Noë, 2015) to the individual voices that form the art work. Thereby demonstrating how listening becomes an integral part of the art experience, one which obviously replicates sound events. Subsequently, demonstrating cross fertilisation between art genres.

The photographic and text artwork '10 months' (1977-79), describes the process of Hiller's pregnancy through personal reflection of the embodied action of pregnancy. Artist tools (Noë, 2015) can be separated into ones that construct the artwork and those that develop the ideas.The x-ray imagery presents the viewer with an internal view of the development of Hiller's baby's growth. Presenting a personal internalised view of an embodied experience. Although in sound, the direct physical engagement my body has through my internalised breath producing sound, also demonstrates embodied actions which produce artwork. Hiller's artwork of embodied experience is in the use of materials. Hiller's is a preplanned, purposeful considered artwork using an image of an image to depict change and time. Whereas in my use of embodiment, I combine a unique breath with intuitive action within an improvised moment of live playing to investigate dialogue. Both reveal embodiment in different ways to explore ideas and construct artwork. In the artwork 'Lucidity & Intuition: Homage to Gertrude Stein (2011), Hiller invests in found objects, using a bookcase containing books to commemorate Gertrude Stein. The use of objects as part of the art process is also seen in the performances of the musicians Beresford and Regina, who utilise amongst other objects, DIY instruments and toys. This is interwoven with voice, piano and electronic sound, at the Vortex Dalston (2022).

his writing that we are all instruments, self vibrations of sound (Kapchan, 2015). The tenor saxophone moulds into my body, producing sound from the depths of my breath. The connection between myself and the instrument resonates with me in the way a paint brush would extend my colour field.Transferred through breathing and touch via my fingers, echoing Cocker when she writes "Ideas become located at the fingertips or along one's taste buds" (2016, 15). The use of my body presented me with a method by which I could interweave with my visual subject matter. I was looking for approaches that would include sound techniques to facilitate another direct embodied experience to my art practice. By bringing in my live improvised saxophone playing, I re-connected myself to my art work through the embodied knowledge concealed in my breath. Although working with a different context, my approach resonates with the working methods utilised by Matana Roberts in 'performance as process' (Whitney Museum, 2019). This is in particular reference to her connection with her visual elements in a live performance. This is unlike Regina and Beresford's use of objects in producing sound and video, Roberts directly applied mark making to a large piece of cloth on the gallery floor, on which she was kneeling. At times picking up her alto saxophone to play a response to the mark making an audience sitting at the cloth's edge. When considering not knowing and 'chance 'as a constituent within art practice, the discussion between the curator Hans Ulrich Obrist, and the UK composer and musician Brian Eno, is particularly pertinent. It refers to plant growth and music composition as a metaphor to demonstrate the making processes. An artist chooses types of plant seeds then watches how they grow (2000). Although the initial foundation is a known condition, what develops utilises chance as a constituent element within the art process and practice. Therefore, incorporating an aspect of an unknown in what could materialise into a distinctive outcome. As Cocker writes "Not knowing is the state from which one might strive to make sense" (2016, 69). Through a series of experiments when improvising with photographic images and videos, my improvisation saxophone playing introduced the idea of separate moments. The rhythm and tonality become a live integral detail to the whole artwork. For example, when viewing a close up of a subject, two actions were tried, one with the highest note F# the other with the lowest Bb. Then analysed for what each note brought to the image. Then each of the two music notes would be played with different rhythms. When working with

videos, rhythms were changed in consideration to the pace of the video. The video pace was always the same, therefore a triplet, an extended note and a short note were used. For consistency, these were the same F# and Bb, these were analysed for the changes to the understanding of the imagery. This produced the equivalent of a painter's sketches. Working with the rhythms created from both video and photographic imagery, I use my developed knowledge of recognised note patterns, improvised saxophone and intuitive sound playing in the case studies. Subsequently demonstrating how sound can be infused into shape and colour to future practitioners and researchers.

My research reflected on the use of an external space from consideration of my embodied space. Eisenberg writes "Space may be either conceived as a kind of framework in which entities are situated or as an effect of the relations between entities…" (Eisenberg, 2015, 194) One of the factors that changes the saxophone sound is the space in which the sound was actuated. This becomes part of the improvised experience and therefore a tool in constructing sound. In order to explore places and space as an art tool for changing sound I chose three different areas. Firstly a very large room interior designed for meetings, secondly a corridor and finally an enclosed room with different ceiling heights. My analysis from these experiences discovered how the placement of the saxophone reacted differently to each area, due to reverberation and acoustic resonance. Obviously, each space has a different response to emitted sound and this was not through an exact scientific methods. However, it achieved familiarity with difference, and acceptance of not knowing how a space would change the saxophone sound when engaged in live improvisation in the case studies. I then compared these recordings to my recordings using computer software algorithms that presented reverb from different spaces. The direct involvement of my live saxophone sound within the different spaces presented an immediacy in sound to the listener that was missing in the computerised one. However, each approach presents alternative understanding and possibilities for use.

Conclusion

In order to answer the question, what are the underlying elements that I draw unknowingly upon when improvising in live events? The use of art practice itself forms understandings enabling me to communicate my considered intentions which were manifested in my artworks. This was through direct interconnection with live improvisation that produces development and evolving self expression. This conclusion further outlined how various artists, including Hiller used differing 'forms' to communicate a variety of intentions. The examination of how artists work with musicians was questioned through the methods used by Gina Southgate, when working live with various musicians. The research case studies used collaboration as an exchange of knowledge based on the individual artists' practice. Differences in the artists' practice produces greater knowledge inviting alternative responses in the dialogue. These findings expanded my knowledge in tone and rhythm through response. Concluding that if the response was the same to each art practitioner, my approach needed adapting in my use of tonality and rhythm.

Chapter 5: An Overview of the Practice Research

The aim of the following sections is to give an overview, and emphasise the value of live practice-led research. It will highlight particular interconnections with other art practices. It will illustrate the processes that formed my tonality and rhythms through the live dialogues with the separate art practices Art practices that include syntax and dialogue. This section considers the syntax and dialogue between other art practices. It will question interconnectivity with one other art practice and how this develops change in my art practice.

5.1 The Use of Dialogue with Other Art Practice's Artwork

The following writing considers the case studies incorporation of dialogue in consideration with other art practitioners' artwork. As outlined in the introduction, the research is situated within art practice and can be contextualised in reference to the work of Liam Gillick and Laurence Weiner, 'A Syntax of Dependency', exhibited in the M HKA; Museum of Contemporary Art, Antwerp, (February 3-May 29, 2011). Considerations have been given to the artists' use of dialogue in what the curator of the artwork for M HKA, Dieter Roelstraete, describes as

> "...[the artists'] commitment to exploring the many meanings and possibilities of the dialogical model in art is expressed in the exemplary title of the project, A Syntax of Dependency..." (Roelstraete, 2011, 44).

Allowing for analysis of how the dialogue contributes to changes in my tonality and rhythm. In this research, the dialogues with the other artist's artworks produced an intertwining of different conceptual ideas and techniques. For example, the transformation of tonality in visual and sound, as with Bracey's artwork and my saxophone sound, developed and reformed both artworks into another context. Bracey is in the process of transforming the photographic image while the saxophone played high frequencies sounds, Bracey's artwork became more infused with gesso through the relationship of my saxophone sound frequencies. However, the

Figure 25. "A Syntax of Dependency" Liam Gillick and Laurence Weiner

M HKA; Museum of Contemporary Art, Antwerp

positioning of the gesso did not reflect the high-end frequency of the sound; thereby, Bracey's response suggested that the sound was not to be directly illustrated, but instead, was revealed in Bracey's subtle tonality based on my saxophone tonal range.The following section demonstrates the relationship of the artwork of Liam Gillick and Laurence Weiner with that of Ross Birrell to this research, starting with Gillick's and Weiner's 'A Syntax of Dependency'. Roelstraete, the curator of this exhibition, has described 'A Syntax of Dependency' as an artwork that "... prioritised the horizontality of dialogue over the verticality of hierarchy" (Roelstraete, 2011, 41), in referring to the particular use of combining one art work with another, (fig 25) Gillick refers to this combination as a dialogue in which each artist brings their own autonomy through their practice to the piece (Gillick, 2011). My interest in the exhibition was in the artist's use of materials, as opposed to verbal language, as a method of dialogue to combine two art practices.

Consequently, dialogue, was used as a working method to investigate my use of a variety of tone and rhythm in conjunction with another's art practice; this research embraces the horizontality of dialogue as a cooperative, two-way exchange without one participant leading the dialogue.

In 'A Syntax of Dependency' there was an interconnection between text and colour realised through the use of linoleum throughout the gallery space that enabled material physical connections, "...[materials] in which their dialogue would finally be allowed to acquire material form.." (Roelstraete, 2011,41).

This interests me because of the direct use of materials as part of the dialogue. The live events produced the case studies, which evidenced the use of a dialogue as a method when working with the other artist's artwork. Our live events did not utilise physical materials, as this was not appropriate for this research. However, the visual interconnection through my tonality and polyphonic interactivity between the other art practitioners' processes, echoed the surface interaction of materials in the exhibition of Gillick's and Weiner's artwork.

The exhibition demonstrates how artists combine different art disciplines as dialogue in the formation of an installation. It created interaction between written text and colour. Although neither are sound, the use of written text presents a spoken rhythm against a tonality example, providing the analysis for possibilities of spoken word and tonality.

Another influence, in this research, is the artwork of Ross Birrell in relation to his video artworks, 'Criollo' (2017) and 'The Transit of Hermes' (2017). In these two artworks Birrell deploys cinematic techniques to create artwork. Thereby examples the use of aesthetics from one genre (cinema) used in another (art practice). Although I am using sound as opposed to a visual device, Birrell is evidence of how artists adapt usages from other genres in the production artwork.

I used techniques borrowed from a different genre (western music theory). The use of structured sound frequencies can be clearly seen within my art practice in my case study with McArthur. This sound file examples the return saxophone sound frequency, playing back into the space in which I am playing my live saxophone. What is heard is a sound frequency from my saxophone playing, which is formed from a different spatial time. It is a compilation of digital software, intermixed with my original sound. The sound I formed is complementary to the other artwork (McArthur's), through the inclusion of the ambient sound content, created through the digital platforms. The question arose later, in how much of the combined sound remained my own. Furthermore, did my agreement to work through these digital spaces detract from my artwork? The combined digital sound, from McArthur and myself was so intermixed. However, I consider that the additional use of the digital aspects of McArthur's artwork, informed my choices of sound. These resulted in my understanding of different tonal and rhythmic sound frequencies. My revised understanding of how tonality and rhythm was influenced would not have been accomplished without the interaction of the digital space, and produced new sound work in my art practice.

5.2. The Incorporation of Syntax and Timbre with Tonality and Dialogue

The following section considers the incorporation of syntax and timbre, in particular reference to tonality and dialogue. Syntax describes the arrangement and order of words into phrases and sentences to produce a flowing narrative (Pinker, 2000). When evidencing syntax as an ordering of things, there are examples of how syntax is seen within structures of sound in language. A parallel can be detected in the use of contents with 'A Syntax of Dependency', in that the syntax is where the contents are located in the exhibition space, as well as the juxtaposition of each content, in their use of text and colour surface. The way in which syntax is experienced through my saxophone playing is demonstrated through integrating the saxophone sound frequencies in a tonal and rhythmic resonance, interlacing the two artworks into dialogue through timbre. Timbre is the inflection of intonation; in that the same note or sound frequency can appear different from its original. For example, the use of different accents can alter the sound of a word. During the dialogue with the artwork produced by Bracey, I was exploring the use of timbre through a variety of sound frequency ranges, in order to discover what effect these sounds had on Bracy's actions and his resulting tones. I utilised a number of sound combinations, including the high-end tones juxtaposed alternately with the lower ones. Due to the nature of the sound frequency of my saxophone playing, the low timbre resonated a strong, effective sound, and through the positioning of the high-end tone, was highlighted, and became effective in creating change in Bracey's approach.

When the interaction between my sound and the other artwork fragmented the syntax, was active in the production of modifying tonality through observing the tonal similarities. In the case study with Bracey as referenced the saxophone sound frequency changed the relationship of its sound to itself, before reconnecting to the other practitioner's tonality.

Finally, syntax in relation to rhythms; within my practice, is where one beat is followed by another beat and ordered within a space, focusing especially on the use of polyrhythms, where one rhythmic structure 'plays off' another rhythmic structure. An example of this is in a three

beat formation played in relation to a four-beat formation, resulting in the sound of the polyrhythm being dependent on the placement of other rhythmic sounds. The word 'beat' is defined throughout this research as a particular rhythm that is associated with an organised pulse, and in this research particular to an 'inner pulse' defined below (Lewis, 2005). From the case studies, questions arose on how dependent each artwork was on each other. One demonstration evidenced how dependency was an active ingredient, when engaged with polyrhythmic interaction. An example of this can be seen in case study, it is clear that my saxophone playing impacted on the other's artwork, in polyrhythms were used to interlock my saxophone playing with Bracey's dramatic hand movements juxtaposed with the brush strokes that applied gesso onto the photographic print and acted as a point of rhythmic change that could be used within a polyrhythmic format.

I used the interconnectivity individually with Dutton's and McArthur's sound artworks, as well as the visual surface of Bracey's artwork, as a device for change. I started with a shared tonality and rhythm. I moved from the original structure. This movement formed a disconnection of either sound-to-sound or sound-to-image, reforming my use of my timbre in connection to my rhythms.

Through the reflection of the relationship between my saxophone rhythms and the rhythm from Bracey's brush stroke actions I was able to change my direction of sound. Thereby discovering how my changes were reflected by Bracey's actions.

The original starting points in each case study were governed by a variety of tonal and rhythmic characteristics based within western music theory, and an example is seen in case study. When working with Dutton's artwork, the saxophone sound frequencies were puncturing, with a staccato effect, the rhythm of the computer-generated avatars' voices with points of individual sound, actuated in order to unify the two rhythm structures.

Figure 26. Birrell "Criollo" (2017) film still.

Figure 27. Birrell Athens-Kassel Ride: "The Transit of Hermes" (2017).

5.3 The Mobilisation of Art Genres

This section establishes how techniques are used to mobilise one art genre into another. It will reference my understanding of music theory when used within an art practice.

There are parallels in my use of techniques in sound frequencies that are appropriated from music, thereby creating a paradigm shift from one genre into another establishing a comparison to the way an artist uses cinematic techniques in the process of making films. For example, the artist, Ross Birrell, in conversation with Filipa Ramos for CCA, Glasgow 2018, speaks of his aesthetic use of techniques from cinema and how these appropriated techniques were utilised within his artwork (Birrell,R Ramos,F, 2017). With specific reference to the use of the lens, lighting and framing with particular consideration to Birrell's films, 'Criollo' (2017) (fig 26) 'The Transit of Hermes' (2017). (fig 27).

Both films are exhibited in art galleries, using two separate gallery spaces, these spaces are art installations, composed by Birrell in the choice of objects; straw bales; a horse box and formulated colours that have a direct relationship to contents in the film, the viewers walking freely in and out. 'The Transit of Hermes' is a film of a journey of riders and horses accompanied by an Arravani horse Birrell named, Hermes, after the Greek god of border crossings, which these travellers are encountering in the film. 'The Transit of Hermes' is in slow motion, three hours long and is exhibited on a split plasma screen that is hung low on the gallery wall; there is no sound. This is a silent film, shot on a camera without a Steadicam tripod, in order not to disturb the subject with technology, as during filming, camera operator and subject walk side by side, thereby demonstrating a prevailing set of conditions and choices that become inclusive within the conceptual nature of the film that consider and incorporate the needs of the subjects. The choice of rhythms, slow motion, based within the cinematic, echo my use of rhythm patterning exhumed from music, then reformed within an artwork. Another example of how rhythm is utilised within Birrell's artwork is exemplified in the film, 'Criollo' (2017), which does use a Steadicam tripod from which to film the subject, utilised in order to smoothly

circle the subject, demonstrating the use of repetitions to unfold different visual positions, via a rhythmic formation.

The connection to the research can be seen in the dialogue with Dutton's artwork, since both Dutton and I use repeated actions to present the dialogue from different conceptual sound positions that interrelate with each other's artwork. Birrell describes the film as a horse standing alone at the gateway to Central Park in Manhattan, the camera rotates around the subject revealing the horse in relation to the out of focus background of Sixth Avenue; the horse's ears 'scanning the sonic environment' (Birrell, 2017) The techniques in 'Criollo' borrowed from cinema also include the cinematic viewing ratio, used in order to locate the subject within an area of New York City, and the subject is filmed in close up, a visual device, used to isolate the viewers' attention, much in the way I use the staccato effect from music to isolate single sound frequencies. Unlike 'The Transit of Hermes', this seven-minute film does have sound, which is compiled from the location sound and manipulated through slowing down the content. I would argue that Birrell has used cinematic format and cinematic structure outside cinema, placing this into an artwork that speaks from a critical and conceptual position, as opposed to one that discusses this subject through a filmed documentary approach. In doing so, Birrell demonstrates an example of an artist investing in techniques and strategies from one genre, filmmaking, in order to communicate through artwork, thereby evidencing an established cross over and interplay of communication techniques to explore a conceptual position through art practice. In 'Criollo', Birrell's dialogue is between the camera and the main subject, realised through the techniques borrowed from cinema. Both films also have a dialogue between the films as artworks communicating a shared concept together in the same gallery, and to the viewer.

This research provides knowledge from a shared platform of tonality and rhythm with Bracey's, Dutton's and McArthur's art practices, to enable comprehension by myself, the saxophone player, as the other artist in each live event case study.
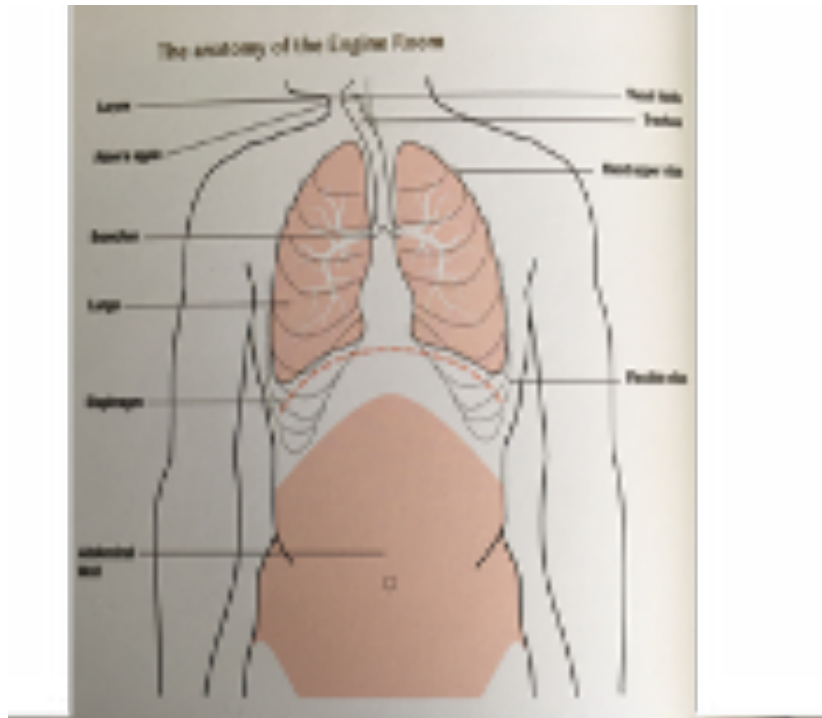
Figure 28. Harle 'The Engine Room' (2019)

This is particularly evident in the way in which Bracey's brush stroke gesso positioning on the original photographic image does not reflect the tonality of the issuing sound frequencies. However, my saxophone sound appeared to be in empathy with the whole tonal range displayed, expressing, echoing and sympathising with the mournful aspect of the colouration and in rapport with the lost and hidden painting below.

During the process of my playing particular questions arose based on my use of music structure as a method within my art practice: What does this use of the familiar bring to the artwork, and how does this help my art practice? In this research, familiarity of music provided the other practitioners in the case studies, with a shared experience to my saxophone's application of tonality and rhythm.

In my art practice I have transferred the saxophone sound of music notes, structure and rhythms, from a western music theoretical perspective, into my art practice and within the case studies. In this research, the concept of sound has transmuted from one position into another; from 'music' to 'art', and can now be understood as sound frequencies, through tonality and rhythm, that enable a different understanding, of the production of an artwork, from that in music. For example, from my case study analysis of how the painter, Bracey, uses tonality and rhythm with his canvas, was based on his interaction with my saxophone playing. Arising from the analysis of this case study, I devised a sound construction in relation to my own video, using the rhythm from my subject as a base, against which to construct my sound rhythm. .

5.4 Embodiment and Sound Production

The section considers the role of my body in producing sound. It will highlight the importance of my physical body links in regard to breathing to the improvisation process. In addition, how these links directly influenced my tonality and rhythm through my intuitive improvised playing. Therefore, substantiating my ownership of the evolving sound. The following evidence shows my physical connection to the produced sound. The body is a resonance chamber (fig 28) defined by John Harle as the engine room for sound when playing the saxophone, and inside

Figure 29. Harle 'The Resonance Chambers' (2019)

the head are nasal, sinus and ventricle (liquid) resonators, (fig 29) which work in conjunction with the saxophone reed and mouthpiece to create sound at the point where these come together. Harle writes that "... the point of primary resonance is where all the vibrations of the reed initially gather, whatever their pitch" (2017,130). This 'point of primary resonance' is reached through breathing and using the breath in a considered way. The breath; the ideal breath intake and release should be using the whole rib cage, with the ribs moving in and out simultaneously and with the upper chest and shoulders relaxed. This use of the body facilitates controlled breath through the embouchure, mouthpiece and reed, whereby the sound that is formed is the intended sound. This evidences the direct connection of my body to the production of the sound.

Referring to the use of the saxophone reed and playing techniques, a saxophone uses a reed in the production of sound tonalities. At a point in each of the case studies, my saxophone reed was wearing down, due to usage over the time lengths of the live events. What transpired was that the reed gradually provided a less flexible playing response; thereby changing the sound frequencies and can induce sounds from outside the instrument's intended range. The reed is essential to the playing technique; however, a new reed can present the same sound and response problems as one that is wearing down.

My decision was to manage and adapt with only one reed, in order to observe how the effectiveness of the reed would fluctuate over this period of time. An example of what evolved within my saxophone playing is revealed in the case studies.

My intention in my live saxophone playing was to utilise improvisation techniques, to engage with the immediacy that was produced through the digital sound's displacement. This was to present and develop new forms of live music playing, within simultaneous music and art practice, as within the dialogue established during the case study with McArthur's artwork.

As previously noted, the role of the body in producing sound is also important to the improvisation process, as my physical body links with my saxophone and intuition when improvising, thereby substantiating my ownership of the evolving sound.

Improvisation is defined, in this research, as an action that begins with an ordered sequential system; then changes that system into separated parts, which are then reformed into unique sequences. Fischlin, Heble and Lipsitz describe improvisation as '...between the known and the invention of the new' (2013, 99).

The correlation between my physical self and the saxophone, in the production of tonality and rhythm, is compared to the disembodied sound emanating from the Internet software of McArthur's practice. This is exampled when the computer voice avatars utilised by Dutton during the relevant live events. The American musicologist,
Bruce Benson, says

> "...whereas a performance can be seen as an interpretation because it appears to represent an already existing "work", an improvisation does not seem to represent anything having a prior existence" (2003 142).

My ownership of the sound is compounded in the use of rhythm technique based on what the timpanist, Andrew C. Lewis, describes as the 'inner pulse' (2005,7), created by the individual body's internal understanding of time, manifested through phrasing, which is defined as how the sounds are organised based on a rhythmic timeline, providing reference rhythmic points to conglutinate my sound together. I used the placement phrasing of my saxophone sounds to enable me to interconnect each note through the attachment of my physical self with the sounds. The interconnection was created through the action of my saxophone playing and for interaction with the other artist in each case study, through their understanding of rhythm. Lewis also defines rhythm as the 'language of time' (2005,3) and the use of rhythm is particularly important in this research. The use of rhythm binds the two participating artist practices, in

three live the case studies, together through, in part, entrainment, defined as, and other forms of rhythm and sound interconnection with the practitioner's practices.

Conclusion

This chapter demonstrated elements that I have unknowingly drawn upon. When improvising in live events the changes in the other participant's work were influential in my tonal and rhythm actions. For example, the case study with McArthur had repeated construction through the digital malfunctioning of sound. I utilised these malfunctions to initiate changes in my sound, through repeating back a tonal phrase. These manipulations resulted in the distortions of my sound. Thereby demonstrating the importance of practice-led research in using live events. This evidenced how dialogue uses temporal space, to create immediate unique new sound at the moment of playing.

The case study with Bracey, demonstrated how I had tonal empathy with Bracey's processes. Therefore, establishing how I could directly use a visual painting to engage with changing a sound structure. The interconnection of our individual tones in direct relationship. This evidence shows how dialogic exchange contributes to practice-led research within live events with specific consideration to working with different art practices.

Chapter 6 Art Practice and Sound

 This chapter examines the importance of how art practice and sound were influenced by my understanding of the music genre. It will demonstrate the key components that I have unknowingly drawn upon, to develop my understanding of the interconnected dialogues. Furthermore, creating an understanding of how the influences changed my tonality and rhythm. The methods used in addressing this question relied, in part, on the exploration of dialogue, as an exchange of information and instigation of interconnected relationships, between the individual art practitioner's working processes, resulting in change in their own art practice, during the dialogue. Symmetry plays an important part in the formation of the sounds and is defined as indistinguishable equal lengths of sound notes (Leyton, 2006).

Therefore indicating a sense of equilibrium with which to unify and enable in music, entry and exit points in sounds. Whilst analysing the case study, I noticed that I often used symmetry to unify the two artworks, through the equilibrium of a set time-line. However, during my saxophone playing I was aware that dialogue could orchestrate a freeing from the symmetric, conventional metering of sound, to one that perpetually changes, in order to add emphasis through changes in the flow of sound or visual material. In this research, these changes produce an individual meaning from each of the artworks; either in connection to each other artist's artwork through their action responses. or in connection to the artwork itself, both devised through the individual artist's use of their own art materials. I will further discuss the expansion on the role of symmetry and how it is applied to my art practice in the section on playing technique, in order to bring all the subsequent parts together. Primarily, in reference to the role symmetry played during the dialogue in the case studies, to misalign, divert or distract the other art practitioner's actions within the process of producing their artwork.

6.1 Syntax and Rhythm

Syntax with particular reference to how rhythm answers questions on the key components in my art practice-led research.

Tone No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9
C	D	E♭	F	G♭	A♭	A	B	C
E♭	F	G♭	A♭	A	B	C	D	E♭
G♭	A♭	A	B	C	D	E♭	F	G♭
A	B	C	D	E♭	F	G♭	A♭	A
D♭	E♭	E	F♯	G	A	B♭	C	D♭
E	F♯	G	A	B♭	C	D♭	E♭	E
G	A	B♭	C	D♭	E♭	E	F♯	G
B♭	C	D♭	E♭	E	F♯	G	A	B♭
D	E	F	G	A♭	B♭	B	C♯	D
F	G	A♭	B♭	B	C♯	D	E	F
A♭	B♭	B	C♯	D	E	F	G	A♭
B	C♯	D	E	F	G	A♭	B♭	B

Figure 30. Diminished Chords (Coker, et al,1970,109)

Syntax is researched for its ordering of words," ...that arranges words into phrases and sentences" (Pinker, 2000, 330). Syntax is now referenced for its relationship with the sounds produced in the research. In this chapter, Syntax will be discussed in connection with the use of rhythms and the use of a symmetry that refers to units of measurements; these units of measurement can be equal or unequal permutational processes, dependent on their implementation. Investing in units of measurement provided a structure, upon which all participants unified their actions. For example, a rhythmic time length equalling this exampled line ' ' and then placed upon the time length line, in equal distance is sounds (represented by these numbers) 1-1-1-1 or 1,2-1,2-1,2-1,2 or 1,2,3,- 1,2,3,- 1,2,3,-1,2,3, all the sounds are at equal distance to each other. If the same line ' ' has 1-1-1or 1,2-1,2-1,2 or 1,2,3,- 1,2,3,- 1,2,3, and again all the sounds are at equal distance to each other, the symmetry is held, because of the relationship of the numbers to the area on which they are placed. However, in each of the above numerical sequences the sound produced has a different relationship to itself.

This is can be likened to pattern 'associator' memories in language are defined by Pinker (2000) as a neural network or connectionist model of input and output units and connections between every input unit and output unit.

Pinker states that "Pattern associator memories are designed to memorise the outputs of each set of inputs, and to generalise from similar inputs to similar outputs" (2000, 293). There were similar patterns of tonality and rhythm shared, from which each participant could relate their actions in the process of producing their individual art practice.

6.2 Rhythm Integration with Tonal and Pattern Recognition

Rhythm integration through the length of tonality and recognition patterns
As the research question investigates tonality, the following is an example of changing the tone through music groups of notes, one of which used diminished chords (fig 30) (Coker, et al,1970,109) and another used minor thirteenth.

A 'minor thirteenth' uses the note structure I-II-V-VII-VIIII-XI-XIII (1-3-5-7-9-11-13) in a minor key, playing up and down the note sequence producing a harmonic pattern. Using music note sequences established "...a formality in which the listener's intuition recognised a strict recursive hierarchy" (Lerdahl, and Jackendoff, 1996, 37), in what they define as "[Grouping Well - Formedness Rules] Any contiguous sequences of pitch-events, drumbeats, or the like can constitute a group, and only contiguous sequences can constitute a group" (1996, 37). Referring to the use of rhythm within the live events (case studies), I have used the 'grouping well formedness rule', to produce a sound link between my saxophone sound and the other artist's artwork. I have done this by the repeated patterns becoming familiar and predictable to the other participating artists.

6.3 Tonal Note Values

In this research the importance of the reader's understanding of tonal note values and how these are utilised will be discussed.

At various parts in each of the three cases studies my choice of tonal note playing, breaks down to following notes classified within the term octaves. An octave is defined as a series of eight notes that follow each other in tonal sequence (Brown, 1987). I have noted the number of octaves I have for each note on the saxophone in brackets below. The notes frequency that I use are: A sharp (2) B (2) C (2) C sharp (2) D (3) D sharp
(3) E (3) F (3) F sharp (3) G (2) G sharp (2) A (2). My saxophone's lowest note is A sharp (B flat) and the highest note is F sharp. In general, the same notes are arranged in major and minor scales; the difference in sound of the major and minor scales can be heard in the slight shift in sound frequency called a semitone, as in half a tone. This evidences the range of tonality available and therefore my tonal choices for this research.

Ordinarily, the division of music notes into units of music scales in a variety of music keys, provides a location from which the sound frequency is rooted and demonstrates the relationship

each music note has to each other. However, when playing in dialogue with the other artists (for this research project) I constantly tried to subvert the expected note format, in order to discover the effect this had on the other practitioner's action. In my art practice for this research, the division of notes is only used as a reference point of the placement of one sound to another. When I produced saxophone sound, in the live case studies, the expected pattern of sound frequency were respected by my playing, then followed by a slight change in tone; by placing an unexpected note, a dissonant was provided similarities to when an artist uses a primary colour placed against a different complementary colour. The slight change of tone was produced in order to jolt the observer into re-evaluating what is being communicated. My reasons for doing this were to create a variation of sound from which to explore my reaction from the other artworks. However, during my saxophone playing I was aware that dialogue could orchestrate a freeing from the symmetric, conventional metering of sound, to one that perpetually changes, in order to add emphasis through changes in the flow of sound or visual material. In this research, these changes produce an individual meaning from each of the artworks; either in connection to each other artist's artwork through their action responses. or in connection to the artwork itself, both devised through the individual artist's use of their own art materials. Therefore indicating a sense of equilibrium with which to unify and enable in music, entry and exit points in sounds. Whilst analysing the case study, I noticed that I often used symmetry to unify the two artworks, through the equilibrium of a set time-line.

6.4 The Use of the Cadence

This section explores the use of cadences and their tonal uses in either indicating finality of a set of sound tones, or creating a change.

The research investigates how tonality from the other art practice creates actions in my art processes. One of which was to explore the interjection of pauses in the dialogue between the participants in the live event case studies. Possibilities were presented from my understanding of western music theory to use an already pre-formed music sound, such as cadences used as a

pause or full stop, to counterpoint to the unexpected chord. Cadences produced punctuation in the way music sounds and in the example of a 'perfect cadence' (music notes V-I), present a "...feeling' of finality" (Brown,1987, 56). There are four cadences: Perfect (music notes V-I) and Plagal (music notes IV-I) have 'feelings of finality' depending on how these are utilised; Imperfect (music notes VI-V) and Interrupted (music notes V-VI) do not have 'feelings of finality' due to the music note sequence. Therefore, all four cadences can be used to indicate finality or pauses, with pauses used to continue a sequence of notes from one chord sequence going towards another chord sequence (Lawn and Hellmer 1993). In this practice research, I have used the placement of the cadence within a sequence of music notes and rhythms, to produced false endings and movement between chords, at various points in the interaction between the other's practice and my saxophone playing, interrupting the connections with the other's practice. This can be heard in the case study with Dutton.

The use of the cadence was viewed by myself as an opportunity to use the live saxophone playing as an experiment, with techniques of repeating sound frequencies and sound structures that never resolved themselves, with the addition of the occasional use of cadences to induce the sensibility of a pause in the dialogue.

 The cadence is also used to interrupt and was enacted by my saxophone playing, in order to discover how cadences may be used with rhythms. In my dialogue with Bracey, possibilities were explored in using repeated cadences that, through the use of rhythm, behaved and sounded natural and unnatural within their music context. The musicologist, James Murray Brown, says of cadences, "The most important notes of a melody to harmonise are those that close the phrases or sentences. These are known as cadences" (1987, 56). The use of the cadence was to punctuate the other art practitioner's actions through my saxophone sound. Established to analyse the change of action in the other's working process, and question if the use of a cadence would take the other practitioner's tonality into another direction.

Phillip Ball compares music within a western music theory tradition with syntax in language, in how certain uses of cadence will "sound right" (2010, 356). Ball continues,
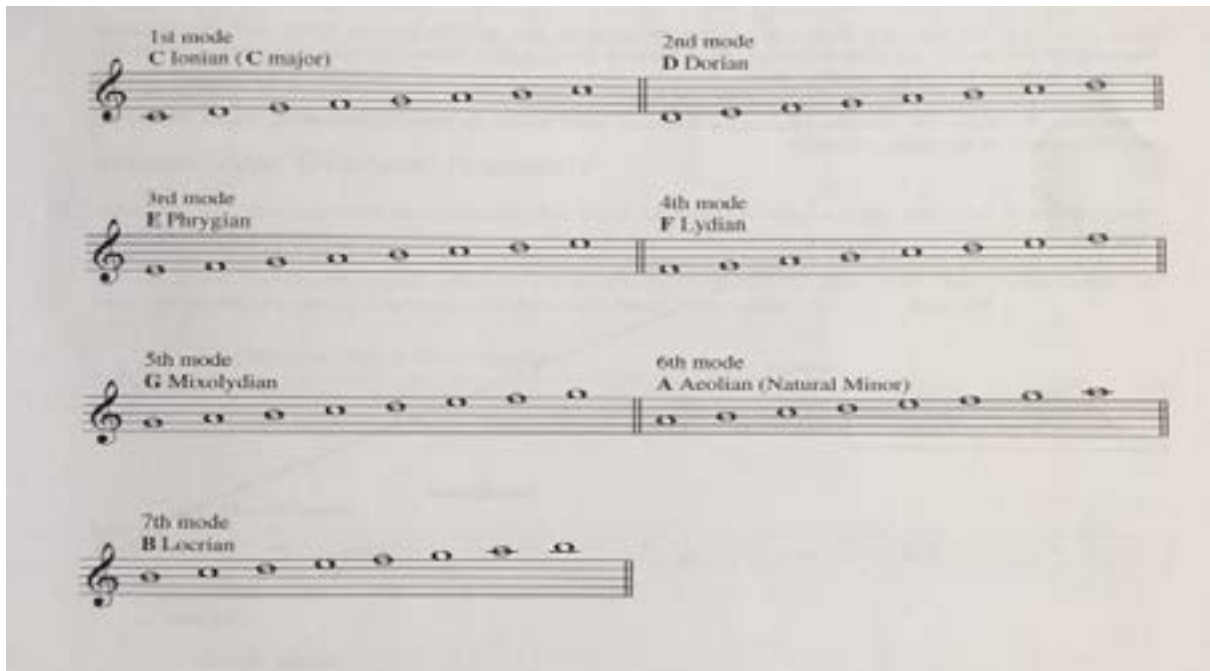
Figure 31. Example of Modes (Rawlins and Bahha 2005, 23)

"The simple harmonic sequence ending in an authentic cadence seems syntactically sound, whereas one that ends in an unexpected chord seems to violate the normal syntax of Western tonal music" (2010, 356); therefore, cadences as objects of aesthetic awareness, can invite diversity and change, which will alter the way sound is heard. In the example with McArthur, by interacting with his electronic sound work, produced a platform of continuous sound from which I could situate different rhythms upon. The interweaving of cadences into the rhythms enabled different tonal connections between the notes and sound frequencies. Due to McArthur's actions in his choice of tonal sound length, this case study provided different data from the other art practitioner's processes, from which to embed into my own art practice.

6.5 Modes as an Instrument for Change

How using modes are instrumental in creating a change in both my rhythms and tonality. Demonstrating how different sound structures influenced my improvised tonal choices. Therefore, presenting options that were still within a conventional sound and therefore familiar to the other participant.

In music theory there is a sequence of note formation called modes (fig 31), these model scales are historical sequences dating from AD 900 until the baroque period, (Boone and Schonbrun, 2017). The use of music modes also played an important role in my saxophone playing as part of my art practice due to tonal diversity. Musicologists, Rawlins and Bahha, describe modes as the following:

> "A mode contains the same seven notes of the parent scale, but adopts a different tonal centre around which all the other notes revolve" (2005, 22).

Although modes (fig 31) give the same written physical appearance as western music scales, the sounds produced through the different relationships of the sound frequencies to each other, present to the listener a difference in the hearing experience; one that can evoke another time in

history, due to time in which the mode was conceived, and another location. to me, for example, the Aeolian mode that is the equivalent in music notation to a natural minor has a sound rooted in the 16th century and the Phrygian mode produces an Iberian sound, reminiscent of traditional Spanish music. Consequently, the use of modes produces a subtle shift in the sound of the music notes pattern from the parent scale, thereby enabling changes from the parent scale, and possibilities of using music note enclosures. Where the starting or tonic music note is followed by music notes that surround or enclose the starting note, the dominant fifth note is often played and enclosing the dominant fifth with surrounding notes takes the music scale into another scale. In other words, modes are devices that enable a musician and, in this research, an artist, to change sound directions without having dissonance occurring. This is a formulaic process that I employed to enable smooth changes of tonality between each of the art practitioner's tonal progressions.

By using repeated music note patterns that formed a predictable pattern of sound that became familiar to the other practitioner, a shared harmonious link was formed.

The research explored and evidenced the ways in which the different art practices' language modified my sound. This produced different sound frequencies that expanded my abilities to produce improvised sound, within the live events. Using improvisation as a key working method enabled the research to engage in a reflective approach, to produce changes in tonality and rhythms. Thereby evidencing a potential contribution this form of research has on influencing art practice.

6.6 Rhythm and Improvisation

In answer to questions of rhythm and improvisation, the writing explores how inner rhythm contributes in creating intuition, which includes encompassing entrainment.

In my saxophone playing, rhythms have been analysed in relation to my 'inner pulse' (Lewis, 2005), and in relationship to the chosen saxophone sounds produced in the case studies with the other participants, in each of the live events. The word, rhythm, originates from the Latin 'rhythmus' and the Greek 'rhythmos', both meaning 'to flow'. Using various rhythm structures in this research, I am relating rhythm to a felt experience that is expressed through the inner body pulse, framed and organised through sound shapes, in patterns on tonality, on a rhythmic structured timeline.

The term 'expression' when applied to rhythm (Lewis, 2005), is defined by Lewis, as using an individual's interpretation of the rhythm and sound, in order to communicate within a dialogue (Lewis, 2005). This can be seen in case study with Dutton. This is demonstrated through the delivery from Dutton's voice avatars in relationship to my saxophone playing's rhythm and tonal frequencies, evidencing how both participants were connecting their individual processes into one dialogue.

The rhythms in the other individual artist's actions created distinct points throughout each of the three case studies within the live events, and through entrainment a shared rhythm was sporadically achieved, by both participants. Entrainment is defined by musicologists, Clayton, Sager and Will as "… a process whereby two rhythmic processes interact with each other in such a way that they adjust towards and eventually 'lock in' to a common phase and/or periodicity" (2004, 2). During each of the case studies in the live events, entrainment provided two time-based interlocking's; one with the other artist and one with my own rhythms, thereby connecting the dialogue through the other artist's rhythms and my saxophone playing.

What was realised by analysing the processes being used by each of the participants, in all of the case studies: Firstly, the rhythm from the other's art practice broke into the sound patterns formed by my saxophone playing, through the other's art practice's own rhythms. Secondly, this formed a rhythmic bond between the other's art practice and my saxophone playing. Finally, this rhythmic bond enabled me to break into different rhythms; choice of music notes and note

progressions, that at points coexisted with the other's art practice, and at other points, musically and rhythmically moved away from the other's artwork rhythmic gestures and formed my saxophone sound upon their practice. The knowledge gained from this understanding of entrainment is applicable to my art practice, as it can be applied to the way in which I use both rhythm and tonality in my visual and sound artwork, exampled in my published artwork.

An example of entrainment can be seen in the case study with Bracey's painting. I noticed that the movement of each brush stroke performed a rhythmic gesture, emerging out of the length and speed of the artist's brush strokes. These rhythmic, painterly gestures can be seen as live actions that were parts of the dialogue, which has been previously defined as a cooperative, two-way exchange without one participant leading or being dominant within the exchange. Bracey's painting actions responded to the rhythms produced by my saxophone sound. These physical rhythmic actions by Bracey were transferred into a coating of gesso material on the surface of the photographic image. My saxophone playing produced rhythmic patterning to which the application of the gesso responded. The rhythmic patterns originated from a polymeter, defined as two differing rhythm frameworks that are connected together. One rhythm was in perfect metre; however, the second rhythm diverted from perfect metre to align with the actions revealed within the Bracey's artwork, thereby bringing a unity back into the shared dialogue. One example is that my saxophone sound frequencies were tonally higher than the ones present in Bracey's painting, but were in relation to the tonal marks that were uncovered through the actions of the artist. The development through the dialogue became a circular interaction of the saxophone sound to Bracey's rhythmic action in the production of the painting, through the distinct painted accents which produced defined points of emphasis on the saxophone sound, placing markers in which to place the sound patterns that shaped the improvised saxophone sounds.

6.7 Polyrhythm and Entrainment

Returning to polyrhythm in relation to entrainment in bringing two rhythms together. Looking at how reshaping a polyrhythm affects my rhythmic playing process.
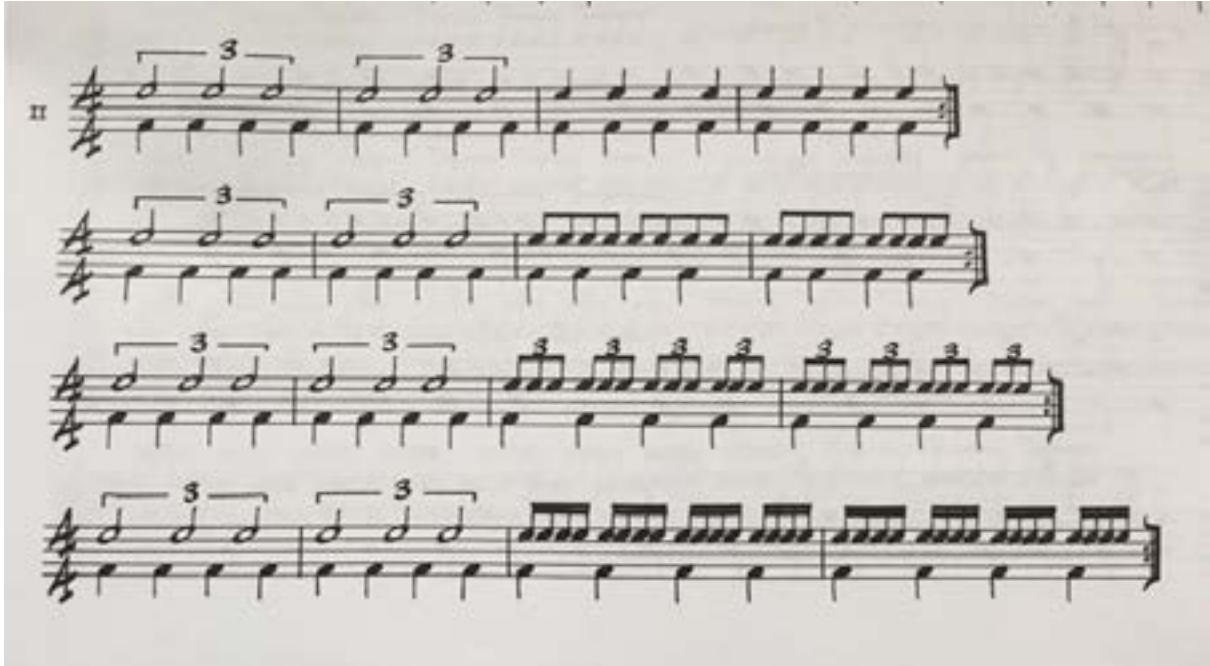
Figure 32. Polyrhythms example (Magadini,1993,11)

As previously explained, a polyrhythm (fig 32) is where two or more sets of rhythms play against each other (Magadini, 1993); for example, if there is a base of four beats, this base has three or five beats interspaced irregularly against the four base beats. Polyrhythm is subtly different from entrainment in that polyrhythms rely on established mathematical formations of rhythm and are positioned in relationship to each other, whereas entrainment occurs as a natural response to another rhythm.

In order to address the research question on rhythm, in each of the case studies, I selected alternate use of different beats points in rhythmic structure in conjunction with the art practitioner's process. My selection was because I could consequently produce saxophone sound changes, as the rhythms structured the sounds together, thereby a harmonious sound could be placed next to an inharmonious sound, producing a new saxophone sound that was in conjunction with each of the other artist's processes.

When discussing the use of polyrhythms in Steve Reich's 'Drumming' (1971), Phillip Ball remarks that the polyrhythms

> "... are not heard in quite the manner they are composed or performed…[the rhythms] are as separate voices playing at slightly different speeds. Rather, the voices interlock into distinct rhythmic patterns at different stages, which then dissolve and crystallise into new ones" (2011, 223).

This hearing difference is due to the listener shaping the rhythm together from one pattern to another, then reshaping the rhythm into place (Ball, 2011), as opposed to an established regular beat. In the case studies, the other participants aligned their action with the polyrhythm, through rhythms initiated by my saxophone playing. The polyrhythm provided a variety of rhythmic entry points, from which the other participant could engage. The knowledge gained enabled an understanding how a variety of rhythmic patterns could evolve and form polyrhythms, that now informs chance relationships within my own eclectic art practice.

The relationship of polyrhythm to harmony became a mechanism in which to formulate different relationships between the art practitioners in the case studies that led to subtle changes. For example, using one sound frequency or visual component from either practitioner's on going process, in each case study as a signal, to invite the responder to follow their lead and develop the dialogue in a corresponding direction.

Entrainment also provided a platform for the use of polyrhythms, between Dutton's actions and my saxophone playing. This was exampled in Dutton's process of artwork when it started to interact with where I placed my saxophone sound, in relation to the rhythmic properties produced by his voice avatars; this process can be considered as entrainment through polyrhythmic rhythm. In Dutton's artwork incorporating the rhythmic element through the integration of different rhythms, creating a new direction from which exploration with polyrhythms was made possible. The intention was not to illustrate Dutton's written text, revealed via the avatar vocal sounds, but instead to use the avatar voices as sound frequencies, and to interface my saxophone sound tonalities with the avatar voices, through the polyrhythmic structures. When the avatar voice produced a stuttering effect, it was used by me as a rhythm, in which to entwine my saxophone sound. In doing so, the significance in using polyrhythms was revealed, as well as how an unforeseen rhythm developed each other's rhythmic and tonal actions.

In considering the research question: How does the tonality and rhythm of my improvised saxophone playing alter another art practitioner's process of making an artwork during live events, polyrhythms and pitches are further explored in relation to harmony. According to Heussenstamm (2011), harmony is achieved when more than one pitch is sounded at the same time and pitch refers to the position of the tone of the sound, based on its frequency level, (high or low sounding), at which the sound pulse vibrates. Therefore, if the harmony is the relationship between two pitches, then there is a polyrhythmic connection (Lewis, 2005). The case study recordings give evidence to the relationship between the harmony that was set between two pitches, producing a dialogue between the different pitches and also between the polyrhythm and pitches. The polyrhythm and pitches use what Gritten and King described as

troping "...the creative juxtaposition and implied figurative interaction of two gestures"(2006, 6) through "...dialogical interplay" and in "...stylistic gestures" (2006, 6). The polyrhythm and pitches, in the case studies were actuated through my embodied process that was intuitively generated by my improvised saxophone playing.

In the case studies during live events, one practitioner's actions caused reactions in the other practitioner's process. The interposition of the sound within each of the three artists' practices gave rise, as discussed previously with Bracey's artwork, to the use of circular formation of rhythms and rhythmic structure, with contrasting rhythm patterns using the same set of sounds. A difference in the way the sounds were heard by each practitioner was achieved, as evidenced in how each of the artworks was in dialogue, whilst maintaining its own independence. There was a point at which my saxophone sound frequencies transferred away from the structural sound frequencies within music, and through doing so, were unique to my saxophone playing in their sound formation. My saxophone sounds' refusal to comply with a strict structural organised sound was almost radical but was conducive to Bracey's variation in process. Subsequently, my saxophone playing then reformed the connection with the tonality within Bracey's painting; Bracey connected to my saxophone sound through his brush stroke rhythms. However, Bracey aligned his painting's independence through brush positions that did not illustrate my saxophone's pitch level, but maintained a connection to his own artwork throughout. Also, there were, at times rhythmic hammer blows from Bracey, producing sounds that I chose not to respond to, as they were not part of Bracey's painting process but were instead, his practical solution to his painting having fallen down.

The repetitive rhythms, in conjunction with the same set of sounds, were used to underline a decisive moment in my saxophone playing, thereby repeating the sound phrase to give emphasis to what was being heard. Also, rhythm held randomised music note positions together when, for example, dissonant sounds were sounded in order to either break up saxophone sound patterns that became too familiar, or when engaging with a particular element in the other artist's artwork, such as, their changing use of a colour tone.

In order to address the research question in terms of tonality, I aimed to use an extended tonal range from the available twenty-nine music notes, previously defined. The use of different rhythm formulations and accented strengths, on different music notes produced, within my saxophone sound, louder or softer sounds. The changing of volume was incorporated through the saxophone playing, into the available tonal range. Textural effects were added to tones and lines of sound, by increasing and decreasing the volume level, when bending the notes into each other, adding texture and timbre to the sound. Changing volume, when playing the same sound frequency over a longer period, also produced a similar effect in creating tonal texture; the textural effect in both instances changed depending on the chosen sound frequency and length at which I played. The importance of this to the research is evidencing how volume impacts tonality, which is demonstrated in the three case studies. For example, to produce a sudden or accented sound, I utilised a saxophone playing technique known as tonguing, where the tongue slaps the saxophone reed in forming the music note, thereby changing the volume of the tone and rhythmic duration of the sound, resulting in change in the other participant's process, in the live events. The resulting knowledge has been incorporated into my current art practice.

The musicologist, Peter Petersen, writes of how sound sequences of contiguous tones and music note patterns can be structured rhythmically, and also in time related intervals between non- contiguous music notes can present pitch differences (Petersen, 2013)

By using techniques in the length of the produced sound, two of the other artists' dialogues utilised long, extended lengths of tone created through visual or sound techniques.

Petersen continues "Musical rhythms are dependent sounds or sounds formation and their components (properties). The durations between beginnings and beginnings, or beginnings and ends of sounds, shapes, or components constitute rhythms" (Petersen, 2013, 7). This technique presented the saxophone sound with a choice, to produce either blended rhythmic responses or to use 'tonguing playing technique' with a staccato, defined below, method, in order to counteract the other artist. The counter action, either complimented or aggravated the other

artist's artwork, and accompanied my saxophone sound, producing a disjuncture in the layering upon the other artwork. This was compounded with the use of nuance, defined by Lewis (2005) as a subtly of rhythmic sound, together with the placing of one sound ahead or behind the beat to produce a sound expression and rubato, from the Italian tempo rubato, defined as stolen time. The slowing down of a note, whilst maintaining the pulse, caused other notes to speed up. This action was enacted by intuition and freely playing my saxophone sound. An example of this was when working with Dutton's voice avatars, where my saxophone playing sound was changing the rhythm, through elongating the sound tonality, in a variation of rubato that considered and recognised the rhythm patterns from the other artwork. Also incorporated in this example was the bending of my saxophone tonality, through its transformation from one sound frequency into another. The choice of sound arising from my saxophone, is in recognition of the other artwork, which, although overlapping their sound, is designed to be in accordance with Dutton's voice avatars, and therefore in dialogue with the sound that is being emitted from the other artwork. In answer to engage in intuitive improvised processes, the following writing engages with the flow of one tonality into another.

6.8 The Usages of Flow

This section engages with the flow of one tonality into another through considering the movement from one music note to another that is facilitated through the use of the 'glissando' "...a glissando is signified by a starting note and ending note, with a long line connecting the two notes" (Boon and Schonbrun, 2017, 215). The use of the glissando technique was especially employed in my dialogue with Dutton's artwork's use of computer voice avatars, used as a device to glide one sound into another, evidenced in the section on the dialogues. Using a technique that forms one sound frequency out of another and then changing the frequency in order to alter the direction of the sound, enabled my saxophone sound to intertwine saxophone sound frequencies with that of each of the voice avatars. The male and female computer voice avatars operated at different frequency levels. Through the use of the glissando techniques, the saxophone sound was able to use their sound frequency as a starting point for the saxophone

sound frequency and then glide into another sound frequency and back again. During the dialogue, one intention was to flow between each of the male and female frequencies in order to unite their voices, with the saxophone sound. However, problems due to the spoken content taking precedence over sound used for itself, and the unrehearsed nature of the dialogue, meant that the conductivity of sound frequency was lost. However, by listening to the two different computer voice avatars repeating the same sentence, I explored how I could replicate a sound pattern, produced from the same sound tonal frequency. My expiation was through the application of altered tonal intonation in my saxophone playing, which enabled my response to Dutton's voice avatars. .

6.9 Polymetering as Interconnection

This section discusses how tonality and rhythms combine in using polymetering as interconnection. Exploring a variety of methods.

The saxophone sound included the use of staccato techniques defined in this research as constructions of pinpoints of sound, the sounds produced could be at the same sound frequency or different frequencies and could be used in conjunction with polymetering, where two differing rhythm frameworks are connected together. For example, a single sound frequency is held for a long period of time, upon which a different sound frequency adds points of singular sound. Staccato is generated to add points of tone within a rhythmic structure, which could employ uniform pulses with staccato intersecting, either at regular points or irregular points.

When staccato is in conjunction with the other artist's artwork, the other artwork provided the rhythmic structure to which the staccato sound responded. For example, when in dialogue with Bracey's visual artwork, the staccato sounds were in combination with rhythmic techniques employed within the artwork. As stated previously, a polymeter occurs where two differing rhythm frameworks are connected together. I wanted to discover a method of using a polymeter in the case studies, for analysis on how I could implement polymeters into my own art practice,

with special reference to sound and photographic images. The next set of images evidence how a polymeter was utilised in my saxophone rhythm in conjunction with Bracey's live actions, in producing his painting. I observed Bracey's gradual but escalating tonal change, from a printed photographic image into a mass of interrelating grey tonality. There arose an opportunity to use a polymeter in the following way: The slow rhythmic progression of grey colours across the photographic background, presented the opportunity for my saxophone playing to be at different sound lengths and tonality, that were measured against the other artwork's rhythm, thereby interconnecting with the surface of Bracey's artwork, as opposed to Bracey's process.

These rhythms in Bracey's artwork were formed through lines of gesso, left by the brush strokes on the surface of the photographic print. When my saxophone playing rhythms disassociated those of Bracey's artwork, my staccato saxophone sounds were amalgamated with its own staccato sounds. In the dialogue with Bracey's artwork, the use of staccato techniques was only from my saxophone playing due to the art techniques employed by Bracey. However, when in dialogue with the artworks produced by Dutton and McArthur, their processes were able to instigate a staccato effect, especially when I played the same tonality for a long period of time. Additionally, rhythm though temporality incited new understanding of sound frequencies, when working with the artworks of McArthur, since McArthur was based in Sydney, Australia, and I was in London, UK, during our shared live event. All of the above are discussed with particular reference to rhythm and tonality, as processes for change referenced in the individual artworks.

6.10 The Importance of Timbre

How timbre was important to subtle changes in my tonality, relevant for interconnection between the art disciplines, especially when overlapping sound and wishing to add my own tonality to the interchanges.

The intonations of the sound frequencies viewed in the relationship with timbre, were important in producing subtle differences in the recurrence of sound from my artwork, achieving a bonding

with the other artwork and when used in the overlapping and layering this sound, changed the understanding of the other artworks to my sound, which led to the other artwork to alter its own agency in rhythmic and tonal juxtaposition, evidenced in section 4 on the dialogues. The neuroscientist, Daniel Levitin, believes that timbre "... is now at the centre of our appreciation of music [however] rhythm has held supreme power over listeners for much longer" (2006, 55). Although Levitin regards rhythm as characteristic in sound that holds longer attention, timbre in the dialogues was used as a device to change the focus of the saxophone sound, the use of timbre within the variety of rhythm structures brought a subtly to the sounds emitted by my saxophone, enabling my saxophone sound to complement, react to and react against the call and response from the other artwork. Furthermore, differences in timbre are achieved by changing the initial sound frequency relationship to the next produced sound in order to achieve a model effect (Marienthal, 1996).

My intention, in the live event with Dutton, was in linking the timbre of the avatar's voice with the saxophone sound frequency and was to use timbre as both a connecting sound in the dialogues with Dutton and McArthur and also to use timbre with what I associated as Bracey's use of colour. The timbre of the sounds I used with Bracey's use of colour did not have preconceived direct collocation, as in, how this tone or paint colour relates to this pitch or music note. During the dialogue with the artwork produced by Bracey, my saxophone sound was trialling a variety of sound timbre ranges. From the timbre ranges, the saxophone playing utilised a number of sound combinations, including the high-end tones juxtaposed alternately with the lower ones. Therefore, due to the nature of the frequency, the low timbre resonated a strong, effective sound, made more influential in the dialogue, through the positioning of the high-end tone.

The positioning of very contrasting sounds led to two consequences: Firstly, the listener could discern each tonal frequency, independently of its counter frequency, due to the stark difference in tonality; Secondly, the saxophone was able to then consider following either the high-end tone or the lower one with the next sound combinations, thereby taking the dialogue into another

direction. As a consequence of the variance in my saxophone sound playing and the physical saxophone playing action in achieving this disparity in sound frequency, there occurred the occasional flat or sharp notes. These notes were used to incite reaction, conducive to the interaction with Bracey's tonality, inviting a further reaction from Bracey's actions. These actions manifested as actions that took away the gesso coating, creating a flow of tonal changes activated through a variety of rhythms from my saxophone playing. The tonal changes resulted in myself being able to spend time observing this visual encounter, and to consider the effect the visual had on my saxophone's use of tonality and rhythm.

6.11 Structural Uses of Symmetry

This section will focus on symmetry in exploring questions of structural uses in interconnectivity. In particular reference will be made to moving away for symmetric tonal music patterns. Asking how I utilised this to change intervallic developments? In order to explore new processes of changes to my sound through structure.

Having symmetry enables a set realised structure from which to move away; therefore, by producing a disturbance through the use of difference, with either a mis-aligned beat or sound frequency, there has been a diversion from the set patterned sound sequence. Symmetry no longer exists at that point, evidenced during my saxophone improvisation; however, symmetry may be re-established temporarily, dependant on a return to set realised structure. Symmetry, in reference to 'symmetrical patterning', is defined by Robert Rawlins and Nor Eddine Bahha, as

" ...the construction of lines [of music notes] with constant intervallic [note intervals] continuing shape...the result is a sense of perpetual motion, as if the line [of music notes] could continue indefinitely" (2005, 142).

Symmetry is interrupted by the introduction of intervallic structure, where the sound frequency uses a mathematical pattern that is outside the expected structure. For example, in music, instead

of using notes from one to eight, the played pattern is one, three, five, seven, missing out every other note, or uses every fourth note as in the cycle of fourths. Depending on the choice of note or, in this research, sound frequency this will either form a new symmetric pattern or produce a disjointed sound. In the case study with Bracey, the direct use of rhythm was explored through tonal change, in a variety of intervallic changes from one tone to another, altering the tonal length in order to create a rhythm. Through Bracey's interventions, the photographic painted image was in constant change. My saxophone playing echoed this by producing shifting sound tonality, in relation to Bracey's tonal changes and shifting rhythms, as a direct interaction with the way in which the painted image was developing. My saxophone playing echoed Bracey's tonal and rhythmic interventions by demonstrating a unity and reflective response, which stretched the tonal elements and rhythms of my playing through the dialogical process. The reason for explaining this is to demonstrate how intrinsic the process between Bracey's practice and my saxophone playing was becoming, which was one where both practitioners were utilising techniques outside their usual working methods.

Conclusion

Through analysing the sound and visual footage from the case studies in the live events, what resulted from the entrainment was: Firstly, the rhythm from the other participant's actions changed the rhythm formed by my saxophone playing. These changes were exampled through Bracey's techniques in producing his artwork. Secondly, my saxophone playing formed a rhythmic bond with each of the three other practitioners. Finally, the resultant rhythmic bonds enabled the saxophone playing,

- to break into different rhythms,
- have a choice in tonal sound frequencies
- enable frequency sound progressions in both tonality and rhythm.

At different points in live events, the above, coexisted with each participant's processes; at other points, the saxophone tonality and rhythm diverged from each participant's processes.

Chapter 7: Language and Dialogue

This chapter will refer to theorists who determine that music and languages have the same semantics. Therefore enabling a dialogue to be created between language and music. It will also evidence how dialogue contributes to practice-led research within live events, with specific consideration through working with different art disciplines.

Language and dialogue was utilised through connections to the chosen formation of sounds, based within an understanding of music structure, demonstrated within my saxophone playing which accorded with structural rules in language. The dialogue within each case study was conducted through sound and visual. Due to the choice of artists for the case studies, there was a historic commonality demonstrated through shared understanding of composition, tonality, rhythm, sound and visual. Martin Buber, writer and philosopher, expressed the belief that "…dialogue can exist without signs through the commonality in understanding between the participants who are having the dialogue" (1947, 20).

In my research case studies sound connections were used in order to establish an equal experience with the other artists, Bracey, Dutton and McArthur, through a common or shared listening experience, based on the other participant's engagement with music, as described by the philosopher, Jean Luc Nancy, who wrote, "...between a sense [that one listens to] and a truth [that one understands]" (2007, 2). The shared listening experience connects the practitioners; the aim was to encourage my saxophone playing to use what Professor Alan Garnham, writer on psycholinguistics, described as language that, "...must be in the form of a set of rules" (1992, 19). I was using the shared experience of music language, to connect with each the other artists in dialogue, and then testing out the tonality and rhythms of my sound, in relation to the language coming from the other practitioners: Bracey's visual language; Dutton's use of verbal language and McArthur's use of electronic sound as language.

The musicologist, Bruce Benson, (2005) states, in relation to artwork,

> "...creating a work of art is in effect the setting up a world…That is, the work of art provides a space in which to dwell. And that space in not merely for the artist, but for others. Applying this musically, one way of thinking about music work is that it provides a world in which the music making can take place" (2005, 32).

The particular choice of music note pattern took the form of repeated sequences of harmonious note patterns, to form tonal rhythms in which to connect to the other case studies' artists' practices. These note patterns were then broken down into irregular note order, to restructure the sound into new music note patterns. The effect of applying the formation of the music note patterns was twofold; firstly, though my initial saxophone sound in dialogue with the other, and then, in my saxophone playing use of music theory in the formation of the music patterns, where, through natural harmonic projections, one sound leads into another (Rawlins & Bahha, 2005,197).

The concept of connectivity in this research is understood as "...a cognitive link between sounds through which a sense of intentional repetition is evoked" (2018, 71). Connectivity was established in the dialogical collaboration with each of the other participants, within developmental processes in my use of tonality and rhythms. Charles Green, writes that artists discovered collaboration to answer questions in their own art practice,

> "Artist collaboration seemed to be a solution to urgent problems connected with the intersection of artistic language and artistic identity" (2001, 25).

In my saxophone playing throughout each case study dialogue, shared understanding with the other artists, Bracey, Dutton and McArthur, was entered into by myself and the other participant, through the sounds formed by myself as the saxophone player, and the perception and interpretation of these sounds by each receiver (the other artist). Adam Ockelford described

Figure 33. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

<u>Video 1</u>, Time on timeline, 00.04.

this shared understanding between two listeners as 'zygonic', "...the Greek prefix 'zyg-', which refers to a yoke, a union...'zygon' a connecting bar" (2018 71), where each listener has their own individual understanding of similar things; in this practice-led research, the shared understanding was in the participants knowledge of music tonality and rhythm. The connection between the other artists, Bracey, Dutton and McArthur, and my saxophone sound was to set up a situation where my saxophone sound was seen as equal to the practices of Bracey, Dutton and McArthur in the live dialogue, and not as an illustrator of the other artists' actions, achieved within the immediacy of social activity.

7.1. Dialogue and Linguistics

The following section explores how this research is used with dialogue and linguistics establishing links producing interconnectivity with the other practice in the live events.

The term, language, within this research, is used for structure and a framework for the communication practices that were utilised. The American philosopher, John Dewey, argues that objects of art are expressive and therefore have language, and due to their medium have many individual languages "...each art speaks an idiom that conveys what cannot be said in another language" (1932, 110). Dewey's statement underpins how art practice is understood as being a language and can be seen in relationship to the musicologist, Peter Tagg's (2015), writing on communication systems; thereby, espousing the possibilities in the transmission of apprehension, through a system of indicators that are understood by both participants, in each case study.

Through the shared understanding of each participant's experience of music, the resulting establishment of connectivity was evidenced in the actions of both participants, as recorded in the case studies, during each live event. For example, in the case study with Andrew Bracey, fig 33 shows an observation of how the artworks had specific moments of visual and sound unity. These moments of unity gave rise to an unintentional, but still relevant, connection in the
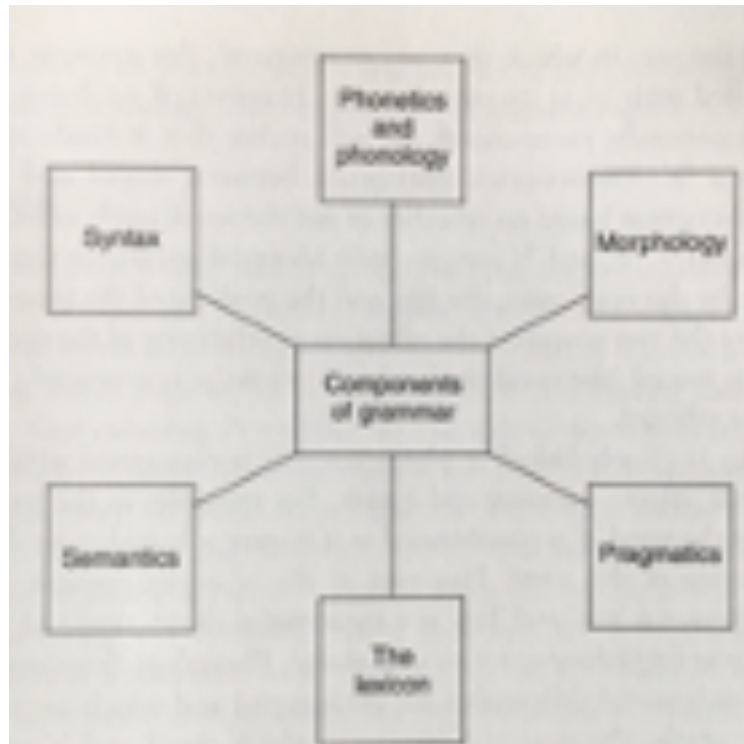
Figure 34. Neil Thompson 'Diagram of the components of grammar'.

Thompson, The components of grammar, (2003, 41)

dialogue. My saxophone playing was, when viewed in reference to a sound structure, in the central part of a note sequence, and Bracey was producing his brush strokes, matching the rhythmic patterns constructed by my saxophone playing. There was a defined intuitive link between the two participants, manifested in the artworks through the change in tonality and rhythm. My analysis of the changes in tonality and rhythm in both artworks resulted in my development of a specific tonal response to a rhythmic action in one of my own subsequent videos.

Linguistics is defined as the study of language (Fasold, Connor-Linton, 2006). The linguist link between music and language can be demonstrated through recognition that music follows the same linguistic attributes of, for example, phonology, syntax and morphology. The following example from linguist theorist, Neil Thompson (fig 34), demonstrates the basic building blocks of language: phonology (sound patterns); lexicon (stored entries); syntax (formation for phrases) and morphology, were used to establish a common ground for dialogue.

Thompson's diagram demonstrates that the link of structured sound is also through the embodied stored knowledge, in, for example, the form of musical notation in the stored entries (lexicon) of sound patterns (phonology) that formed sound phrases (syntax), which, in this research, was used to bring the attention of the other participants to the saxophone playing. As my art practice engages with a structure of sound based within a known framework, and this research employs dialogue, the system of a contrast in relationships of speech sounds is significant to the enquiry. Therefore, phonology is investigated for its link with music notes and music note patterns. Phonology was used in my saxophone playing as my sound patterns, in tonality and rhythm, from the lexicon of my stored knowledge, formulated from my understanding of music structure. Thompson describes phonology as a set of rules that define the sound pattern of a language, and is concerned with how sound affects meaning (2003, 42). In the dialogues with Dutton and McArthur, the other artists are using sound in their choice of communication tool. Therefore, phonetics is explored for the role phonetics has in creating tone within a dialogue. Phonetics is the study of the meanings in speech sounds that occur in human languages.

Syntax was applied to the way I formed the sound from music note patterns, and morphed sound through music notes into a dialogue. The writer, Philip Ball, suggests that "...what we get from music depends on our ability to recognise patterns and structural links" (2011, 119). Within my saxophone playing, recognition used syntax, semantics and interpretation and drew on Tagg's view of communication systems in that, "...semantics is generally used in a wider sense to refer to studying the interpretation, message, and meaning of any communication system" (2015, 174). Such communications are evidenced in the participants' actions as referenced in fig 46. The case study with McArthur's electronic sound work, live on Wave Farm radio, may have appeared directionless, without a defined start or a conclusion. This differed from a live artwork which moves towards an ending, through the use of formulaic communication devices, such as cadences, that use the starting tonic note to end on, thereby completing the cycle of sound. However, in the case study with McArthur, my saxophone playing utilised a form of cadence through rhythmic stuttering of the saxophone starting sound (the tonic or first note in the key), through the fast rhythmic positioning of the sound tonality. In doing so, the perception of this sound was recast from one of a semantic full stop. Although the saxophone sound was produced through a staccato effect, the emitted tonality, through the choices of rhythmic interaction, became a new sound in its own right, outside of the confines of a pre-ordered structure.

This new sound was achieved through the improvised nature of the dialogue, in that the produced sound tonalities and rhythms were in relationship to McArthur's electronic sound, and not to music per se, but rather formed abstract patterns.

Ockelford (2018) questions the possible reasons for what could be perceived by the listener as abstract patterns of sound that have no literal meaning, and despite this, they are still being embraced by listeners. By using, in the case studies, repetition and change that systematically occurs through rhythm and tonality, as Ockelford (2018) surmises, a synthesis emerges through repetition. Each of the other participants formed their own individual relationship to the saxophone sound, based on their own understanding of the sounds that were produced, thereby

reinforcing a link between sounds formed in language and those formed in music. My playing was a tonal response that was conducive to his digital sounds, only changing my saxophone tonality when McArthur changed his direction by using live guitar. My response to this change produced different tonality and rhythm patterns in my saxophone playing, in accordance with the introduction of the live guitar, evidencing a unity within the two practitioners' processes as a result of the shared dialogue.

Within the dialogue with the other participants, at certain points, it was recognised that my saxophone playing that was specifically created within the use of timbre in tonality and rhythm, fused through sound recognition patterns. These patterns were fused in a series of repeating music notes, through a repeated rhythm, producing a more direct connection to each of the practitioners. On reflection, I considered that this was due to the possibility afforded by entrainment in rhythms and visual, and sound connection in the use of timbre, referenced in the recorded case study with McArthur's sound artwork. McArthur's electron sound was purely in the digital feedback, created through the software and my saxophone sound frequencies that referenced intervallic practice. By using the intervallic structure to respond to my saxophone playing, which is repeated back through the temporal nature of the dialogue, my saxophone playing was conducting a dialogue with itself. However, due to the repeated saxophone sound being now mediated, my live saxophone was responding to a different form of its own tonality, that was generated through McArthur's electronic sounds.

Thompson also examples how languages merge together through an intermediate zone (2003), such as entrainment, shared by the participants in each case study. Thompson's diagram (fig 46) shows components of grammar as an example of an intermediate zone. Analysis of the case study recordings revealed that subtle change in my use of saxophone playing, together with the removal of a repeated pattern in rhythm and tonality, would disconnect the mergence, resulting in changes made in each of the other participants' actions, thereby confirming the integrity of the dialogue's fusion. By working with Dutton, repeated content tested my ability to alter my saxophone sound into different playing methods. The next example documents an issue my

saxophone playing was experiencing when hearing the familiar avatar voice sound patterns, challenging the extent of my music knowledge at the time. However, through constant reflection on how to alter my saxophone playing in relation to the similarities of the avatar vocal content, a development occurred producing different possibilities in slight music note changes, to set up one interwoven, cohesive entity between voice avatar, saxophone and location.

7.2 The Shift of the Object

The following establishes the shift of the object (music) from one of music into one that is centred in my saxophone playing with reference to western music theory.

The French philosopher Roland Barthes asks, "How does language interpret music?" (1982,179). Barthes says, music is understood through the adjective (1982,197); the adjective perceives music as a genre, for example, in words like 'classical', 'jazz', 'punk', and 'folk'. In the case studies, my saxophone playing is producing sound that has no association with any genre of music. Associate professor, Ed White, comments in his theory companion to Barthes, that Barthes says that in order to set up a move from the adjective (genre), we must "…change the musical object" (2012,151). By changing my saxophone playing from a music genre to an art practice framework that also incorporates rhythm and tonality, as used by any art apparatus as a communication tool, I presented complex tonality and rhythms in my saxophone playing during the live case studies. As referenced the response from my saxophone playing was to use sound tonal frequencies that were in sympathy with Dutton's unfolding story, as opposed to either the rhythmic pattern of the computer voice or the avatar's tone.

The knowledge I gained from this research suggested that through my live saxophone playing, the saxophone sound, although rooted within a theoretical understanding of forms of music language, was placed within my other current multi-media artwork, including still images and sound.

7.3. The Application and Effects of Improvisation

Improvisation is returned to here from chapters 1 and 2, to show the application and effects of improvisation, within the dialogues in the case studies with the other participants.

I acknowledge that the word, 'improvisation', is problematic, due to the many interpretations and understandings associated with it. Musician and writer, Derek Bailey states, "...improvisation suffers from - and enjoys - the confused identity which its resistance to labelling indicates"

(1992, 83). Bailey's text underpins my view that not being able to label improvisation within a set position adds, to the understanding, that, improvisation provides to the formulation of an individual expression, and in this research is used as individual expression in the live unrehearsed dialogue in the case studies. Due to the emergence, change and development of their actions, throughout the live events and unrehearsed nature of the dialogues, all the participants' dialogues engaged in forms of improvisation. The writer, Paul Berliner, defines the word, improvisation, in music as, simultaneously composing when performing, without preparation or the aid of a manuscript (1994). I have previously defined my use of improvisation, within my saxophone playing, as re-arranging a set of pre-understood and embodied knowledge of saxophone playing, determined by the conceptual nature of the artwork.

In this research, firstly, this was through improvisation based on my saxophone playing's use of tonality and rhythm that formed a coherence with each of the other participants'' actions. Further, changing the sound frequency patterns from these and initial patterns, my saxophone playing formed a tonality and rhythm. These new tonality and rhythm patterns were formed through either a slight tonal shift or a more pronounced tonal shift, producing a different saxophone sound, but still joined through the use of rhythm. Sustaining this sound within a rhythm gave my saxophone playing its cohesiveness, enabled through my knowledge of theoretical music note structure, I rearranged my saxophone tonality, using rhythm as the agent that produced a fluidity within the saxophone sound. Bailey, describes improvisation as a process that employs

change, adjustment, development and elusive ideas (1992). As a working method, improvisation, furnished each of the practitioners within the case studies, with a process, which enabled the practitioners to respond with their own communication tools, consequently applying a change to their art practices through their actions. In this practice-led research, saxophone improvisation is one where my saxophone playing is based on listening and watching for the tonal and rhythmic changes in the other practitioners' actions. For example, when working with Dutton using verbal language, listening for the sound stresses in the spoken line of words, or a repeated word or set of words, a set of music notes was designated to form groups of tonal interactions that harmonised. In the case study Dutton's voice avatars and my saxophone playing were overlapping each other, presenting a flow of sound that, at the start, appeared disarranged. However, my saxophone playing was evolving rhythms and tonal patterns that were in consideration, not through matching tonality or rhythmic patterning, but in the choices of expression in resonances, in response to Dutton's voice avatars. Therefore, the tonality and rhythms were producing a connection from my saxophone playing that was a parallel sound, and respectful to the artwork that was being developed by the other artist, Dutton.

7.4. Dialogue with Polymeter and Sound Glitches

This section returns to dialogue to answer how key factors in polymeter and sound glitches were analysed for their contribution to altering how I developed my tones and rhythms.

Dialogue, defined as a cooperative exchange with one other participant, is used in this research as an interchange with how I used saxophone tones and rhythms and the other art practitioner within the case study. For the purpose of this thesis, dialogue was initiated based on shared understanding (Peters 2011), using dialogue as a tool within the shared experience with the other participant. The dialogical relationship was one of function, to enable me to analyse how my use of tonality and rhythm in my saxophone playing had effect on the other participants' actions. For example, in the case study with McArthur, there were sound glitches and rhythm devices, directed by McArthur in his use of computer software. McArthur's electronic sounds,

with the use of a polymeter directed by the glitch sound from the digital interference. This was counterbalanced through my saxophone playing, producing a layer of sound frequencies, placed upon continuing rhythmic interlacing with McArthur's electronic glitches. The polymeter unified the two artworks through a consistent beat that emerged out of the digital space. What McArthur's sounds achieved was consistent rhythms that my saxophone playing reacted to, and in doing so, changed the listeners' understanding of the presented sound, from one that was cordial tones into one where my saxophone playing made penetrated sounds.

Due to the different production methods of the chosen participants, my use of the saxophone was unable to anticipate their actions or sounds resulting in three unique sets of knowledge pertaining to their different art practices. By critiquing how my saxophone playing affects the production of another's art practice, I will be able to analyse how my saxophone playing could function and transform my own eclectic art practice. Examples of this knowledge are clearly evidenced in the case studies, particularly evident with McArthur's artwork, due to the consistency of a single tonality and the internet time difference repetitions; Dutton's artwork produced a consistency of rhythm in respect of the computer voice avatars.

7.5. The Links Between Language Structure and Music Structure

This section continues to evidence the links between language structure and music structure. To demonstrate how the structure forms a dialogue between different art practices. There are strong parallels between graphemes (written units of language) and music notes in a written score; however, there is a marked difference between phonemes (sound units of language) and music, in that most use of verbal language has a time duration to each word. An example of this can be seen the spoken word, 'cat', which has a short sound duration. The frequency is variable depending on who is speaking the letter /a/, for example, the English northern pronunciation of the word 'bath' would use a short vowel sound as in 'cat', whereas the southern English pronunciation of the word 'bath' would apply a longer vowel sound rhyming with 'car'. Language in its basic written form consists of graphemes, which are the smallest written units, together with their sound equivalents, phonemes. For example, the grapheme, /d/ would

correspond to the phoneme 'duh' when reading aloud and the relationship of the grapheme to this research project and music will be discussed below, as will morphology. Morphology is the study of words and their relationship to each other, and a morpheme is described by Fromkin and Rodman as "...the minimal linguist sign, a grammatical in which there is an arbitrary union of a sound and other meaning that cannot be further analysed" (Fromkin & Rodman 1993, 42). As written, Syntax is defined in this research as positioning "... words together to form phrases and sentences that express our thoughts" (Fromkin & Rodman 1993,73). Leading to the exploration of how the application of syntax is relevant to music. The professor of psychology, John A. Sloboda, comments on how the theorists, Sundberg and Lindblom produced generative grammar for eight-bar melodies that resembled the generative phonology of the theories in language and speech. However, in music the sound frequency of the music note 'A' is always the same sound frequency (440Hz). Therefore, using music as a structure from which to work, in the case studies, is reached from the above summary of Sundberg and Lindblom, provided a shared understanding of the sounds I produced.

Each individual music note duration can vary; the length of time is defined in music notation by its symbol; for example, semibreve, minim, crotchet, and quaver. Spoken sound length also has variations of time. This variation of sound frequency length, in my playing, provided opportunities for sustained tonal consistency which also switched between sounds, adjusting to the other participant's content, as can be heard.. This example demonstrates expression, defined in this research as the individual use of the application of my chosen adopted communication tools, when in dialogue with the other artist's artwork. One communication tool was the method of glissando, taking one sound tonality into another, in doing so, reshaping the soundscape. In the dialogue with Dutton's voice avatars, at intervals, the reshaping of the sound through the change in sound tonality used volume, playing with a high volume and an extended length of my saxophone sound, through slowing down the rhythm, into one sound length that incorporated two sound tonalities. By doing so this was developed to counteract the avatar voice, often using an opposite tone to that used by the voice avatar. A new direction in my saxophone sound was generated, which counteracted the computer voice avatar's tone that rarely diverted from its

original script, reflecting the ideas of repetition and location, as evidenced in Dutton's artwork title.

The lack of movement away from Dutton's original concept, and the lack of tonality range offered by the computer avatar's voices, presented a platform from which my saxophone playing could develop a wide range of disparate sound frequencies, that connected and disconnected with the even sound surface offerings from Dutton's voice avatars. The lack of connection was viewed by myself as an opportunity to use my live saxophone playing as an experiment, with techniques of repeating sound frequencies and sound structures that never resolved themselves, with the addition of the occasional use of cadences to induce the sensibility of a pause in the dialogue.

The sound frequencies echoed Dutton's title, Mobius Strip Figure of 8, by using the 8th note from a music structure, followed by a sound tonality that was utilising the equivalent of a tonal distance that was four parts away from the original, and then counterbalancing this with one that was four parts lower than the original 8th note, thereby teasing with the title of Dutton's artwork.

Noam Chomsky and Morris Halle write of the structure and "...prominence contour", that in speech is used to assign stress, timing and intonation in a sentence (1985, 38), which reflects the use of timbre (stress), rhythm (timing) and tonality (intonation) in music. In this research, the use in the segmental (the length the verbal sound has in reference to the word) and the verbal suprasegmental, was defined as the manner of stress on this sound adding emphasis. In music, the duration of a music note, and the stress played in intensity through staccato, provides impact and intention that can be perceived differently by each individual listener, depending upon the music note or notes that precede and follow. This is echoed by Jackendoff, writer in linguistics, in his description of musical structure as (1987). "...grouping structure" (1996,128), where musical notes are placed into structured groups, in order to comply with western musical theory. This is something that I explored, by rearranging group structure, through the use of

intervallic note patterns. I considered how the change in tonality and rhythm would alter the response from the other art practitioners' actions in each case study, in order to later relate to my own art practice. Also, I investigated whether the use of rhythm in my saxophone playing, using consecutively paced tones that have a mathematical relationship over a set time, was able to reform the shared connection between the practitioners' actions in each case study. The reformed structure produced progressive and alternative ways of my saxophone playing expression, and was not producing the intended response, based on sound which the other practitioner was producing.

The research determined how, by utilising a recognised structure within a parallel communication genre I could form my own sound. Therefore influencing my art practice conduct, in relation to other artwork. In the case studies, an exploration of the structural relationship within music, in which each music note relates to each other music note, is also demonstrated in methods such as music note intervals (the division between two music notes) evidenced by Brown, (1987); with inverted music note intervals (1987) and music triads (1987). My use of intervallic note patterns were also demonstrated within a music structure, as identified by the writer and musicologist, Mark Levine, (1995) and can have the same function as syntax in language (the equivalent of forming phrases and sentences), through the use of intervallic patterns and triads to make up phrases of music. In this way, jumping between sounds that are related to each other through a pre-formed structure, is, I argue, the equivalent of missing out words in a sentence that achieves a move away from the initial structure. Alternatives in my saxophone sound choice were thereby enabled, which extended the possibilities to direct the dialogue in different directions, occasionally resulting in a lack of response from the other participant. This can be seen in case study when pauses in the dialogue with Bracey's artwork presented moments of contemplation in the saxophone sound.

In each of the live events, the other participant was physically separated from myself during my saxophone playing. In the process of producing the artwork in the case study, with the. three chosen art practitioners, Bracey was facing his painting; McArthur was in a separate country

and Dutton was seated in front of his computer, which was often in another room, due to my change of location, therefore there was a very different physical dimension between the artists and their reception and responses to my sound. The dialogue with Bracey differed from the dialogues with Dutton and McArthur, in that this was a visual artwork being produced at the time of the dialogue. Bracey faced his painting, whereas I was positioned behind Bracey, facing his artwork. I watched Bracey's brush stroke as rhythmic action in the process of creating his artwork. Consequently, this was the only case study were I had a need for my attentive visual awareness.

The case study with McArthur's computer processed sound artwork involved McArthur and myself just listening to each other's sounds. Dutton's computer sound artwork; visual and sound awareness were needed by both participants at different time within the live event. The actions of Bracey and Dutton changed my use of rhythm, in that I related my sound rhythms to their physical visual body rhythms Bracey in his application of brush strokes and Dutton with his hand to computer movements.

7.6. The Forming of Sounds in Relation to Each Other

Investigates how tonality and rhythm and morphology, in the forming of sounds in relation to each other.

The music note 'A', as previously explained, always has the same sound frequency. However, music note morphology is referred to, by saxophonists, as 'slurring or bending a note', or through a glissando technique, where a line of music sound connects two notes. These changes of the initial sound brought a distinct definition in the timbre, producing a depth and breadth within my saxophone sound, by varying tonality of each music note. This technique extended my saxophone frequency range, adding to the research at the time of playing and being utilised within the case studies, to move from one expression in sound into another. For example, when working with Dutton, changing the music sound from a highlight note into a low long note also

produced changes in the rhythm, in order to complement the pace of sound from Dutton's computer voice avatars, by doing so was interwoven into the saxophone sound and the computer sound in dialogue. By utilising dialogue with other artist's actions, I was able to question my use of tonality and rhythm in sound frequencies within my own art practice.

Conclusion

This chapter investigated and evidenced the connection between language and music, in order to integrate rhythm and tonality through a structure based in language. The parallels between language and structured sound in music, have been effectively described above in relation to the case studies.

By using dialogue as a method to connect the two art practitioners in each of the case studies in the live events, the different ways in which my saxophone playing communicated with each of the other art practitioners, became evident.

Each shared experience was evident with the use of a single live event, specifically devised for this research enquiry. Differences were identified in the unique characteristics of each practitioner's art processes, in the production of their artwork. Demonstrating how knowledge is assimilated from live interconnected processes that are devised to produce live change.

Figure 35. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.
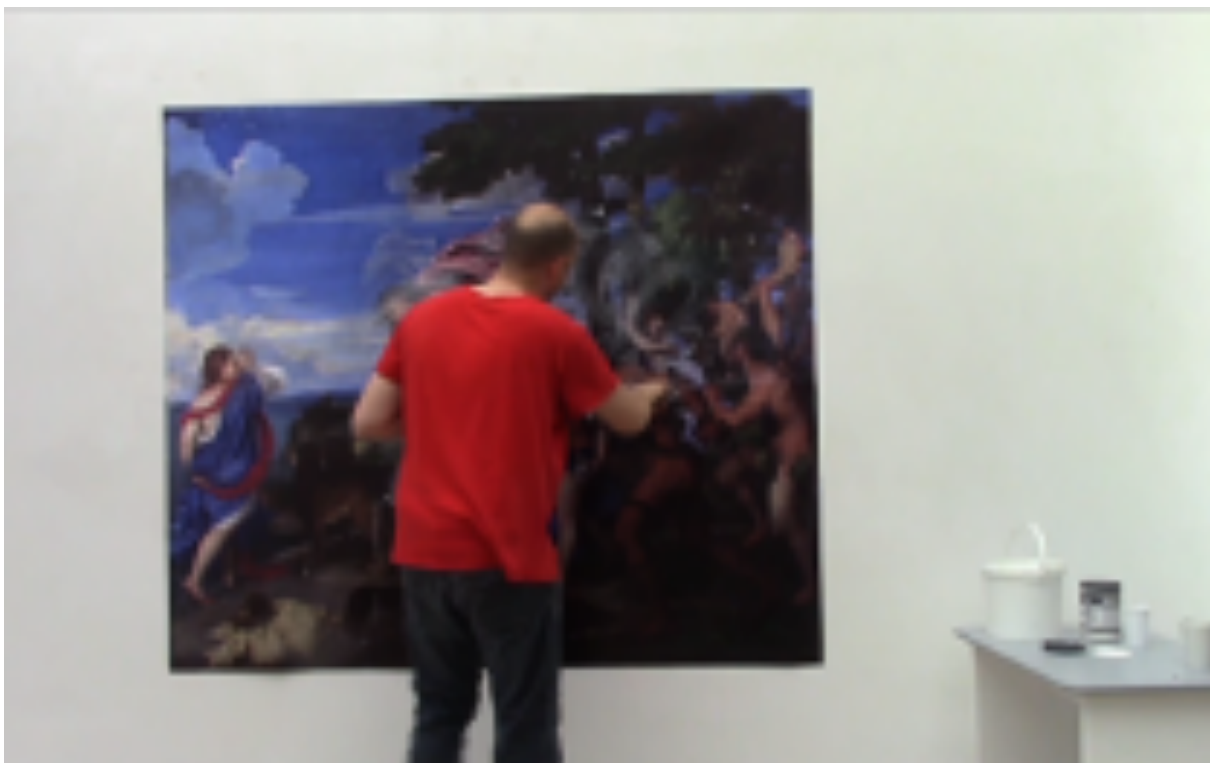
Figure 36. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

<u>Video 1</u>, time on timeline. 00.04.

Chapter 8: The Case Studies

8.1 Case Study with Andrew Bracey.

8.2 Case Study with Steve Dutton.

8.3 Case Study with Ian McArthur.

8.1 The Case Study with Andrew Bracey

The case studies evidence how live events have unique properties for research through the immediacy of interconnectivity with one other art practice. The effective use of working across art disciplines using dialogue developed knowledge of the changes in my tonality and rhythms. Each case study was recorded live using four sound recorders placed four in opposite parts of each location, forming an oblong from which to capture the sound. Each sound recorder was colour coded that related to a mapping of the space. This case study also used two video cameras. One placed above the event, looking down on the proceedings for an overall view, the other directly positioned in front of Bracey's artwork to fully capture his actions (fig 35).

My aim was to discover how the research extended my range in tonal and rhythmic techniques, for future usage in my art practice. The intention was for participants to exchange information and build interconnected relationships during a live event, through my use of tonality and rhythms when playing my saxophone, being interpreted by the other three arts practitioners' actions and art processes.

In the case study with Andrew Bracey, the location was a gallery space. The gallery space, as a single room, had two distinctly different acoustic attributes, due to the change in ceiling height and the ceiling being made from different materials; one glass, the other metal and cement. This presented two unique acoustic areas; the lower area had more reverberation bouncing from the cemented low ceiling, than the other higher glass ceilinged roof area. The importance of mentioning the difference in reverberation of the sound is because of the opportunity this raises,

Figure 36. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.
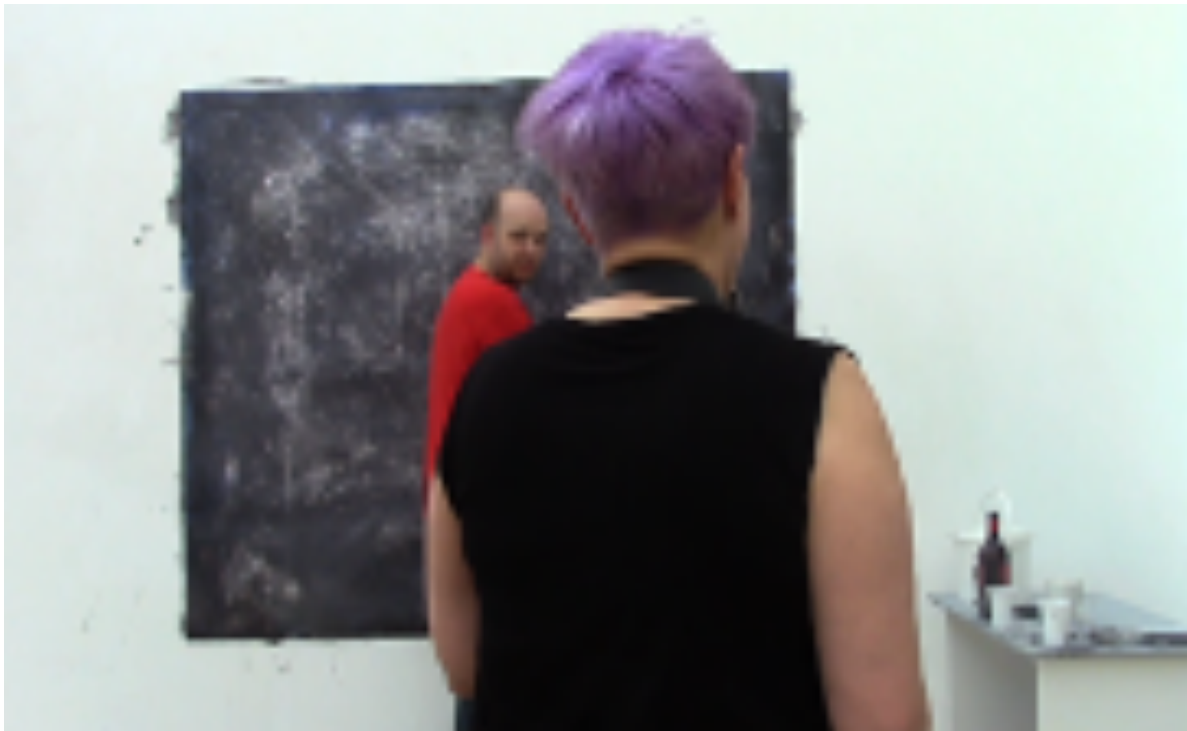
Video 2. Time on timeline 09.08.

Figure 37. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

Video 3. Time on timeline 02.24.33

in changing the perception of sound to the listener. I utilised the reverberation difference by producing long tones in my saxophone playing, and through the reverberation, almost formed sound loops through my rhythmic choices. The resulting reverberated saxophone sounds were employed as a direct response to the space and used to shape the tonality of my saxophone playing, when in response to Bracey's use of his tonal possibilities.

This section explores tonality and rhythm between the painting of the artist Bracey and the saxophone sounds I used. Analysing my improvisation tonal and rhythmic art practices when working with other artists.

In Video 2, (fig 36) Bracey had started to alter the image surface's tonality, through his use of gesso, while my saxophone playing invested in high frequencies tonal sounds. The process was early in the case study, enabling my saxophone playing to explore a flexibility of tonality, base on Bracey's working method, in the early stages of Bracey's conversion of the photographic print image. Bracey's response started to reveal a subtle tonality, from which my saxophone playing subsequently responded. The analysis evidenced that my saxophone playing was able to explore a variety of tonal expression, from which to construct sound motifs.

In Video 3, figure 37 demonstrated how my saxophone playing used a tonal range that expressed, echoed and emphasised the dark and dulled aspects of the colouration in Bracey's painted surface. My saxophone playing concentrated on a tonality that used the lower end of the available tones, later used in relationship to tonal ranges within video and photographic work. The evidence displayed how tonal ranges are connected in consideration to each through direct observation and not wavelength connectors.

The use of timbre to present opportunities for notable changes in tonality occurring in dialogue with another's art practice, during a live event.

Figure 38. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

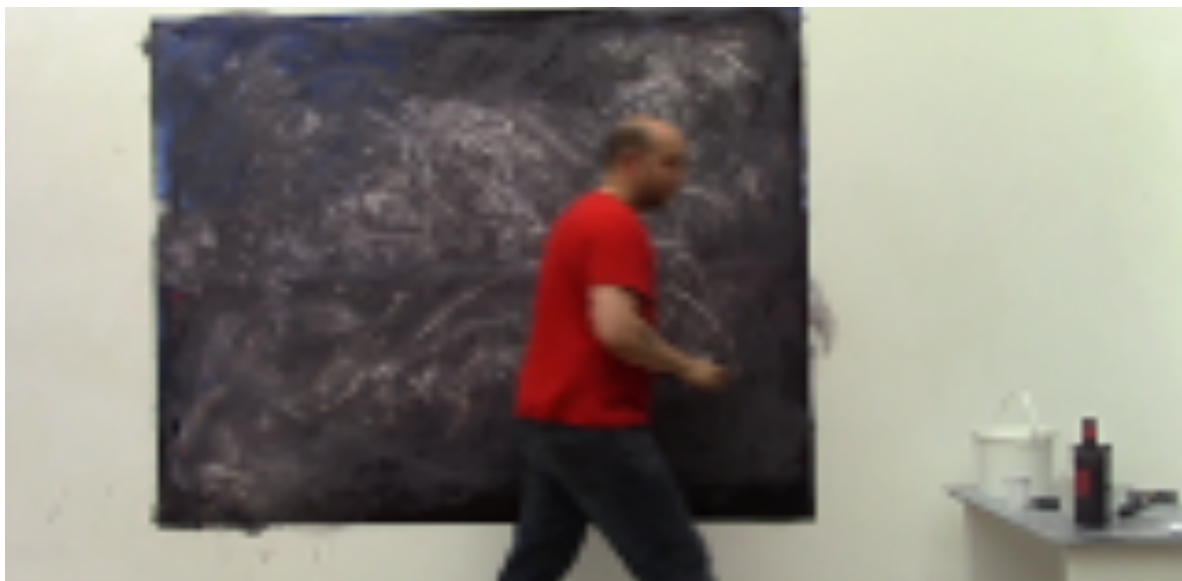*Video 6. Time on timeline, 15.21.*

Figure 39. Video 4. Time on timeline. 39.29.

Video 6, (fig 38). My saxophone playing was using the saxophone timbre within the different tonalities, to alter the sound of my saxophone when playing the same note. I was using this to produce subtle differences in my saxophone sound, to be compared and possibly incorporated tonal changes when using timbre, demonstrating possibilities in subtlety, where the timbre created an impact on another artwork. I have used this new knowledge within my videos when connecting the visual content to sound. Because Bracey's tonal range was more limited than mine, I was able to evidence how the same tone from Bracey would be affected by my use of both high and low frequency sounds. The resulting analysis produced new knowledge on the relationship different tones had on one continuous tone, for example, when uniting sound with a single tonal photograph.

In Video 4, figure 39 is an example of how both Bracey and I maintained our own independence, in the actions that we used in the case study. There was a moment where my saxophone playing included familiar music patterns, then transferred into more responsive playing, to reflect Bracey's actions in his brush stokes and application of gesso. My responsive sound also demonstrates my saxophone playing as unique in the forming of my saxophone sound. The unique sound presented evidence, which I still refer to when considering tonal ranges within my own images. At one point, Bracey produced sound through his rhythmic hammer blows, producing a rhythmic sound that I did not respond to, since I felt that this was not part of his painting and therefore not relevant to my research.

Figure 40. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

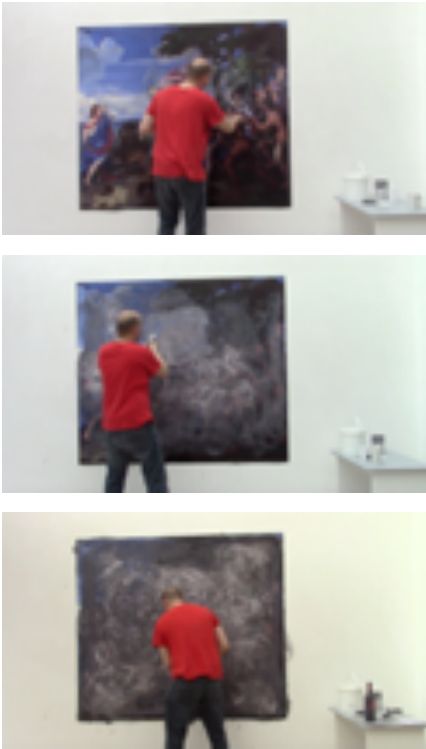*<u>Video 7</u> Time on the timeline 01.10*

Figure 41. Bracey's tonal changes. Twelfth Night Performing Aphantasia' PSP Gallery, May

12, 2017.

In Video 7 (fig 40), the produced saxophone rhythmic patterning originated from a polymeter, however, due to Bracey's actions, my saxophone sound often diverted from the perfect metre. The diversion was considered to align my saxophone playing's rhythm with Bracey's actions, also, to discover what a diversion from a perfect metre would achieve. The research underlined that a rhythm pattern was able to produce diverse changes, which enhanced the connection between the two artworks, through departing from an established metre, and then returning to the original metre.

The next set of images, (see fig 41), again demonstrates the use of a polymeter that was using the painting as a rhythmic score form, to which my saxophone playing responded, as opposed to responding to Bracey's action in his art process. I chose to do this, as I saw possibilities in using the actual product (painting) to created rhythms in my saxophone playing in regard to the gradual changing tonality, as opposed to the actions from Bracey. The resulting analysis was incorporated in the making of my video with gradual content movement.

How rhythm forms juxtapositions with the other practitioner's work through dialogue; questioning different rhythmic patterns in relation to the other practice and their influence on mine.
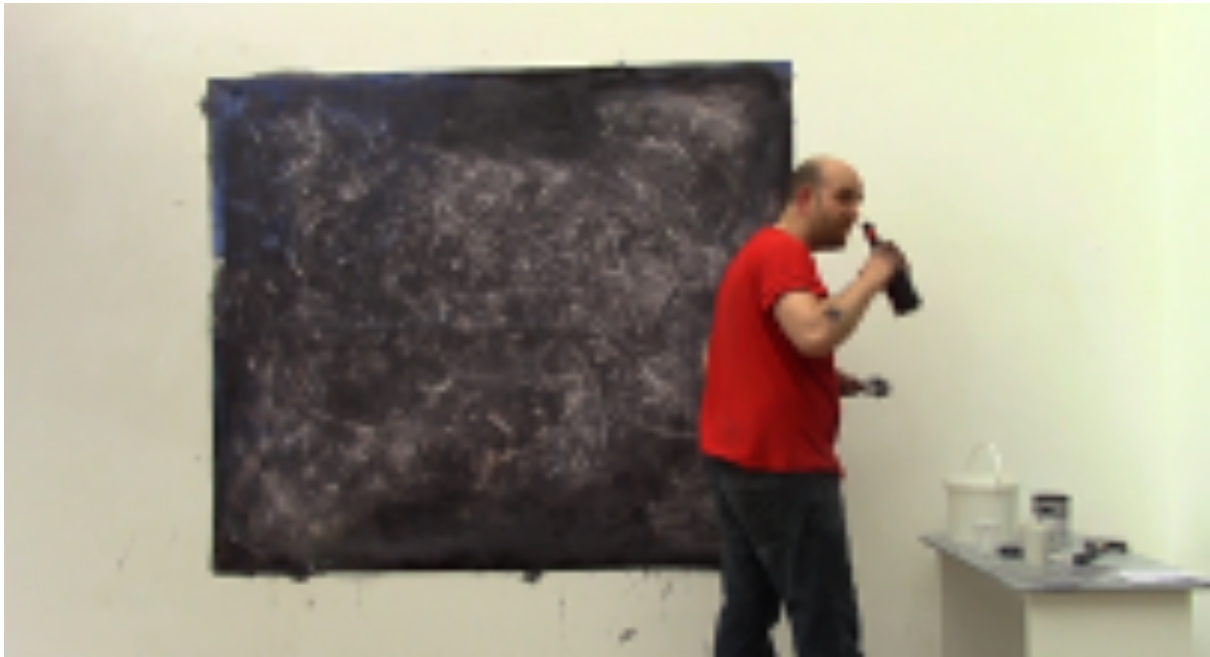
Figure 42. <u>Video 5</u>. Time on timeline. 51.01.

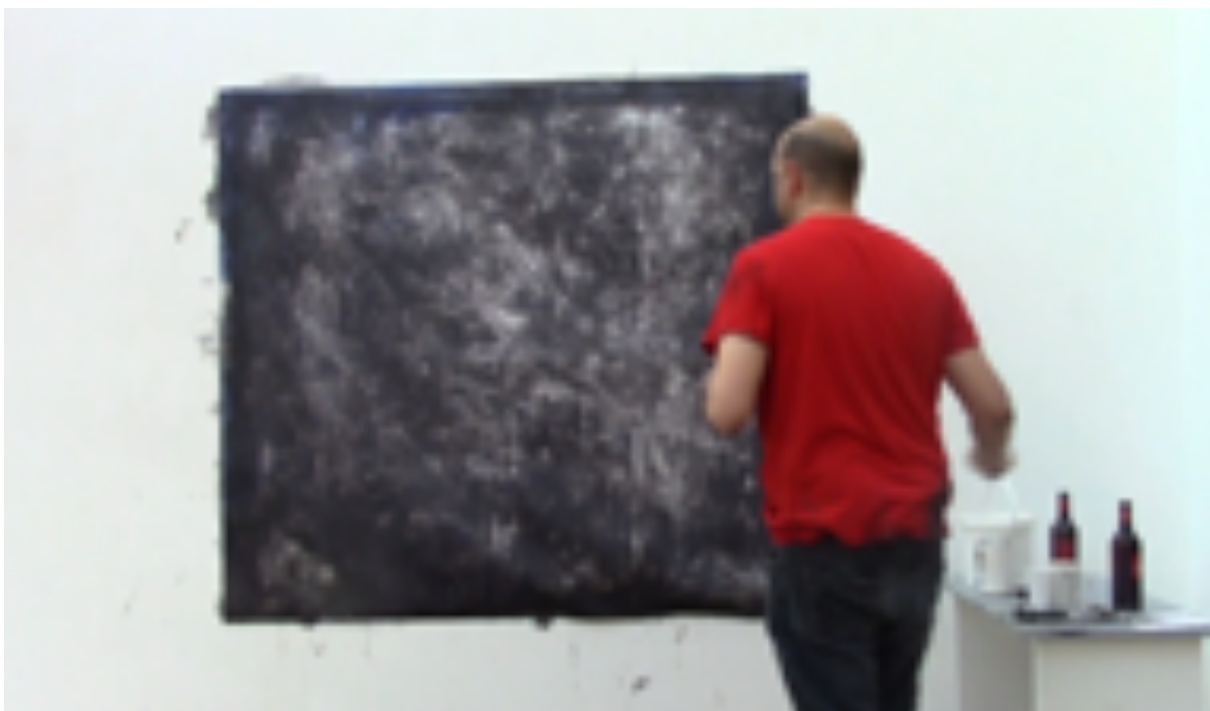*Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.*

Figure 43. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

<u>Video 8</u>, Time on timeline, 02.32

In Video 5, (fig 42), I continued the ideas in tonality, joining these through my saxophone playing with rhythmic ideas, used to explore different options in responding to Bracey's actions. My intention was to provide my saxophone playing with a variety of tonality and rhythm choices, which I could explore at different points in the case study.

In Video 8 (fig 43), polyrhythms formed a rhythmic juxtaposition with my saxophone playing and Bracey's brush strokes. The polyrhythmic structure was instrumental in providing a rhythmic base, where Bracey and I could change our rhythmic actions, but still be interlaced, due to points at which the rhythms from each artist united.

To answer how I consider the tonal changes in my playing, the research considers the interrelationship in the concepts appropriated from music, of rhythm; staccato; tempo rubato; intervallic and with special attention to expression, when used with glissando and cadences. The shaping of my saxophone intuitive tonality was made possible through timbre and my use of volume and the rhythm, through the length of the saxophone sound, all of which are controlled by my breath.

Figure 44. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

Video 9. Time on timeline, 00.20.40.

Figure 45. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

In Video 2, time on timeline. 09.08.

Bracey Video 9, (fig 44). Video 9 demonstrates the interrelationship of my saxophone playing with Bracey's actions as an intrinsic flow, from one participant's work to another. The importance in evidencing this was to reveal the parts of the case study that produced effortless, and non calculated, responses from my saxophone playing, comparing the resulting evidence, with calculated, tonal and rhythmic responses from my playing.

Through Bracey's interventions, the photographic painted image was in constant change. My saxophone playing echoed this with shifting tonal sound frequencies, in relation to Bracey's tonal changes and shifting rhythms, as a direct interaction with the way in which the painted image was developing. The saxophone playing echoed Bracey's interventions by demonstrating a unity and reflective response from my saxophone, which stretched the tonal elements and rhythms of my playing through the dialogic exchange. The reason for explaining this was to demonstrate how intrinsic the process between Bracey's practice and my saxophone playing was becoming, and how this intrinsic flow method could be re-used with other co-art productions.

This section continues to explore my use of interconnectivity through tonality with particular consideration to the use of glissando.This case study presented opportunities to discover and evolve new positioning of notes and rhythms to each other. This is in contrast to using a strict music note formula from theory, which includes improvisation methods.   In video 2, (fig 45) I am exploring tonality and rhythm using a range of music notes from a top F # down to a G then jumping down the octave and starting at D through to G. The higher notes use a rapid rhythm, in contrast to a slow meander through the lower notes. My saxophone sound used discordant squeaks and sound repeats to break preformed rhythmic and note use. However, on analysis, I continued to repeat actions which I had played previously. What was realised was the connection that Bracey's artwork made with the saxophone playing.

Figure 46. Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

Video 3. Time on timeline, 02.24.33.

This section evidences how improvisation was pivotal in creating changes in rhythmic structures when producing developmental changes through the dialogic exchange. Video 3 (fig 46) is an example of my saxophone playing interconnecting with the painting, as a result it is forming its own structure of sounds through tonality and rhythms. Therefore demonstrating how the dialogue produced autonomy in my sound, that moved away from replication of my own playing and use of prestructed playing techniques formed out of music theory. Thereby evidencing how dialogue between two live art practices creates distinct changes, in both my emitted sound and in my intuitive thinking.

In the use of my saxophone rhythms with Bracey's art practice, both practitioners integrated their differing rhythms, which were individually formed. Firstly, Bracey's rhythm was governed by the technical requirements in the process of converting the photograph into a painting, and my rhythm arose from my technical sound saxophone patterning, which required certain tempos. Secondly, our common rhythm was our collective response to each other's actions, which were both visual and in sound.

When working with Bracey, transforming a painting, the movement of each brush stroke performed a different tonal line, from the length and speed of the artist's brush stroke becoming rhythmic. The rhythms were transformed into Bracey's whole-body actions, partly in response to my saxophone playing. In the rhythms formed through Bracey transforming the photographic representation of a historic painting, I used distinct rhythmic markers, in which to place the tonal sound patterns that shaped the improvised sounds, using natural entrainment. My saxophone playing and the artist's actions interacted with one another, through each other's rhythms, repeating tonal sound patterns, which created expectations and responses to Bracey's artwork. The positioning of these sounds, through the overlapping and transformative tonal actions, presented possibilities for change to slowly occur, through the introduction of tonalities from my saxophone playing that were not part of the original set of sounds.
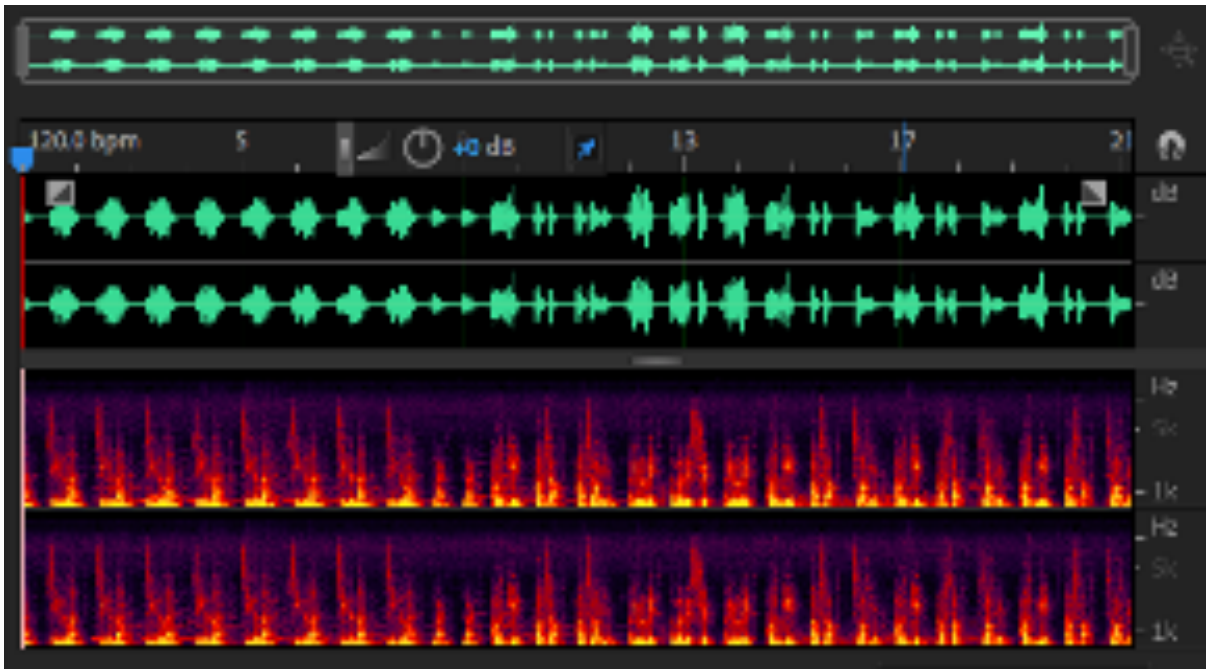
Figure 47. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.
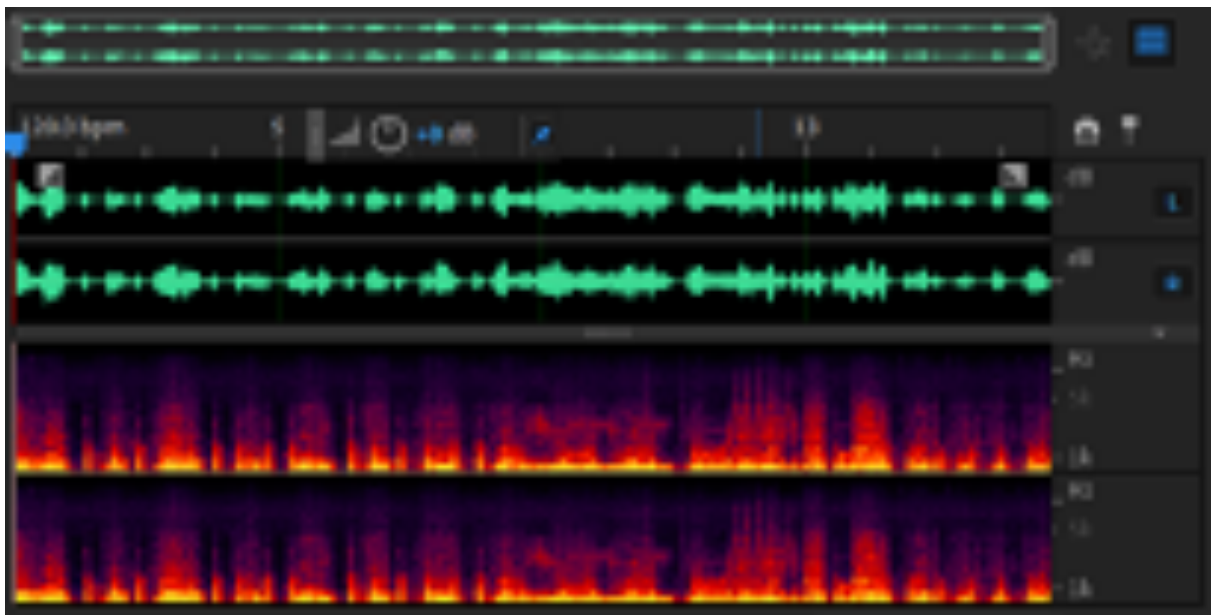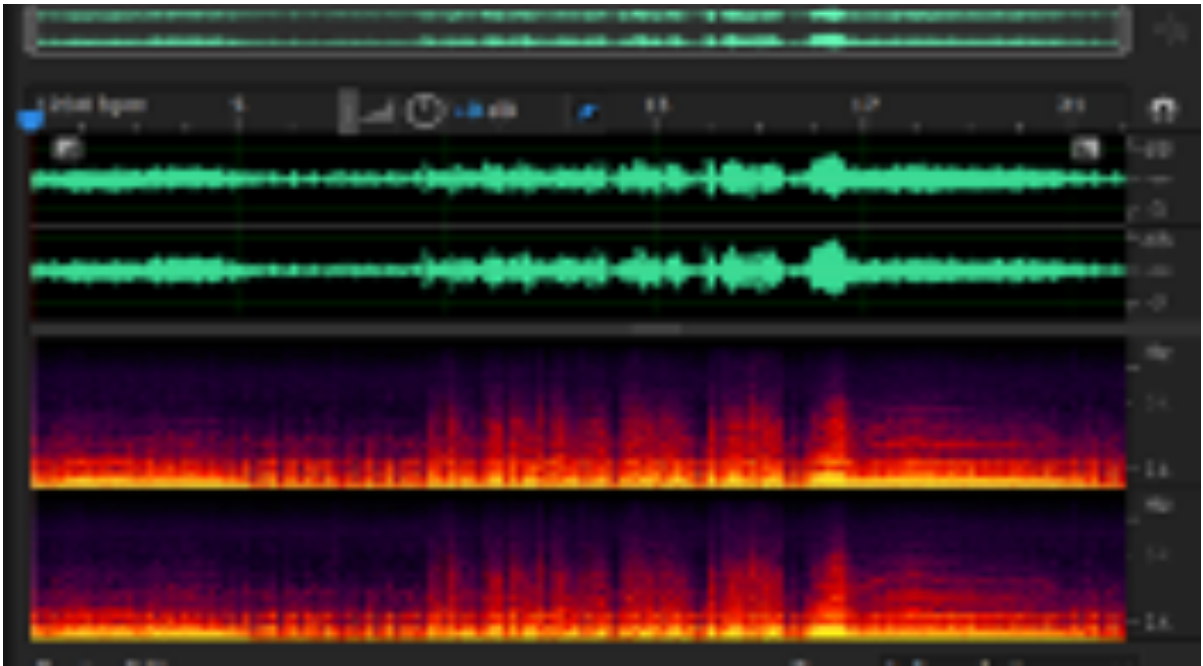
Dutton Sound 3.

Figure 48. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

Dutton Sound 3 Time on timeline. 2.04.-2.04.

8.2 The Case Study with Steve Dutton

The case study with Dutton was undertaken at the 'Performing Writing' symposium, Wellington, New Zealand, chosen for this research for being a neutral space that was hitherto unexplored by either artist, presenting each artist with the same conditions. Again, different evidence was produced, especially in how the tonality and rhythmic patterns differed from case study to case study (fig 47).

The shift in tonality and rhythms. Using improvisation in my saxophone playing introduced new patterns of tonality and rhythms. These were unfamiliar to the other art practitioners, consequently impacting on their actions (fig 48). This demonstrates the correlation between my physical self and the saxophone, in the production of tonality and rhythm and where I chose to react through either a shift in tonal range or rhythm or both.

Figure 49. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.
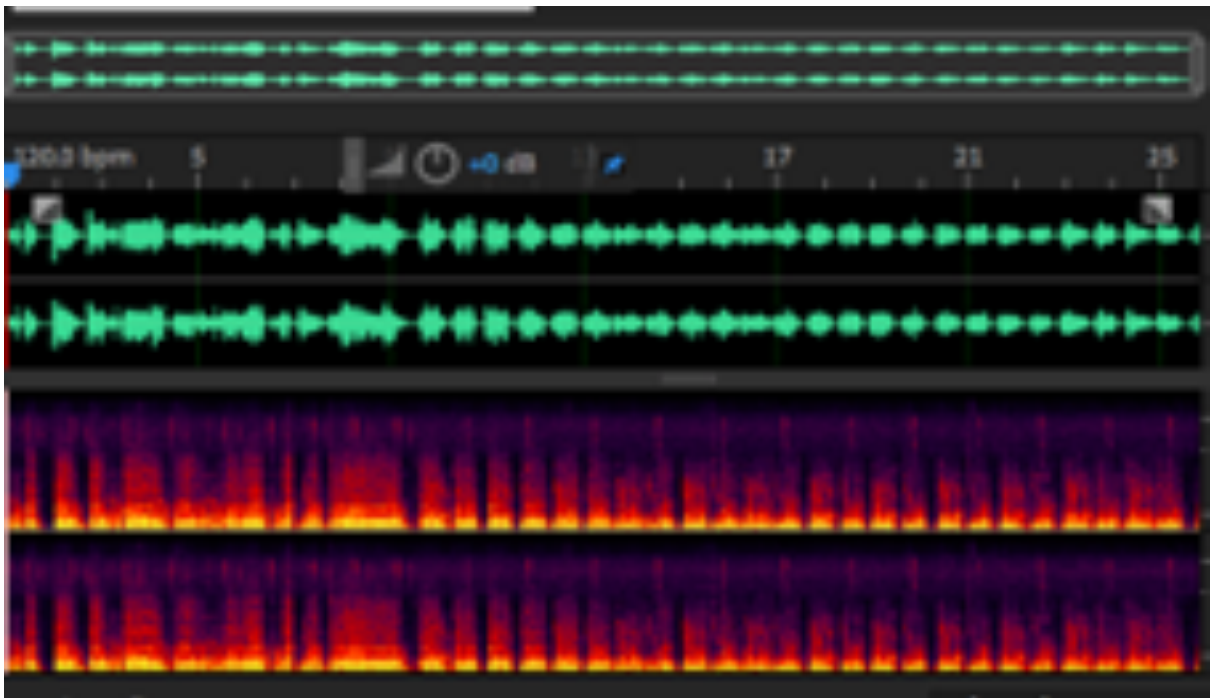
Dutton <u>*Sound 14.*</u>

Figure 50. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

<u>*Sound 1.*</u> *Time on timeline, 12.48-13.37.*

The use of repeated rhythm patterns with the structural rhythmic. The use of repeated rhythm patterns, when in dialogue with the structural rhythmic forms presented in Dutton's artwork, were used as pattern memory associators, (Pinker, 200) manufactured through the digitally constructed computer voices that were consistent in their tonality. As interconnectivity is a key component in the live case studies, the importance in the use of repeated rhythmic patterns was fundamental in understanding how to connect in dialogue with the other practice. In the case study with Dutton the location conditions differed, in that both participants were in an allocated domestic space, which was previously unknown to us, provided for the live performance, in which this case study took place. As previously written, Dutton used a computer and computer avatar voices, enunciating Dutton's words, which were produced live, through Dutton typing on his laptop (fig 49).

This section is exploring the rhythmic points of individual tones, which punctured the rhythm of the computer-generated avatars. In Dutton Sound 1 (fig 50), my saxophone playing was producing rhythmic points of individual tones, which punctured the rhythm of the computer-generated avatars' voices. The rhythmic points were initiated to unify the rhythm structures from Dutton's voice avatars and my saxophone playing. Dutton's 'male' voice avatar had a smooth, low frequency tonality, from which the saxophone played various rhythmic pulses that were not in a continuous rhythm. My saxophone playing punctuated the smoothness of the male voice avatar, not to unsettle the computer voice, but rather to bring an alternative dimension to both participants' sounds. My intention was to discover how, when playing, my saxophone's rhythm would engage with the low frequency tonality from Dutton's male avatar voice, then compare this to the high tone of Dutton's female avatar voice. Analysis suggested that the length of the spoken words from the voice avatars, had more impact than the tonal range of the spoken words, when compared to my use of rhythm in my saxophone playing.
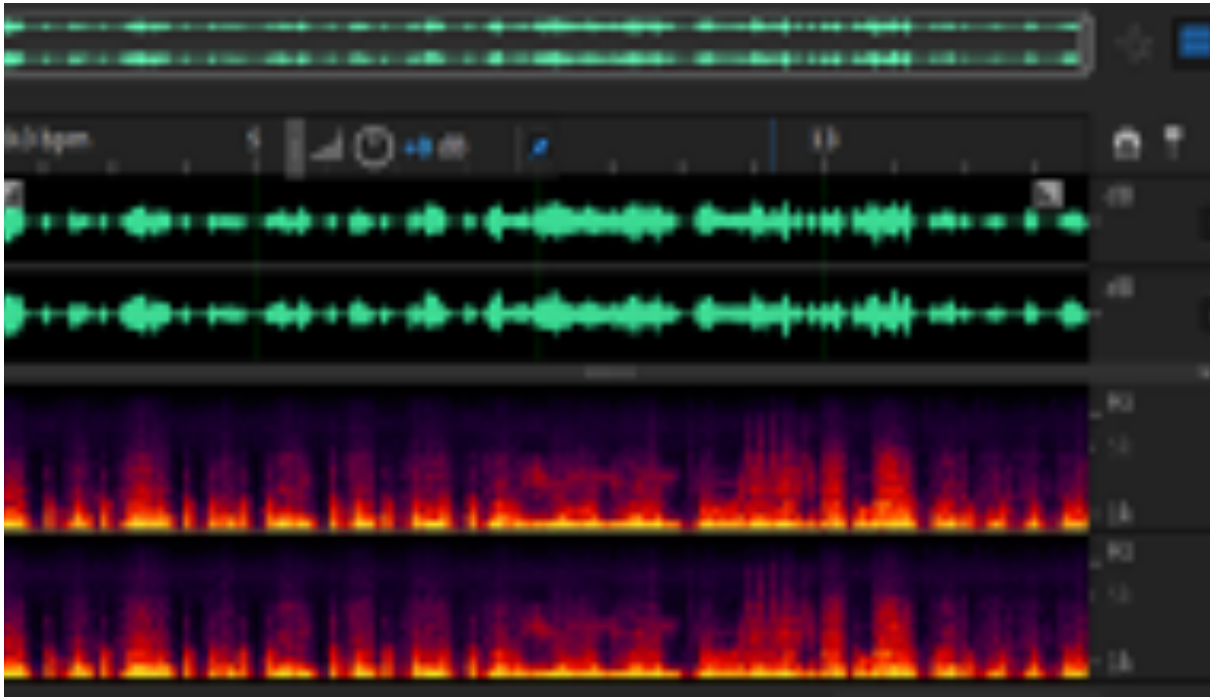
Figure 51. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

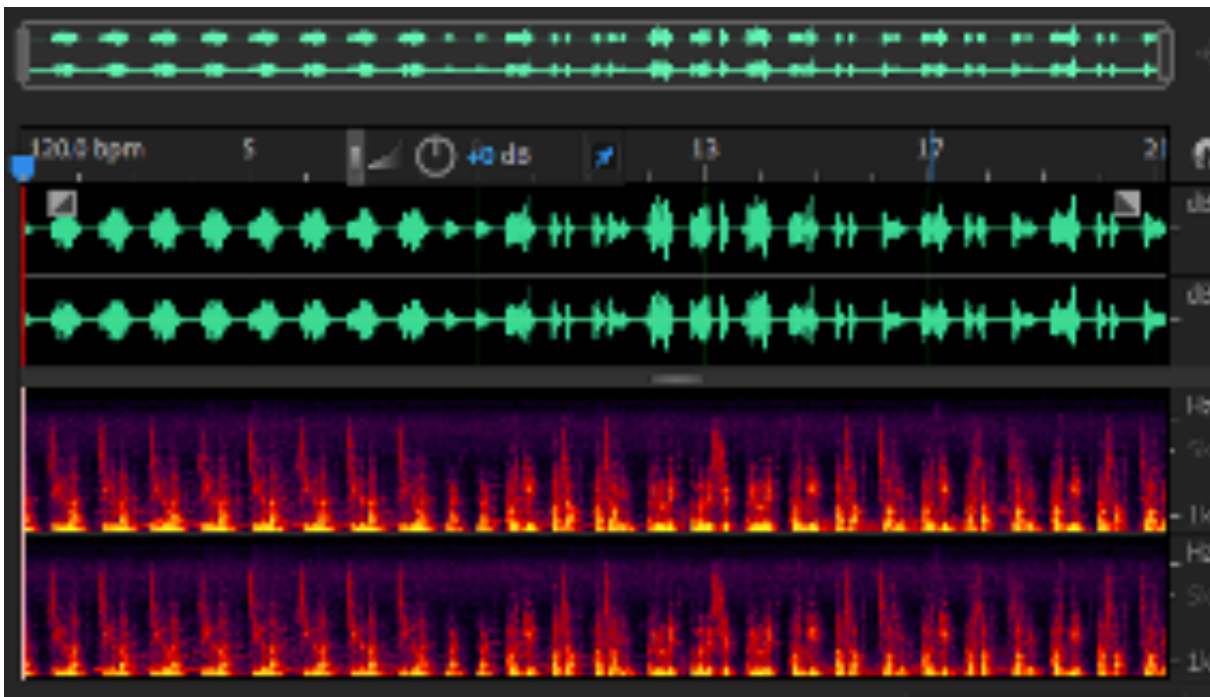*Dutton <u>Sound 2.</u> Time on timeline, 2.04.-2.04.*

Figure 52. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

Dutton <u>Sound 3</u>. Time on timeline, 9.36.-10.19.

The use of repeated rhythm patterns. Dutton Sound 2 (fig 51). The use of repeated rhythm patterns from my saxophone playing applied only one particular rhythm structure; this enabled me to explore a variety of rhythmic patterns, against the digitally constructed computer voices' consistency in tonality. Dutton used repeating utterances, in sentences and words with the same voice avatars, providing a consistency of tonality in the produced sound. Changes occurred in Dutton's rhythms, the rhythm change provided a rhythmic challenge, to which my saxophone playing could respond.

The tonal constancy provided a predictable tonal form, from which my saxophone playing was able to apply a variety of tonality, in both different note frequency patterns and long single note frequency patterns. The case study provided opportunities to explore different combinations of rhythms and tonalities in my saxophone playing, which were unique to this case study, in comparison to the other two case studies. These different combinations of rhythms and tonalities were enabled by Dutton's choice of limited tonal range, in his use of computer voice avatars and verbal rhythmic choices.

Working with the repeated content in Dutton's artwork presented opportunities that challenged my saxophone playing ability. New processes were also developed in relation to Dutton's sound, through my saxophone's use in small rhythmic increments and timbre, evidenced my saxophone's playing expression. In Dutton Sound 3 (fig 52), there is evidence of how this was applied. The small increments of sound were particularly analysed, for how timbre could soften the strong rhythmic pulse, issued through my saxophone playing. The analysis and resulting new knowledge were later used in relationship to and with single photographic images, and my saxophone playing, when expressing a specific idea.
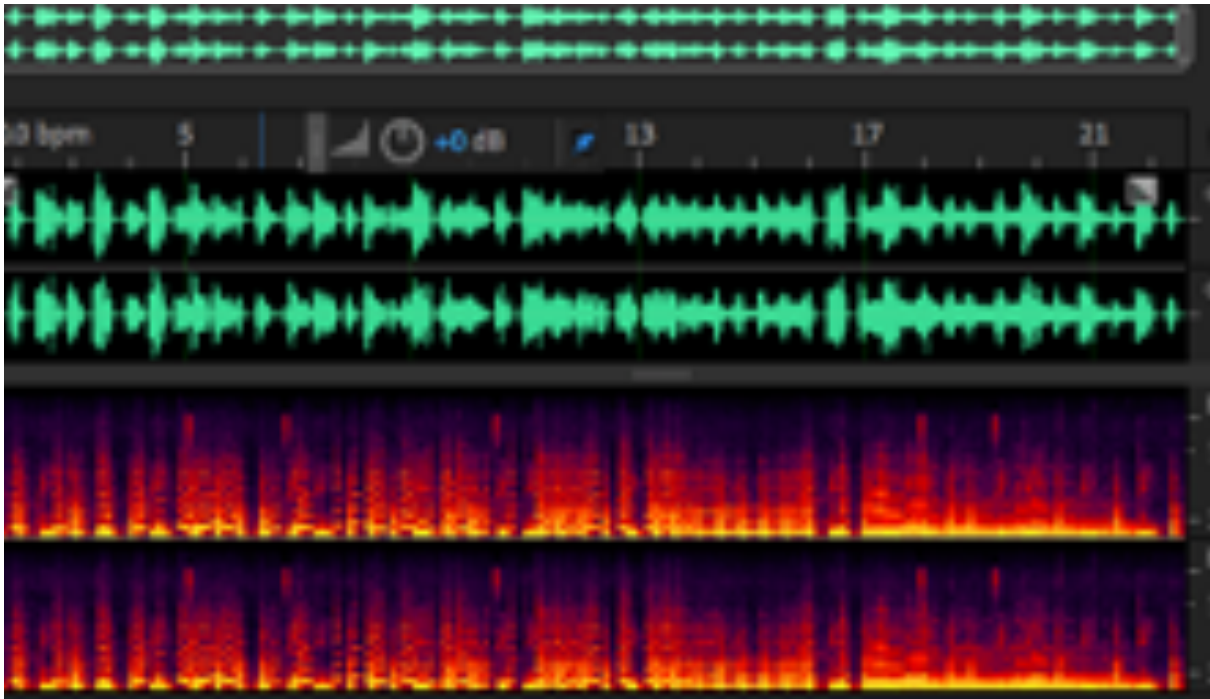
Figure 53. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

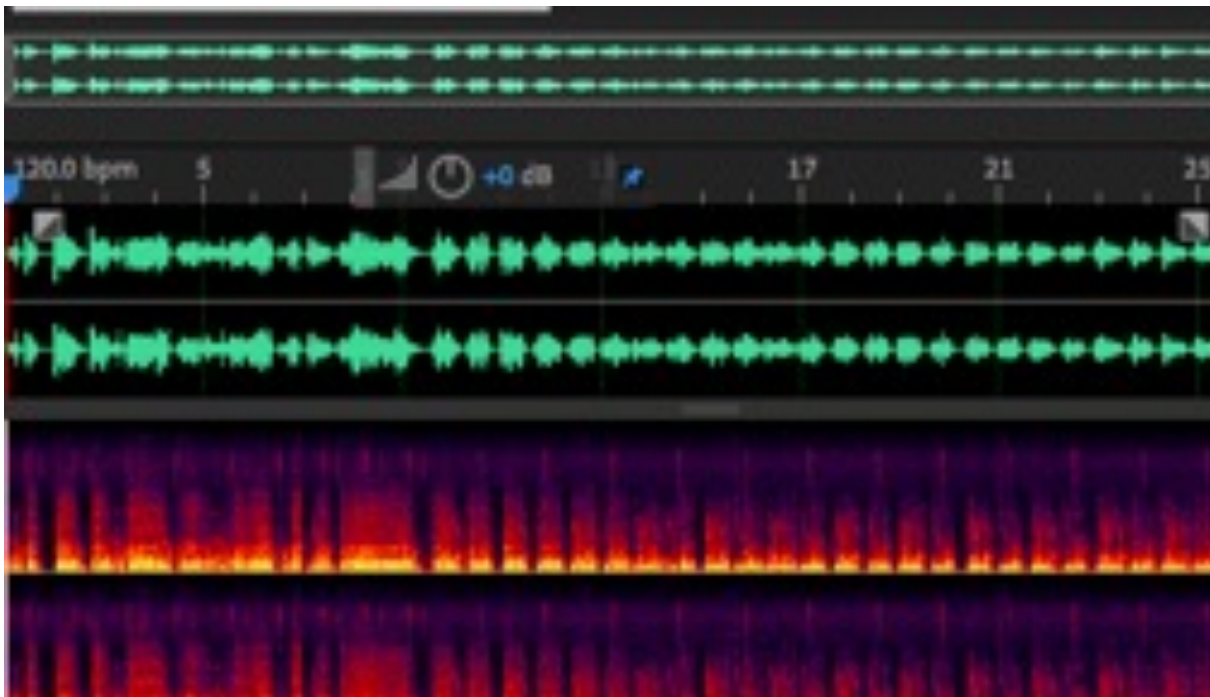*Dutton Sound 4. Time on timeline, 1.39.33-1.40.16.*

Figure 54. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

The time on timeline. 12.48-13.37.

This section investigates how polyrhythms contributed to interconnecting the two art practices and developing my own saxophone rhythms.

Dutton Sound 4, (fig 53). The investment with polyrhythms in my saxophone playing, was used to establish the saxophone as interconnected to the rhythms of the voice avatars, and not used to illustrate Dutton's written text. The stuttering effect from the voice avatars was comparable to a staccato utterance in music but was used here as a rhythm, in which to entwine my saxophone sound.

To play the staccato (fig 54) effect, I incorporated a technique that used my tongue to slap against the saxophone reed, creating a distinctive rhythm against the constant voice avatar rhythm. The rhythm that was established by the 'male' voice avatar had a smooth, low frequency tonality, from which the saxophone played various rhythm pulses and frequency changes that were not in a continuous rhythm. These saxophone changes punctuated the smoothness of the male voice avatar, not to unsettle the computer voice, but used to bring an alternative dimension to the overall sound.
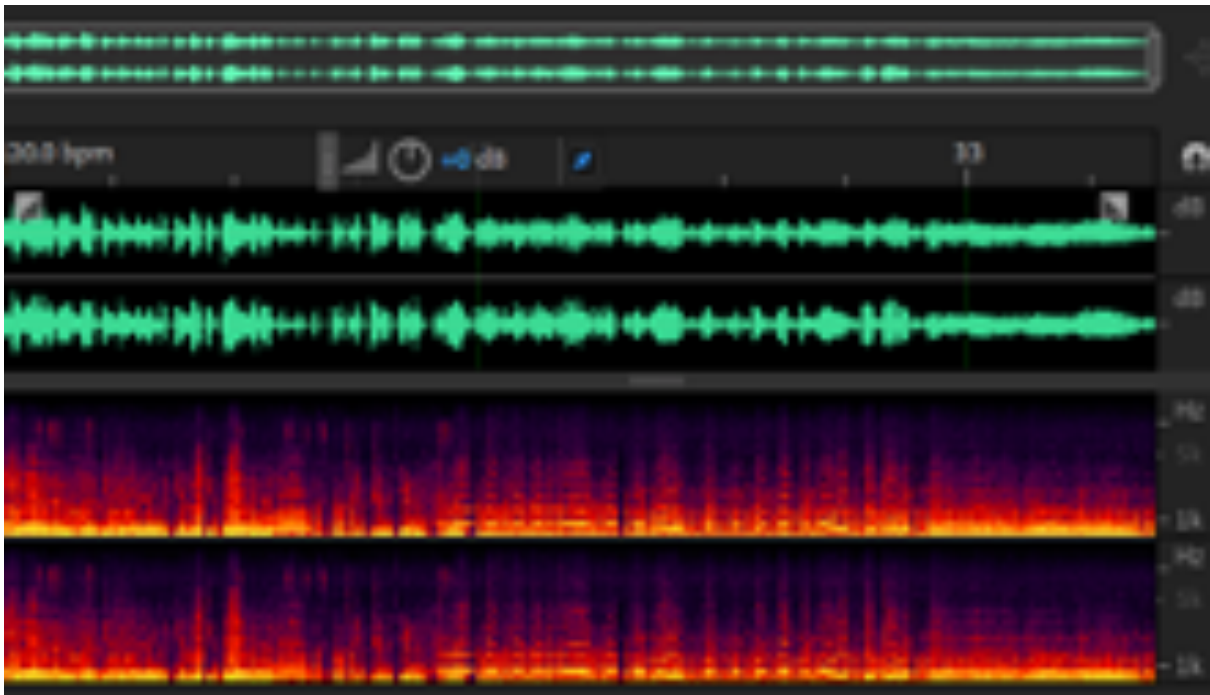
Figure 55. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

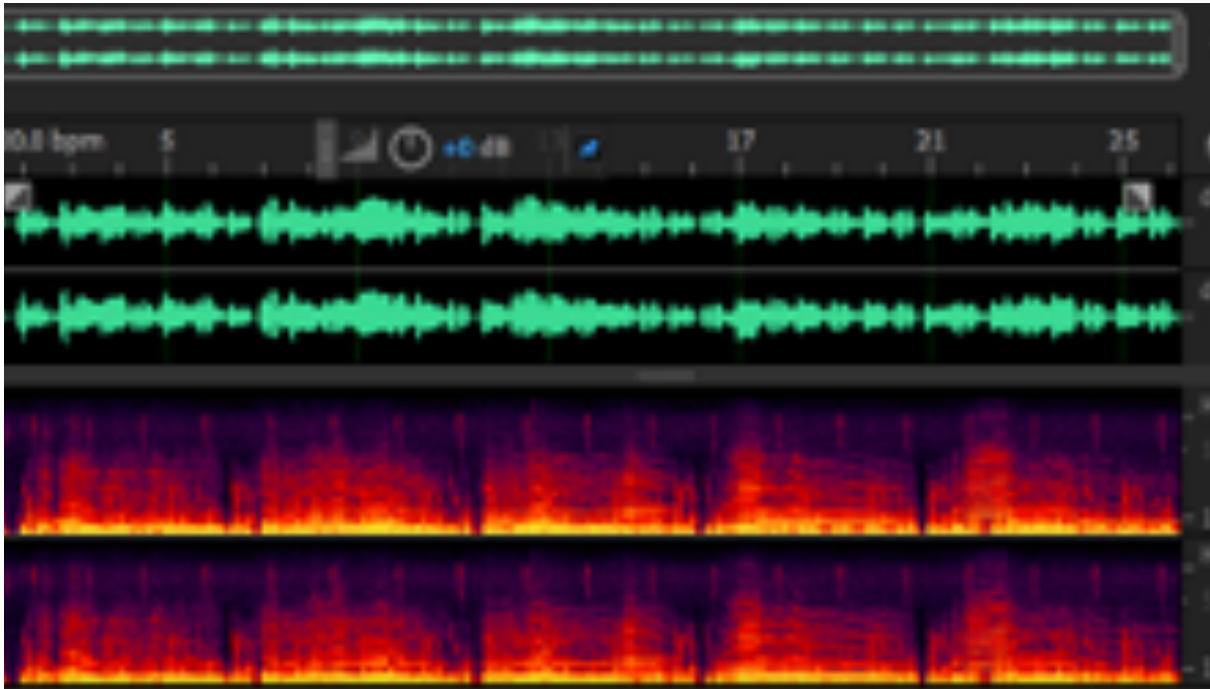*Dutton Sound 5. Time on timeline, 42.29-1.43.39.01.*

Figure 56. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

Dutton Sound 6. Time on timeline, 50.15-51.05.

In Dutton Sound 5, (fig 55), my saxophone playing was concentrating on using the polymeter to form a rhythmic pattern. The polymeter provided a format from which to then reform the sound into irregular rhythmic patterns. My aim was to consider how complex rhythms were able to interrelate against the changing rhythmic background from Dutton's voice avatars.

In Dutton Sound 6, (fig 56), the spoken computer voice avatar was relating a story by using a rhythmic metre; my saxophone playing response was to use tonality that was complementary to the unfolding story. My decision in using tonality as a method to be illustrative, was to compare how this use of tonality produces differences: One illustrative and the other more abstract and independent from the other practitioner's artwork. The analysis demonstrated how the illustrative tonality lost integrity and honesty in my saxophone sound.

Figure 57. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

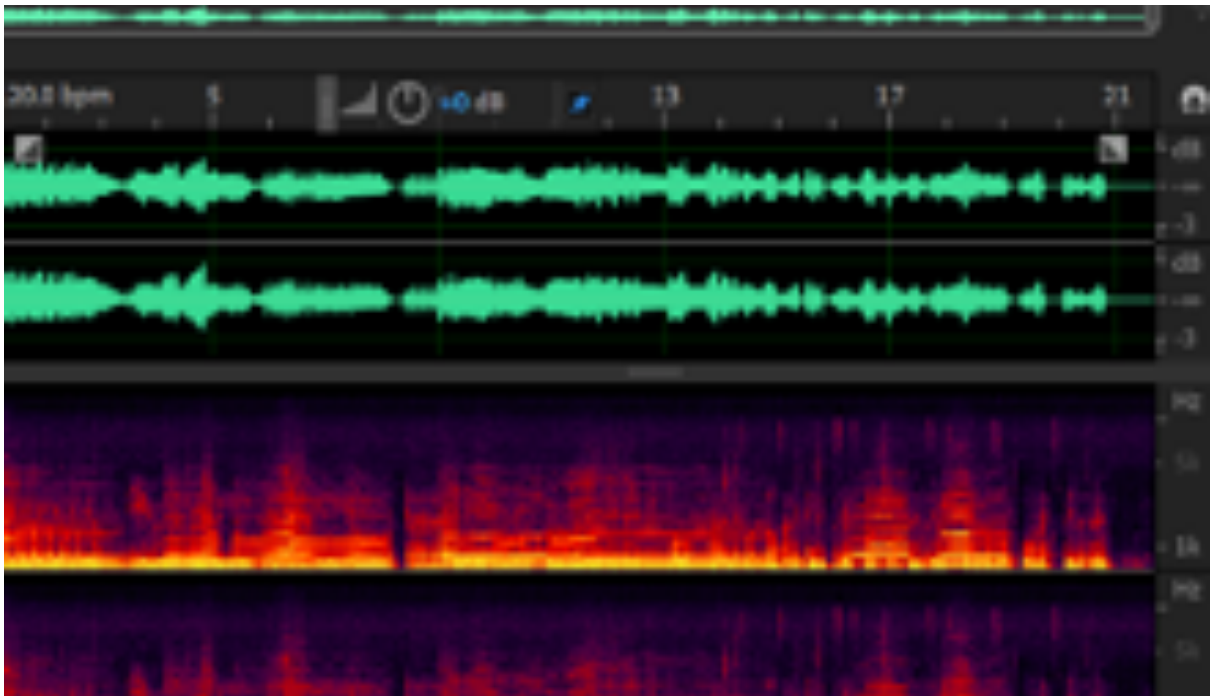*Dutton Sound 11. Time on timeline, 25.40-26.51.*

Figure 58. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

Dutton Sound 13. Time on timeline, 56.41-57.20.

This example demonstrates elongating the saxophone sound through variations of rubato. Dutton Sound 11 (fig 57). This example demonstrates my saxophone playing, elongating the saxophone sound through variations of rubato, in response to Dutton's voice avatars' rhythm patterns. My saxophone playing also assimilated sound bending, in transforming one sound into another, in one breath. The reason for using this technique in my saxophone playing, was to explore the advantages this produced, when considered with my other saxophone playing techniques. The rubarto technique is considered and slow, emphasising the tonal quality of the sound.

Forming independent saxophone tonality. In Dutton Sound 13 (fig 58), my saxophone playing sound was forming its own tonality and rhythm. This was not in relation to Dutton's voice avatars' speaking of placement, or in a connected rhythm with the voice avatars. The reason my saxophone playing did not connect in either tonality or rhythm from Dutton's voice avatars, was that Dutton's use of the spoken word had thrown my improvisation off its course. However, by juxtaposing what has not connected in this example, with the following example, Dutton Sound 14, (fig 59), a clear understanding was produced of how to reconnect my saxophone playing to another art form.
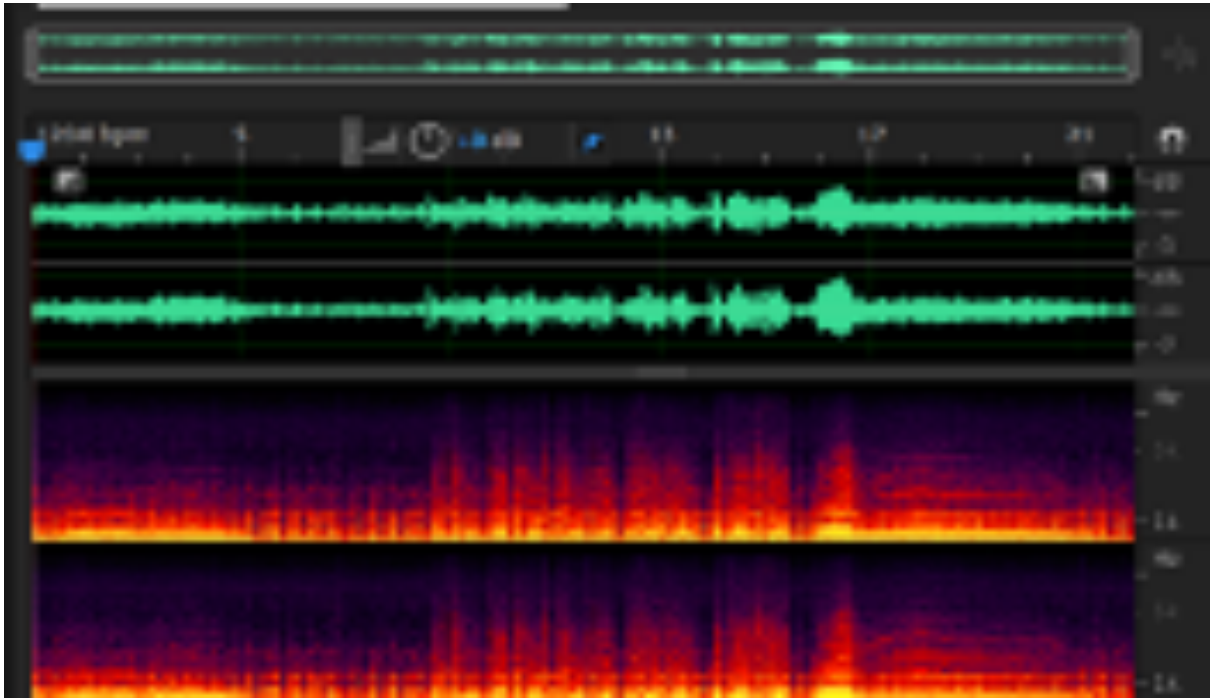
Figure 59. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

Dutton <u>Sound 14.</u> Time on timeline,1.43.29-1.44.11.

Figure 60. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

Dutton <u>Sound 15.</u> Time on timeline, 37.42-38.30.

In Dutton Sound 14 (fig 59), examples my reconnection through my saxophone playing a long tonal sound, that juxtaposed to the voice rhythms from Dutton's artwork, after which I chose to alter my saxophone rhythm to complement the flow of the words emanating from Dutton's computer voices. The aim was to accompany the voice avatars with a rhythm that was in time with the computer-generated rhythms. My saxophone playing was not confrontational in sound tonality, nor changing the direction through divisive rhythm changes. This was not designed to direct the voice avatar, but to extend my saxophone playing through a considered approach. At the beginning of the example, sounds from both participants overlapped, then, through the rhythm change from my saxophone playing, the saxophone sound and voice avatar were separated into different directions.

The example, Dutton Sound 14, provided evidence of how rhythmic changes in my saxophone playing created changes in Dutton's actions. My saxophone playing was with interlocking rhythms; thereby my saxophone playing changed the interactions of both participants, through my listening to the other participant.

This section explores my use of interconnectivity through tonality with particular consideration to the use of glissando. In Dutton Sound 15 (fig 60), the reshaping of the tonality of my saxophone playing was evidenced through glissando, in taking one tonality into another tonality. This was enacted to change my saxophone tonal sound to reshape and refresh my saxophone playing ability. At intervals, when working with Dutton's voice avatars, the glissando technique produced a tonal depth, as counterbalance to the limitations in the voice avatars' tonal ranges.
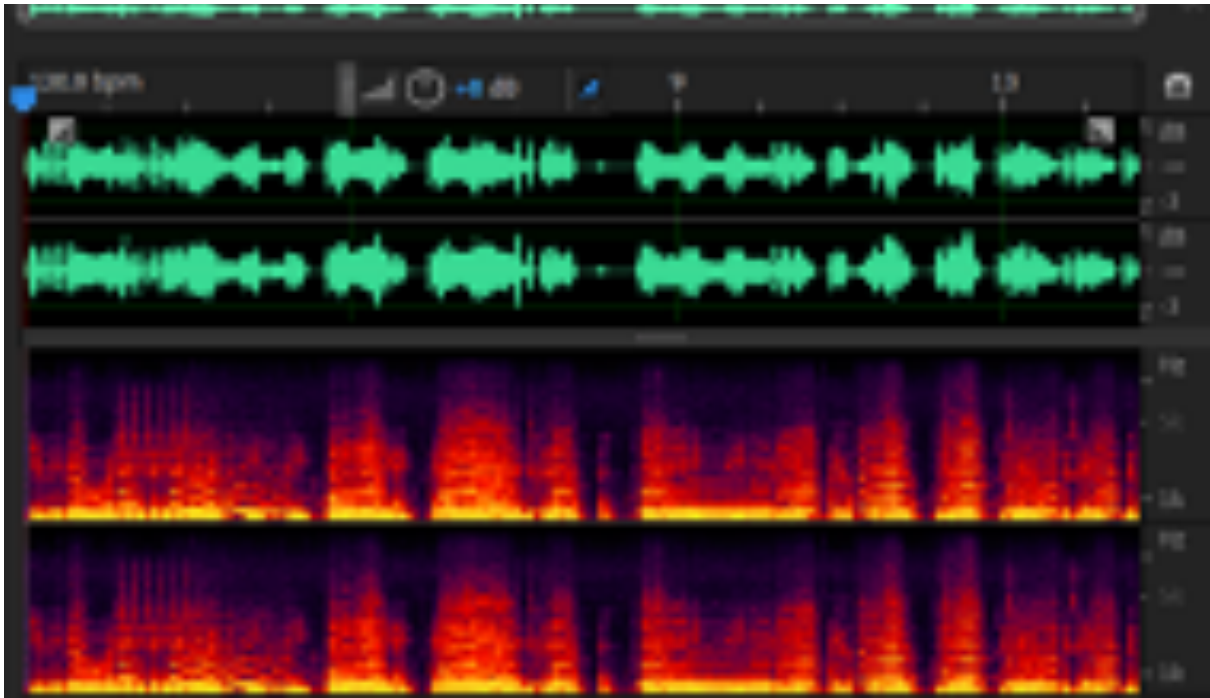
Figure 61. Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.

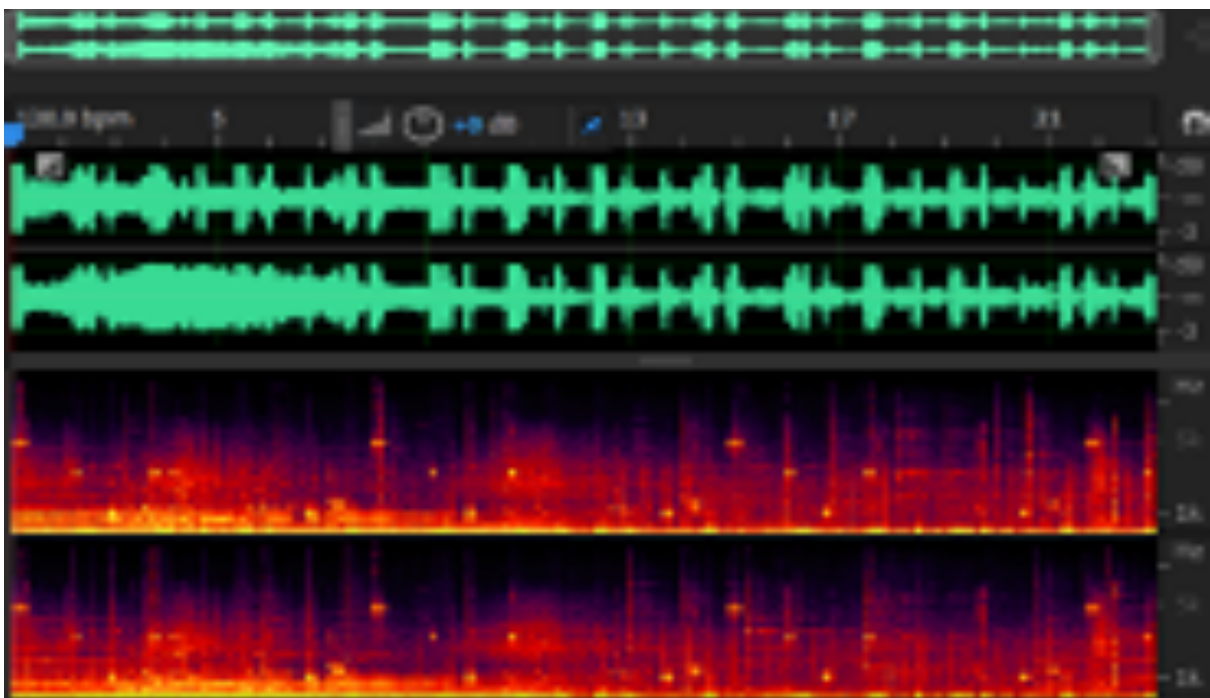*Dutton <u>Sound 16.</u> Time on timeline 2.10.41-2.11.10*

Figure 62. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur <u>Sound 17</u>. Time on timeline, 1.02.00-1.02.42.

In Dutton Sound 16 (fig 61), my saxophone playing was exploring tonal expression in resonances in deep tonality, at the lower end of my saxophone's tonal range. The voice avatars' tonalities presented tonal ranges that never changed in consistency. As a result of the voice avatars' tonal consistency, I could predict the tonality from Dutton's artwork, which presented opportunities to explore resonances, especially with my saxophone's deep tonal area. What resulted from my actions was a long continuous tonal sound flow, the measurement of which was dependent on my breath length, upon which the voice avatars sounded. This process was similar to the case study with McArthur's (McArthur Sound 17 fig 62) use of long electronic drone sounds. The difference in Dutton's case study was that my saxophone playing was creating the tonal sound flow. I later transferred the resulting understanding, into using long tonal resonances with projected, still, close up, photographic images.

In the case study example with Dutton's voice avatars, there was a slight rhythmic unpredictability, arising when Dutton looped sentences with the computer voice avatars. This happened at various times during the shared dialogue, and I was not able to predict when such rhythmic unpredictability would occur. The rhythmic unpredictability occurrences presented opportunities for my saxophone playing to change the rhythmic reply, and the ability to try different rhythmic approaches.

The consistency of the voice avatar tonality was due to the lack of variables offered through the computer software and were a perfect accompaniment to my saxophone playing. This facilitated my exploration of a variety of rhythms in providing a fixed set of conditions from which I could anticipate the forthcoming rhythmic pattern and thereby altering the saxophone rhythmic response in relation to the other artwork. In doing so, uniformity in the dialogue was produced, achieved through changing the sound frequencies rather than moving away from the rhythmic uniformity.

8.3 The Case Study with Ian McArthur

By using the already established and understood structure in music and its relationship to the formation of language, a shared experience was provided for both participants in the individual case studies within each live event. By having the research based in an existing language structure (music) a familiar knowledge was invited, which enabled my saxophone playing to depart from the existing language structure, using improvisation and dialogue. By departing from an existing structure, I was unconstrained in the exploration of depth in tonalities and rhythms, when I played my saxophone.

In addressing the context of this practice-led research, the three participants took part individually within the three live events, with myself playing the saxophone. They were chosen because their individual art practices differed from one another's and were based within the following genres: electronic sound; painting and English words spoken by computer avatars.

The following particularly evidences the specific techniques that I used, that directed the dialogues through my embodied knowledge of saxophone sound, which was improvised at the time of the unrehearsed, live, case studies. The use of rhythm as a source of unification between the sound frequencies and the artworks; interactions of sound intonations, and visual syntactic interactivity from information from one artwork to the other, were specifically explored.

In the dialogue with McArthur, he was located in Sydney, Australia, while I was located in London, UK; the dialogue was engaged in through a live radio broadcast for Wave Farm Radio, in New York City, USA entitled, Flux (August 23, 2019). Therefore, both participants only heard each other's actions on a shared online Internet space, in a live broadcast, conducted in different world time zones. This online space was chosen for the case study, offering a comparison to the other two case studies, in how the rhythm and tonality would be affected by the online conditions. Evidence was provided on firstly, how the online conditions changed the tonality and rhythms, and secondly, how this differed in comparison to the locations in the other two case studies.
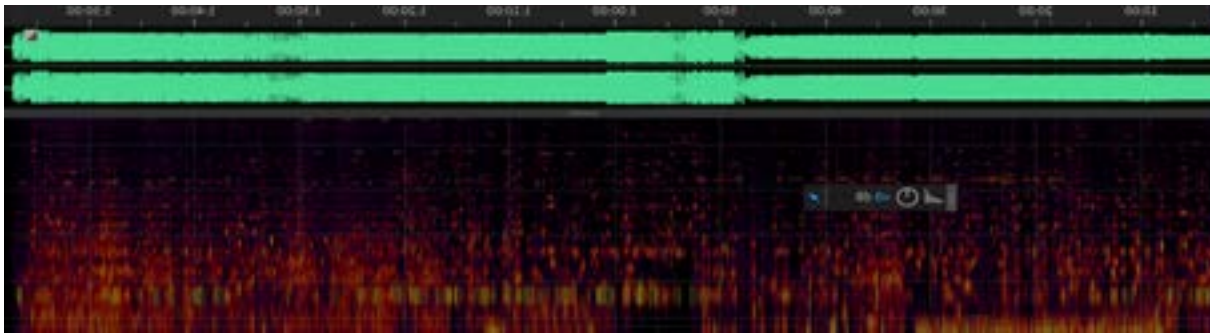
Figure 63. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur Sound 22.

My intention in my live saxophone playing was to utilise improvisation techniques, to engage with the immediacy that was produced through the digital sound's displacement. This was to present and develop new forms of live music playing, within simultaneous music and art practice, as within the dialogue established during the case study with McArthur's artwork.

As previously noted, the role of the body in producing sound is also important to the improvisation process, as my physical body links with my saxophone and intuition when improvising, thereby substantiating my ownership of the evolving sound (fig 63).

I used lengths of sound to create rhythm producing particular emphasis through timbre and rhythm in relation to each practitioner's actions. Therefore, I am able to investigate how using rhythm creates change in the other practitioner's actions. In all, music, there is a set rule and understanding of the time duration of each sound frequency, visually defined in the images of music notes. In this research the sound structure that I use is where one music note follows another to establish a harmonic and non-harmonic order; in other words, one frequency of sound in relation to another. As, the musician, Eddie Prevost, says, '...sounds are placed, placed in contrast in parallel with… other sounds' (1995, 3). The saxophone as an instrument only plays one sound (note) after another, but in order to form a chord three notes need to be played simultaneously, therefore another layer of sound to supplement the single sound made by the saxophone is required. For example, in the case study with McArthur, one note was played on my saxophone and two notes were simultaneously produced by McArthur's electronic sounds, resulting in a chord.

The placement of one sound onto other sounds in order to form a chord is important to the research. The unity created interconnection between their sounds and my own. This interconnection was more apparent within the dialogue with the sound artist, Ian McArthur, through the telematic nature of the dialogue. Roy Ascott, quoted in Shanken (2003), describes the telematic, as a "... computer mediated-communications network between geographically dispersed individuals"

Figure 64. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.
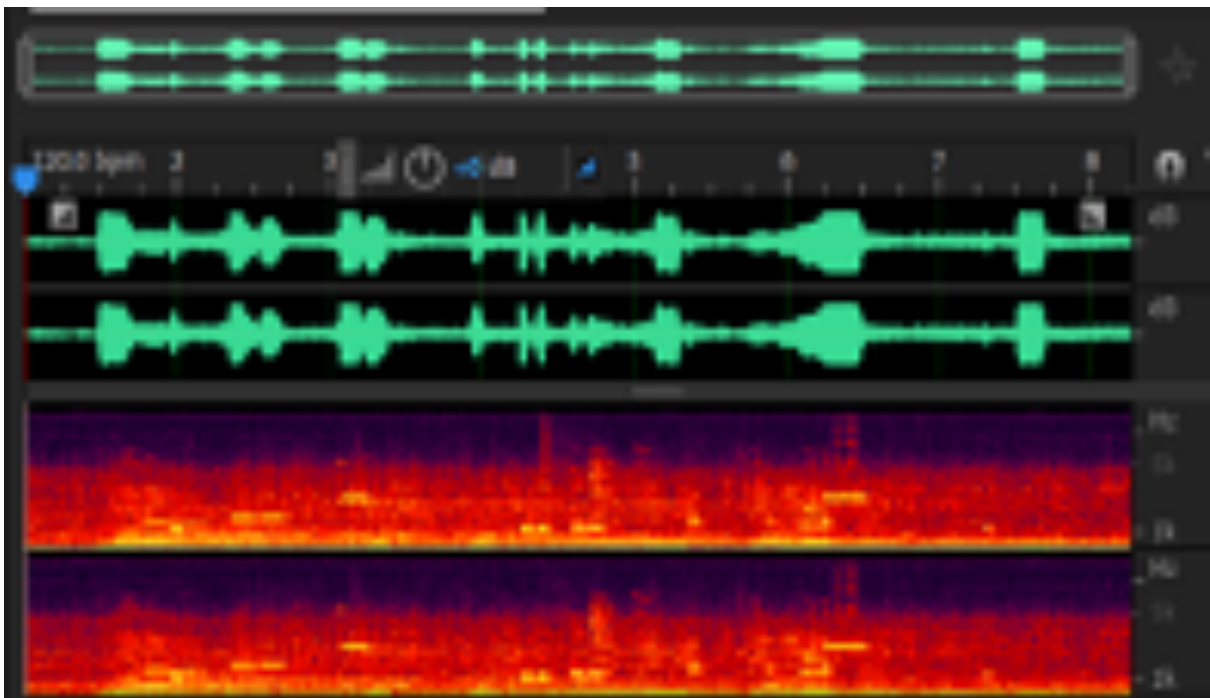
McArthur Sound 7

Figure 65. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur Sound 7. Time on timeline, 1.20.41-1.20.55.

(Shanken, 2003, 232). This live dialogue largely focused upon McArthur and myself engaging in dialogue through a variety of computerised sounds, field recordings and my live saxophone sounds. However, what I want to bring attention to, was how using an internet software platform's time delays, in this instance, Skype, provided a device in which I alone could produce chords, by adding one live note to my own sound frequency being reflected back through the sound speakers, as opposed to using the sounds produced by McArthur in (fig 64).

The resulting understanding from analysis of the sound file above, has been inputted into my art practice, when working with a variance of sound properties; for example interactions in the tonal ranges between human and non-human sounds resulting a new artwork.

As previously mentioned, when playing the saxophone, I only have a choice of twenty-nine sounds. I deliberately chose to restrict the number of sounds I could make, resisting the technique of 'enharmonics' (Rascher,1983). This restriction of the number of sounds, is not viewed, by myself, as a limitation due to the number of sound permutations available, through the placement of one sound to another sound and the inclusion, as described above, of rhythmic options.

In McArthur Sound 7 (fig 65), due to the time differences, there was a temporal displacement, which over the time of the live event became more compounded, producing a continuous cacophony of sounds. These included electrical interference, intermixed with the sounds produced by the electronic ambiance from McArthur, and saxophone sound from my saxophone playing. The online conditions enabled my saxophone playing to consider both McArthur's electronic sounds, and my own saxophone playing. My resulting repeated saxophone tonalities produced a rhythm and an already-heard tone, on which to respond through my improvised saxophone playing. The analysis of my saxophone playing suggested, due to the ambient nature of McArthur's electronic sounds, McArthur could have produced any rhythm and tonality. My playing was more responsive to my own tonality and rhythms and the resulting electronic glitches. Therefore, it was the online platform that provided the interest; my saxophone rhythms

Figure 66. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

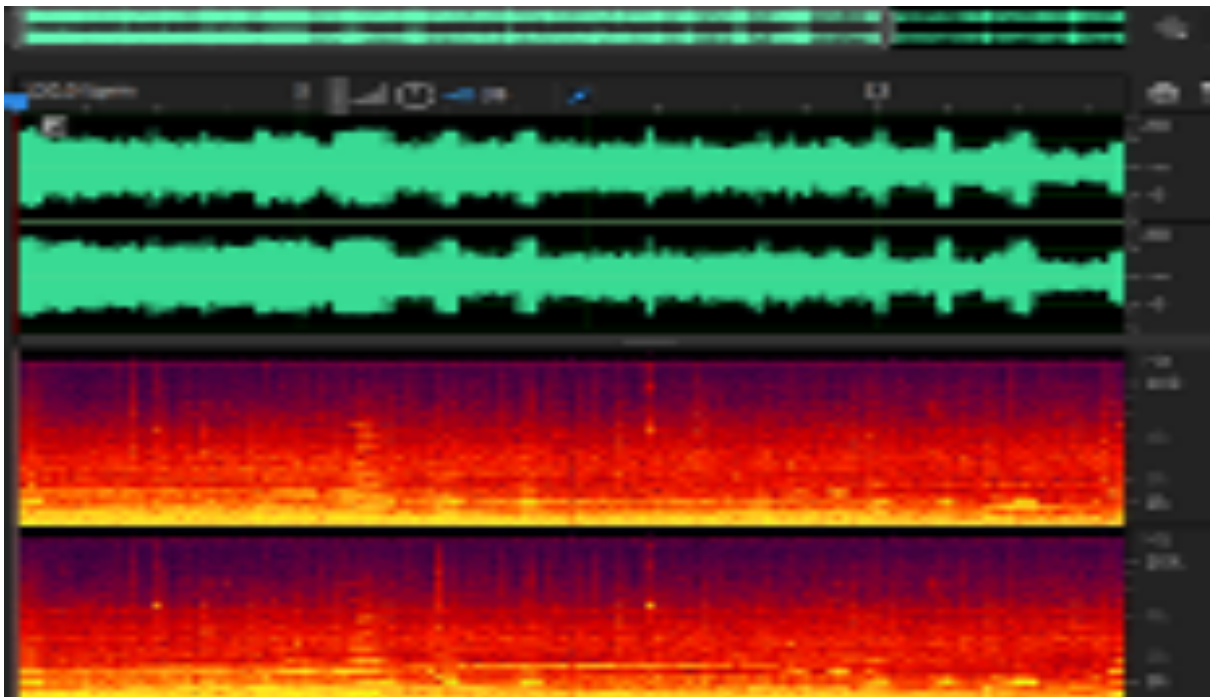*McArthur <u>Sound 8</u>, time on timeline 1.22.-1.22.*

Figure 67. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur <u>Sound 9</u>. Time on timeline,1.48.-1.49.

were complicit in creating the rhythm structure, and my tonality was in response to hearing my own sounds, distorted by the use of the Internet.

Through using the computer as a sound instrument, McArthur created improvised sounds formed from his field recordings; electronic sounds; looping sounds; sounds generated from digital software, for example, with the digital programs, 'Soundflower' and 'Mixlre', and live guitar. In his use of the field recordings, there is a blend of actual and virtual sound, creating a soundscape that is not only a result and product of the digital virtual space, but is also presented in this virtual digital space via the Internet. The theorists, Cat Hope and John Ryan, suggest that this is a '… blend of the real and illusory', (2014, 106). With the field recordings, this used recognisable sounds from voices, which sometimes included interviews. There were also city street noises with traffic, public transport and general sounds of people in social areas. These recognisable sounds were juxtaposed with unusual electronic, digital and software glitch sounds, thereby unifying previous old sounds with modern new sounds (Hope and Ryan, 2014). In McArthur Sound 8 (fig 66), this case study was the only one which had a know factor, which was in my hearing of my own saxophone playing repeated back to me. This was created by the use of the Internet and manifested though the delay in the repeated sound. The live interrelationship of the Internet sources contributed to my understanding, in how my saxophone playing can use a known factor, in which to play my saxophone tonalities and rhythms.

The question of the authorship with McArthur, Sound 9, (fig 67). This again, exemplified my saxophone playing formed from a different spatial time and compilation of digital software, intermixed with my original saxophone sound. Through later analysis, I questioned the authorship of the produced sound, and my conclusion was that my live saxophone playing, when intermixed with the digital software intermixes, formed my own separate artwork.
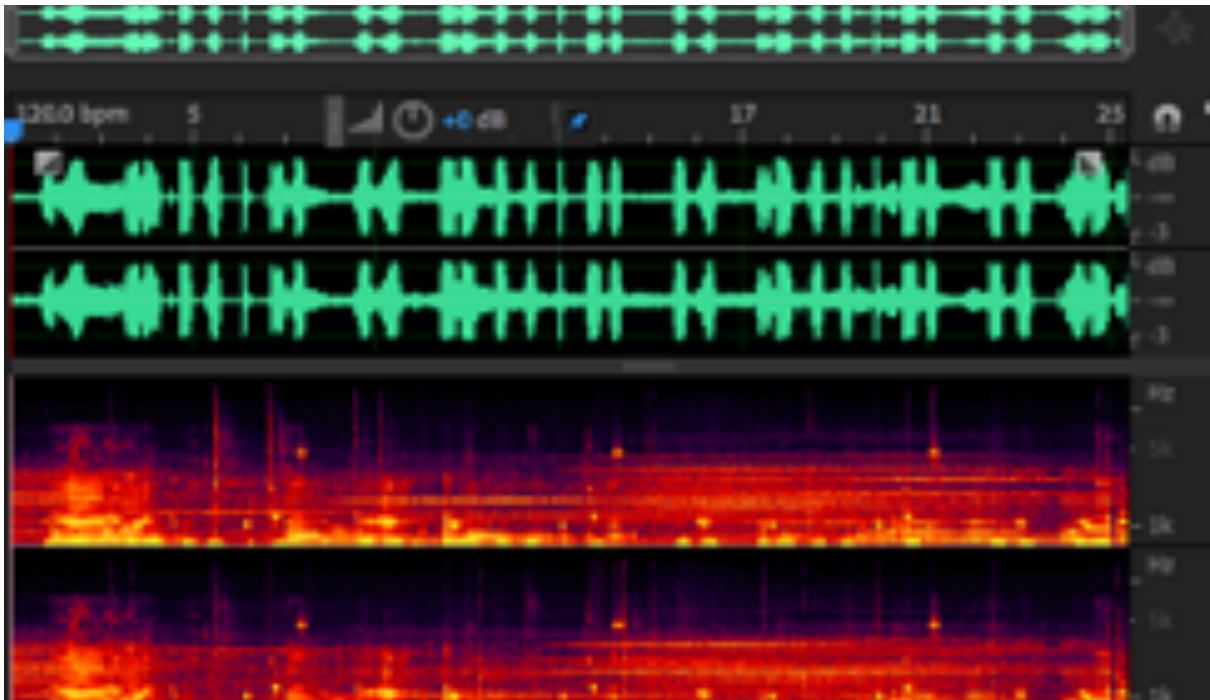
Figure 68. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

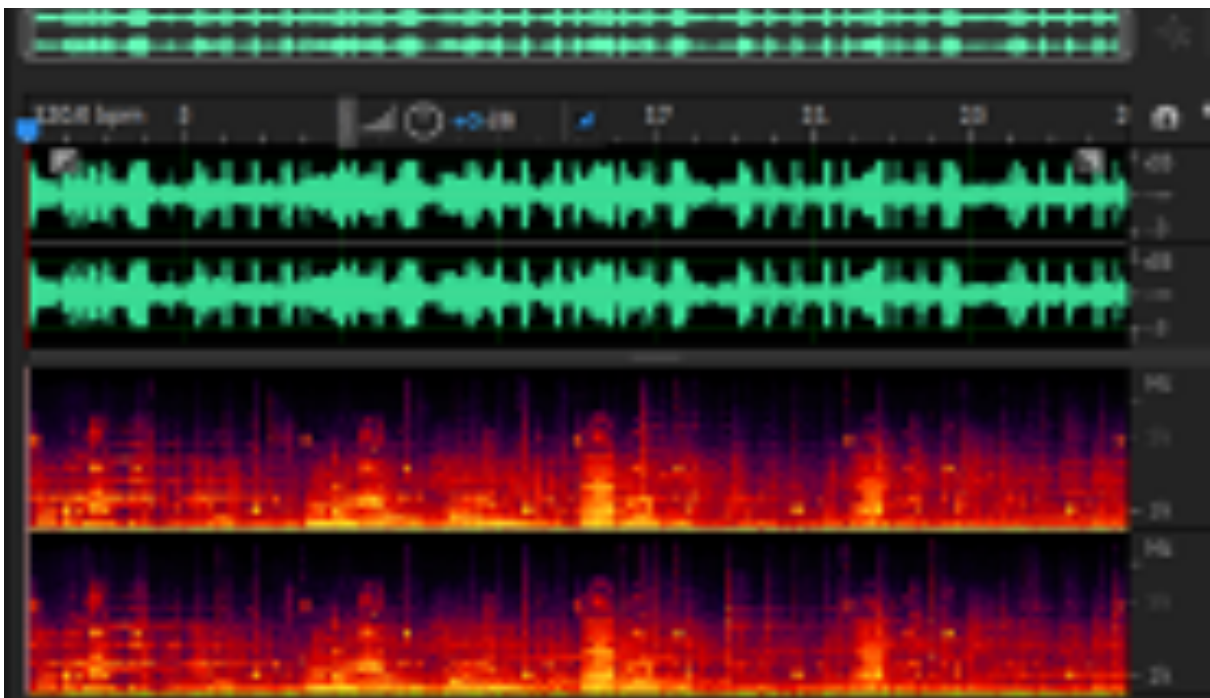*McArthur <u>Sound 10</u>. Time on timeline, 57.16.-58.00.*

Figure 69. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur <u>Sound 12</u>. Time on timeline,1.04.20.-1.05.13.

McArthur Sound 10 (fig 68). In this sound file the use of a polymeter and glitches from the digital interference are analysed. At this point in the live broadcast, the polymeter was created by McArthur's electronic sound glitching producing a consistency of rhythm. The electronic glitches were compounded and formed by the time displacement. In comparison to the other case studies, the method of sound production has a unique sound profile, due to the time displacement. My saxophone playing was able to use the constancy of the rhythm, to explore tonality ranges, in response to my own saxophone distorted sounds being played back to me. The result demonstrated the effect of a limited tonal and rhythmic range from my saxophone playing, on the cacophony of sounds. The evidence showed how effective slow rhythms and subtle tone changes can be, when place against chaotic digital interferences. The new knowledge gained was later considered when working with a digitalised effects video.

Rubato and the use of timed structure with McArthur's artwork. McArthur Sound 12 (fig 69) reveals a rubato use of time with McArthur's artwork, in which the constant rhythm was created by McArthur's own input, with the saxophone tonal sound frequencies interweaving with their own input. These saxophone sound frequencies cross referenced McArthur's electronic artwork rhythms with overlapping sounds.
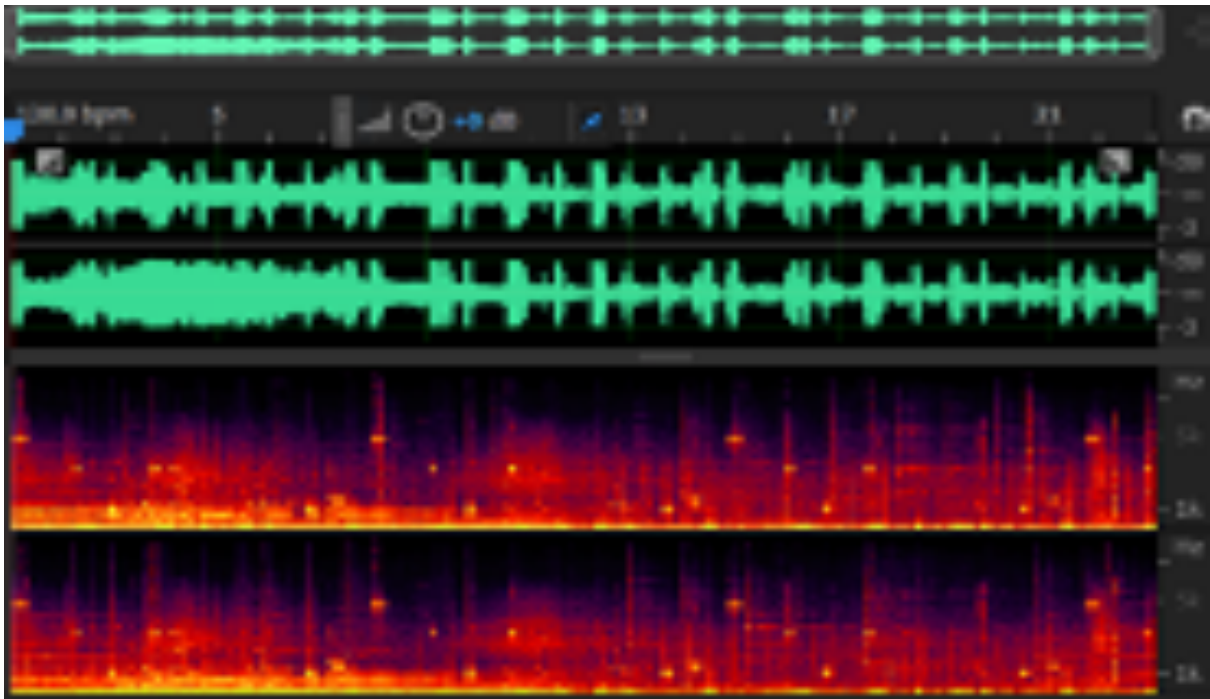
Figure 70. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

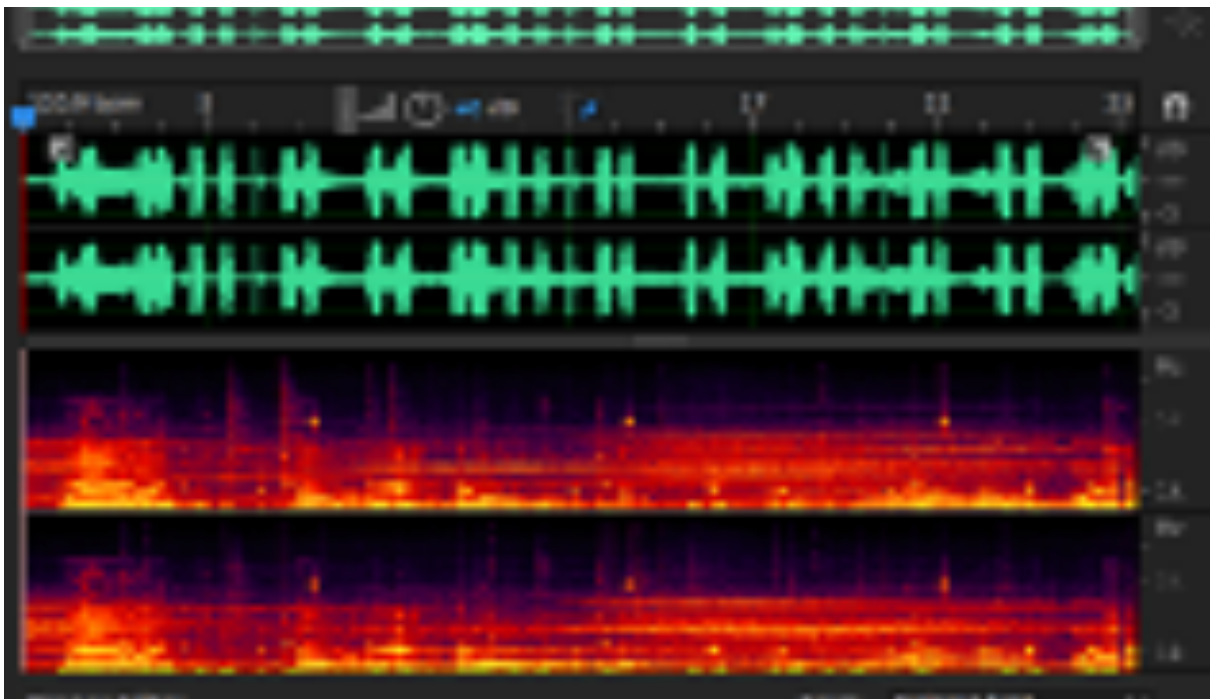*McArthur Sound 17. Time on timeline, 1.02.00-1.02.42.*

Figure 71. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur Sound 18. Time on timeline, 57.16-58.00.

This section evidences how improvisation was pivotal in creating changes in rhythmic structures and in producing developmental changes through the dialogic exchange.

McArthur Sound 17 (fig 70). When considering rhythmic stuttering in a tonal range, my saxophone playing produced fast staccato rhythmic pulses, against McArthur's use of a long electronic tonal drone sound. My intension was to compare this sound file example, with the previous one in the case study with Dutton, where my saxophone playing was using long single tones, to discover how my rhythmic saxophone playing affected the long tones of McArthur's electronic sound. The analysis from this was later considered in relation to my video use of slow- motion film recording.

Intervallic tonal structure. McArthur Sound 18 (fig 71). When in the live event case study with McArthur's electronic sounds that included field recordings, I wanted to include intervallic tonal structure. An intervallic tonal structure operates with precise tonal intervals played over a precise rhythmic construct. Using precise increments of tone and rhythm in my saxophone playing, presented the opportunity to invest in a strict formation of tonality and rhythm, through improvisation. The reason I wanted to explore this saxophone playing method, that is more associated with jazz playing, was to use an acknowledged formation of tonality and rhythm in a case study. The resulting analyse was used when combining my saxophone playing with a photographic image.

Figure 72. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

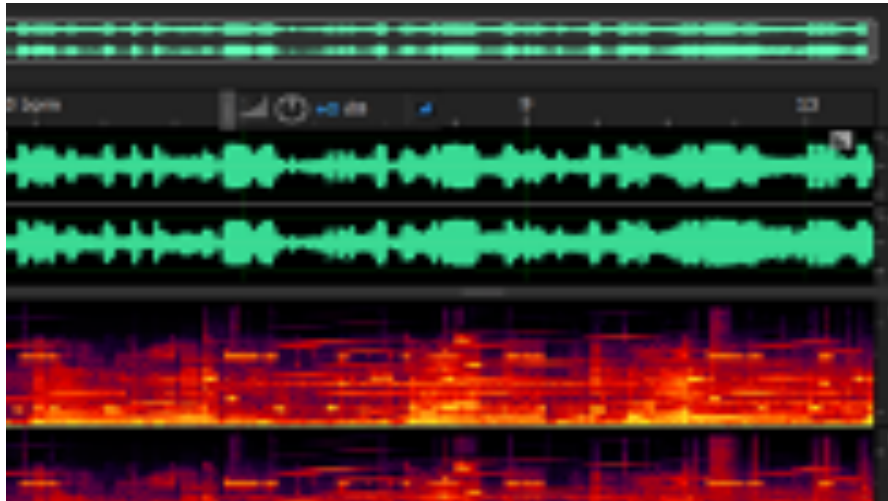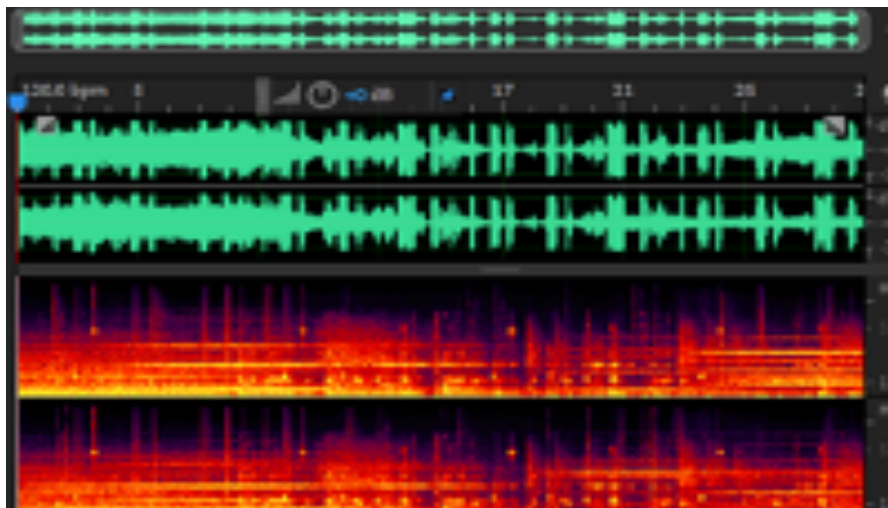*McArthur <u>Sound 19</u>. Time on timeline, 6.14.-0.1.*

Figure 73. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur <u>Sound 20</u>. Time on timeline, 58.47-59.32.

Figure 74. Flux: 1hr.57mins Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.

McArthur <u>Sound 21.</u> Time on timeline, 1.23.17-1.23.42.

In McArthur Sound 19 (fig 72), McArthur's artwork was purely in the digital feedback, created through the software and the saxophone sound frequencies, that continued to use intervallic practice. This was then analysed in how the use of an intervallic structure could be change through timbre, thereby using subtle breakdowns in tonality, to create exclusive saxophone tones, against a distinct rhythm format.

The knowledge was then applied to my video artwork, when playing live saxophone, in conjunction with digitally noisy video content.

In McArthur Sound 20 (fig 73), my saxophone playing was using tonality with rhythms, imitating the mood emerging from McArthur's electronic sounds, demonstrating whether I could effectively create a sound from an instrument connected to my breathing, that was in sympathy with a sound that was electronically created. The resulting sound file produced evidence that effective connection happened from my playing. However, this was more effective when working with the rhythms, demonstrated in McArthur Sound 21, (fig 74), due to the rhythms created in my saxophone playing being more connected to the digital glitches.
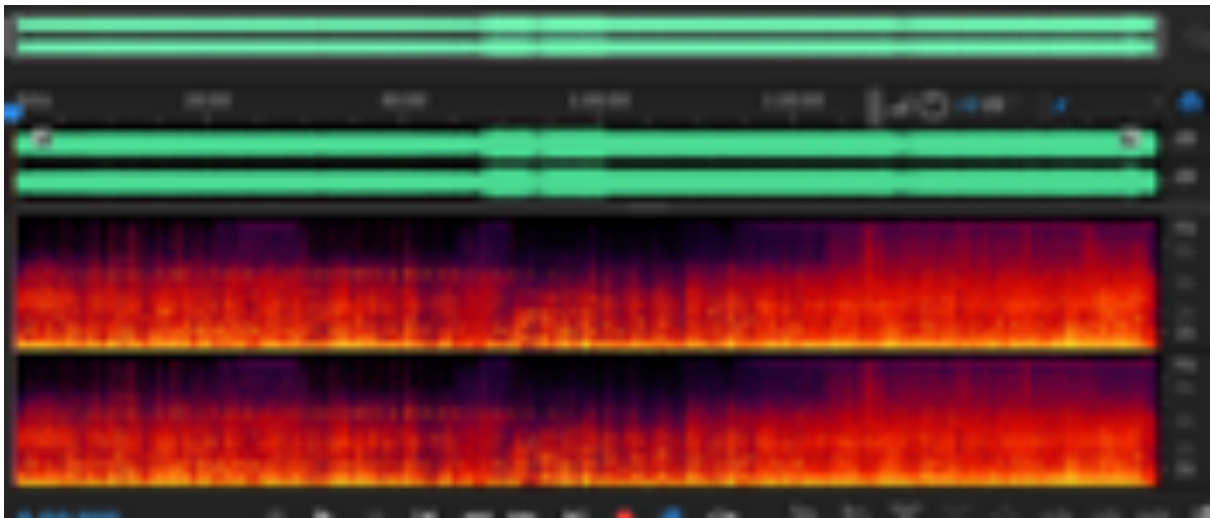
Figure 75. <u>Sound 22</u>. Full File McArthur. Flux: 1hr.57mins

Morrad+McArthur Wave Farm Radio, NYC, July 20th, 2019.
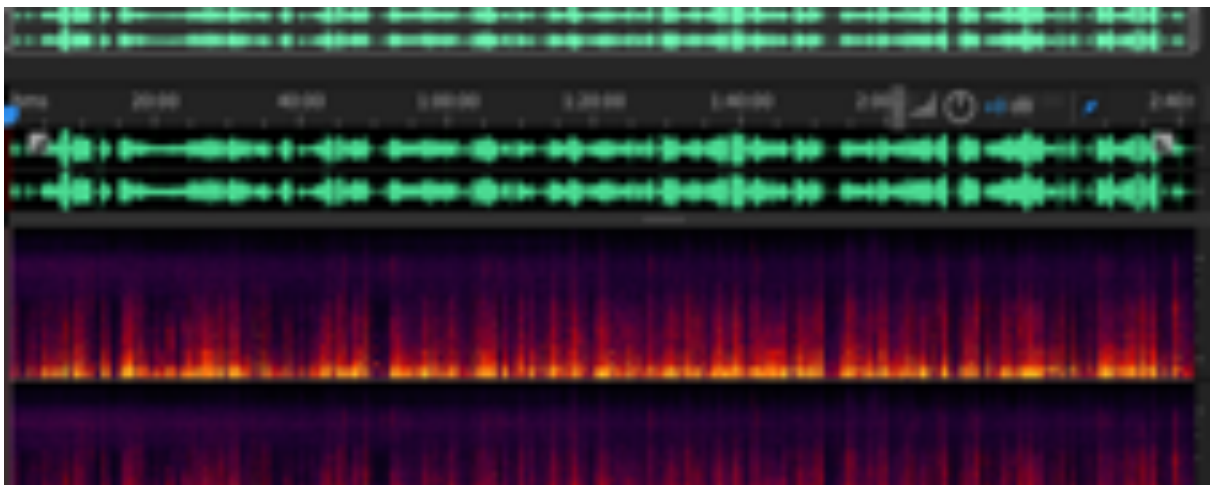

Figure 76. <u>Sound 23</u>. Full File Dutton.

Mobius Strip Figure of 8 Morrad and Dutton, Performing Writing, March, 2017.
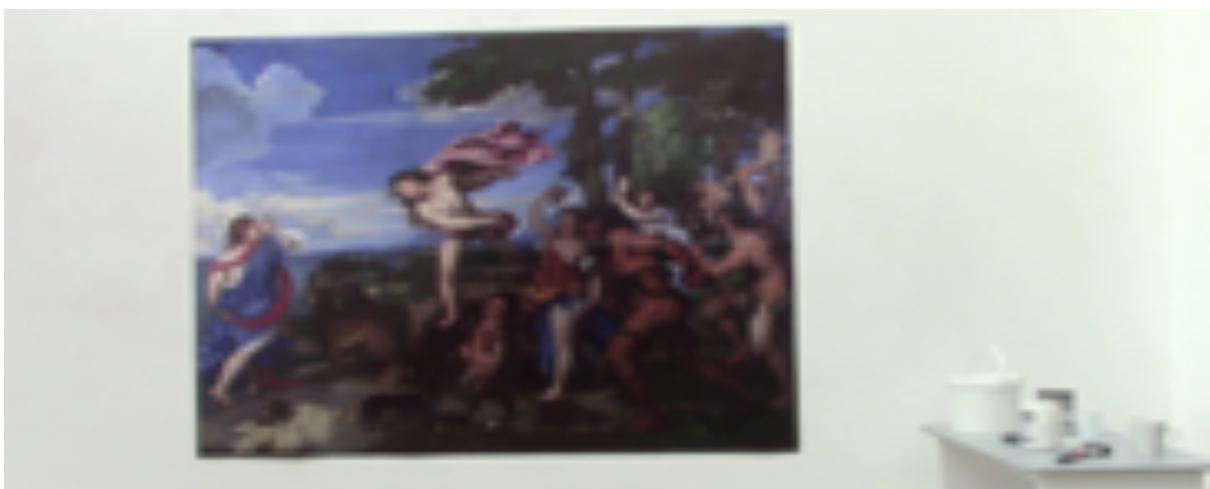

Figure 77. <u>Video 11.</u> Full File Bracey.

Twelfth Night Performing Aphantasia' PSP Gallery, May 12, 2017.

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When considering rhythms in relation to the other participants' use of repetition, as previously noted an interesting fact of McArthur's artwork was McArthur's use of temporal and software interfaces, resulting in my saxophone playing with a mediated platform. This was also evidenced when McArthur used the implementation of his own field recordings of Chinese streets and the spoken content, as an intermix into the flow of his sound. In the case study with Dutton, he would use repetition within his written text and Bracey would re-address the application of gesso in a repetitive motion. Although all three of these repetitive actions were not purely consistent, they presented a rhythmic base from which I could respond.

Conclusion

By using repeated rhythmic and tonal patterns, forming a predictable pattern of sound that became familiar to the other artist, a harmonious base of my saxophone sound was formed with the other practitioners' art processes. Having this base, enabled the establishment of a shared dialogue between my saxophone playing and the other participant's processes in making their artwork. Also, when in the case studies with the other participants, the tonality and rhythms from my saxophone playing were changed, in relationship to communications emitted from their art practices. At times, my saxophone playing returned to my original tonal patterns, to bring my saxophone sound back to a familiar pattern.

Bracey, Dutton and McArthur all used art and sound materials that were more limited than mine, in the flexibility of implementing change. My usage of saxophone sound could alter tonal inflection with a small movement of tone, which was more malleable than Bracey's grey colour constructions, and also had a greater range from which to create variations of tonal difference. This was expanded when I introduced rhythm, in that each single tonal sound would be heard differently, depending on how close in time to the next tonal sound frequency it was. In addition, tonal sound frequencies, which were next to the original one, resulted in the original available twenty-nine tonal sound frequencies presenting multiple choices.

Chapter 9: Conclusion

This was an art practice-led, reflective research, grounded within my own experience as an arts practitioner who works with photographic images, sound, installation and video and draws upon understanding and application within western music theory.

Through this research I critique and understood how another's art practice affected the production of my saxophone playing, researched with particular attention to using my saxophone playing, as an art apparatus, through the application of tonality and rhythm with another art practitioner's processes, during case studies in a live unrehearsed dialogue, within a live event.

The research enabled me to identify how these methods, in turn, could be used to influence my future art practice. Subsequently, contributing to the potential application of tonality and rhythm within visual imagery and sound, in the production of new artworks. The thesis demonstrates the importance of the live event, which created knowledge gained through engagement in actions of my art practice with another artist. This signifies how a live event has unique properties for further research through the immediacy of interconnectivity with one other art practice.

In order to contextualise my research findings, I compared my live playing with a saxophone as an art apparatus that produces rhythms and tonality.

I considered my saxophone playing, within a known western music structure, and used this in my live arts area, for the specific elements of tone and rhythm. The use of western music theory, a known structure, provided a familiarity in my process, in the same manner that painting uses tonality and rhythms. Familiarity was also used to encourage connection with the other participants, in a shared dialogue between our two art processes. What I evidenced, through the sounds emitted from my saxophone playing, was how direct improvised saxophone playing used tonality and rhythm, as a process during which artwork was formed.

Analysis from the three case studies evidenced how small details and nuances, within my saxophone tonal sounds and rhythms, affected each individual participant's working process including my own. The effect of how the other participant's process altered, my tonalities and rhythms are demonstrated in the subsequent changed relationship of tonality and rhythm within my own artwork, during the production in the live event.

The interaction and interconnection between my saxophone tonal sound frequencies and each of the other artworks, were enabled and enacted through the appropriation of a sound structure. These were borrowed from music, built on a structure of sounds, based within music keys, modes, chords, music patterns and organised mathematical intervals. The evidence provided maintained that music therefore can be equated to a grammatical construct, and therefore can be used for a dialogue. I played intonations of sound that only I used when playing my saxophone, not taken from other saxophone players or styles. The intonations of sounds were formed out of my use of intuitive improvisation saxophone playing techniques, and used to develop separate interrelationships throughout the dialogues, which were unique to each case study. In doing so, I considered the relationship of the tonal ranges, which evidenced the tonal subtlety that can be achieved.

In all the case studies, the response to each of the other artworks was different, due to the difference in the content and processes facilitated in each participant's actions, when producing their artwork. With the use of rhythm to the tonal patterns, two separate measures occurred: Firstly, with the other artwork, I observed that the dialogue included rhythmic choices that concurred with my saxophone sound. Secondly, the links in tonality between each of the participants' artworks, produced understanding in how visual tonality and tonal ranges in sound are compatible. The variety of tonal expression and different rhythmic patterns produced a deep understanding in the multiplicity of uses.

The thesis demonstrated the importance of evidencing how crucial and unique to each saxophone player is the physical bond of the human body to the instrument. Therefore, the connection of

the whole of my body to my saxophone formed and created the sound that I produced when playing, thereby evidencing that when I played my saxophone, the sounds were unique to my art practice, from which I communicated to other the practitioners, in the live studies.

The application of syntax was used as a structural base, within framework contextualised in art practice. Syntax was discussed in connection with the use of rhythms and the use of a symmetry that refers to units of measurements; these units of measurement can be equal or unequal permutational processes, dependent on their implementation. The usage of different rhythms in this practice-led research, was a device utilised to combine the art processes of the two practitioners, in each of the case studies during the live events. The interaction of rhythms between my saxophone playing rhythms and each of the other artist's actions in the processes they used, were established through, for example, entrainment, where one rhythm flows and bonds together with another, forming a united unit. The use of rhythm enabled my saxophone playing to change rhythms in relationship to the rhythm provided by the other practitioner, within a live event.

There were situations where spontaneous changing from a constant rhythm produced a backdrop, from which my saxophone tonalities and rhythms could produce a responsive action as sound. These responses were achieved by playing one tone over a longer timeline, in relation to a previous timeline, played underneath the sound produced by the other artwork, or expanding my saxophone's own rhythm patterns, on top of the sound produced by the other artwork.

What the practice-led research demonstrated to me, as a practising artist, is how effective my saxophone playing can be, when used as a part of a dialogue with other art practices, as well as how these dialogues were used as a mechanism for interaction between my art practices. It was also established that these dialogues formed interrelationships, and as a result, changed my playing techniques with the saxophone, as an art apparatus, in the application of tonality and rhythm in order to communicate to other participants. The resulting new knowledge from this practice enquiry has subsequently been incorporated, in the form of transferable skills, into a

five-year arts project with a number of outcomes, which include exhibitions, residencies, conferences and collaboration with other practitioners. The research has demonstrated how dialogic exchange contributes to practice-led research within live events with specific consideration to working with different art practices. The use of working across multiple art mediums such as paint, electronic and vocal sound demonstrated how knowledge of tonality and rhythms changes.

The PhD findings will be published in journals on art practice, music and interdisciplinary interconnection using dialogue. Such as Society for Artistic Research with their Journal for Artistic Research, Academia.edu, LinkIn, and Oxford Academy. Applications will also be made to conferences and academic talks on art practice, music and interdisciplinary ways of working and methods of expanding learning in live improvisation and dialogue. For example, 'In Dialogue' conference University of Derby 2019. Anecdotally a number of art practitioners have spoken of how they are using dialogue within their own practice-led research Phd and artworks. The art practice-led research Phd has created postdoctoral possibilities in utilising timbre as a sound gesture as a technique for dialogues with non-human animals.

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Appendices:

Appendix 1 Artist Profiles

Andrew Bracey. Supplied by the artist:

Andrew Bracey is an artist, curator and academic based in Waddington, Lincolnshire. His work emphasises the importance of looking, attentiveness and materiality in appropriation and explores the slippages between the original/reproduction, artist/curator, painter/artist. His current PhD by Practice is testing the original position of the 'Parasitical Painter'; how contemporary artists use historical paintings to initiate new dialogue between the past and the contemporary.

He has had 19 Solo exhibitions including: Isherwood Gallery, Wigan; Usher Gallery, Lincoln; Nottingham Castle; Manchester Art Gallery; Wolverhampton Art Gallery; Transition Gallery, London and firstsite, Colchester. He has been curated into over 150 group shows in the UK, USA, China, Thailand, Australia and across Europe; partaken in numerous national and international residencies; written and presented at numerous (art focused) academic conferences and journals; and has 20 curated exhibitions with budgets of up to £65, 000 and has to date received ACE funding for projects on four occasions, alongside British Council travel grants, an AHRB postgraduate bursary among others. His work as an artist and curator has been reviewed/profiled in many publications including Art Monthly, Contemporary, The Times, The Guardian, Flux, The Metro, Artist Newsletter, BBC Radio 4, BBC World Service, Double Negative and Creative Tourist.

He has extensive experience of teaching art over twenty years and taught at Universities including Wolverhampton University, Salford University, Manchester Metropolitan University and Liverpool John Moores University. He is a Senior Lecturer and Programme Leader of MA Fine Art at The University of Lincoln, where he has worked since 2006 and in 2018 received the prestigious Vice Chancellor's Teaching Award.

Instagram @darthbracey and GP site: https://www.general-practice.net/copy-of-artist-template

Professor Steve Dutton. Supplied by the artist:

Steve Dutton is an artist and occasional curator who works on both collaborative and individual projects. He is currently developing a new body work under the working title of "the phantom industry" which is including drawings, sound works, animations, objects and texts. His work is difficult to classify, as it moves between various media, materials, processes and forms but it might be said to be a form of language-based practice.

Individual and collaborative projects have been exhibited throughout the UK and internationally, including The Stag and Hound at PSL in Leeds for which Dutton and Swindells were nominated for the Northern Art Prize. In the past he worked closely with Steve Swindells (Dutton and Swindells) since 1998, prior to which he was one half of the collaboration of Dutton and Peacock. He has been published in the Journal of Studies in Theatre and Performance, The Journal of Writing in Creative Practice (2009) and the Journal of Visual Arts Practice (2007) along with many contributions to various magazines and publications including Fieldnotes and Soanyway.

Steve's curatorial collaborations include with Andrew Bracey on a project entitled 'Midpointness' which has had manifestations for the Lock Up Gallery in Newcastle, Australia, The Trans Art Triennial and Airspace in Stoke-on-Trent, UK. Other Curatorial projects include collaborations with Dr. Brian Curtin such as 'Possession' for Bangkok Arts and Culture Centre and 'Unspeaking Engagements' at Chulalongkorn Art Centre, Bangkok and LGP, Coventry.

Up until April 2022 he was Professor of Fine Art at Bath School of Art, Film and Media, Bath Spa University where he was the Director of the Art Research Centre. He has successfully supervised five PhD students to completion. Steve is now an Emeritus Professor at Bath Spa where he still works closely with staff and PhD students in an advisory capacity.

Prior to Bath Spa he was Professor in Contemporary Art Practice at the University of Lincoln in the U.K before which he was Professor in Creative Practice at Coventry University for 4 years preceded by various academic roles including MA Fine Art Course Leader and Reader in Fine Art at Sheffield Hallam University. He currently lives in Bristol and holds a studio at Spike Island.

Associate Professor Ian McArthur. Taken from the University of New South Wales, Sydney staff profile. https://research.unsw.edu.au/people/associate-professor-ian-william-mcarthur :

Dr Ian McArthur is a hybrid practitioner working in the domains of experimental interdisciplinary practice, transcultural collaboration, sound art, experimental radio, metadesign, and education change. Research projects include the development of mad.lab, an urban research platform in Chongqing, South West China in collaboration with industry partners Priestman Architects and Cqubed. mad.lab's program focuses on developing education, research, and industry projects to incubate, develop and present new site-specific, mediated and issue-based concepts for the future of cities. This intersects with Ian's research investigating the development of participatory design methods using large urban screens as diagnostic tools for urban planning with Australia and China based researchers and practitioners.

Ian has a long-standing association with China. In 2001-2003 he was Program Director of Graphic Design at La Salle DHU (Donghua University, Shanghai) where he initiated The Collabor8 Project to foster creative collaboration between China and Australia. This initiative lead to a decade of developing culturally adaptive pedagogies and design processes using online, social and responsive technologies to create collaborative experimental spaces. In 2015 Ian completed his doctoral thesis "Activating A Framework For Transcultural Interdisciplinary Collaboration In Design Education: Sino Australian Field Studies".

Ian's practice as creative producer and sound artist involves utilising granular and generative synthesis, mobile technologies, and open source platforms in exhibitions and telematic, non-idiomatic improvised performances. These works are manifested in regular broadcasts with collaborator Annie Morrad on New York's experimental radio channel Wave Farm WGXC 90.7 FM, and as heard on BBC Radio 6. He has also produced experimental sonifications for responsive interactive media environments used in a series of public art installations and exhibitions in Australia and China.

His research is acknowledged internationally in peer-reviewed journals, book chapters, curated exhibitions and symposiums including the Media Architecture Biennale, Sydney 2016

Doctoral Consortium Chair); AGIdeas Design for Business (2015); The Journal of Design Business & Society; ISEA2013 (Panel Chair); Hybrid Cities 2 and 3, University of Athens 2013/2015; the GeoCity Smart City Information Design Symposium CMoDA (2012, Beijing Design Week), ICDHS2012 8th Conference of the International Committee for Design History and Design Studies (2012, Sao Paulo); Red Objects: Collaboration in Experimental Design (2011, Sydney), Cumulus World Expo: Better City, Better Life Conference (2010, Shanghai), Xindanwei (2010, Shanghai), AGDA (2010, Sydney), ICOGRADA World Design Congress (2009, Beijing), Studio Teaching Forum (2009, Tasmanian School of Art, Hobart), The 3rd International Conference on Design Principles and Practices (2009, UdK, Berlin), and DesignEd Asia, (2008, Hong Kong Polytechnic).

Annie Morrad. Supplied by the artist:

An internationally shown UK mix-media, multi-disciplined artist based in Lincoln and London. Annie's artwork incorporates migration, ecology and dialogue through non-hierarchical methods of working. Through development of sound, words, saxophone playing, photography, silent/non silent video, and encounters she shares her art practice in co-productions and collaborations. Although originally based in visual art practice, she discovered eclectic methods of producing artwork, when studying at the Reading University art department which was run by Ron Hazelden and Bill Culbert. Her Phd research presented an opportunity to experiment with live improvised music, sound, and visual artwork. Consequently, discovering how sound, either based from a structured music form or other sound forms including field recordings, would develop and change understanding in visual artwork. Furthermore, how 'sound' would also be changed through the connection with the visual.

https://amorrad.myportfolio.com/ https://www.instagram.com/anniemorrad/?hl=en