

The Beautiful/Horrible: Graphic Scores

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1. Scores Appendix

Contents include Graphic scores which have been created for this project:

Sketches Series -Ashley McAulay (07/07/22).....	Error! Bookmark not defined.
Hieroglyphs (Full Score) - McAulay (08/07/22)	Error! Bookmark not defined.
Morsel (Full Score) - McAulay (09/07/22)	Error! Bookmark not defined.
Mannerism (Full Score), McAulay (10/07/22)	Error! Bookmark not defined.
Music for a Staircase Performer, McAulay (11/07/22)	Error! Bookmark not defined.
Sonic Constellations (Score), McAulay (13/07/22)	Error! Bookmark not defined.
Heat (Score), McAulay (13/07/22)	Error! Bookmark not defined.
Grainwave (Score) - McAulay (14/07/22)	Error! Bookmark not defined.
Meditations (Score), McAulay (14/07/22)	Error! Bookmark not defined.
Pastels (Score) - McAulay (15/07/22).....	Error! Bookmark not defined.
Within Spring Gardens (Score), McAulay (15/07/22).....	Error! Bookmark not defined.
Take Shap3 (Score) - McAulay (16/07/22)	Error! Bookmark not defined.
Ring Clone (Score) - McAulay (16/07/22).....	Error! Bookmark not defined.
Pride/Protest (Score) - McAulay (17/07/22)	Error! Bookmark not defined.
Mirage (Score), McAulay 17/07/22	Error! Bookmark not defined.
thoughts within confinement - McAulay (18/07/22)	Error! Bookmark not defined.
A Night in the Sky - 18/07/22	Error! Bookmark not defined.
KRAFT (Score and instructions) - McAulay (19/07/22).....	Error! Bookmark not defined.
Seven Static Suns (Full Score for Ensemble) - McAulay (25/07/22)	Error! Bookmark not defined.
Text Based Series	15 – 18

2. Example Video Content

Hieroglyphs.mp4
Beautiful Horrible Performances.mp4
Hieroglyphs performance.mp4

3. Images

Various Images (.jpeg)

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I want to use this as an opportunity to thank everyone that has been through this project with me and who has believed in me even when I didn't believe in myself. I want to thank all the staff from the University of York for allowing me the opportunity to do my undergraduate in Music and want to thank all the members of staff within The University of Salford that have made me feel welcome since I first stepped foot within the building, my time within these two institutes has taught me a lot in how to not only be a musician, but to be a better person. I want to thank my Supervisor Dr Philip Brissenden for his support during the process of my project, Dr Alan Williams for allowing me to play within the Adelphi Contemporary Music Group, Justine Loubser for showing me styles of music I would have never come across without her seminars, Dr Timothy Wise who has been so encouraging to try new and interesting ways of playing my instrument and all the members that are across the music groups ACMG, The World Music Ensemble, The Flute Quartet, Wingspread and the other projects that I have been involved in since I started in October 2021. I want to thank all the participants that took the time out of their schedules to record my compositions for this project, without them this project would not be as spectacular as I would have liked. Finally, I want to thank my friends and family who have been there for me throughout my journey of academia, who have always been in full support of anything I have done.

Thank You.

Ashley James McAulay



Declaration

I Declare that I am the sole Author of this Paper; the contents within are entirely my own research; and no part of this paper has been submitted as part of another degree or professional qualification.

Ashley James McAulay, August 2022

Abstract

The Beautiful/Horrible: Graphic Scores is a project that investigates the compositional process, interpretation, participation and understanding of determinate and indeterminate Graphic Scores. It sets out to seek a definition of what a graphic score *is*; firstly, by researching within the history of graphic score notation as an evolving phenomenon within western culture during the second half of the twentieth century particularly, secondly, from a practice-based standpoint of composition of such and then exploring how a solo performer and/or group prepare for the performance of a Graphic score.

By collecting qualitative data through interviews insight is gained into the commonalities and differences of interpretation – particularly comparing the performer’s interpretation against my own compositional ideas and intent. The conclusion will seek to develop understanding of the nature of the communication inherent in the form of a graphic score and discussions that follow them.

Keywords: Graphic Score, Determinate, Indeterminate, Interpretation, Participation, Qualitative Data, Compositional Process

Introduction

Graphic Scores, Visual Art, Composition, the Avant-Grade. Terms that can be seen to describe music in the twentieth century which can have positive and negative tropes against the processes in the composition and performances of Graphic Scores. Prior to this project, I have had the experience of performing pieces of graphic nature within the Adelphi Contemporary Music Group (ACMG), which performs new music from current composers in the University of Salford. The music's that we performed were eclectic to say the least, looking at all different aspects of scores and performance. What I found within performing music of this standard that there are other ways to music composition and performance which I had not touched upon fully. The scores were more visual than I'd ever come across, trading staves for colours and the use of instruments other than my own. [see fig. 1]

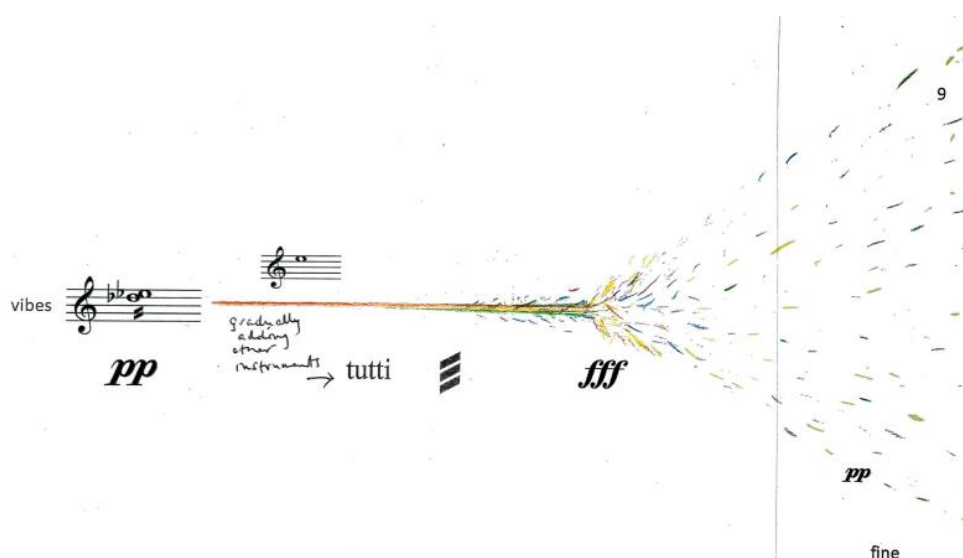


Figure 1- Excerpt of *Postcards from a planetary ring*. (Wise, 2022)

The process in preparing for a piece is collaborative in how we think it should sound with aid of the composer comments. From this, it has intrigued me to understand more of what a Graphic Score can achieve, this for Solo Performer to Ensemble.

Music scores and notation systems prior to the 20th Century up to the present have been forever evolving across all corners of the Globe. The notation system that are commonly used within Western Society consists of a variety of factors which lends itself from Western Europe, in which we see music the way it is scored today. During the 20th Century, the arts pushed the boundaries in which altered and questioned art, there are a variety of movements where we see music having direct influence within the arts which translates to popular culture, examples of this are the 12 tone scale systems in which German composer Arnold Schoenberg was particularly known for, to Graphic scoring, in which we see American Composer John Cage make use of. Art and technology have a huge influence on the evolution of the Graphic Score, such as the Futurism Movement which inspired Italian composer Luigi Russolo¹ to compose for newly crafted instruments using staves and black lines in pieces such as *Risveglio Di Una Citta* (1913), the same year that Russian composer Igor Stravinsky's *Rite of Spring* Premiered in Paris which was not very well received at the time. Two parts of the world that had very different uses for music, and the reception of this music evolved into something popular. Russolo's *Risvegilo Di Una Cltta* is a piece which is an introduction to graphic notation which we see making a rise during the 1950/60s and continues to evolve with the technological advancements up to the present and the way they are laid out dependant on composer can either be drastically different to quite similar.

This brings us to the questions of what makes a Graphic Score? How does this differ from a traditional western score? What is the purpose of using Graphic Scores as a means for composition? And finally, how does one prepare for a performance of a Graphic Score?

Research Methods

The overarching methodology is clearly practice based research (or action research), which is a model of research given by social psychologist Kurt Lewin. Lewin's action based research method explores and opens discussions through a practical based methodology, its main points are to plan (which discusses what I am going to do), in which to act (create a platform in which I can either participate or go out to watch) , observe (encapsulating and understand how we ended up where we did, what we did to get there) and then finally reflect

¹ Author of the book *The Art of Noises* (1913).

(comparing my results with what I originally intended, does it show similarities and/or differences, to how I will better my research). (Lewin, 14 April 2010)

For my primary research, in addition to composing, performing and collaborating with other artists, I will be conducting interviews with participants to understand what they perceive a graphic score to be, who they know that has composed and following from this, some of the participants will be performing scores that I have composed for this research, this then will be followed by questions to understand how they have prepared for said score/s.

What is a Graphic Score

According to the website School of Noise, a graphic score is a medium of notation which allowed composers of the 1950s to produce scores which experimented with the world of sounds. (Project, n.d.) Examples that are given of these scores are of Cathy Berberian's *Stripsody* which is a piece for solo vocal and John Cages *Water Walk*. [See Figures 2,3]

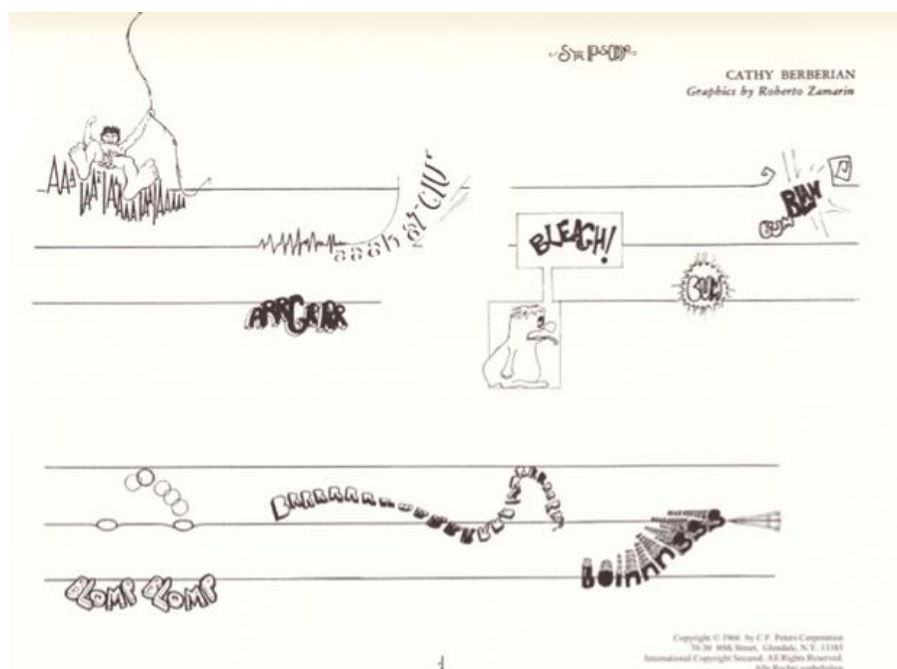


Figure 2 – Excerpt from *Stripsody*, (Berberian, 1966)

These two scores alone highlight different styles in which graphic scores are presented, *Stripsody* uses a more comic-esque art style displayed across three lines, which determines the pitch of certain phrases in which is to be performed vocally. *Water Walk* uses a different approach to the graphic score, it instructs the performer to do perform different actions with items that are not conventionally seen as instruments over a timescale with a mixture of words and images dictating what is to be used (which there is an extensive list).

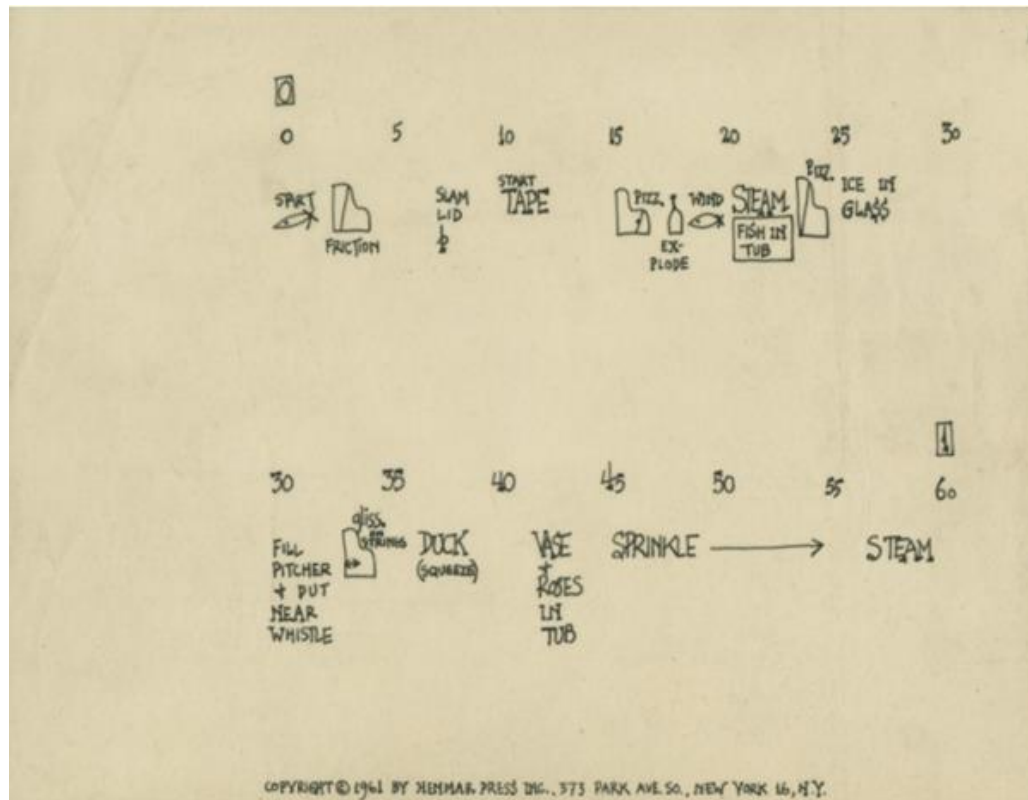


Figure 3 – Excerpt from *Water Walk*, Cage 1959

Determinacy

But even prior to the nineteen-fifties, there are still works that we can consider to be graphic scores, for instance *Risveglio Di Una Citta* (1913) by Luigi Russolo.

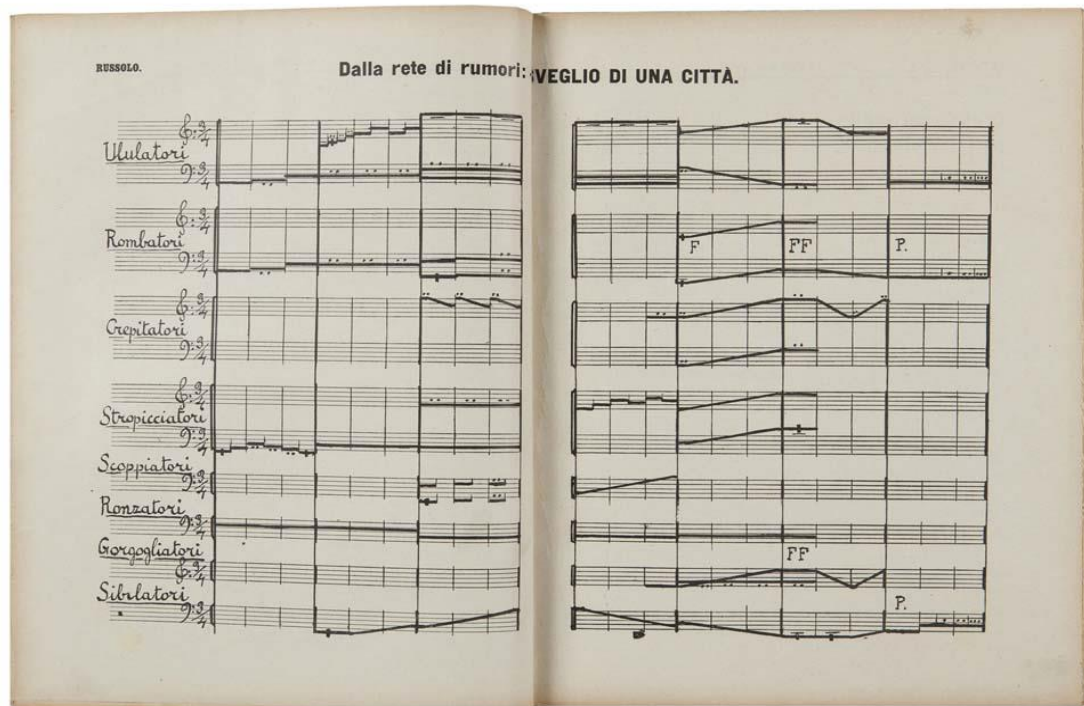


Figure 4 – Excerpt of *Risveglio Di Una Citta*, (Russolo, 1913)

This score represents pitches through thick black lines for instruments which were made by Russolo for this music. What we find here is the notation is not the same, but it is presented on stave bars which was common for western musicians to use within the 20th Century. (Wimbish, 2020)

Some may also consider the work of American Composer Henry Cowell to be graphic in nature, due to the way he scores. [See Figure 5]

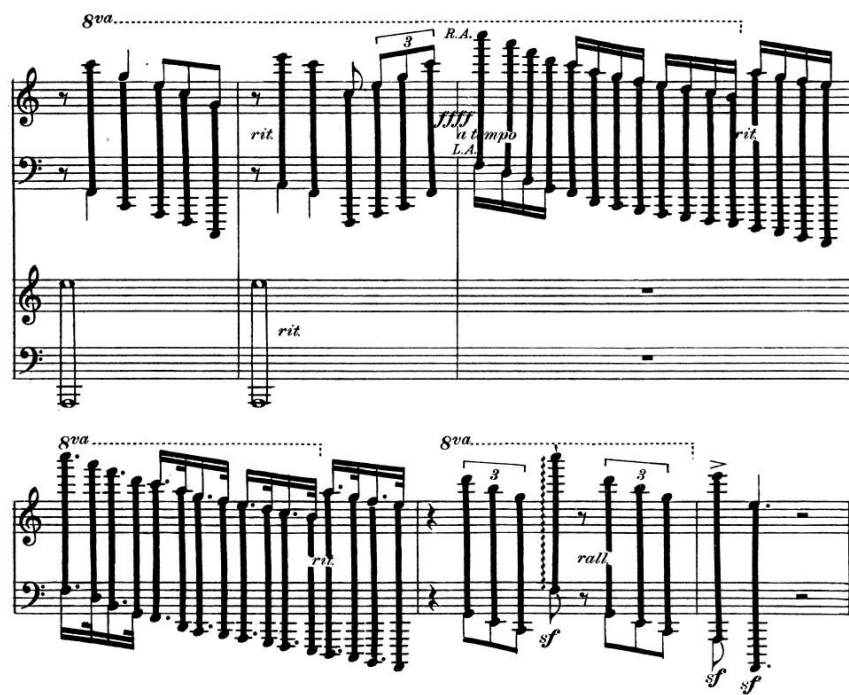


Figure 5 – Excerpt of *Dynamic Motion*, Cowell

Dynamic Motion (1922) by Cowell is scored for piano as he was himself a piano player, but with this we see that his scores blend music notations with thick black lines going through the quavers, this specifying that the player should play with their forearm to a dictated pitch. This we could also consider to be a graphic score as it allows performers to think about what they can do differently within their performance. On the other hand, the possibilities of what this piece will sound like afterwards is all dependant on the performer's bodily attributes, as not everyone's forearms are the same lengths which then can change the number of notes played. Cowell is the first of many composers to start blending some art mediums to dictate how to play music in specific ways, which then later affected the scores of the 1950s up to the present, this with current composers such as Ian Clarke ² and his scores which represent specifics of how to play certain techniques. [See figure 6]

² Born in Kent, England. Composer and Flutist.



Figure 6 – Excerpt from *Hatching Aliens*, Clarke

The scores of Russolo, Cowell and Clarke represent how music notation can be embellished into ways which hold information (such as techniques). But some may not view this as Graphic Scoring, as it chooses to use a variation of Western Notation systems which dictate what the piece should sound like. But there are many ways in how music that is scored with Western notations can also be presented towards a performer, take for instance the works of George Crumb and Peter Maxwell Davis.

George Crumb is an American composer whose work varies from serialism to avant-garde. Even with the use of western notations in which Crumb utilises, the way he presents his scores allow for performers to think in a different space completely, as is shown within his score *Ancient Voices of Children* (1970). [See Figure 7]

Peter Maxwell Davis is an English composer, who just like Crumb, used a different way of scoring and his piece *Eight songs for a Mad King*, a thirty-minute operatic piece which captures the deterioration of King Georges III's mental health during his reign. Within the third movement, Davis scores this work in the shape of a cage, which suggests how George must have been caged by his thoughts and feelings, and each bar represents a new line for a tenor singer to perform, which is against a melody from the ensemble players. [See figure 8]

[illegible]

8

3. THE LADY-IN-WAITING (Bibi Marquise fancy)

[illegible]

Figure 8 – Excerpt from *Eight Songs for a Mad King* (Mov. 3), Maxwell Davis

These scores in which are presented are determinate scores due to this information in which it holds determines what should be played within a certain standard. Even though some of these pieces can be considered as avant-garde, it could suggest that the pieces don't allow for performers to make their own judgements in how something should be performed to them. American composer Milton Babbitt describes what the avant-garde movement set to achieve, and I quote; 'The extreme avant-garde has only one attitude towards the arts: it wants to kill them'. (Taruskin, 2006)

Meaning for these pieces that are using standard western notations and variations are not changing the way that people may perceive a piece of art. so how does one change this? With the use of determinate scores, there must be a counter reaction, to which we get indeterminate scores.

Gyorgy Legiti's piece *Artikulation* was originally a piece in which compiled different sounds through the use of synthetic instrumentations which were built within the 50s. With this piece being famous for its non-traditional form of score, it was not composed together by Legiti himself, but rather the artist Rainer Wehiner in the 1970s. Wehiner studied the score thoroughly to which he created a visualisation of what he could hear in real time, in which we ended up with the 'score' for this piece. What is interesting about this score is how Wehiner represents the sounds that he hears through an artistic medium and accompanies the audio very well through visual. (Gyorgy Ligeti, 2007)

Indeterminacy

Indeterminate scores also can be known as Aleatoric Scores is where the piece allows the performer to decide what happens depending on if that is through chance operations, improvisation sections, indeterminate notations and even forms. (Staff, 2022)

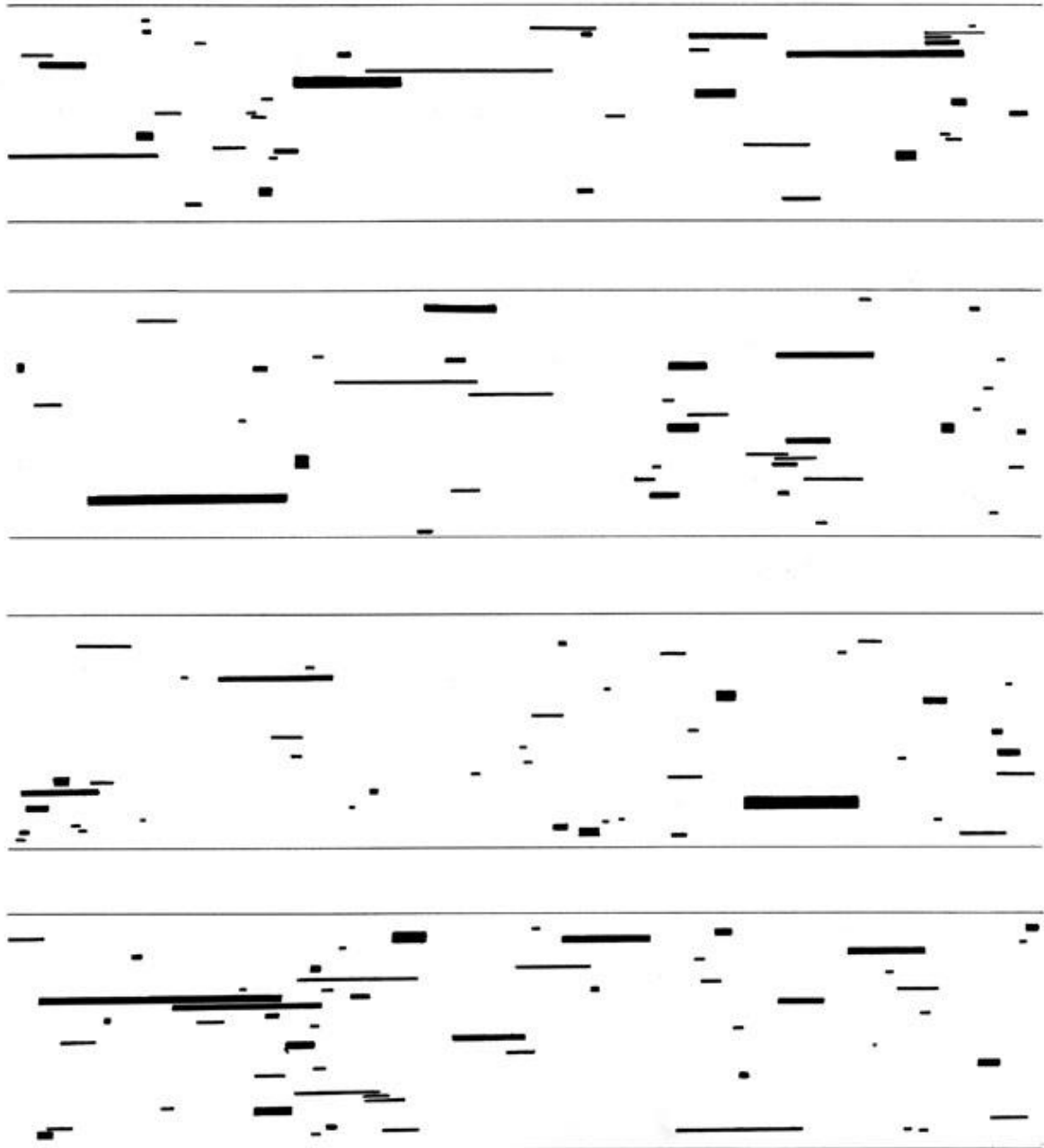
Composer John Cage and many others within the 20th century exploited this within music, through composing pieces which did not hold any resemblance to standard music notation whatsoever. However, this allowed for performers to take away from a liner approach towards music to an abstract one, which could be totally improvised on the night of a performance. An associate of John Cage was American Composer Earl Brown who composed pieces within indeterminate graphic scoring nature. [See *Figure 8*] Brown's *4 Systems* is dedicated to David Tudor, who was a Pianist who played most of the works of Avant-garde composers, and this work allows for the performer to play the piece however they see fit, and we see a pattern of this happening within composers works at the time, such as Morton Feldman, Cornelius Cardew, Anestis Logoestis and many more. [See *Figures 9,10,11,12*]

Indeterminate Graphic scores according works on a variety of parameters. Cage within the book *Silence* discusses J.S Bach's *The Art of Fugue* which determines form, materials, harmonies but never the timbre to which the performer must act as a painter to fill in the gaps of colours, in which he compares this to Karlheinz Stockhausen's *Klavierstück VI* who determines each musical text specifically. (Cage, *Silence*, 1978) When discussing the ideas of indeterminacy, he also goes onto state that his pieces take from the philosophy of Marcel Duchamp of chance, making everything that happens within each performance individual, as each performer has different perspectives on what specific shapes and colours may represent.

4 SYSTEMS

for David Tudor on a birthday
Jan. 20, 1954

Earl Brown



May be played in any sequence, either side up, at any tempo(i). The continuous lines from far left to far right define the outer limits of the keyboard. Thickness may indicate dynamics or clusters.

Jan. 20, 1954
Earl Brown

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Figure 9 – Excerpt of 4 Systems, Brown

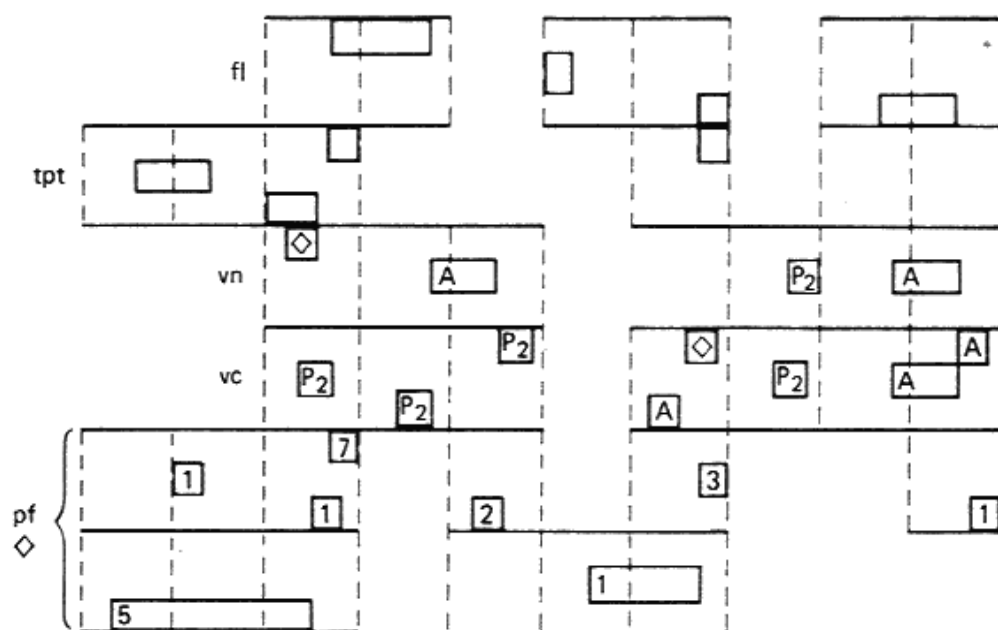


Figure 10 – Excerpt of Projections I, Feldman

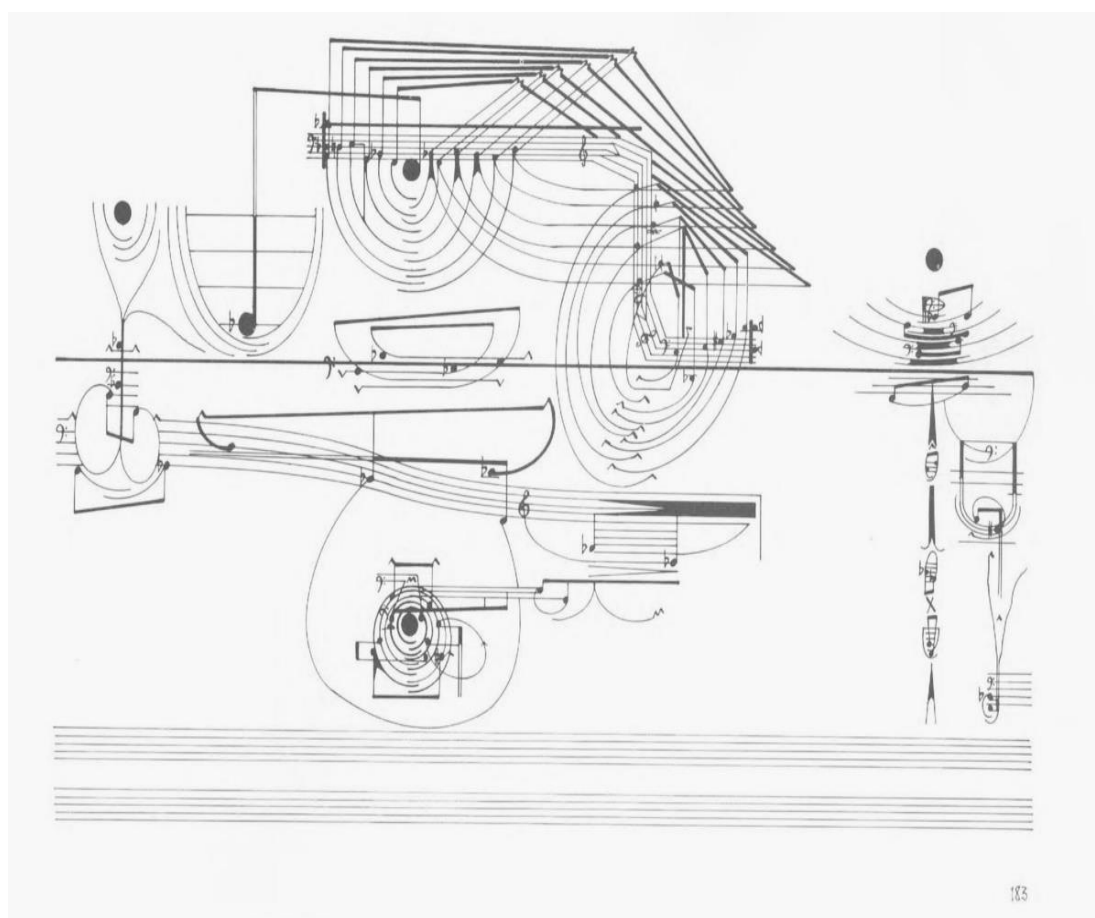


Figure 11 – Excerpt from Treatise, Cardew

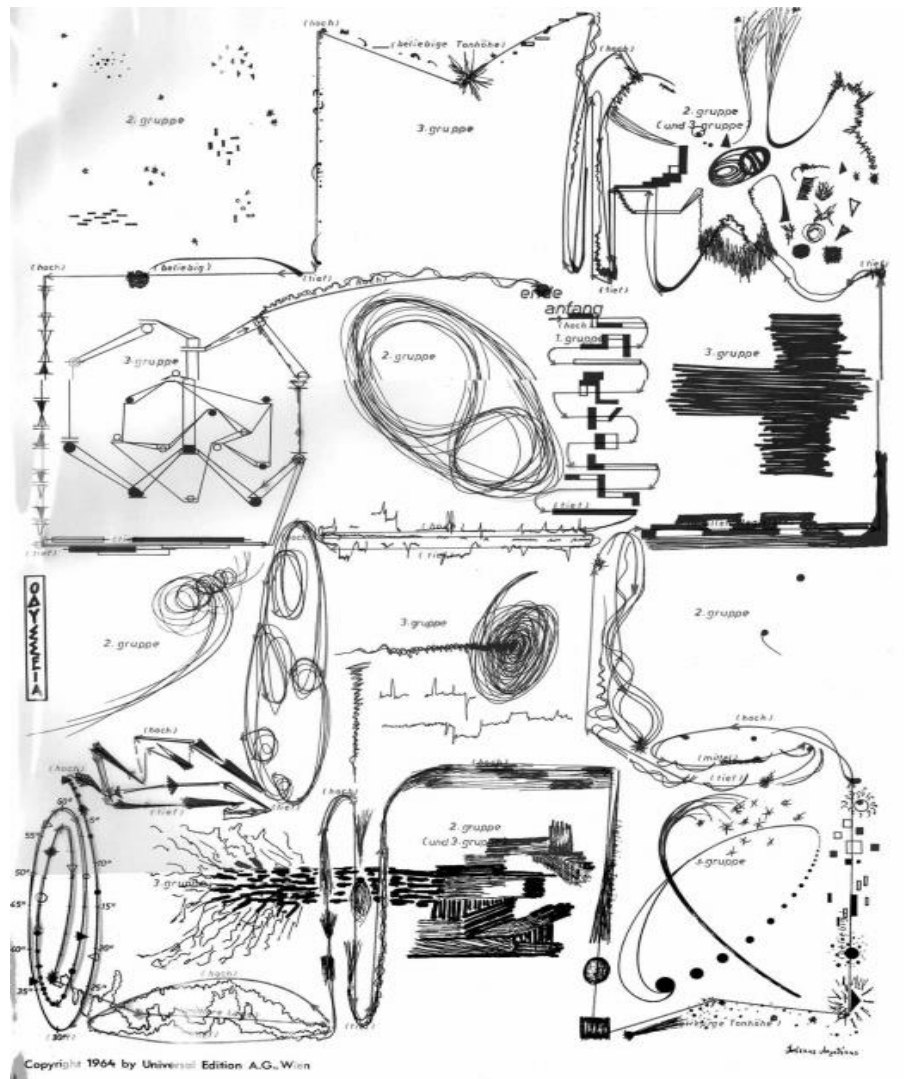


Figure 12- Odessee, Logoestis

Fluxus

Prior to looking into the next lot of scores, we need to understand the movement that was happening at the time of the production of certain scores and performances. Fluxus was a movement of art which started to make more of a rise during the late Nineteen-Fifties. According to Fluxus artist George Maciunas, Fluxus was to “promote a revolutionary flood and tide in art, promote living art, anti-art’, this whilst having a strong connection with previous movements such as Futurism and Dada. (Tate, n.d.)

Within Michael Nyman's book *Experimental Music*, this movement also is defined as being a movement that never has agreed methods for a correct outcome, some may share ideologies with one another such as stretching the boundaries of art but each of the pieces from this time were all different within their own right. (Nyman, 2011)

Within this time there were a variety of different performance spaces and ensemble's which used the idea of Fluxus within their works. George Brecht sought to expose the idea of Fluxus to show the humour but spiritual nature of what it holds by composing pieces for the Flux-Orchestra even with there being many more ensembles such as the Scratch-Orchestra's that popped up within the sixties performing this art. (Nyman, 2011)

There were many artists that were highly involved within the Fluxus movement such as Cage, Brecht, Nam June Paik, Yoko Ono, Dick Higgins and many more, making highly innovative pieces for the time which tested the philosophy of performance. Cage goes on to define this idea by stating, "...theatre takes place all the time wherever one is and art simple facilitates persuading one that is the case", stating that art is always happening around us. (Nyman, 2011)

Text-Based Scores

Considering that there are scores which are more visual in their approach to music, there are other scores which do not take this approach, this is where we come across text-based scores.

Text-based scores can be seen as works of Graphic notation, this due to their experimental nature with the scores sometimes being more descriptive in their approach rather than visual. Irish Composer Jennifer Walshe goes on to define what these scores are by saying; "A text score is a simple instruction to do an activity (see some examples here). It could as simple as 'tie a balloon to a piano, pour lighter fluid on it, and set the piano alight' (Anne Lockwood) or much more complex, for example, what pitches to play, when to play them and in what order. It could be just one word, or pages and pages. In this way, it is very democratic – using just text, not musical annotation, for example". (Walshe, 2021)

Three composers which come from the 50/60s Fluxus movement which use this approach to scoring are Karlheinz Stockhausen, Dick Higgins and Yoko Ono. All different within their approach to Text-based scores and all with outcomes which are unique against the other.

German composer Stockhausen is known for his works which have been revolutionary towards using new technologies such as synthesisers during the sixties and seventies. Stockhausen wrote a plethora of text-based pieces which prompted live improvisation, two of these are *Treffpunkt (Meeting point)*, *Setz Die Segel Zur Sonne (Set Sail for the Sun)*. These pieces are aleatoric in result but allow deep thinking and listening between groups of musicians. [See Figures 13,14]

TREFFPUNKT (Meeting Point)
Everyone plays the same tone
Lead the tone wherever your thoughts lead you
Do not leave it, stay with it Always return
to the same place

Figure 13- (Stockhausen, Treffpunkt, 1973)

SETZ DIE SEGEL ZUR SONNE (Set Sail for the Sun)
Play a tone for so long
until you hear its individual vibrations
Hold the tone
and listen to the tones of the others
- to all of them together, not to individual ones - and slowly move your tone
until you arrive at complete harmony
and the whole sound turns to gold
to pure, gently shimmering fire

Figure 14- (Stockhausen, Setz Die Segel Zur Sonne, 1973)

With Stockhausen using text-based pieces which allowed for deeper listening and thinking between groups, American artist and composer Dick Higgins used this medium of scoring for a much more performance art textualization.

Higgins' work showcases some of the highs of the Fluxus movement, to which in the nineteen-sixties compiled together numerous amounts of text-based scores to which he called *Danger Music* (1961 – 63). Similarly, to Stockhausen's scores, Higgins' scores which are in ways instructions showcase the extremities of what performance can hold, to where he writes within his series *Danger Music* instructions to which can lead to a certain death, making them unperformable; but the ones that have been performed are very interesting to their approaches towards the idea of performance art, tackling the idea of what performance is as well as what graphic scores can be. [See Figure 15]

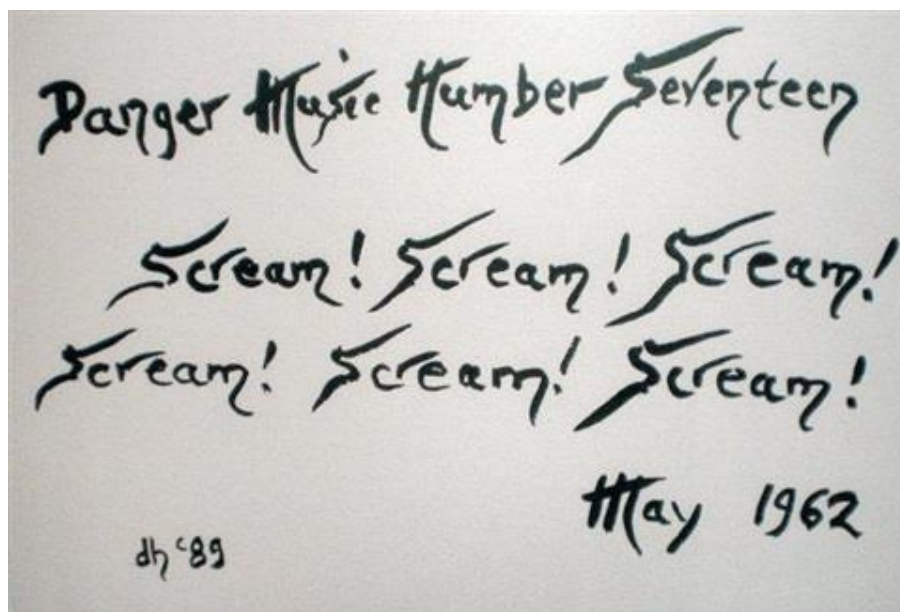


Figure 15- Excerpt of *Danger Music* (No.17), Higgins

In *Danger Music No.17* we see that Higgins' approach to a Text-based score allows for the performer to make some judgement in the way they perform this music as we are presented with the word scream a total of six times, which is the only instruction to the piece. This

meaning that it holds determinate and indeterminate factors in how to perform this work, which is then left for the performer to decide.

Finally, we move onto the work of Yoko Ono. Known for being married to John Lennon, Ono is a Japanese multimedia artist which blends performance and music into one. In Nineteen-sixty-five Ono released the book *Grapefruit* which incorporates Instructions accompanied by drawings. These instructions are usually text-based and allow for all to participate within them, from solo to even an Orchestra. In a similar light to Stockhausen and Higgins' works, Ono allows for the performer to interpret what they must do through, some which are more open instructions and others which are closed. The achievement of these pieces is to the performers discretion, making each of the outcome's individual. A piece of Ono's from *Grapefruit* is the *Secret Piece* which instructs a solo performer to go out into a wood and perform with the world accompanying them between certain times. [See figure 16]

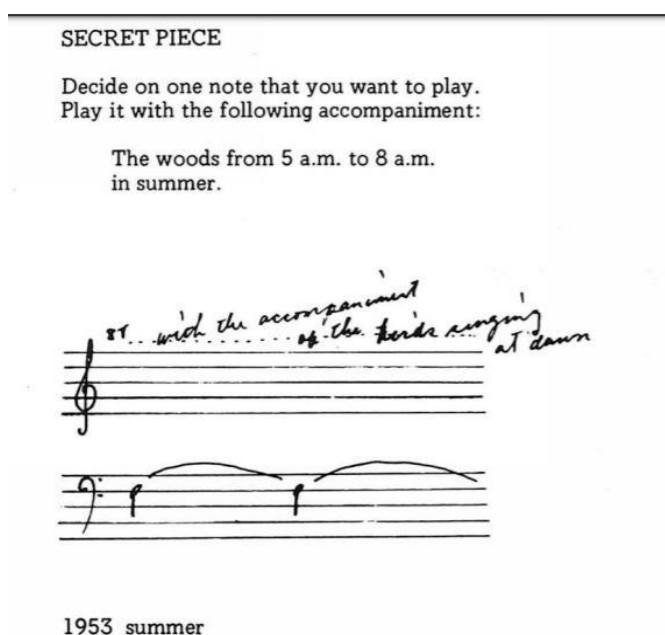


Figure 16- Excerpt of *Secret Piece*, (Ono & Lennon, 2000)

These three composers alone showcase a variety of different aspects in how text-based scores achieve performance. What we could say here is that it is not just only testing the idea of what makes a graphic score, but it is breaking the in-stilled philosophy of what a performance is.

Through this we can see that graphic scores can show themselves in a varied number of ways, some more liner than others, but all allow performers different routes in which to look at them. Due to researching these pieces, I have had my own time to compose my own graphic scores, in which some take inspiration from my research of these different pieces.

Compositions

Since I started my research back in June of this year, I have been taking inspiration from a variety of different composers and artists from Slavek Kwi to Jackson Pollock (such as Pollocks *Red Composition* and Kwi's *Drawing the Air*). [see figure 17, 18]



Figure 17- Red Composition, Pollock

What I found very interesting from these pieces is how Pollock uses different textures and colours which inspires me as a performer to look at this piece in the same way I would personally look at a graphic score, which inspired me to not only think about how I want my pieces to sound whilst composing them graphically, but also how I would lay them out on a piece of paper. To the way that Kwi uses technology to merge a variety of settings into conceptual art, with a statement that he gives that people should be intensive listeners with this piece of work. (FM, n.d.) In which composer Richard Murray Schafer states in the video

Listen, “I think if you listen carefully your life is enhanced, it becomes much more interesting...”. (NFB, 2017)



Figure 18 - Drawing the Air, Kwi.

So, with all these sources, I have compiled together a variety of different graphical scores which harvest information in which I have researched. The scores that I have produced lend themselves to determinacy and indeterminacy, allow performers to make their own judgements in how to perform the scores, some indicate specifics such as time, and others nothing at all, which suggests that the pieces will be somewhat different each time they are performed.

My first scores that come to mind when starting were shapes which incorporated stave bars, some in which seem more liner than the others, but I wanted to allow the performers to think about the sounds of shapes. [See figure 19]

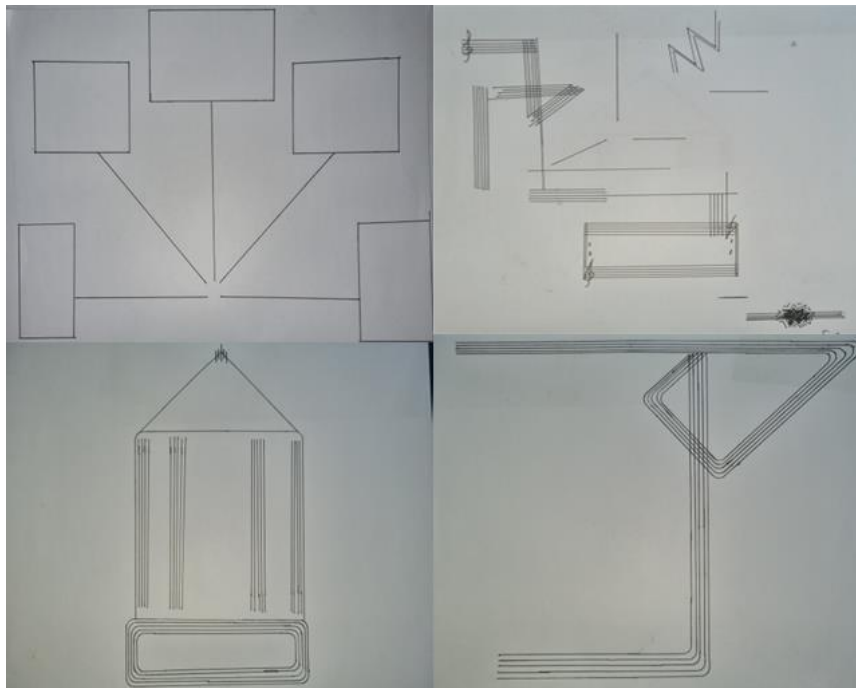


Figure 19- Sketches Series, McAulay 2022

What I found with these pieces is there was not too much to work from. Yes, the idea of shaping music to add another layer of how things sound in terms is highly interesting, but I felt as a performer as well as composer that if I was to confront this, I would not know where to start, unless there was the incorporation of standard western notation, in which I wanted to eliminate using at first, so from this I started to think about symbols in which people could react to, similar to Cardew's *Treatise* in which I composed the piece *Hieroglyphs*. What I imagined for this piece is for performers to act in real time with the score as there are eight pages worth of score similar to the excerpt, so to make this happen, I decided to use video editing software Davinci Resolve to create a rolling score (which incorporates a moving box across the graphic score indicating where the performers are) allowing for performers to react in real time, which also means that a group of performers could also perform this piece as I have not eliminated it to a solo performer. [See figure 20, 21]



Figure 20 -Excerpt of Hieroglyphs, McAulay 2022

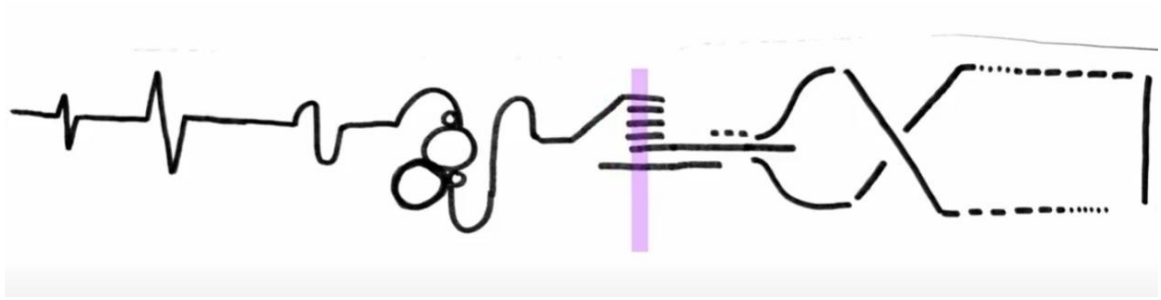


Figure 21 - Excerpt of Hieroglyphs Rolling Score, McAulay 2022

From this, I ended up starting to think what I liked in graphic scores, indeterminacy was key, but I find pieces that are visual and incorporate colour much more satisfying. In which I started changing from the medium of pen ink to the use of acrylic paints, water-based colours, and coloured pencils which has allowed me to be a lot more flexible in my approach to the composition of graphic scores, as well as more visual, which can be seen within a variety of my compositions. [See figure 22,23,24]



Figure 22 - Pastels (Score), McAulay 2022

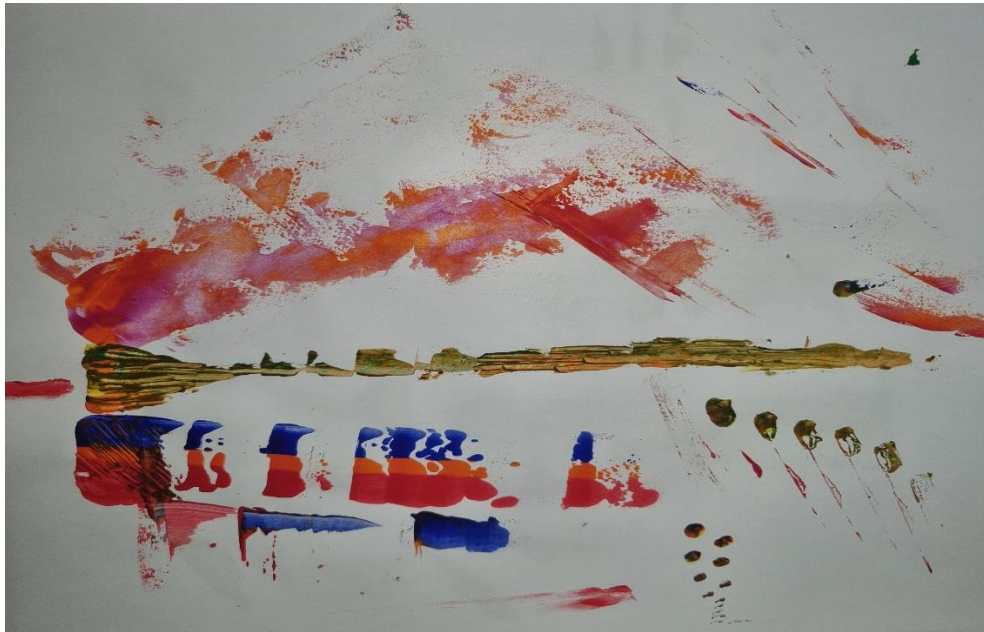


Figure 23 - *Pride/Protest (Score)*, McAulay 2022

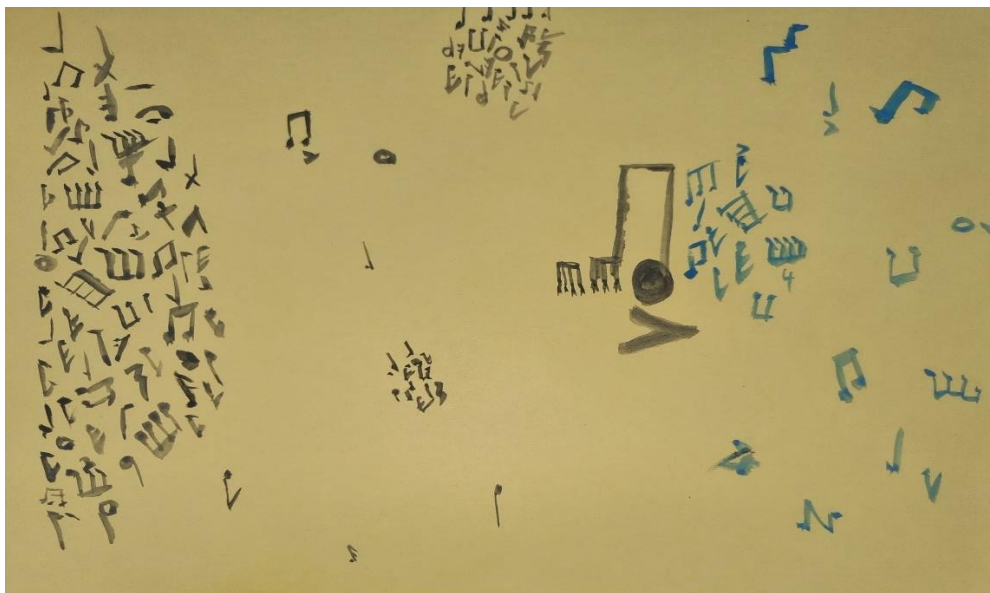


Figure 24 - *Heat (Score)*, McAulay 2022

The ideas in which I had for the piece *Pride/Protest* were to have three different instruments (which are defined through having three different sections upon the page), blending, and exploring sounds to create a piece. The use of acrylic paints has allowed me to represent that I want a form of scratched texture within the soundscape, this accompanied by some

aeolian sounds and tones which merge themselves together (this represented by using solid and disbursing of colours upon the score.

Heat is a piece which is to encapsulate some catastrophic and lively sound, this is represented upon the page as clusters of notations which may be familiar to some players. This then goes into a more silent part within the piece, where instruments feel free until we end up with these sporadic bubbles which are displayed upon the score. This sparse feeling carries on until the payers decide to capture the end of piece by the representation of a loud percussive dynamic quaver which then the performers should be sporadic again but disbursing away from each other.

When looking at these scores, I can see how I would perform them, but I want to see how other people would prepare for graphic score of this nature, to which I wanted to ask a couple of questions in which could help understand further people's response to graphic scores.

[Interviews](#)

When gaining an understanding of graphic scores and how to react to them, I realised I would have to understand other people's judgements to which I would have to ask questions, the questions allowed me to understand people's knowledge of Graphic scores, as well get to grips with more composers and finally to understand how others prepare for a graphic score themselves, to which I can use in my own preparation for this. Unfortunately, I have had a small outcome in terms of interviewees, but considering this is the case, I have also had well thought out responses.

My interview questions we're as follows:

- What does the term graphic score mean to you?
- Could you list composers/ artists that have been influenced by graphic scores?
- What instruments would you think to see when performing a graphic score?
- Is a graphic score a means for collaborative composition? (Explain in more detail)
- How would you as a performer prepare for a performance of a graphic score?

To which in response to these questions, I gained a good understanding from other people's knowledge of Graphic Scores which I was given between the dates of 10/08/22 – 15/08/22.

Question one allowed me to get to grips of what others believe a graphic score to be and I received responses such as "that is entirely based on or incorporates alongside other kinds of notation (staff-based, verbal, etc) – images of any kind, in order to provoke performative action." [15/08/22] To which I agreed with, due to the idea that graphic scores of any nature should cause a response from the performer whether it be through the mediums of art, symbols and/or words.

Question two was to list composers to the best of their ability, to gain more of an understanding of the composers in which used Graphic Score's as a form of notation, to which I received a plethora of composer's names from all around the globe including Cage and Feldman, to composers I have not heard of before such as Annea Lockwood, Trevor Wishart and Matana Roberts. Through this, I have been able to go back and look at more Graphic Scores today.

Question three had very similar responses, as they both stated that graphic scores don't have limitations on what you can use for the performance of them, but in one response given, they preferred the use of Piano or Voice in response to graphic score. [10/08/22] In response to this, I feel that this may be in response to scores such as Berberian's *Stripsody*, due to it being in a format which is quite operatic in its performance.

Question four prompts a discussion in which discusses the idea of graphic scores being something of a collaborative composition between performer/s and composers. In response to this, one of my Interviewees agreed with the statement by replying, "The composer merely prompts the performer with the score, the performer can compile and sort their ideas into a piece". [10/08/22] But, in the other response was given, the interviewee stated that they did not agree with the statement due to the idea of collaborative approaches are similar but not the same as a realisation to a graphic score, in which an individual or group may have towards a visual stimulus such as a graphic score. Through this goes onto discuss that Graphic scores are there to open an exploration and discussions into how they respond to a piece that they are presented with. [15/08/22]

The final question undergoes discussions in how oneself would go into preparation of a graphic score, in which the responses here were interesting. Interviewee one goes onto say they would take a time out to study the scores in which they are presented with and how they would go around the piece dependant on context of the score. What they also state is that they would potentially collaborate alongside the composer (if possible) to gain more understanding in how they imagined the piece to sound. [10/08/22] The second interviewee discusses the question differently, due to their preparation looking for what the piece presents, looking into the limits but the possibilities what the piece holds, but this is also depending on how the piece presents itself to themselves. They then go onto state that other require more preparatory work which must be done before performing. [15/08/22]

What I have found interesting from these responses is that graphic scores are a medium of composition in which some people look for the possibilities in a score, but they may differ in the response towards the stimulus. However, it also has changed my perception on what graphic scores do hold for performances, such as the idea of it being a prompt for discussions an exploration rather than collaborations.

[Recordings of compositions](#)

As part of the action of my research, I was able to record a selection of my graphic scores within a small group. The participants that were involved were open to the use of graphic scores, in which I sent them before the day of recording. The scores that we used are the following (In order), *Heat*, *Grainwave*, *Sonic Constellations*, *Pride/Protest* and *Hieroglyphs*. (McAulay, 2022) The first four pieces that are recorded have an arrangement of Oud, Fife and Drumkit, which was recorded via mobile phone camera and *Hieroglyphs* is was recorded as an mp3 which was sent to me via email.

We opened the recording session with the piece *Heat* [see Figure 24], in which we discussed what the piece presented visually, how it presents itself upon the page, to which we ended up arranging what and who should be playing where. These discussions allowed us to not only think sonically, but texturally as well. Whilst performing this piece, we not only used the score to compose ourselves, but we had to listen to queues in which we made either

gesturally or musically, in which bodily language become very important within the score.

[Seen between 00:00 – 01:41 of video *Beautiful Horrible Performances*]

We performed this piece a total of four times, each time with discussions after each performance to discover and evaluate what we did wither personally or collaboratively. What we discovered is that if we allowed for each member to have some form of role in which carries us through the piece, we then would be able to remain together from reading the piece left to right, which you can see at the beginning of the piece is that the drums carry the more catastrophic areas of piece and then the Oud and Fife are used for the more sparse sections. What we discovered when we come to the end of the recording is that we are able for each instrument to lead a section, as well as be heard, rather than it just be a cacophony of noises.

The next piece that we recorded was *Grainwave*, which follows a very different graphical style, due to the piece representing three columns and not using any form of musical notation. We opened the piece with a discussion to how we would perform this piece, if we would follow the same sections simultaneously which creates each line as a movement which we see common within Western Classical music, or would we perform all three 'movements' at the same time as each other, meaning that we would consider the score as in musical parts; we decided on movements. Through this, we conceptualised what each of the graphic sections could sound like, with movement one being sporadic, movement two being textural (which we envisioned some form of fuzz, or the feeling of air within the piece), to the final movement which was like the first movement which was lively in approach again. [Can be seen in *Beautiful Horrible Performances* 01:42- 05:41]

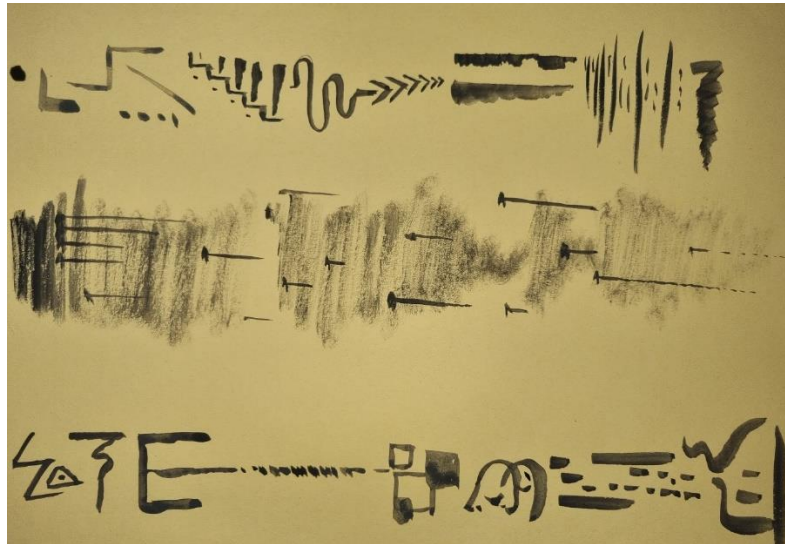


Figure 25 - *Grainwave Score* - McAulay (2022)

Whilst observing the reactions of the group to this piece, there are times where it can seem to feel it goes out of time due to the pieces being either A - rehearsed to a point where we know what we are doing and who to follow at what point or B – the nature of the score is not easy to follow as a group as people digest symbols at different speeds in which we could have discussed further in depth. But what we can see from the recording of *Grainwave* is that each movement ends together, meaning that we all are still aware what is going on within the score itself as well as what each other is doing through listening.

Third within the recording is the performance of *Sonic Constellations*. This piece presents itself within seven columns, which is a similar format to the piece *Grainwave*. With this piece, the discussion period was brief, rather than arranging ourselves prior to performing, we decided to take the route of using the piece as a stimulus to promote live improvisation as well as active listening throughout the piece, in which we ended up with the result.

[Captured between 05:43 – 09:24]

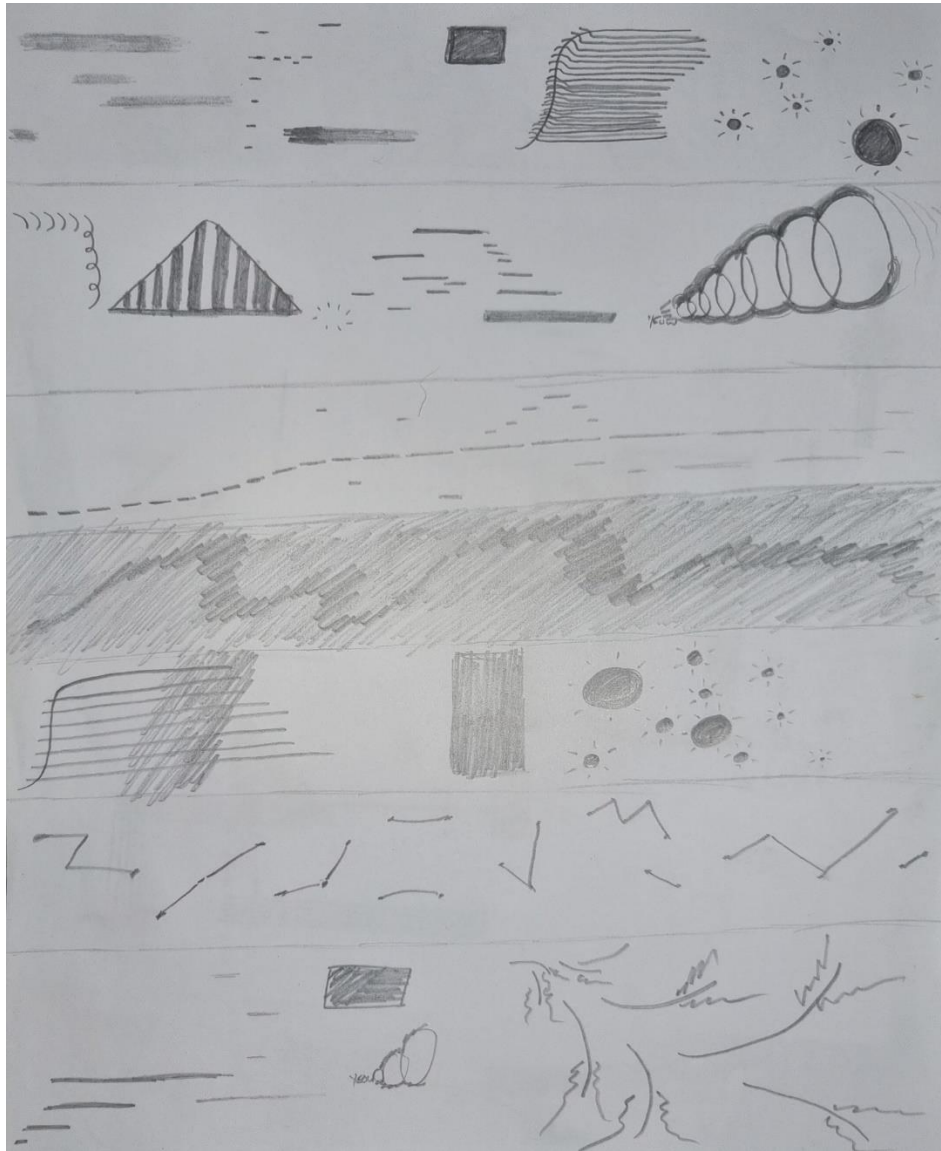


Figure 26 - Sonic Constellations Score - McAulay 2022

What we can see with this piece due to the lack of discussions meant there was not full realisations in what each section holds, but even though this is the case there was still sections in which felt more whole as an ensemble with others not so much. With them being my scores and the participation of myself, I feel that most of the direction was held by my performance with the other instruments acting as an accompaniment. On that note, we still had some direction in where to take the piece, especially from both Oud and Drum-kit where they injected sonorities and timbres in which could change depending on the ensemble size and instrumentation. Also, there were uses of different ideas such as a cough

which acted as a burst of sound within the piece, which also indicated where we were within the piece. [Located within video at 8:16]

The fourth piece of the performances that we recorded was *Pride/Protest*. [Refer to Figure 22]

This piece visually is a piece of art within its approach to composition, to which changed the approach entirely to the performance of this piece. What we are presented with are their different sections on the page which represents different textures and tonalities.

Furthermore, this opened for the ensemble to discuss what we felt the piece was representing, the pinks and oranges representing tonality, which was bright and colourful. Then we get the lower half of the page we are presented a yellows and greens which are texturally scratched, which imposed the idea of harsher textures, such as the scratching of strings. And on the lowest parts are blotches of colour, which presented the idea of bubbles of sound. What we discovered when playing this piece, there was a definite beginning, but as we played through, there was not definite middle or end; this due to possible speeds that people read across the page, to the direction of reading, as this was not discussed in full detail. What this graphic score then acted as a visual inspiration for improvisation.

Discovering what an ensemble of three can provide in terms of discussions towards graphic scores in a matter of a day, shows that graphic scores promote looking at different aspects of music which are non-linear to their approach within performance. With this in mind, the differences within approach towards a graphic score can be dependent on a variety of aspects. One, the performer/s are familiar with the concept of a graphic score and have their own ideas in how they personally would interpret a piece within this aesthetic. Two, the performer/s are comfortable to think outside familiar norms to develop and create new ideas which they can express through the medium of a graphic score. Three, the graphic scores that performer/s are presented with allows for discussions which can be developed through the performance medium in which way they choose (within this case we are using music as the example of performance). Finally, ensembles that are familiar within their instruments and are able to be flexible within their approach allows for different effects in which can alter the score's performance.

The final recording which I have is *Hieroglyphs* in which was recorded via the medium of electronics. With this score, the idea is that the performer is to make judgments in which follows the score within real time, which adds a layer of live participation along with the score. From this, the performer has decided to arrange themselves with by processing and programming sounds in the accordance to how the symbols are structured, in which he then follows it by being intuitive along with the score. This performance has been led without any instructions on my behalf, to which the performer has had to create their own set of rules to how they follow the piece, this due to the nature of this score is highly indeterminate in a similar idea to Cardew's *Treatise*.

What I have found highly invigorating is that *Hieroglyphs* showcases the use of synthetic sounds which are able to be moulded to the shapes which are represented upon the score before them. However, due to the format of the recording, I was not able to fully see how the performer was directly interacting with the shapes which was presented upon the score, which I would like to see more of with a recording in this context. However, I feel that they have achieved the elements that I intended for the piece which was live reactions towards a graphic score within real time, allowing for it to be more of an intuitive design to explore textures through what ever medium the performer is comfortable with. Furthering this piece, I would like to see what would happen if it was reacted to with an ensemble live, to see what discussions would arise from their participation, allowing myself to observe what is happening in real time

What I have discovered from performing these pieces within a group is that where there are limitations within instruments that are being used (such as the Fife being tuned to C), it allows for explorations of that instruments which look past harmony, for the performers to seek out and develop the textures and sonorities made in the overall performance. What I would do differently next time within developing performances of this nature next time, is try and incorporate a larger group of performers with different scores, to see where discussions develop and what they are trying to discover. With this, I would like to see the use of different instruments within the context of the performance of graphic scores, as

there are many possibilities that can be explored with different tonalities, textures, sonorities, harmonies and more.

Conclusion

Bringing together this project which I have been researching and practically engaging within these past few months, I have gained an understanding of the variety of aspects in Graphic Score hold as a medium of compositional practice. this being through the use of visual symbols which can be seen in the variety of scores in my appendices which have been inspired by the works of composers such as Cage, Berberian to the more recent composers such as Schafer. The scores that I have composed have allowed myself to discover ways to develop pieces which include determinants and indeterminates within my approach to stimulate a group of performers, which have opened up discussions into the approaches of a Graphic score which differentiates depending on what the score represents.

Another aspect in which I looked at is the possibility Graphic scores open as a form of composition. What I have found throughout this project is that the score acts as a stimulus which opens discussions in how to compose oneself or ensemble around a piece of graphic nature, to which it becomes more arrangement rather than composition. On the other hand, this can also be dependent on how the score represents itself to a performer and if the composer has identified within the score a variety of factors such as pitch, key, dynamic and other ingrained musical norms. Moreover, the idea of less can also become more, which then opens up the discussions how to work around a graphic score. I have found through discussions with participants through either interview or a practical basis is that Graphic Scores/ notations change the ways that you see a score, it allows you to develop symbols which as a composer are definable depending on instrument to being able to

I have been able to develop an appendix of scores in which I have crafted with a variety of mediums from ink to acrylic paints which developed over the time of this project, this then started different discussions in what the colours could represent to how the scratching of paint would present itself sonically. The pieces that were used within the performance recordings have shown me a variety of aspects which I could also improve upon, which is to

explore the creation of scores which used more determinative factors; trying to incorporate different mediums for compositions such as graphic editing technologies and potentially collaborative approaches with other Graphic Score composers. Finally, I would have liked to be able to capture more ideas which happened within the Fluxus art movement within my works, whilst my project was realised the way I planned out within the performances, it could have incorporated more intuitive stimuli in a similar vain to Stockhausen's text pieces.

There are a variety of more scores in which have evolved over the last century due to the evolution of technology in which has been incorporated with compositions, these can be seen within the books of which were created to highlight these spectacles; *Notations* which John Cage published within 1969, and then we have its homage book *Notations 21* compiled together by Sauer in 2009. What I have discovered through these readings is that there is no correct way of graphically notating but allowing this a medium to shape and be more open to possibilities in which are not always encapsuled through the use of standard Western notation.

Considering the compositions that I have presented for this project; I can see that I am able to communicate my intentions across through the medium of determinate and indeterminate Graphic Scores and will carry onto explore this form of composition to further the understandings of this art form.

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