

# **THE SOUND OF GAUDÍ:**

## **Methods of Interpreting Antoni Gaudí's Building Designs Into The Domain Of Musical Composition**

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## **Abstract**

Inspiration behind writing musical works can appear in many forms including visual. This project was created in response to a range of visual stimuli including both the architecture and architectural designs of the Spanish architect Antonio Gaudí (1852-1926), delivered into the domain of musical composition. The results are presented in the form of a portfolio of original musical compositions alongside a supporting commentary in which the musical results derived from the compositional methods explored during the period of study are examined. Consisting of ten pieces that together form a sequence of works derived from various facets related to Gaudí's architecture, the contents of the portfolio vary in instrumentation, ranging from a solo instrumental piece through to a work for full symphony orchestra.

This practice-based research explores two contrasting processes, interpreted within the domain of musical composition, examining the question of how these approaches can justify the musical outcomes. The first method was developed through working with elements of systematisation within the musical materials following compositional systems inspired by Gaudí's architecture. The second explored intuitive composition based on personal interpretation, physical experience, and intellectual analysis relating directly to Gaudí's creations. Alongside seventy minutes of music, the supporting commentary contains a detailed description and evaluation of the artistic process towards the completion of this project, explicating the research.

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4. *Sagrada Família: Invisible Pace* (2017)
5. *Casa Batlló: Curse of the Dragon's Bones* (2015)
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7. *Impression of Tragedy \** (2015)
8. *Illusion Of MiRthkon \** (2016)
9. *Casa Batlló: Code Of Nature* (2017)
10. *Casa Mila: Devious Dimension* (2015)

*\* Supplementary works*



7. ***Illusion Of MiRthkon*** (Duration 5:30)  
Performed by Decibel Ensemble  
World Première – live recording  
On the occasion of Frontiers Festival 2016  
Birmingham Conservatoire, UK.  
15/04/2016
8. ***Casa Batlló: Code Of Nature*** (Duration 9:00)  
Performed by Le Page Ensemble  
World Première – studio recording  
Funded by Research Department, Birmingham Conservatoire  
Market Harborough, Northampton, UK.  
13/07/2017
9. ***Casa Mila: Devious Dimension*** (Duration 13:40)  
Performed by Soundbridge Ensemble  
World Première – live recording  
On the occasion of Soundbridge Festival 2015  
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31/10/2015

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# Chapter 1

## Research Background

### 1.1 Gaudí's Architecture As Inspiration

This project explores how certain stimuli, in particular the architecture of Antoni Gaudí, can inspire composition. Two different compositional methods are adopted: one that is intuitive and the other that has an element of systematisation. Using music as the final result and architecture as a focal subject, it is hoped that the methods discussed in this project will suggest suitable approaches that can be used to produce music from other artistic forms.

My journey to this project began initially in Malaysia, where I grew up. I soon realised that my earliest compositions placed unrealistic technical demands on the available musicians in order to deliver the intended ideas. The classical contemporary music scene in Malaysia is still in its early stages and the availability of talented local musicians is slowly increasing. I became more sensitive to the issue and started to write music that was more performer-friendly and flexible in order to build my portfolio. Elements like improvisation and aleatorism became key features of my style, which led me to become more flexible with my compositional outcomes.

In 2012, I moved to the UK to study for my Masters degree (2012-2013), where I had a number of opportunities to work with professional musicians. I started to realise that my music had evolved drastically, particularly with respect to technical approaches, including orchestration. I managed to arrange high-quality performances and recordings that displayed my intended ideas. I

became more forward and bolder in expressing my ideas through the exploration of musical textures, extended meters and advanced orchestration within my works. However, I started to question my musical direction and struggled to find meaning in my works.

The inspiration for my earlier works came from a variety of sources. Influence from minimalist composers like Steve Reich (b.1936) and Philip Glass (b.1937) can be found in my chamber ensemble piece, *Vllariations* (2006). Previously, current global issues had often inspired me, for instance the Haiti earthquake tragedy in 2010 where I offered my music as a tribute to the victims' families. *The Virus* (2010) – a piece for video installation and pendulum microphones – was a response to the 'flu pandemic H1N1 that spread across North and South America and killed thousands of people. Most recently a duet piece for harp and flute, *Missing Eagle* (2014), was written as a tribute to the victims of a missing aircraft, Malaysia Airlines MH370, and received two European premières in the same year.

Another point of interest in my music reflects the idea of drawing on dance. My piece for string quartet, *Chacarera* (2013), was constructed by manipulating musical texture to demonstrate my interest in Argentinean folk dance and by using elements of jazz as a medium to build the entire structure. In the same year I composed another piece to accompany the *masri* dance, a traditional Malaysian social dance, in which I explored a wider range of extended techniques and musical textures; *Pelikat Tersirat* (2013) highlighted interlocking voices to imitate the woven plaid or checkered pattern of the *sarong*, a tube of fabric typically wrapped around the waist.

During the period of my PhD research (2014-2017), I have focused on my interest in Gaudí's architecture and using his creations as a source of inspiration for my music. My first visit to Barcelona in 2012 exposed me to several architectural styles that strongly reminded me of my early interest in mechanical drawing. Experiencing Gaudí's architecture for the first time changed my perspective towards architecture. I had lived my entire life in Kuala Lumpur, a modern city where all buildings are built symmetrically, and are massive and metallic; this expectation was challenged enormously when I visited Casa Batlló (1906), a house with curved walls, bizarre sculptural decoration, and various applications of colours with strong thematic figures within a single building, located in the centre of Barcelona, Spain.

Antonio Gaudí (1852-1926) is one of the best-known architects of the twentieth century.

His playful, exuberant sculptural facades found on his buildings still continue to influence architects, sculptors, and designers all around the world even after 90 years of his death. Gaudí is respected as much for his technological innovations as for his daring style. (Nonell 2001:17).

Architecture involves a balance of both technical and creative thinking when approaching the design of a building. A high level of competency is required to balance these aspects, in order to create an extraordinary structure that is also functional as a living and working space. In most of Gaudí's works, his thinking towards sculptural design was explored through his ornamentation. His decorative style includes his manipulation of living and non-living morphological elements. Indeed, I found his approach stimulated my interest and imagination to create my own music based on his underlying creative principles, including his building structures as well as architectural decorations.

With a wide range of ways in which musical ideas might be inspired by his architecture, I began to think how it could be applied to my music and how my previous pieces would contribute to the idea of working with architecture. I questioned how my works respond to the subject of architecture and began to explore several musical processes that might be suitable ways of incorporating Gaudí's architecture into my music. As my research progressed, I started to develop my own fundamental approaches to illustrate my theoretical framework by working with two different methods that differentiate the compositional process. Therefore, the following research questions emerged:

- **How can my inspiration from Gaudí's architecture be interpreted into musical works?**
- **What are the compositional methods that emerge?**

I developed two different compositional approaches. The first method was a specific procedure involving collecting and manipulating the musical materials with an element of systematisation within my compositional process. This method consists of the main materials being collected directly from the architectural design. A system is thereby created from this collected material, which become fixed musical materials. The flexibility to work with the rest of the materials became the key to creating the entire piece.

The second method is referred to here as intuitive composition. In this instance my musical materials generally derive from various sources including personal interpretation, physical experience, and intellectual analysis directly relating to Gaudí's creations. Materials in this context refer to the musical

parameters, including rhythm and pitch, as well as the musical subject, theme, motif or segment. In contrast to the systematic approach, this method demonstrates my direct response to Gaudí's architectural design.

### 1.2 Inspiration, interpretation and translation

It is common for composers to use inspiration in order to generate musical works, as Harvey explains:

Preparation for unconscious inspiration may easily be divided into two categories. The first consists of conscious activity, deliberately undertaken by the composer in an attempt to stimulate the unconscious. The second consist of activity that is not consciously related to any compositional purpose – indeed, it may not even be related to music. (Harvey, 1999:p.15)

In response to Harvey's idea of inspiration above, the unconscious inspiration that I experienced during my first time visiting Gaudí's buildings managed to provide me with the conscious inspirations that I turned into musical compositions later on during the period of study. My initial inspiration appeared in the form of visual inspiration that I gained unconsciously from Gaudí's designs: 'for some composers, initial inspiration does not always assume a musical form: it may be an abstract idea or a visual image' (Harvey, 1999:p.29).

Louis Andriessen (b.1939) interpreted Piet Mondrian's works (1872-1944) in his piece *De Stijl* (1985). In a programme note, he describes listeners' reactions:

People often say that the piece sounds nothing like Mondrian. From this we can derive a wonderful fact; evidently, people have an idea how Mondrian should sound in music. (Andriessen, 2008:programme note).

To some extent this justifies my own approach to Gaudí's work when I tried to engage Gaudí's designs directly in my music. Gaudí's architecture has played an important role as the subject of this research portfolio. Like Andriessen, my compositional outcome was not intended to suggest how Gaudí *should* sound in music. Instead my music is simply inspired by Gaudí: it was never my intention to convert his architecture into music. It might be suggested that I am acting as a translator of Gaudí's works into my music, as this project involves a direct engagement with his buildings. However, the process of translation would involve a much larger degree of accuracy, and limit my compositional freedom. In a broader sense, translation might be seen as a unique process between two different languages or media, as Groth (1997) noted from his study of Heidegger's philosophy of translation:

For Heidegger, because of the relation between thinking and translating, and the relation of both to language, it is not a thinker's words, but rather the translator's thought, that is translated when he attempts to render a text in his own native language. The resulting text is a re-composition of the original text, not the exchange of words between the vocabularies of two natural languages. (Groth, 1997: abstract)

Translation between architecture and music might draw attention to the great contrast between these two media. The overall definition of this project might be misinterpreted. Hence, this project adopts the approach of interpretation instead of translation. As time went on, it became clearer to me that this project was meant to display my creative underlying principle towards my musical approach derived from methods of interpretation, inspired by Gaudí's creations.

### 1.3 Compositions Inspired by Architecture

British composer Tansy Davies (b.1973) named her trumpet concerto *Spiral House* (2004), as it is based on her interpretation of the two-part structure of a house designed by Zaha Hadid (1950-2016), made for The Hague Housing Festival in 1991 (see Appendix 1). The house was organised around the idea of an endless ascending floor surrounded by a glass cube that makes the four walls of the house. The level of opacity on the glass walls changes from opaque at the ground level through to transparent at the top of the house. Davies manipulates eight different mechanistic melodic lines in her orchestration, pulling and pushing against each other to incorporate the idea of opacity. The trumpet solo along with the accompanying group of orchestral trumpets, oboes and clarinets represent the structure of the concrete floor plate that spirals up between the glass walls. (Davies, 2004: programme note)

Davies's phenomenological approach in *Spiral House* means the work might be described as an intuitive composition, as she managed to convey her musical parameters (among the orchestra and soloist) to portray the structure of the house. Davies's musical work is the result of her own visual interpretation of the house, and this has then resulted in a new piece of artwork: her trumpet concerto.

On 18 December 2013, a concert was held at the Hermitage Theatre, Saint Petersburg, Russia to celebrate the conclusion of a two-year project 'Listening to Architecture' funded by PRO ARTE, a foundation for culture and arts. This project promoted exhibitions, presentations, conferences, meetings and musical concerts that were inspired by architecture from the Baltic Sea regions. The concert featured four newly-composed works devoted to architectural objects,

approaches and ideas. All works were performed by the contemporary music group eNsemble, conducted by Fyodor Lednev. (ProArte, 2013: online)

Maija Hynninen (b.1977) was subtly inspired by ruins in Saint Petersburg where she managed to capture a glimpse of history from the physical red brick building built on an island surrounded by the channels of Saint Petersburg, and adopting the same name: *New Holland* (2013). (Hynninen, 2013: programme note). Her manipulation of melodic material throughout her ensemble is the main way in which she reflects the idea of layers of architectural history in this work. Her figurative approach towards architecture is similar to that taken by Dmitry Timofeyev (b.1983) in his *Tårnby* (2013) inspired by the healthy atmosphere of the suburbs in Copenhagen. His musical materials were collected from the conversion of a single sketch drawing into the musical parameters by using sound programming software and then transcribed as a graphical score for string quartet.

In another approach, Simon Bainbridge (b.1952) creates temporality in musical space by exploring a visual three-dimensional perspective. He does this through the idea of a 'mental snapshot' taken from Royal Ontario Museum in Toronto, Canada, created by Daniel Libeskind (b.1946) and translated sonically into a continuous cycle of musical fragments. In his piece *Music Space Reflection* (2006) Bainbridge managed to create a musical structure through a sequence of 8-12 note chords that act as harmonic pillars; the resulting spaces between the pillars are filled with a series of small musical fragments. (Bainbridge, 2006: programme note). The architectural influence is not limited to musical form, but is also expressed through the scoring and staging of the work: it is for 24 players comprising four identical ensembles of six (flute, clarinet, trumpet, trombone,

violin and cello), including live electronics. The sound was amplified and modified and then relayed by speakers placed around the building, in Bainbridge's words, 'to cover and shadow the building'. (Hewitt, 2007: online) This piece was premièred at The Imperial War Museum North in Manchester in April 2007, performed by London Sinfonietta, conducted by Diego Masson.

Bainbridge managed to expand the entire scope of working with architecture when he successfully blurred the line between visual interpretation and sound perception. He allows the audience to be flexible within the variable time periods while perceiving the three-dimensional space of the building. The result is a work that 'engulfs the listener in a plethora of constantly shifting aural perspectives'. (Bainbridge 2006: program note)

In the context of intuitive composition, my previous pieces demonstrate how I had already begun to work in a similar manner. Several works were reviewed to demonstrate my initial understanding of intuitive writing. Although the ideas were not focused specifically on architecture, the compositional process was closely related to intuitive writing. During the final months of 2011 towards 2012, I went through a mild episode of borderline personality disorder, entering a period of unstable emotions and having difficulty engaging with people around me. Eventually, I managed to shift my anxiety into my composition, resulting in a small series of intuitively-composed works that explored diverse feelings and emotions. These pieces taught me to be focused and consistent with my materials. *Kekalutan* (Chaotic) (2011) was composed in just 12 hours in order to capture the overwhelming misery experienced during an incident that involved violation of my personal space. This saxophone quartet piece explored interlocking voices within thematic melodic ideas and displays

the idea of confusion and depression but yet still being calm and peaceful. *Gundah* (Uncertainty) (2011), an orchestral piece, was composed to express my own feeling towards my life at that time. It consists of various different layers and doubling within the orchestra, mostly derived intuitively and directly from my materials.

Various aspects of the architectural subject, including the building materials, space, form and structure, have inspired all the compositions discussed in this section. In order to find a unique compositional method, I chose to explore those ideas further within the context of Gaudí's work. Through acquainting myself with his application of colour, material and sculptural design, I would be able to diversify my compositional techniques and outcomes. With the help of architectural literature and conversations with experts, the data relating to Gaudí's architecture was studied and finalised before becoming the subject of my compositions. The next chapter demonstrates how Gaudí's architectural design has stimulated my compositional works. All main works share the same name as the Gaudí building that inspired that particular composition with an alternative title in subtitles. The pieces under discussion can be found in the composition portfolio and accompanying CD. It is hoped that the discussion of all pieces will provide a clear demonstration of all compositional methods discussed in this commentary.

## Chapter 2

### *Composition With The Element Of Systematisation*

#### **1) *The Vault* (2014) egtr. quartet.**

*The Vault* reflects the physical structure of vaults in most of Gaudí's buildings. Having four electric guitars and a wide range of sound effects allowed me to experiment with expressing architectural structures by using contrasts in sound. The alternate guitar pairs were assigned distortion and chorus effects at the beginning; later on the effects were swapped between the pairs in the middle section (bb. 47 and bb. 53). These pairs contrast in character, including functions and rhythmic behaviour, to create tension and release towards the end of the piece. *The Vault* was composed without obvious melodic theme or motif; rather the entire piece was built to explore degrees of sound densities with various textural contrasts. Figure 2.1 shows the initial concept of rhythmic distribution in this piece.

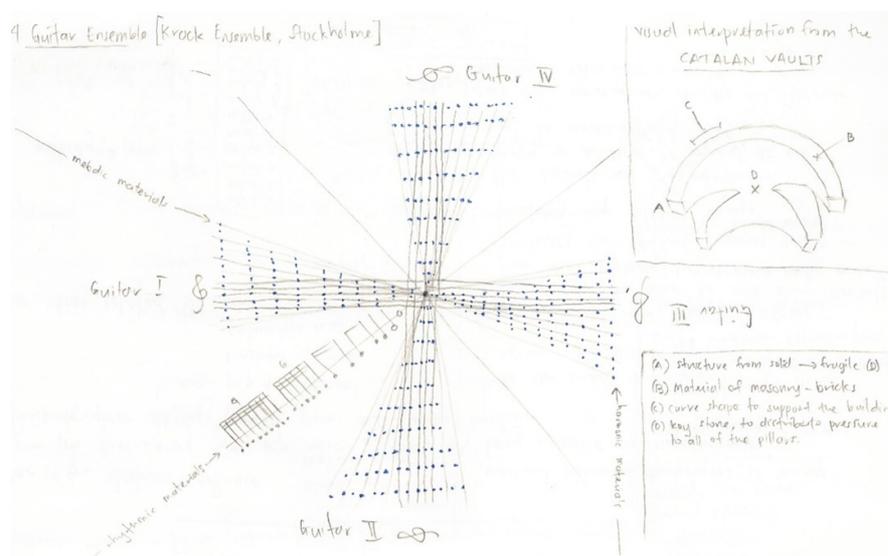


Figure 2.1: *Compositional draft that shows the idea of Catalan Arch in The Vault*

**2) *Whimsy Walk* (2015) pf, vln, vcl.**

The application of free rhythmic writing led me to compose *Whimsy Walk* (2015) for piano trio. *Whimsy Walk* is based on a synthetic scale derived from the combination of a C minor scale infused with the Lydian mode on C. The entire piece was composed based on these scales and the diatonic chords derived from those scales. The idea was to imitate the traditional style of trio writing, which usually comprises melody and accompaniment. Whilst constrained by the pitch materials, I was free to create the entire rhythmic spectrum within this piece. *Whimsy Walk* successfully explored two musical contrasts within the structure where the musical density, dynamic and thematic ideas develop the entire musical form. Like *The Vault*, this piece does not reflect on Gaudí's architecture specifically but contributes to the idea of using elements of systemisation that was later developed in this project.

### **3) Park Güell: Mosaic Fragment (2015) vln.**

One of Gaudí's most famous works, Park Güell (1914), is based around the concept of childhood myths to create a dream-like atmosphere. His appreciation of living creatures is profoundly portrayed in this park, which successfully displayed his overall morphological ideas. Vibrant, colourful mosaics are one of the most striking aspects of this park. The modern mosaics found in Barcelona have a more radical approach, with irregular shaped pieces selected from broken ceramic tiles. This is also known as *trencadís* mosaics. (Woideck, 2011: online)

While in this park, I was fascinated with the mosaic arrangement, especially those that are employed on the park benches. In particular, it was the randomness that was most striking, as well as the boldness of shapes and colours and the scale of the entire decorations. It appeared that the overall arrangement had no reasoning or real motif that connected them. It seemed to be fragments of colours, or small segments of shapes, or segments of broken tiles in a totally random arrangement. This triggered the idea of creating a piece that could challenge the concept of randomness by creating a systematic procedure to work with.

*Mosaic Fragments* (2015) aims to demonstrate the compositional result of employing elements of systemisation within musical materials that are taken directly from architectural design, in this case a portion of the *trencadís* mosaic in Park Güell. A system was created in order to collect the rhythmic data. It was taken directly from a specific portion of the benches, where lines were drawn to form numbers of groups from that mosaic area. The number of pieces of mosaic in a group determines the rhythmic division and became crucially important

material for this piece. The series of numbers were formed and inverted based on the random grouping, labelled with rehearsal letters (see Figure 2.2.1). The images below illustrate the process of collecting rhythmic materials taken from the mosaic groupings that eventually formed the entire rhythmic substance of *Mosaic Fragments*.

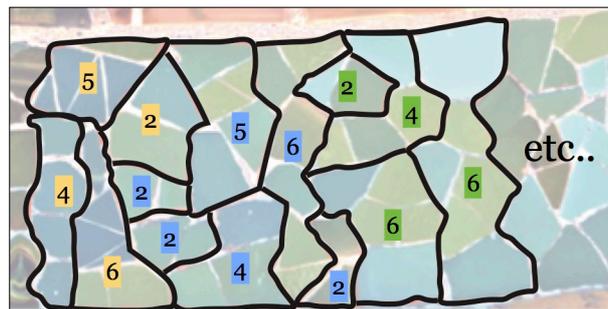


Figure 2.2.1: Image of the green mosaics with the specific grouping to form the rhythmic materials.

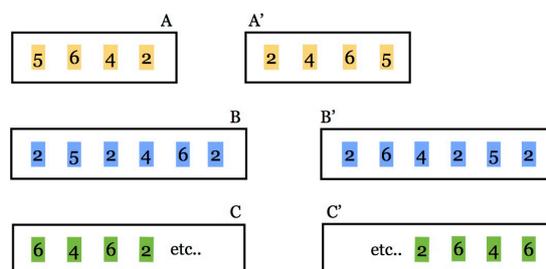


Figure 2.2.2: Rhythmic arrangement with inversion (as in the score) derived from the arrangements.

All rhythmic data was collected and arranged according to the actual mosaic arrangement to form a musical passage as shown in Figure 2.2.2. Pitch materials were carefully considered, allowing for some flexibility, in order that the rhythmic materials might be applied systematically. I employed various extended techniques on the violin. Several sessions took place with the violinist, Sarah Farmer, to overcome the challenge that this posed and to create a mutual understanding of what I intended. However, according to the violinist, it was too difficult to perform the intended rhythmic structure, therefore some ornaments were placed between the rhythms to provide room for the violinist to comfortably deliver the music.

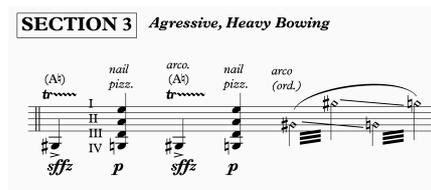


Figure 2.3: Excerpt of trills in between the systematic rhythmic materials.

Throughout the compositional process of *Mosaic Fragments*, I gradually became more and more sophisticated in using the applied system, which eventually formed the entire structure of the piece. As a result, all musical passages created from the process above were applied with palindromic effects to form an entire musical statement that formed the complete structure of the first section. The second section of this piece also went through the same process except the techniques were altered from glissandi to staccato in order to create a timbral contrast and musical development. Sections three and four repeat the whole process to deliver the complete fragments of the selected mosaic portion.

**4) *Sagrada Família: Invisible Pace* (2017) fl, bcl, hrn, tbn, perc, hrp, vln, vcl.**

*Sagrada Família: Invisible Pace* (2017) was constructed with minimal musical materials that are employed in a manner that differentiates between two groups of instrumentation within the ensemble. Both groups play similar Javanese minor arpeggios, but written in two different keys and registers. These groups of materials were carefully arranged to jar against one another and work independently for the entire piece. This creates a sustainable timbral contrast whilst still only employing minimal material. Furthermore, all of these ideas appear in irregular meters written in various time signatures taken directly from the series of numbers found in the Magic Square of the Sagrada Família. These complex time signatures became my controlled element, where all the musical content must be carefully composed within these irregular metres. The image below demonstrates the series of numbers appearing in the Magic Square, which later formed the time signature for the entire piece.

A series of numbers were created by manipulating the arrangement of the columns, rows and regions within the whole block of the Magic Square. Figure 2.4 shows the systematic arrangement that formed several sets of numbers to be used as the time signatures (all written in quavers). All rehearsal marks in this piece were purposely written to divide the sections according to the series of numbers shown in figure below.

Using controlled irregular metres as a structural device, *Invisible Pace* went through a significant process of manipulating the materials. There were two different speeds contrasting simultaneously as this piece built, which were: 1) arpeggio speed - the arpeggios gradually became passive, and 2) arpeggio materials - alternate arpeggios gradually became active.

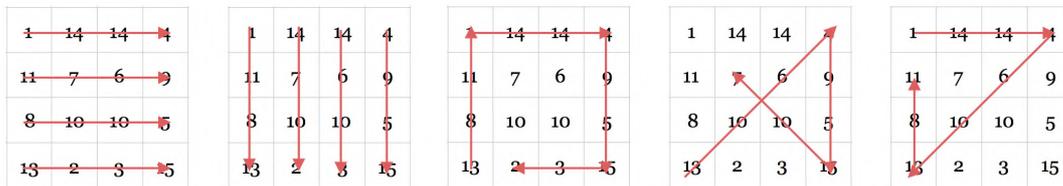
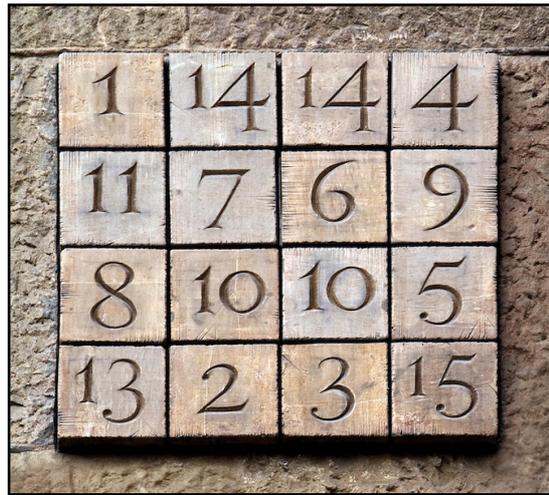


Figure 2.4: *Time signature arrangement derived from the Magic Square of Sagrada Família.*

In *Invisible Pace* I managed to create contrasts in rhythmic density throughout the piece, as the musical subject disappears in the middle of the piece, and gradually returns towards the end. This idea inspired the title, *Invisible Pace*, which refers to that lost or unseen pace. Additionally, this piece aims to create a sense of a loop whereby the first bar connects with the final bar of the piece.

**5) Casa Batlló: *Curse Of The Dragon's Bones* (2015)** *picc./fl, cl./bcl, hn, tbn, perc, hp, vln, vcl.*

My first visit to Casa Batlló in 2012 showed me that architecture can also be art, and particularly that sculpture can function as a building space at the same time. This can clearly be seen in Gaudí's famous ground floor design where he managed to combine colours, shapes and space to create a unique living area within the mansion. *Curse Of The Dragon's Bones* was written to devise musical material from Gaudí's creation and then apply it freely in the resulting composition. In *Curse Of The Dragon's Bones* all of the pitch materials are derived from the floor plan. This was achieved by drawing a chromatic pitch structure on graph paper and placing it on top of the actual ground-floor plan of Casa Batlló. This technique provides a series of systematic pitch models that became the main pitch materials. (see Figure 2.5)

Exploring Gaudían curves in Casa Batlló stimulated my interest in his creation of an active wall surface. Two of the mansion's most prominent walls play with curves of various densities, which creates a striking effect when light hits it. I used various rhythmic contrasts in this piece to portray this effect in music. Later on, I was determined to let intuitive ideas develop and changed the entire direction of the piece. I have divided the piece into two main sections. The first features two sets of duets – horn with piccolo (bb.19-31) and also violin with cello (bb.54-84) – to symbolise the two main walls on the ground floor. Whilst the pitch materials were limited, I had the freedom to explore rhythmic writing. In order to utilise most of my pitch materials, the melodic lines were composed in the form of duets at the first half of the piece. The second half of the piece involved textural layering within the chordal structures that were built

from the scales taken from the duet section. The dynamic contrasts were heavily explored during the second half and create a significant contrast with the first half, in which the melodic materials of the first half slowly became overpowered by thick textural layering towards the end of the piece. This work demonstrates wide textural contrasts, complicated rhythmic progressions and dense chordal structures.

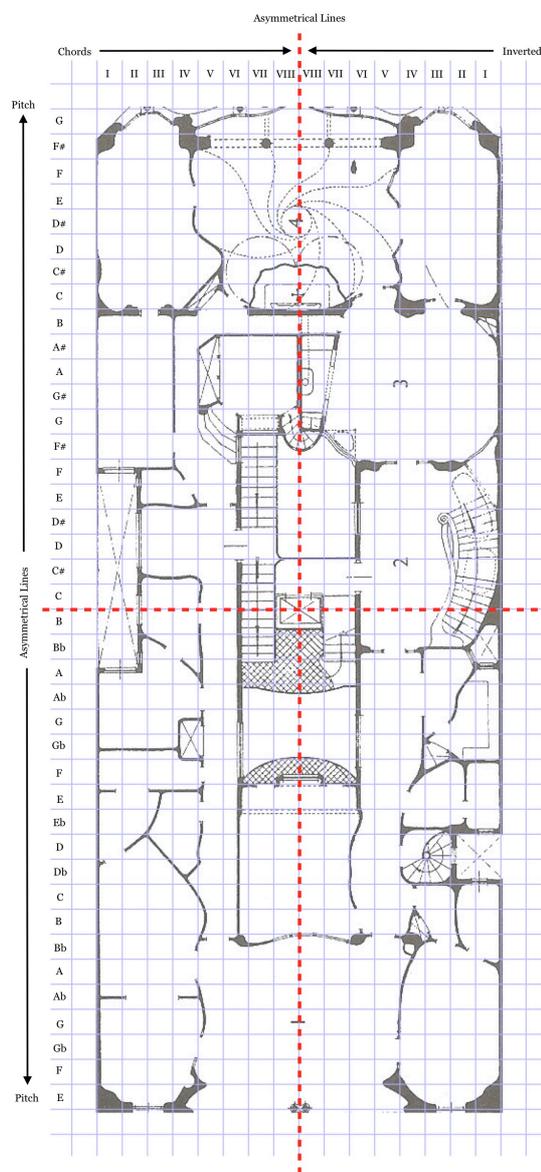


Figure 2.5: *Pitch materials derived from the floor plan.*

**6) *Sagrada Família: Geometry Supremacy* (2016) symphony orchestra**

*Sagrada Família: Geometry Supremacy* (2016) was written for symphony orchestra in response to the following statement written by British journalist, Austen Ivereigh (2010: online):

Sagrada Família is a summary of geometric forms – hyperbolic paraboloids – from which eggs, bones, muscle and mountains are made.

This describes the concept of this piece, which partly related to the idea of geometry, particularly on geometric surfaces - hyperbolic paraboloid. The name hyperbolic paraboloid comes from the geometry of the shape: the horizontal sections through the surface are hyperbolas and the vertical sections parabolas, as illustrated in the image below. (Figure 2.6)

Gaudí fully utilised it when he managed to combine several types of hyperbolic paraboloid surfaces on his roof, resulting in the immersive visual impact of the interior design. (Siegel 1962:256) I found this whole concept incredibly interesting and it led to new ideas in my work.

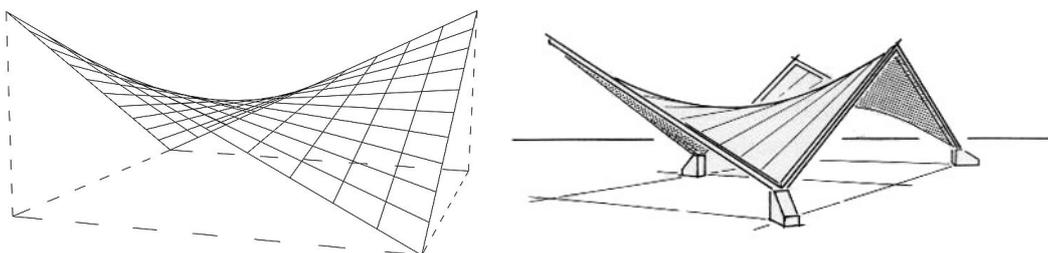


Figure 2.6: *Roof application derived from hyperbolic paraboloids.*

In *Geometry Supremacy*, the initial idea was to display the actual geometric lines within the score. This was similar to Xenakis and his stochastic music theories.

According to him:

To utilise the theory of probability in musical composition, we can control the transformation of granular and continuous sound with the manipulation of densities, durations, registers, speeds, etc., and also to make them evolve in different directions. (Xenakis 1992:16)

Whilst the aim of this piece was not to directly explore stochastic music, the theory of probability within the larger scope of stochastic music contributed to my intended idea relating to the application of curves in this piece.

From that, the idea of creating visual curve lines on the score was taken from the theory of probability. It was inspired by the geometric surfaces used in Sagrada Família that resulted in the degrees of cluster density in my musical outcome. All six major sections in *Geometry Supremacy* explored this idea as follows:

#### Section 1: (Rehearsal Letter A - C)

The introduction of cluster harmony and small melodic themes on winds shape the fundamental idea of this piece in which later gradual tone changes in the strings lead into the next section, which focuses on density.

#### Section 2: (Rehearsal Letter D - F)

The entire string section (scored with individual lines) takes over the orchestra to display the application of sound density. The rhythmic subdivisions between strings were formed to create aural contrast as well as to visually display the curve lines on the score. (see Figure 2.7)

### Section 3: (Rehearsal Letter G – J)

The cluster harmony is here treated with a different approach; individual string parts are assigned various rhythmic patterns written chromatically. In the wider context, this results in a different clarity in cluster quality. Clusters on wind and brass accompany an independent piano part in the middle of the section. This entire section, including the piano part, was created as a palindrome, which is mirrored at rehearsal letter I.

### Section 4 – (Rehearsal Letter K - L)

Brass and winds dominate the orchestra with sustained glissandi and close cluster writing between these two ensembles. Distinct timbral changes from the previous section create a greater sound density.

### Section 5 – (Rehearsal Letter M - N)

Several sound qualities are introduced, including *glissando con pizzicato*, string tremolo, and woodblocks. This transitional section was intended to expand the orchestral sound.

### Section 6 – (Rehearsal Letter O - Q)

Extensive wind writing in this section culminated in what I feel is my personal response to Gaudí's glasswork in Sagrada Família. The splendor of a huge, colourful glass panel decorating the upper walls had a profound impact on me and inspired me to write this section. Thus, this section is the climax of the entire piece with bold sound density in the upper register that sustains the idea of clusters. Later on, the recapitulation of the melodic theme occurs in the

woodwind, and this piece ends with a palindrome effect derived from the outset  
(bb 1-8)

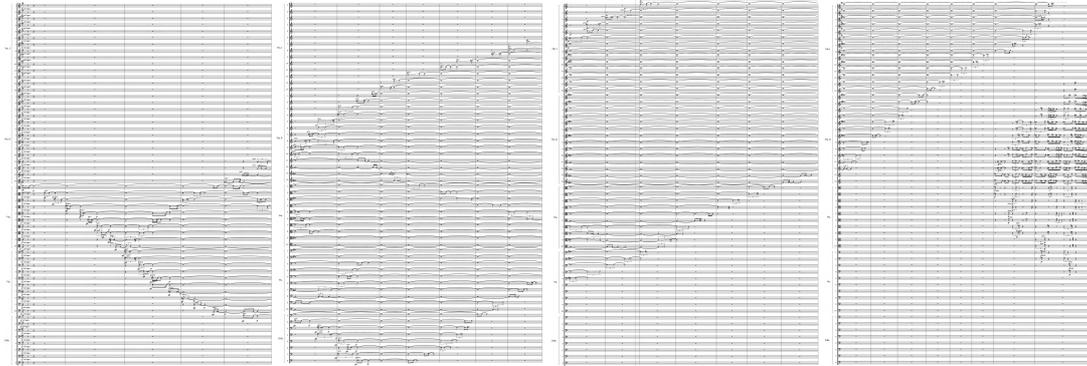


Figure 2.7: *Excerpt from the entire Section 2 of Geometry Supremacy.*

*Geometry Supremacy* was created entirely with the concept of lines and curves expressed through varying degrees of sound density. This piece applied a much simpler approach to the architectural concept but employed intricate rhythmic subdivisions between the whole orchestra to create different depths in sound. This was a challenge, both in planning the intensity of sound during the compositional process, and in orchestrating the work in order to deliver the concept of curves and lines. Even though this piece still has not received its première, *Geometry Supremacy* can be seen as my attempt to extend the idea of Gaudí's geometrical concept.

## Chapter 3

### *Intuitive Composition*

#### **1) *Impression Of A Tragedy* (2015) symphony Orchestra**

In summer 2015 I visited the *Impressionism and Expressionism - Art At A Turning Point* exhibition at the Alte Nationalgalerie Museum in Berlin, which included over 170 impressionist and expressionist masterpieces. This led me to explore some of the major art movements that were current during the time that Gaudì was working, including surrealism, fauvism, cubism and post-impressionism. Impressionism and expressionism made a particular impact on me, and I was struck by the way in which these two movements contrasted one another. Paintings by Claude Monet (1840-1926), Pierre-Auguste Renoir (1841-1919), Edvard Munch (1863-1944) and Oskar Kokoschka (1886-1980) stood out as being particular highlights, as did the work of the expressionists, who at the beginning of the twentieth century developed a bold new visual language based on colourful, luminous and clear lines.

Weeks later, I stumbled across a documentary series entitled *Art Of Heist* (2007) aired on Ovation Channel, United States (DVD released in 2015), which discussed 14 cases of the theft of major artworks all over the world, including the case of the *Mona Lisa* (1503) in 1911 from The Louvre, Paris and Gustav Klimt's masterpiece *Portrait of Adele Bloch Bauer I* (1907) looted by Nazis in 1938. I was fascinated by the fact that in some cases it would involve many authorities internationally, and in most cases they were able to solve the crimes, putting strict measures in place to avoid future thefts. I decided to apply this

new interest to the idea of composition, and I went about thinking how this appreciation of art movements might be merged with my new knowledge of artwork theft cases. Hence the title, *Impression Of A Tragedy* (2015) - composed to summarise my summer activity where I explored my own impressionistic idea based on paintings as well as compositions by impressionist composers.

*Impression Of A Tragedy* was written in response to the Composer's Orchestra Project performed by Birmingham Conservatoire students and conducted by Edwin Roxburgh. This was an attempt to compose impressionist music that made extensive use of various pitch elements such as modes, whole-tones and polychords. This piece was formed of several thematic ideas derived from various rhythmic structures. All the rhythmic structures appear as a set of small musical passages that eventually combine, becoming a whole piece.

**2) *Illusion Of MiRthkon*** (2016) *a.sax., cl./b.cl. br.sax., tb., e.gtr., b.gtr., pf.*

*Illusion Of MiRthkon* (2016) was composed for Decibel Ensemble, remaining with the same impressionistic ideas, this time I employed a set thematic structure with extensive use of layering and doubling in the context of unusual instrumentation. Furthermore, I incorporated bold and colourful timbral effects to add to the expressionistic elements in this piece. *Illusion Of MiRthkon* was born out of my interest in an American avant-garde metal jazz-fusion band, named MiRthkon. I have always been fascinated by their fluid rhythmic passages and wild melodies. I was highly influenced by their music and started to merge all of these ideas with a musical approach that was more impressionistic. The work was composed intuitively to resemble their music, hence the title *Illusion Of MiRthkon*.

Although both supporting pieces discussed in this section are not related to Gaudí's work, the experience of writing these two works (the former in response to a piece of art) informed my writing of another major work that employed this intuitive compositional method.

### **3) Casa Batlló: Code Of Nature (2017) 2 vns, va, vcl.**

*Casa Batlló: Code Of Nature* was written with a small range of musical ideas in which most of the pitch materials were flexible depending on the overall structure of each movement. As a result, more than 15 short pieces were created, but ultimately seven were chosen to form the work. Engaging with Gaudí's morphological concepts and vivid colours in Casa Batlló, my aim was to express my interpretation of the application of colours and sculpture found in Casa Batlló, which features unique layering, bold sculptural shapes and brilliant lighting effects that were mechanically constructed to decorate the entire building. The title, *Code Of Nature*, was chosen as a symbolic representation of the sculptural concept in Casa Batlló, which I see as a message relating to flora and fauna that Gaudí tried to express through his architectural design.

Musically, all of the movements in this piece focus on textural aspects, exploiting various sound effects within the ensemble. Referring to the whole piece, a wide range of sound effects was applied to expand the colour palette within the quartet. For example, the high register violin tremolos in Movement II (bb.30-31) were applied differently in Movement VII where the thick, lower register tremolos exposed another timbral contrast for the whole piece. In another example, most of ascending *sul ponticello* passages in Movement V were followed by descending diminuendo pizzicatos. The pizzicato passages were intended to work against the high register notes interlocking in between the trio. This sound distraction managed to expand the application of timbre in this piece.

A more simple approach is adopted in Movement III, which was intended to relax the previous complexity of sound. These simple chordal passages were written to highlight the *sul ponticello* lines on 'cello, accompanied by muffled,

high register *sul tasto* chord progressions. The entire Movement III expressed my visual interpretation of the Gaudían curved wooden structures that cover most of the first floor of Casa Batlló including the grand stairs of the house. Moreover, the complex musical structures and extended sound qualities written in this piece were intended to deliver my impressionistic ideas of Gaudí's decorations intuitively.

Overall, working intuitively resulted in my music sounding complex in terms of the structure, textures and ideas. It also allows me to be independent, focus and at the same time to be free while exploring my own compositional meaning.

**4) Casa Milà: Devious Dimension (2015) meta sax, perc, aux, live elec.**

During my research trip in April 2015, I spent almost an hour trying to imagine the entire floor map of the apartment exhibited in Casa Milà (1910). I went back and forth to inspect the connecting walls between the rooms. I roughly calculated the width of every space in the apartment. I took photos of the main pillars, doors and windows before I finally saw the actual floor plan. In this building Gaudí challenges the norms of architecture by exploring curved wall surfaces and unconventional door designs that made me feel as if I were trapped in a labyrinth. I personally felt challenged by the design of this apartment and I was inspired to explore it in my music.

*Casa Milà: Devious Dimension* (2015) was written for an irregular mixed ensemble consisting of four individual musicians with electronics. This piece was written for a combination of: 1) conventional Western percussion, 2) improvising artists that can play a range of musical instruments, 3) live electronics amplified with two front speakers, and 4) an amplified alto saxophone with various sound configurations called Meta Saxophone, with two speakers.

*Devious Dimension* was constructed with two main concepts. The first is an improvisatory score where musicians have the flexibility to choose from the musical segments that I have provided; the second is semi-fixed musical materials written in a number of segments that I arranged in random order, to create the same atmosphere that I experienced whilst in Casa Milà. The score was prepared in individual parts with the instructions to pre-arrange the order of the segments and follow the time clock provided during the performance.

Musical materials including melodic, harmonic and timbral aspects were created based on my personal impression when viewing the building. To create a sense of familiarity within this massive sound mixture, a short melodic motif is introduced and presented randomly (see Figure 3.1). It is clearly written in segments two, three and five on auxiliaries where the small melodic theme is repeated in each segment in order to create a sense of continuity throughout the piece. Furthermore, the constant use of woodblock and metallic percussive sound contributes to the sense of regularity and stability written in segment two on percussion. It also provides the rhythmic pace for a piece that has no specific tempo.



Figure 3.1: *Melodic motif in Devious Dimension written in auxiliaries part (segment 2 as in the score)*

Engaging with this technique led to various musical outcomes. Listening back to the recording provides the opportunity to analyse this work in relation to other pieces of visual art. For instance, it bears a similarity to Gustav Klimt (1862-1918)'s *The Kiss* (1908) where Klimt glorified the outer layer of the painting with extensive application of gold layers dominating the surface of the artwork. (see Appendix 2) The underlying structure of this piece became less important because this outer layer displayed the total meaning of the piece. Somehow this is much more related to the creation of Gaudí's ornamentation, where the underlying Catalan structure was embellished with extensive morphological

designs in every aspect of the building. In a different way, or at least for myself, I believe that *Devious Dimension* successfully interpreted Gaudían philosophical design, and functions as my own personal homage to his creation. The experience I had during my visit created a special moment that combined the process of identifying, realizing and recreating, all at the same time. This fundamental idea provided the initial concept for *Devious Dimension* and I believe it creates a similar 'soundspace' journey.

## Chapter 4

### Reflections And Conclusion

#### 4.1 The Importance of Gaudí's architecture

During the compositional period, while developing various approaches with my musical materials that eventually led to my adopting the two main methods, it became clear that my engagement with Gaudí's creations had developed according to my interest in architecture. I have investigated a variety of sources on the subject, including academic texts, documentary videos and extensive discussions with practising architects. Consequently, two questions emerged: how is exploring Gaudí's architecture important in response to my music? Would it be different if the subject changed to other architectural works besides those by Gaudí?

At the beginning of this project I believed that my compositional approach would be different as a result of being inspired by architecture. However, with the same systematic approach taken from my previous works, it appeared that my music changed relatively little. Thus, I took a different approach in my compositional system when composing *The Vault* (as discussed on page 16) as my pilot piece in order to create greater musical contrast. As a result, my music sounded more 'artificial' and rigid. I started to understand that if I manipulated and controlled the musical materials in my works it would create a different musical outcome and this eventually revealed an important strength in my artistic exploration as a composer. From this discovery it became clear to me that in order to connect Gaudí's architecture with my music, I have to develop an element of systematisation towards my musical materials. The

resulting portfolio contains contrasting musical outcomes obtained by developing and manipulating the compositional methods that one could possibly engage with architecture, or in a broader sense, it contributes to the 'methodological strategies' that one might adopt from any visual subject.–This clearly shows that the methods discussed in this commentary contribute to my compositional skills whereby all pieces written for this project display significant musical contrast.

From all of the above, it is obvious that Gaudí's architecture played an important role in this project, and can also be treated as compositional material in a broader sense. With the compositional methods that I have suggested in this thesis, I believe that my music would sound different in many ways if it were changed to another architectural subject.

#### 4.2 Conclusion

In summary, my musical works explore the contrast between pieces written with an element of systematisation and those borne out of intuition. It appeared to me that pieces with systematisation elements helped me as a composer to become more flexible with my musical ideas. With controlled materials derived from the system, I have to deliberately work with a certain flexibility in areas such as rhythm and harmony in order to produce the musical passages. Moreover, this compositional method challenged my creative thinking where I had to constantly change my sound perception while composing.

A number of stylistic approaches are evident within my pieces in which improvisatory materials were used to connect my music with Gaudí's architecture. It appears to me that composing intuitively whilst reflecting on a

particular subject provides a range of musical possibilities that I can explore in music, whether intentionally or unintentionally. As a result, my musical outcomes became more complex and versatile. Most of my pieces draw on a wide range of extended techniques. The fact that they were performed and recorded by professional musicians means that I was able to gauge whether what I was asking of them was playable or not.

Exploring these two methods in compositions with complex performance technicalities led to serious discussions with musicians. It is important for me to receive a performance opportunity for my orchestral piece, *Geometry Supremacy* in the future, in order to create balance between intuitive and systematic compositional methods. The process of recording was very helpful especially when dealing with technical aspects, either individually or within an ensemble. One particularly useful recording session was that for *Curse Of The Dragon's Bones*, where all of the musicians made suggestions both in terms of compositional ideas and in terms of what was playable. The opportunity to collaborate with professional musicians raised my confidence in presenting my work, as well as being able to discuss alternative ways to perform the piece. Occasionally I would discover a new sound in certain sections of the music that might be more effective and took that opportunity to try passages out with a new idea. In *Invisible Pace*, complex time signatures and rapid meter changes made it impossible for the melodic materials to be delivered as I had envisaged. This piece challenged the level of concentration among the ensemble throughout a forty-five minute rehearsal session. I believe that additional time is required to deliver this piece perfectly. Indeed, all the discussions during the rehearsal

sessions were recorded and will provide an important resource for future compositions.

While trying to identify differences in my musical outcomes, the element of intuition remains an important component in my compositions in order to produce an authentic musical language as Shavinina notes:

It is widely recognised by ... great scientists that intuition is an essential component of creative thinking that leads to innovative discoveries. (Shavinina, 2003:451)

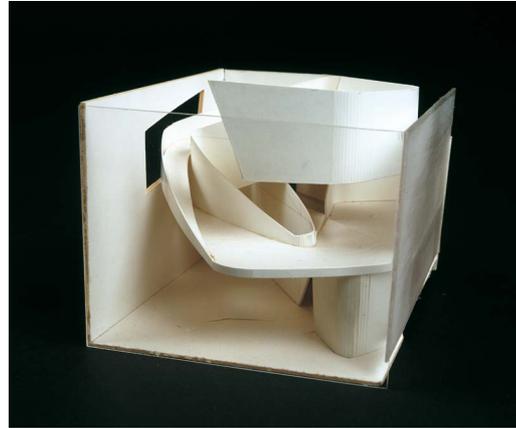
This is something that was a key factor in my approach and reflects the whole practical framework of this project. My perception towards my music changed significantly when I began to adopt intuitive ideas towards pieces with the systematic element during compositional process. This is a new compositional approach for me. I also realised that in order to reflect on existing artworks, regardless of any physical form, an artist must have the courage to challenge the ideological concept of the original subject intellectually in order to find the meaning of the new possible outcome. An artist also has to develop a solid fundamental idea as well as strong theoretical and practical frameworks while working with cross-media disciplines. This appeared to me as the most important work-stage in order to create significant findings towards the new creations.

To conclude, this project has resulted in the creation of a portfolio of new works inspired by the architecture of Gaudì. I hope to have made clear through the above conclusion that all methods discussed in this thesis can be expanded in terms of the work scale, duration and orchestration. I also hope that this project might stimulate the next generation of Malaysian composers to diversify their

musical inspiration and to be able to challenge their compositional methods in order to produce new works and thereby contribute to the Malaysian contemporary music scene. . By working with architecture and being inspired by the visual aspects of architecture, this project explores a compositional approach that is new to Malaysian composers. The compositional methods, techniques and styles presented in this project may serve as inspiration themselves for Malaysian composers inspired to work with two or more artistic media.

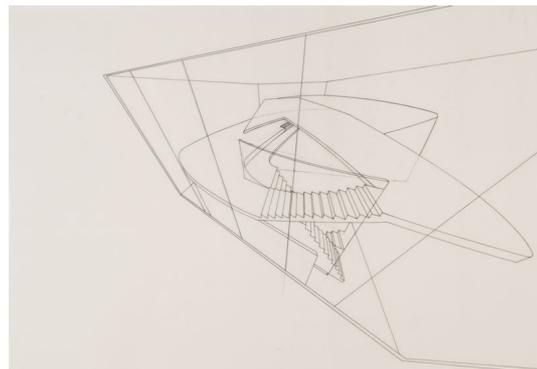
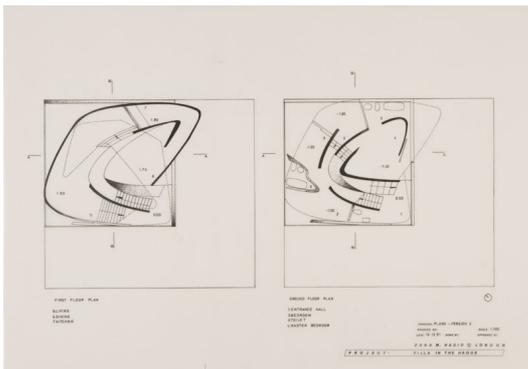
For the future development of this project, a significant contrast of musical outcome could be gained with the involvement of electronic musical devices. It could be suggested (at least for myself) that the methods in this thesis served the purposes of an alternative approach for contemporary composers to interpret architectural subjects. It has hopefully become clear that the methods explored in this thesis will be able to contribute to the development of cross-media artistic exploration in order to extend musical boundaries within this context of interpretation. Moreover, this methodological contribution will hopefully encourage more musical collaborations from various art disciplines to create a new musical idiom.

## Appendix 1



Model of The Glass House by Zaha Hadid

Photo Copyright by Philippe Magnon



The Glass House drawing concept by Zaha Hadid

Photo Copyright by François Lauginie

Appendix 2



*The Kiss* (1908) by Gustav Klimt

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