

LIGHT OF THE DIAMOND



SHADOW

MANTRA

MMus Principal Study - Composition

Light Of The Diamond

Introduction

My ambition is to pursue a career as an independent artist, creating and performing my own original music. As an undergraduate I studied popular contemporary music performance. My post graduate studies on this Masters course have enabled me to evolve and refine my compositional techniques.

The primary objective for this project was to investigate new compositional ideas and techniques. I decided to explore the basic idea of time within the Metal genre, incorporating compositional techniques and musical ideas less commonly associated with this genre. This involved keeping a foothold within the genre whilst breaking away from associated stereotypes, ultimately creating a mature, cohesive project. The influences of other artists within the field can easily be heard within the project, but typically with a personal interpretation. For example internal influences from the Metal genre, such as the Doom and Progressive elements of the track *Butterfly* could be associated with the Melodic Doom Metal band, *Swallow the Sun*, and the Progressive Metal act, *Dream Theatre*. Conversely there are also external influences on the project. An example is the use of isorhythmic ideas originating from compositions by the jazz pianist Christoph Stiefel. Another is the use sound effects and electronics, albeit in a different manner, influenced by Brazilian electronic artist, Amon Tobin's use of sound effects to create music. Some of the complex rhythmical elements, most notably in percussion sections, also draw influence from pieces such as Louis Andriessen's '*Worker's Union*'¹.

¹ Bang On A Can. (2002) *Gigantic Dancing Human Machine: Bang On A Can Plays Louis Andriessen* [CD]. US: Cantaloupe Music

Overview of the Compositional Development

The developmental stages for each composition include:

- Progressing the initial idea or concept, for example, this could be as a thematic or a contrasting piece.
- Composing the skeletal structure of the music.
- Choosing which instruments would create the desired texture and timbre. Understanding of the acoustic qualities of various instruments played a key role in this stage.
- Once the initial composition was complete, choosing how to effectively record and represent the piece. Importantly, creating a quality mix where the instruments all sit together and complement each other within the frequency spectrum, creating clarity between the instruments. This is a skill that can be transferred to the live performance of music.
- After creating an initial recording, deciding how technology and production techniques can be used to enhance compositional ideas, for example the use of a digital audio workstation (DAW) to manipulate a sound file.

Overview of concept theme

The idea for the theme of Time came after watching the Japanese anime series *Steins;Gate*². The series explores the idea of time travel through the theoretical physics concept of World Lines. A simplified explanation of world lines is that events occur on a line that passes through time. However, when an event takes place the possible outcomes diverge into other world lines. There can be subsets of world lines. For example within one set of world lines a major occurrence will always happen, but the events that lead to it may vary. If the past can be changed enough it is possible to jump to another set of world lines where the major occurrence no longer happens, but the resulting consequences are unknown. One of the narrative vehicles used in *Steins;Gate* is of the protagonist traveling across world lines in order to save the life of another character. However the protagonist

2 *Steins;Gate*. Tokyo: 5bp, Nitroplus, 2009. DVD.

fails multiple times. Each time different events occur but they ultimately converge to the same final outcome.

Originally the project was going to have a generalised theme of time and be more experimental in nature. As it developed it felt over generalised with the theme being too broad and unfocused. This could have potentially lead to a disjointed series of compositional pieces. To bring to focus the project a couple of topics were selected. These were world lines, and the butterfly effect in combination with a basic version of chaos theory. The two songs that explore these ideas are '*Worlds*' and '*Butterfly*'.

Already having an idea of how these topics would be portrayed through music they were developed into full pieces fairly quickly. Within these two pieces certain moods and soundscapes have been explored and created. To avoid falling into the trap of repeating the same ideas a couple of pieces were then written with a focus on different sonic textures, and how they would integrate and contrast with the two existing pieces. '*Worlds*' is a subtly technical piece where isorhythms are one of the main features, and '*Butterfly*' being a more macabre and progressive piece with overtones of the Doom Metal and Progressive metal sub genres. To create a contrast it was decided that faster composition would be required along with a more crude, but ultimately controlled, piece. These two ideas would result in the tracks '*Fate*' and '*Gateway*'. Initially these two tracks did not have names and did not have an obvious conceptual place in the project, but were a natural progression of the sonic side of the compositional process. At this point in time a unifying concept was needed.

There was a draft composition written that was originally unrelated to the project. This is the instrumental '*The Dark Diamond in the Rough*'. The original idea of the piece, and the meaning behind a dark diamond, was of a person who can create happiness and joy, but has an unintentional dark undertone of chaos attached to them. This is similar to the idea behind blood diamonds, with the diamonds being precious and valuable at face value, but having dark and sinister background that is not always obvious.

'*The Dark Diamond in the Rough*' was initially written as an instrumental introduction to an album. The sonic qualities of the initial draft created a pleasing contrast to the existing



tracks written for the Time project and it was decided that this would become the introductory track. The piece was reworked with additional elements added, such as the ticking clock and reversed piano melodies, which would cement its place thematically within the project.

It was at this point that using the *Steins;Gate* narrative vehicle, mentioned above, fitted well into what was being developed, creating a focus within the project. Initially reluctant to use this as it felt like simply lifting existing ideas, effort was made to not simply create a musical version of the same events, but to create a more generalised and less specific version which would focus on different aspects. A noticeable difference is that project does not touch on any deep details, such as how the female deuteragonist dies on each world line, or what the final outcome of the narrative is. Instead the narrative focus is more on the emotions felt by the protagonist, for example the emotional turmoil of a loved one dying and ultimately feeling powerless; as well as the confusion that comes with the idea of time travel. Or, for example, the concept of the final song, '*The curse of a blessing, The blessing of this curse*', where the blessing is having more than one chance to save the life of someone, but the curse being the emotional burden that is created by failing to save someone and watching them die multiple times.

Once the basic narrative foundation of someone traveling back in time to save a loved one was set, the other thematic elements to be covered in the remaining pieces flowed naturally. With these topics in hand it became easier to develop how each of the remaining tracks would sound and the order they would appear, so as to create a fluid and logical flow, with numerous peaks and releases in tension, while creating an overarching dynamic. The project starts peacefully, but with a dark undertone during '*The Dark Diamond In The Rough*' before '*Fate*' kicks in powerfully full of aggression. However the aggression becomes unstable and is reflected in the piece '*Gateway*', which has a sense of dissonance surrounding it. As the story develops, and the pieces continue, the feel of the project slowly matures and becomes more calculating, with advance compositional techniques being used, as well as a wider variety of sonic and ambient textures being explored. The project ultimately comes full circle, finishing with the same reverse piano sound that it started with.



Having an understanding of what can be done with a digital audio workstation (DAW) and the basics of production proved to be a valuable asset³. Once the recording of demos took place, the role of production as an element of composing in contemporary music started to become more apparent. In the case of this project it proved to be a vital compositional tool, as digital manipulation and effects were explored and incorporated. This included use of various delays and reverbs to create a sense of space, layering and double tracking of instrumentation to create a thicker and fuller texture. The use of panning to make full use of a stereo sonic landscape, stretching audio samples to create different sonic effects without altering pitch; as well as reversing audio stems, which lends itself nicely to the idea of time going backwards. Without this understanding of production techniques the project would have not been able to be fully realised.

An Overview of the Recording Process

The process of recording the music used a variety of techniques, including industry standard techniques as well as other modern and still developing techniques.

After writing the initial draft drum notation and handing it to the percussionist for the project, it was then interpreted and recorded on an electric drum kit. This provided a midi file which was then played through a professional drum plugin, Steven Slate Drums⁴. Having the drums recorded in this way it allowed for the flexibility of easily adding or removing notes which was of particular use in making sure the complex patterns were exact, such as during the introduction of '*Fate*'. This meant the samples for each part of the drum kit would be of a high and professional quality.

The electric bass guitar was recorded directly (direct input – D.I.) which gave a clear tone as well as providing the flexibility to change the tonality and character of it at will, unlike a microphone recording where the tone is set by the equipment being used and the acoustics of a room. The final bass tone was created by splitting the original bass signal into three stems. These three stems then acted as a clean signal, which provided the low

3 It is worth noting that while production was not taught as part of my undergraduate course and was only very briefly touched upon within the Masters course, I felt it was important to understand how to produce my own music to be able to effectively reproduce my ideas in a recorded format, and as a result took it upon myself to independently learn about producing and mixing music.

4 Stevenslatedrums.com, 'Steven Slate Drums'. N.p., 2015. Web. 8 June 2015.

frequencies, with a low pass filter around 200/300hz, a grit signal, and distorted signal, set with overdrive and distortion appropriately with high pass filters around 700hz and low pass filters set around 4khz. These were the blending together in a single mixing bus to provide the bass tone.

The electric guitar was recorded in a similar way, again to provide flexibility. However the guitars were re-amplified using virtual amplification simulation software, resulting in a clean DI guitar recording being played through a channel strip chain of;

- TSE 808⁵ which replicates a tube screamer pedal, this was purely to drive the clean signal hard and provide clarity
- One of various amp heads simulations, such as the *Ignite Amps 'Emmisary'* plugin⁶
- An impulse response loader to emulate the physical guitar cabinet. In this case the *LePou 'LeCab II'* was used with impulses from a selection of Marshall and Mesa/boogie 4x12 cabinets, typical with a sm57 microphone.

Vocals were recorded with a Se X1 condenser microphone.

During the mixing stage, isolated instrument tracks⁸⁹ from existing songs were used in an attempt to reverse engineer some of the techniques used. One of the most notable techniques used by producers is the use of delay of a vocal track to add thickness and warmth which helps a vocal track sit in a mix far better.

The main guide used for mixing the project was the book, *'The Systematic Mixing Guide'* by Ermin Hamidovic¹⁰. The guide provide outlines of basic mixing techniques and practises common to most popular contemporary music, but with a focus on the metal and rock genres.

5 Tseaudio.com,. 'TSE Audio - Software'. N.p., 2015. Web. 8 June 2015.

6 Igniteamps.com,. 'Audio Plug-Ins'. N.p., 2015. Web. 8 June 2015.

7 Lepouplugins.blogspot.co.uk,. 'Lepou Plugins'. N.p., 2015. Web. 8 June 2015.

8 YouTube,. 'LAMB OF GOD - WALK WITH ME IN HELL (VOCALS ONLY)'. N.p., 2015. Web. 8 June 2015.

9 YouTube,. 'Devin Townsend - Juular (Vocal + Choir Track Only)'. N.p., 2015. Web. 8 June 2015.

10 Hamidovic, Ermin. *The Systematic Mixing Guide*. Systematic Productions, 2015. Print.

Track By Track Introduction and Breakdown of Notable Elements

The following is a track by track breakdown of the project that will introduce each piece and the elements of the narrative that the piece explores. It will also discuss a selection of the key compositional choices and techniques used within each piece, however there are many more beyond what is explained below.

All extracts taken from either the electric guitar or electric bass are in the standard format for the instrument rather than concert pitch, and subsequently appear an octave higher than what can be heard.

I - Dark Diamond in the Rough

While there are no words, the piece is the introduction of the deuteragonist, portraying her as someone who is delicate, and in the eyes of the protagonist, precious like a diamond. But there are undertones of uneasiness and complexity that accompany the deuteragonist, which become apparent as the piece builds slowly.

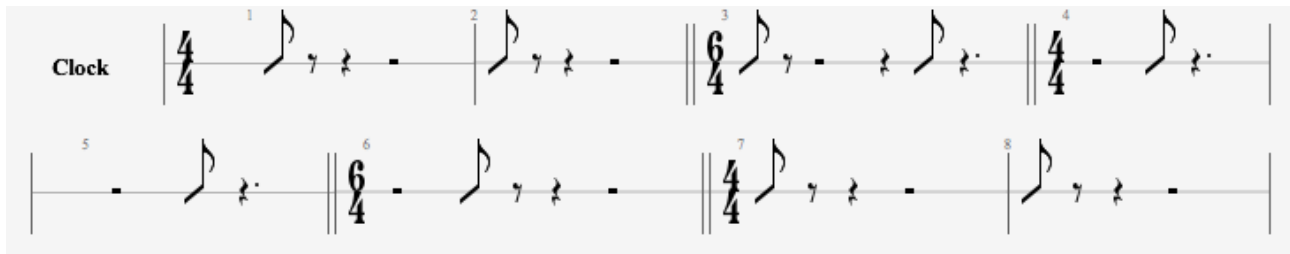
This piece immediately introduces some of the electronic based compositional ideas used throughout the piece, such as the manipulation of audio files and the use of basic sound effects to implant ideas in a listeners head through familiarity.

The first thing heard is a reverse piano melody and an edited ticking clock sample. This sets the foundation that there is going to be some connection to time while also hinting at the idea of the reversal of time. The original, forward version of the piano melody appears later in the track [1.27] accompanying the guitar melody introduced at the beginning [0.23].

As mentioned, there is also a ticking clock noise heard, which is a clear representation of time. The ticking is consistent and regular throughout the majority of the piece, as one would expect a clock to be. However variations in the time signatures of the song lead to changes in where the tick falls within a bar. To start it falls on the first beat of the bar, which subsequently providing leads to a half time. However there are bars of 6/4 throughout the piece which push the tick backwards by two beats, meaning the tick falls on



the third beat of a bar, creating half time backbeat feel. These occur at [0.50] which pushes the tick to beat three, at [1.24] which switches it back to beat one and then finally at [2.24] which switches back to beat three. See the figure below for a notated example of the switches.



The piece also introduces the first use of delay as a compositional tool. During the middle section at [0.57] the high guitar line is repeated but the delay plugin has been automated specifically to detune the repeats gradually and by different amounts, approximately between half and a whole semitone. This creates an uncomfortable dissonance which is foreshadowing the overall tone of the project. It is after this dissonance that the tension slowly begins to build as two melodies fight for attention. The introductory guitar line becomes the foundation for a piano melody that is double tracked with with a guitar. The piano then first harmonises with the double tracked guitar melody before creating a cannon of the melody. The cannon idea is then repeated with the reintroduction of the reverse piano melody. It is not however easy to hear the cannon as there are four layers of the reversed piano, and the desired effect was to create an ambient sound bed rather than distinct melodic lines.

Another heavy use of delay can be heard during the outro of the piece, with the clock ticking slowly becoming uncontrolled, bouncing back and forth in space, yet again a foresight of things to come. While the clock is slowly becoming erratic a beep created from a basic sine wave can be heard, imitating an electrocardiogram (ECG) which a listener will instantly visualise a person in hospital upon hearing. The piece ends with one final tick of the clock and then the solitary sound of the ECG flatlining, indicating that someone has passed away.



II - Fate

The deuteragonist has died, as indicated at the end of '*The Dark Diamond in the Rough*' with the flatlining ECG.

The protagonist cannot cope with the fact she is gone. The deuteragonist's death is described as Fate's will, which is foreshadowing the events to come, and in an emotional rage vows to somehow save her stating;

*'Death and Fate, I refuse, I refuse to let you take her light away,
I promise you, I will find a way, and you will see her smile another day'*

The aim of the song was to sonically create a contrast to the quiet uneasiness of the introductory track and to drive the album forward. Within the Metal genre it is almost expected for the first main track of an album to set the tone for what is to come. An example would be *Metallica's 'Fight Fire with Fire'*, which is the first track from the album '*Ride the Lightning*'¹¹ which after a brief acoustic introduction turns into one of their fastest tracks to date.

'*Fate*' is predominantly a guitar driven song melodically and rhythmically, with the use of harsh vocals to compliment the distorted guitars and provide textural variations, and the use of strings to contrast the fast paced nature of the other instrumentation with smooth basic melodic lines.

The piece starts loud and fast with a fairly complex rhythmic pattern in it's own right, that develops into a rhythmic and melodic trade off. The following extract of one of the guitars depicts the galloping introductory rhythms.

¹¹ Metallica. *Ride The Lightning*. Megaforce, 1984. CD.



E-Gt

This is a common technique found in the Metal genre. An example can be heard in the verse of *Lamb of Gods*' '*Walk with me in Hell*'¹², or the verses of *Metallica*'s '*Master of Puppets*'¹³.

Again, focus turns to the two guitar lines during the re introduction [1.35] where the two guitars are playing different riffs that interlock on the palm muted rhythms at various point, creating a very fast polyrhythmic effect. This can be seen in the following electric guitar notation.

12 Lamb Of God. *Sacrament*. Epic Records. 2006. CD

13 Metallica. *Master of Puppets*. Elektra Records. 1986. CD

This musical score is for an electric guitar (E-Gt) in 4/4 time, featuring a complex arrangement of eighth and sixteenth notes. The score is divided into four systems, each with two staves. The key signature has two flats (B-flat and E-flat). The first system includes a forte (f) dynamic marking. A small yellow square highlights a specific note in the first system. The notation is dense, with many beamed notes, suggesting a fast and intricate piece.

One key composition technique that is used throughout the project is variation within repetition. An obvious example of this can be found during the breakdown of the piece [3.16] where a melodic idea is introduced quietly in the background behind the small monologue.

This musical score is for an electric guitar (E-Gt) in 4/4 time, showing a melodic idea. The score is divided into two systems, each with two staves. The key signature has two flats (B-flat and E-flat). The first system includes a mezzo-forte (mf) dynamic marking. A small yellow square highlights a specific note in the second system. The notation is less dense than the previous score, focusing on a clear melodic line.

This idea then has various melodic tail ideas added before eventually transforming into a



stripped back version [3.55] seen in the first 6 bars of the extract below, which then ultimately ends up morphing into a 6/8 version of the idea [4.15]

A musical score extract in 6/8 time, spanning measures 206 to 224. The key signature has two flats (B-flat and E-flat). The score is written on seven staves. Measures 206-211 feature a melody with eighth notes and rests, with a *mf* dynamic marking under measure 206. Measures 212-217 continue the melody, with measure 217 highlighted in yellow. Measures 218-224 show the melody continuing with eighth notes. The extract concludes with a double bar line at the end of measure 224.

III - Gateway

The narrative aspect of this piece is that the protagonist has managed to somehow go through a gateway back in time. Upon waking he is confused as the deuteragonist is once again alive and breathing. However as the day unfolds, events start to repeat themselves and ultimately the protagonist starts to realise what is going to happen. This is all quite evidently portrayed by the lyrical content.

The sonic aspects of the piece portray the ideas of firstly traveling back in time, as heard by the chaotic nature of the introduction, followed by the idea of being completely confused about being sent back in time and reliving the same day, which is portrayed by the raw and dissonant feeling felt throughout the whole piece along with the peculiar time signatures used.

The song starts instantly with an irregular series of time signatures, as seen in the below transcription of the introduction for the bass guitar, before ultimately settling into a simpler 4/4 pattern. The transcription starts at [0.53]

Measures 22-40 of the musical score for 'The Rose Tree' in bass clef. The score is divided into two systems. The first system contains measures 22-25, and the second system contains measures 26-40. The key signature is B-flat major (two flats). The time signature is 3/4. The melody is written in a single staff. The notes are as follows:

- Measure 22: G2, A2, B2, C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7, D7, E7, F7, G7, A7, B7, C8, D8, E8, F8, G8, A8, B8, C9, D9, E9, F9, G9, A9, B9, C10, D10, E10, F10, G10, A10, B10, C11, D11, E11, F11, G11, A11, B11, C12, D12, E12, F12, G12, A12, B12, C13, D13, E13, F13, G13, A13, B13, C14, D14, E14, F14, G14, A14, B14, C15, D15, E15, F15, G15, A15, B15, C16, D16, E16, F16, G16, A16, B16, C17, D17, E17, F17, G17, A17, B17, C18, D18, E18, F18, G18, A18, B18, C19, D19, E19, F19, G19, A19, B19, C20, D20, E20, F20, G20, A20, B20, C21, D21, E21, F21, G21, A21, B21, C22, D22, E22, F22, G22, A22, B22, C23, D23, E23, F23, G23, A23, B23, C24, D24, E24, F24, G24, A24, B24, C25, D25, E25, F25, G25, A25, B25, C26, D26, E26, F26, G26, A26, B26, C27, D27, E27, F27, G27, A27, B27, C28, D28, E28, F28, G28, A28, B28, C29, D29, E29, F29, G29, A29, B29, C30, D30, E30, F30, G30, A30, B30, C31, D31, E31, F31, G31, A31, B31, C32, D32, E32, F32, G32, A32, B32, C33, D33, E33, F33, G33, A33, B33, C34, D34, E34, F34, G34, A34, B34, C35, D35, E35, F35, G35, A35, B35, C36, D36, E36, F36, G36, A36, B36, C37, D37, E37, F37, G37, A37, B37, C38, D38, E38, F38, G38, A38, B38, C39, D39, E39, F39, G39, A39, B39, C40, D40, E40, F40, G40, A40, B40, C41, D41, E41, F41, G41, A41, B41, C42, D42, E42, F42, G42, A42, B42, C43, D43, E43, F43, G43, A43, B43, C44, D44, E44, F44, G44, A44, B44, C45, D45, E45, F45, G45, A45, B45, C46, D46, E46, F46, G46, A46, B46, C47, D47, E47, F47, G47, A47, B47, C48, D48, E48, F48, G48, A48, B48, C49, D49, E49, F49, G49, A49, B49, C50, D50, E50, F50, G50, A50, B50, C51, D51, E51, F51, G51, A51, B51, C52, D52, E52, F52, G52, A52, B52, C53, D53, E53, F53, G53, A53, B53, C54, D54, E54, F54, G54, A54, B54, C55, D55, E55, F55, G55, A55, B55, C56, D56, E56, F56, G56, A56, B56, C57, D57, E57, F57, G57, A57, B57, C58, D58, E58, F58, G58, A58, B58, C59, D59, E59, F59, G59, A59, B59, C60, D60, E60, F60, G60, A60, B60, C61, D61, E61, F61, G61, A61, B61, C62, D62, E62, F62, G62, A62, B62, C63, D63, E63, F63, G63, A63, B63, C64, D64, E64, F64, G64, A64, B64, C65, D65, E65, F65, G65, A65, B65, C66, D66, E66, F66, G66, A66, B66, C67, D67, E67, F67, G67, A67, B67, C68, D68, E68, F68, G68, A68, B68, C69, D69, E69, F69, G69, A69, B69, C70, D70, E70, F70, G70, A70, B70, C71, D71, E71, F71, G71, A71, B71, C72, D72, E72, F72, G72, A72, B72, C73, D73, E73, F73, G73, A73, B73, C74, D74, E74, F74, G74, A74, B74, C75, D75, E75, F75, G75, A75, B75, C76, D76, E76, F76, G76, A76, B76, C77, D77, E77, F77, G77, A77, B77, C78, D78, E78, F78, G78, A78, B78, C79, D79, E79, F79, G79, A79, B79, C80, D80, E80, F80, G80, A80, B80, C81, D81, E81, F81, G81, A81, B81, C82, D82, E82, F82, G82, A82, B82, C83, D83, E83, F83, G83, A83, B83, C84, D84, E84, F84, G84, A84, B84, C85, D85, E85, F85, G85, A85, B85, C86, D86, E86, F86, G86, A86, B86, C87, D87, E87, F87, G87, A87, B87, C88, D88, E88, F88, G88, A88, B88, C89, D89, E89, F89, G89, A89, B89, C90, D90, E90, F90, G90, A90, B90, C91, D91, E91, F91, G91, A91, B91, C92, D92, E92, F92, G92, A92, B92, C93, D93, E93, F93, G93, A93, B93, C94, D94, E94, F94, G94, A94, B94, C95, D95, E95, F95, G95, A95, B95, C96, D96, E96, F96, G96, A96, B96, C97, D97, E97, F97, G97, A97, B97, C98, D98, E98, F98, G98, A98, B98, C99, D99, E99, F99, G99, A99, B99, C100, D100, E100, F100, G100, A100, B100, C101, D101, E101, F101, G101, A101, B101, C102, D102, E102, F102, G102, A102, B102, C103, D103, E103, F103, G103, A103, B103, C104, D104, E104, F104, G104, A104, B104, C105, D105, E105, F105, G105, A105, B105, C106, D106, E106, F106, G106, A106, B106, C107, D107, E107, F107, G107, A107, B107, C108, D108, E108, F108, G108, A108, B108, C109, D109, E109, F109, G109, A109, B109, C110, D110, E110, F110, G110, A110, B110, C111, D111, E111, F111, G111, A111, B111, C112, D112, E112, F112, G112, A112, B112, C113, D113, E113, F113, G113, A113, B113, C114, D114, E114, F114, G114, A114, B114, C115, D115, E115, F115, G115, A115, B115, C116, D116, E116, F116, G116, A116, B116, C117, D117, E117, F117, G117, A117, B117, C118, D118, E118, F118, G118, A118, B118, C119, D119, E119, F119, G119, A119, B119, C120, D120, E120, F120, G120, A120, B120, C121, D121, E121, F121, G121, A121, B121, C122, D122, E122, F122, G122, A122, B122, C123, D123, E123, F123, G123, A123, B123, C124, D124, E124, F124, G124, A124, B124, C125, D125, E125, F125, G125, A125, B125, C126, D126, E126, F126, G126, A126, B126, C127, D127, E127, F127, G127, A127, B127, C128, D128, E128, F128, G128, A128, B128, C129, D129, E129, F129, G129, A129, B129, C130, D130, E130, F130, G130, A130, B130, C131, D131, E131, F131, G131, A131, B131, C132, D132, E132, F132, G132, A132, B132, C133, D133, E133, F133, G133, A133, B133, C134, D134, E134, F134, G134, A134, B134, C135, D135, E135, F135, G135, A135, B135, C136, D136, E136, F136, G136, A1

However the unnerving feel is continued into the first verse with the main phrase tying over the bar, as seen below. The phrasing is however evened out by the second verse.



Use of unconventional time signatures and multiple time signature changes in quick succession is quite common within the jazz genre and its sub genres, as well as in the more progressive side of the rock and metal genres, for example the ending of *Dream Theatre's 'The Dance of Eternity'*¹⁴ from the album '*Metropolis Part 2: Scenes From A Memory*'¹⁵

Towards the end of the song [4.52] there is a variation of the initial chordal idea, which morphs into a section of clean guitar over minor chords with an almost jazz style drum backing. Again this is to create a strange feeling of unease with the combination of harsh minor chords on the guitar, the slightly more upbeat drum backing, and the almost dreamlike clean arpeggios.

14 Portnoy, Mike. 'The Odd Time Signatures Of "The Dance Of Eternity"'. *YouTube*. N.p., 2015. Web. 9 June 2015.

15 Dream Theatre,. *Metropolis Part 2: Scenes From A Memory*. Elektra, 2015. CD.

IV - Echo

Having travelled back through time and realising that events are repeating themselves, the protagonist understands that he has been given a chance to save the deuteragonist, having faux confidence in thinking he knows how events will unfold. However the events carry on repeating themselves and even with his intervention the final seconds echoing that of the previous world and once again the deuteragonist dies.

The feeling of familiarity is instantly felt as the pieces starts with the returning of the ticking clock. The verse features the idea of variation within repetition again. It starts with a basic melodic idea and on each repeat extends the idea. The first repeat ends in a bar of 5/4, the second with a bar of 7/4 with the final repeat two bars of 4/4 (which can be view as 8/4 to see the progression as 5/4, 7/4, 8/4). This can be seen in the following electric guitar notation. The use of multiple time signatures is once again reminiscent of the progressive sub genre, however the verse flows in such a manner that the time changes are not too jarring for the listener as the combination of slow chords with a fast, consistent semi quaver idea played by electric guitar.





The choice for a cleaner, more narrative, style of vocals was chosen to draw away from a piece full of aggressive vocals, and to add a new texture to the project.

Within the track is another example of digital production techniques being used as a compositional tool. At [4.31] there is a small melodic phrase that is then digitally copied and reproduced, with each reproduction being digitally shortened causing the phrase to speed up. Reverb is then automated in to again open up the sense of space as well as to force the repeated melodic line into a resonating ambient texture.

The ECG sine wave beep also returns in this track, repeating exactly what it did in the introductory track. Starting with a steady beep but eventually flatlining again, echoing what happened before.



V - Worlds

Having mentally regrouped the protagonist starts on his journey to save the deuteragonist, by jumping back in time repeatedly, trying to change the ultimate outcome and change fate.

The main composition technique in this piece is the use of a rhythmic pattern that is used throughout the majority of the song but with varying melodic elements. The phrase also acts as an isorhythm, most notably during the first four bars of the pre chorus [1.31]. The following four bars are a complete cycle of the isorhythm as seen below. The use of isorhythms was inspired by jazz pianist Christoph Stiefel and his various isorhythmic works.



The introduction and verses are variations and extensions of the pre chorus isorhythm. The isorhythm during the introduction starts off on a G and cycles through two of the four bar isorhythm before transposing up to effectively having the first note of the pattern start on a C, but only play the last two bars of the four bar isorhythm cycle. This can be seen in the following electric guitar notation.





Piano was also reintroduce in this track as the previous song had been heavily guitar driven and a break from the distorted guitars was needed. The smoother texture of the piano contrasts with the aggression of the distortion, while adding a majestic edge to the section, as well as re-accustoming the listeners ear to its character as the following two pieces contain a large amount of piano.

VI - Butterfly

The protagonist is growing weary of trying over and over to save the deuteragonist. Having tried and failed numerous times he is emotionally falling apart. No matter how hard he tries the end result is the same. What seems like an insignificant event on that specific world line develops into something much greater. As the song progresses so do the protagonist's emotions, moving from sorrow towards the brink of insanity as the weight of everything is bearing down on his shoulders. These feelings are most explicitly noticeable in the lyrical content of the piece.

Compositionally this is the most progressive song in nature which gradually builds and develops sonically over time to a boiling point before slowly simmering back down ending in a delicate music box melody. The influences of the melodic doom metal sub genre and the progressive sub genre can both be heavily felt in the piece. A major influence in the doom sound comes from the Finnish Melodic Doom/Death band, *Swallow the Sun*, with progressive elements coming from the Swedish act, *Opeth*.

The lack of percussion during the introduction and verse of the song is deliberate. Having purely piano, accompanied by bass guitar, and vocals brings a sense of isolation and intimacy, drawing the listener's attention in a new way not yet experienced in the project.

A section of the introduction is noteworthy (0.16) as it has an alternating 7/8, 4/4 pattern which has been written in such a way that it flows without being too obvious it's there. This can be seen in the extract below.





The central section of the song also provides a new textural feel to the project. With a more minimalist approach that starts with a single guitar, and develops gradually over time, it is again reminiscent of the progressive sub genres as well as of more experimental artists such as *Storm Corrosion*.

The outro also has been composed in such a way that it firstly introduces a new melodic idea on guitar. The melodic idea is then made to work over a 7/8, 4/4 pattern as the initial piano melody is reintroduce on a second guitar, leading to a sense of completion, finishing on a variation of where the piece started before ultimately ending on a pair of music boxes playing another piano melody that was first played during the introduction [0.50].

VII - Light of the Diamond

The protagonist has decided to take action that will drastically change the world line. By changing events far back into the past he hopes that the current series of events will never occur.

The mood being created with this piece is a solemn moment in preparation of what the protagonist is about to attempt. The piece is the most mathematical at its core, following the strict time signature patterns for the majority of the piece. Again falling partly into the progressive sub genre, it also experimental in nature.

A notable feature of this piece is the time signature pattern that is used throughout the majority of the song and subsequently how the right and left hand of the piano lines play off each other. The following excerpt starts at [0.59] and sets the time signature pattern, which is a 6/4, 5/4, 6/4, 7/4 loop. This means the notes add up to essentially four bars of 6/4 and lend themselves nicely to some interesting variations. First the basic piano melody is set out over 4 bars and repeated once. At [1.30] the right hand moves up one octave and shifts the pattern so while the left hand is still playing the idea as 6/4, 5/4, 6/4, 7/4, the right hand is playing 6/4, 7/4, 6/4, 5/4. This is however notated as the melody simply carrying on over to the next bar.



[illegible]

The 6/4, 5/4, 6/4, 7/4 signature loop is then carried on throughout the song. The piano idea mentioned above, is then repeated later in the track. The piano is introduced at [2.30] with a variation of the melody and once again follow the 6/4, 5/4, 6/4, 7/4 pattern. After the first repeat however the right hand melody does the reverse. What is effectively a 6/4, 7/4, 6/4, 5/4 pattern again.

The image displays a musical score for piano introduction, consisting of four systems of staves. Each system is divided into two measures by a double bar line. The key signature is B-flat major (two flats). The time signature changes from 6/4 to 5/4, then back to 6/4, and finally to 7/4. The notation includes treble and bass clefs, with the right hand (treble clef) and left hand (bass clef) parts. The right hand melody is marked with 'let ring' and a dashed line, indicating a sustained note. The left hand melody is marked with 'mf' (mezzo-forte) and 'let ring'. The score shows a complex rhythmic pattern with various note values and rests, including a 'let ring' instruction in the right hand of the first system.

VIII - Curse

The protagonist is preparing himself for the final last ditch effort, but how it is still all deeply affecting his mental state. He exclaims;

*'This blessing, blessing of a curse,
The curse, curse of this blessing,
Is tearing me apart'*

The idea behind this statement is that the curse is having the chance to go back in time to save someone but having to watch them die repeatedly is taking its toll. Conversely, however, purely having the opportunity to save them is a blessing in itself. This leads to the curse being a blessing, and the blessing being a curse.

This piece is once again heavily guitar focused with most of the interest being formed from how the guitars interact with each other while having small hints of classical influences. The most technical moments of the playing occur during the mid section [4.42] when a combination of sweep picking¹⁶ and relatively fast alternate picked¹⁷ arpeggios are introduced.



16 Picking adjacent strings in the same direction as the previous string, for example up stroke followed by an upstroke followed by another upstroke.

17 When a guitar player strikes the string with a repeated down stroke, up stroke, down stroke, up stroke pattern.



The piece then returns to where the whole project began, with the reverse piano sample and a ticking clock. Very quietly underneath all of this is the final statement of the protagonist.

'With this painting, you will live on'

This statement partly explains the cover art. It suggests that the picture of the female figure with wings is actually an image of the deuteragonist that he painted to carry on her memory. The rest of the image is not explained, in the same way it is not explained what the protagonist changed in his last attempt to save her.



Appendix A

Light Of The Diamond - Lyrics

I – The Dark Diamond in the Rough

[Instrumental]

II - Fate

Verse 1

*Your cards have been dealt by the dealer, death
Without even playing it's the end of your game
The wager collected, the light of the diamond
No chance of reprisal, the scythe has swung*

Chorus

*The Light of the diamond has Faded
Fate's will, set in motion
Taken without warning
Taking a part of me,
With you*

Verse 2

*The mistress Fate has passed her judgement
Why did her sights have to be set on you
I take the vow to save you
I just pray that the gate is real*

Monologue

*'Death and Fate,
I refuse, I refuse to let you take her light away'*

*'I promise you, I will find a way
And you will see her smile another day'*



III - Gate Way

Verse 1

*Remembering the past, like a vivid dream
No one recalls the death of the diamond
I watched your light, watched it fade to black
But here you are, your lights still shining bright*

Verse 2

*A sense of de ja vu, as the day passes by
Living the dream for a second time
Watching the day as time slowly ticks by
But Dread sets in as the worlds align*

Chorus

*Sent back in time through the gateway
Re-living over the same day
No one knows what the future beholds
Blinded to what's to unfold*

Verse 3

*Can it be, that this is reality
As what seemed like a dream, Repeats itself
Surely this day can't end the same way
Surely that dream can't be this reality*



IV - Echo

Verse 1

The gate is real defying all odds
Granted a second chance to stop fates will
A Second sight of the cards about to be played
The power of knowledge will change the hand
The last cards drawn and the stakes are high
I won't let you die

Chorus

The seeds of fate have been sown
Past events will echo
Converging to resolve
The final seconds will echo

Verse 2

Events repeated, the story retold
A new beginning, but the ending's resolved
Even this precognition of the future
Couldn't change fate's will
As world's align the scythe is swung
But I can't let you die



V - Worlds

Verse 1

*I've traveled the worlds just trying to save you
Resurrecting your eternal light and watching it fade away
Refusing to be beaten, I'll keep this vigil burning
Resisting being consumed by fate repeating*

Chorus

*Worlds are created, realities are mutated
The lines are diverging, yet the fates converging
Worlds created, the fates are all aligned
Realities mutated, the lines are entwined*

Verse 2

*I can't bear to see you die another time
These past worlds burned in my eyes, the memories scar my mind
Failure is not an option, I vow to find a way to save you
There must be a line where your light shines bright*

Stabbed Vocals

*Worlds are Created
Realities are Mutated
Lines are Entwined
As the Fates are all aligned*



VI Butterfly

Verse 1

*Watching your light fade to black time again
No matter how hard I try, Fate will claim it's victim
The chain of events seem to change but the ending's the same*

Chorus

*The chaos returns, from the beat of a wing
A breath into a storm, as the future reforms*

Verse 2

*A ripple into a wave, the floor crimson once more
Watching you die, I cant bear it another time*

Quiet Mid section

*Holding you near, holding you near again
Another crack, another fractured line
Watching the light, watching it fade once more
Another weight, another death to hold*

Trade off

*Carrying your past death's,destroying my mind
Your flickering life, becoming desensitised
Over and over, again and again, my sanity is crumbling away
I can't take much more, this is the last attempt*

VII - Light of The Diamond

[Instrumental]



VIII - Curse

Verse 1

*I can't stand to watch you die another time
I refuse to see you fade into the darkness
But there may be a way, though you'll have no memory of me
Erasing all traces of your past life*

Pre Chorus

I'll never forget you, I'll never forget you, because

Chorus

*This blessing, blessing of a curse
The curse, curse of this blessing
Is tearing me apart*

Verse 2

*To save you I'll sacrifice my heart, just to know you'll smile another day
This time fate will favour me, you might be a world away
But you won't remember me, but I'll never forget you
That I guarantee*

Double Chorus

*This blessing, blessing of a curse
The curse, curse of this blessing
Is tearing me apart*

*This blessing, blessing of a curse
The curse, curse of this blessing
Is my last chance*

Monologues

'It's the eleventh hour, it's now or never'

'With this painting, you will live on'

