

## MASTER OF ARTS BY RESEARCH

### Sound as Drama

Composing Music for H.G. Wells 'The Time Machine' within a Critical Framework

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# Sound as Drama: Composing Music for H.G. Wells' 'The Time Machine' within a Critical Framework

by

George Lloyd-O'Keeffe

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A Thesis Submitted in Partial Fulfilment of the University's  
Requirements for the Degree of  
Masters by Research

## Abstract

This research project explores the role of music as a narrator without the aid of visuals or verbal dialogue narration. Different areas of composition will be studied and practiced, developing a suite of four-part music suite, that retells one of H.G. Wells texts as purely musical form. The research will focus on the practices of electroacoustic composition, in particular *Red Bird* (1977) by Trevor Wishart, and Francis Dhomonts reinterpretation of Vivaldi's *Four Seasons* Spring movement, "Another Spring." The analyse of Dhomont and Wishart identify compositional techniques that will apply to my composition. The works of contemporary film composers such as Mica Levi and Hildur Guðnadóttir will be explored to understand how a film score can be composed with the idea of looking through the eyes of a main character, and representing original and authentic soundscapes, especially with Guðnadóttir's score for HBO's *Chernobyl*. In support of my research questions, I investigated the rock music concept album and the ninetieth century tone to garner the narrative. Ultimately these techniques and methods are synthesized into my original composition, '*The Time Machine Reimagined*.'

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## Introduction

The research presented in this thesis is conducted from the perspective of a composer working in the field of narrative composition. My interest in narrative composition stems from film scores by composers such as Hans Zimmer, John Williams and John Powell, and traditional programmatic composers such as Ludwig Van Beethoven and Hector Berlioz. However, for this research project, I wanted to challenge and expand my abilities as a composer by delving into the fields of contemporary film, soundscape and electroacoustic music composition. Regarding film composition, I was introduced to the film score for Jonathan Glazer's 2013 science-fiction thriller, *Under the Skin*, and I was intrigued how due to the lack of spoken dialogue throughout the film, Mica Levi's score posed as the film's narrator as if it was looking through the eyes of the main character (an alien). What also fascinated me about the score was its experimental, atmospheric, unhuman-like timbre, which could be suggested it was portraying the language of the alien.

After watching and listening to how the music guided the narrative for, *Under the Skin*, it became clear that this research project would aim to compose my own collection of narrative music, but with some other conditions in place. Whilst film music is music written to co-narrate and bring emotion to what is happening on screen, I wanted to compose a suite of music that does not rely on visuals or spoken dialogue to guide a narrative, therefore making the music the sole narrator. The definition I am giving my composition is 'Cinema for the Ears.' This expression was used in the documentary: *My Cinema for the Ears: The Musique Concrète of Francis Dhomont and Paul Lansky*, in which the former was commissioned to reimagine Vivaldi's Spring Movement from his *Four Seasons* concerti in the form of electroacoustic composition. Up until now I had never studied or applied the practices of electroacoustic composition but felt it to be the perfect guideline for my development as a composer and the framework of my composition. By combining the sounds of the natural environment, and man-made and musical sounds, I have been able to create a broad sonic palette of narrative composition.

My main musical interests lie in the fields of Pop and Rock music. Being primarily a guitarist and drummer, I tried to find ways that these genres of music could tie in with the narrative approaches of electroacoustic and film composition. Thankfully, the concept album is the missing link to my research project, in which bands or artists take an already existing piece of work, or create their own, and write an album telling the narrative through songs or instrumental music. Rick Wakeman's readaptation of Jules Verne's novel, *Journey to the Centre of the Earth*, is a prime example of reimagining a piece of published work as a suite of music.

It became clear that for this research project I would need to take a piece of already published work and reinterpret it as a suite of 'Cinema for the Ears' composition. Combining and

developing the practices of electroacoustic, contemporary film, traditional programmatic and narrative composition to create sonic landscapes and environments through music and sound. Taking Wakeman's approach, I felt it would be best to take an already published novel, dissect it and compose a musical narrative telling the entire story through music. Also, like Levi's approach with *Under the Skin*, compose it with the idea of looking through the eyes of its main character. What I have composed as a result of my research and applied practices, is a four-section musical reinterpretation of H.G Wells' 1895 novel, *The Time Machine*.

# Part 1: Background Research

## 1. Literature Review

### 1.1 Electroacoustic and Metaphorical/Programmatic Sound Imagery

Sound as drama. The common term ‘drama’ stems from the Greek word ‘action,’ and is commonly represented by two masks which signify the general detachment between comedy and tragedy (Kennedy, 1994). However, while drama is mostly associated with performance practice in the forms of acting or dancing in theatre and film; music helps intensify the level of drama, particularly in a narrative situation. In this research project I will be discussing how music, most notably electroacoustic, programmatic and film music, can act as its narrator without relying on spoken dialogue or visuals to guide the narrative of a plot or story.

The term, electroacoustic music, was derived in the early 1950s through a combination of the practices of composers Pierre Schaeffer and Karlheinz Stockhausen. Schaeffer’s approach of ‘Musique Concrète’ was developed in 1948 and is based on noises prepared from recorded sounds, either natural (e.g. birdsong) or man-made (traffic, musical instruments etc.) to differentiate between music assembled from concrete sound objects and music based on the abstract medium of notation (Kennedy, 1994, p.606). Schaeffer promoted the term ‘Musique Concrète’ as ‘primacy to the ear!’ and ‘search for language’ (Emmerson, 1986, p.29). Stockhausen’s approach of ‘Elektronische Musik’ (translated as ‘electronic music’) is music produced by electronic means, the resulting sounds being recorded on tape. The term originally applied strictly to sounds produced and synthesized electronically, which is the opposite approach of ‘Musique Concrète’ (Kennedy, 1994, p.266). Despite the clear differences in compositional and productional approaches of the two styles, electroacoustic music was conceived out of the two styles combined.

Electroacoustic music composer and scholar Simon Emmerson discusses the significance of imagery and soundscape in electroacoustic composition in the opening chapter of his book, *The Language of Electroacoustic Music* (1986) (chapter: The Relation of Language to Materials). He begins by explaining how the term ‘image’ may be interpreted as lying between ‘true synaesthesia with the visual image and a more ambiguous complex of auditory, visual and emotional stimuli’ (Emmerson, 1986, p.17) and how the use of recorded natural (environmental) sounds can lead to the creation of imagery in electroacoustic composition:

“The use of natural sounds in the composition of electroacoustic music on tape allows us to claim that this is the first musical genre ever to place under the composition’s control an acoustic palette as wide as that of the environment itself... This contrasts strongly with the clear distinction, dominant in Western music aesthetics of recent centuries, between potentially ‘musical’ material based on periodic (pitched) sounds and ‘non-musical’ aperiodic sounds (noise). The evocation of image is further enhanced by a specific property of Western art: its deliberate removal from original context. Rarely does one view a landscape painting or listening to Beethoven’s ‘Pastoral’ Symphony in a setting which is its apparent subject. By deliberately removing the visual clues as to cause the sounds, indeed by removing or reducing visual stimulation of any kind, the composer is almost challenging the listener to re-create, if not an apparent cause, then at least as associated image to ‘accompany’ the music,” (Emmerson, 1986, p.18)

It is this compositional approach that led British composer Trevor Wishart to compose his piece, *Red Bird – A Political Prisoners Dream.* Composed between 1973 and 1977 as part of his doctoral studies at the University of York, *Red Bird* is a piece of abstract electroacoustic music that follows a journey into an alternative world, in which the world is defined by the dynamic process of sound events which evokes images ranging from freedom to claustrophobic terror using human and environmental sounds. Wishart himself describes it as the opposition between open and closed conceptions of the world.

“A closed view would regard science as an institution enabling us to proceed from relative ignorance towards an absolute knowledge of the nature of the world, thus giving us greater and greater, and finally complete, control over our environment... An open view would regard science as a powerful heuristic tool which allows us to gain some control over our environment. It does not, however, tend towards completeness and its preconceptions need to be regularly overhauled,” (Wishart, 1996, p.168).

The main sources of the sounds heard throughout the piece are birds, notably for their musical qualities in their calls; animal and human sounds, mostly breathing and mumbling vocals; spoken dialogue, especially “listen to reason” and “reasonable”, and mechanical sounds created through electroacoustic processing of the sounds mentioned previously, and page turns and door slams to create a “mythic sound-drama,” (Vassilandonakis & Wishart, 2009: 11). Wishart mentions that the most notable tool in the creation of *Red Bird* was his voice. Working in an analogue studio without computerised technology, he felt “forced to rely on the malleability of the voice to achieve many of the sound transformations,” (Vassilandonakis & Wishart, 2009, p.13). A key example of this method is the combination of vocal performance and classical studio techniques to transform the syllable 'lisss' of "Lis(ten)" into birdsong (Wishart, 1996: 94) implying that the voice, like a bird, metaphorically takes flight, which represents the feeling of freedom. To enhance this sensation the word ‘bird’ could be an aural image as a metaphor for flight and imagination (Wishart, 1984, p.54).

“In putting together a sonic architecture which uses sound-images as metaphors, we are faced with a dual problem. We must use sound transformations and formal structures with both sonic impact and metaphorical import. We must be both sonically and metaphorically articulate. Using concrete metaphors (rather than text) we are not ‘*telling a story*’ in the usual sense, but unfolding structures and relationships in time – ideally we should not think of the two aspects of the sound-landscape (the sonic and metaphorical) as different things but as a complementary aspects of the unfolding structure,” (Wishart, 1996, p.166).

All the sounds Wishart used in ‘*Red Bird*’ were treated as metaphors in a mythical landscape, with one sound type transforming into another to create a musical and mythical narrative piece of music, as he has stated that when it comes to listening to music that in our common experience, we are often more often aware of the source of a sound than not (Wishart, 1986, p.41). His approach to taking this musical approach was suggested he was introduced to Levi Strauss’s book ‘*The Raw and the Cooked*’ (1983) where he uses music as a kind of metaphor for his structural anthropological approach to myth.

“My [Wishart’s] idea was to turn this on its head and create a contemporary myth about industrialism, determinism, freedom, and creativity, using sounds and musical structure. The sound-transformation approach was thus partly inspired by a political idea, the possibility of changing the social world,” (Milani, 2009).

Wishart has also compared *Red Bird* with another of his compositions, ‘Journey into Space’ expressing that the latter is a narrative piece while he views ‘Red Bird’ as a piece with a mythological structure without being a narrative.

In his book, *On Sonic Art* (1996) Wishart explains how Levi-Strauss draws certain interesting parallels between the structure of music and myth, such as combining traditional musical structures such as Sonata form with the sounds of people, objects and wild animals (Wishart, 1996, p.164). Using Levi-Strauss’s methodology, Wishart tells that whilst making ‘Red Bird’ he wished to include the sound of animals, humans and machinery to create metaphorical sound images. Rather than using sounds in the way of “this is the sound of something” but rather “this is the sound of something which represents something else,” it can work in a mythical world of sound transformation (Marty, 2011, p.86). Sharing a similar approach regarding symbolism and narrativity, Canadian composer Raymond Murray-Schafer explains in his book, *The Turning of the World*, how environment sounds can be symbolic when used in music composition:

“A sound object is symbolic when it stirs in us emotions our thoughts beyond its actual mechanical sensation as sound...The Sounds of nature are most pleasing to man. Water in particular has splendid symbolism. Rain, a fountain, a river, a waterfall, the sea, each make a unique sound but all share a rich symbolism. They speak of cleansing, of purification, of refreshment and renewal,” (Murray-Schafer, 1977, p.37).

Murray-Schafer also explains that birds and the songs symbolize delicacy, freedom, and protection (Murray-Schafer, 1994, p.106) which Wishart incorporates into *Red Bird*. He also states that the other animal sounds represent the natural world, “but they also represent things that are not in this mechanistically controlled society; so they’re a metaphor for freedom,” (Marty 2011, p.95) while the repetitive vocal-made machine-like sounds are a metaphor for closed systems such as prison (Truax, n.d, p.10). Other sounds Wishart includes such as a buzzing sound, created by recording a fly, are used to represent flying.

Unlike traditional composition, Musique Concrète compositions are not limited by common musical guidelines such as melody, harmony, rhythm and tempo, which is demonstrated by French-Canadian composer, Francis Dhomont, a former student of Schaeffer, in Uli Aimuller’s 2000 documentary film, *My Cinema for the Ears: The Musique Concrète of Francis Dhomont and Paul Lansky* (with the focus of this study being on Dhomont). Musically the term, Cinema for the Ears, immediately suggests that this is music written for the film but without the visuals to guide the narrative. This follows the principle of sound imagery; a form of mental imagery that is used to organise and analyse the sound to depict a scenery without the support of external stimuli such as visuals. This method of composition is a major discussion point for this research project.

In the documentary, Dhomont is commissioned by the film’s director, Uli Aimuller, to reinterpret the first movement (Spring) of Vivaldi’s Four Seasons in the form of electroacoustic music after hearing his “dream-like aesthetic” (Aumuller, 2000) in his other compositions, and Dhomonts engaging interest of his search for the “inner beauty of sound,” (BAMPFA, 2004). As a well-known piece of traditional programmatic music (along with other pieces such as Beethoven’s *Pastoral* (sixth) Symphony and Berlioz’s *Symphonie Fantastique*, the first movement will always be associated with Spring, and Dhomont felt it appropriate to record the countryside (in Canada) to capture the essences of Spring in his recreation of the piece. However, as each movement of Vivaldi’s Four Seasons was composed in response to a collection of poetry, also written by Vivaldi, Dhomont used the poem of Spring (La Primavera) (see **Figure i**) as a synopsis to dissect and record and recreate sounds mentioned in the poem, giving a very literal representation of the sounds of the poems and Spring such as wind rustling through grasslands and trees, water rippling, bird calls, rainfall and even dog barks, resulting in Dhomonts recreation entitled: *Un Autre Printemps* (Another Spring).

All these sounds act as their texture, intertwining with one another to create a musical canvas, an approach Dhomont uses that was inspired by Debussy and the practices of a film director/producer. Dhomont explains that Debussy’s influence on his work implies that not all music needs to be written out to be understood by the listener: “people have written too much music for paper, music is made for the ears,” which is a quote Dhomont recalls from Debussy expressing how any scenery can create textures of their own. Also, regarding the approach of a film-maker, Dhomont states:

“He cuts, links, mixes, he speeds it up, slows it down, rewinds, goes forward again, stops on a particular image.” – Francis Dhomont

This implies that electroacoustic music creates scenes and atmospheres purely through their sound that is either impossible or extremely difficult to notate on paper, allowing the sounds to write themselves, rather than the composer having to write them out. This also suggests that although not technically viewed as an instrument, the recording studio environment becomes an instrument in the field of electroacoustic composition, as Dhomont asserts that the studio machinery was used like a:

“Sound body brought to life with a mouse: its movement controls the musical gestures of the programmed sequences, the dynamics are worked out in real-time...the moment of choice comes much later, when only the ‘magic moments’ are kept,” (Aumuller, 2000).

Importance is given to the movement of water and its mutations, which correspond to the metaphor of the gushing of spring. Discussing the film in the DVDs booklet, Robert Darroll, one of the film’s video editors explains how he found Dhomont’s composition very gestural as it was heavily:

“Dominated by textures of varying intensity, most of which seemed to be derived from sounds of water, which suited my purpose very well. Water is a connecting, flowing, ever-present element...Visual Music is an abstract painting in time,” (Aumuller, 2000).

Creating a musical canvas draws inspiration from Debussy, in which Dhomont quotes “people have written too much for the paper, music is made for the ears.”

This so-called ‘Cinema for the Ears’ approach to composition is also highlighted in the works of fellow French-Canadian composer Gilles Gobeil. Whilst studying compositional techniques at Université de Montréal, he began to explore the practices of electroacoustic music by Marcelle Deschênes and Francis Dhomont. This experience stimulated him to explore the unfamiliar forms and original textures and timbres in electroacoustic music. Under the guidance of Dhomont, Gobeil’s works fall within “cinema pour l’oreille” (cinema for the ears), with many of his compositions being inspired by literary and or cinematic works in which he seeks to visualize them through the medium of sound (Gobeil, n.d.). To understand how Gobeil applies the “cinema for the ears” to his work, I wrote to him to find out what works inspired him to reimagine them as an acousmatic piece. He told me that he finds inspiration in literary texts that he would “translate into music,” by analysing the scenes and cutting out the strong moments of the text then create sounds that would be “conducive to evoking each of these scenes.” His list of works that follow this statement consist of:

- Castalie (2008) / adaptation of Herman Hesse's "Game of Glass Beads"
- Le Contrat (The Contract) (1996-2003) / adaptation of Goethe's "Faust"



- Entre les Deux Rives du Printemps (Between the Two Shores of Spring) (2006) / adaptation of “Paradise” by Dante Golem (2012-13) / adaptation of the novel “Le golem” by Gustav Meyrink
- Nuit Cendre (Ashen Night) (1995) / adaptation of "Journey to the Centre of the Earth" by Jules Verne
- Point de Passage (Crossing Point) (1997) / adaptation of the novel "The Time Machine" by H.G. Wells
- Sibyelle (2010) / taken from Canto VI of the “Aeneid” by Virgil

**(Read full response in Appendices Figure 15, page 54-56).**

## **1.2 Contemporary Narrative Film Composition and Soundscape Authenticity**

Another important element of narrative/programmatic music is the use of musical themes to represent a person, scenery, or event. The idea of musical themes stems from the concept of leitmotiv (leading motif), a short, recurring musical phrase, popularised by composer Richard Wagner. Wagner was one of the earliest composers associated with the concept of leitmotiv, most notably in his *Der Ring des Nibelungen* (*The Ring of the Nibelung*) a cycle of four operas composed from 1853 to 1869, in which hundreds of motifs were composed and developed throughout the operas. This technique has since become perhaps the most prominent feature in film music, in which composers write short motifs for different characters and scenery that they then recycle and reuse throughout the film depending on the mood of certain scenes. Composers such as John Williams demonstrated the leitmotiv concept in various film scores such as ‘Hedwig’s Theme’ from the Harry Potter series (2001-2011), ‘Imperial March’ (Darth Vader’s theme) from the Star Wars saga, and the theme from Jaws (1975) with its suspenseful motif consisting of an alternating two-note pattern (E and F).

Regarding keys in film music, in the opening chapter of his book, *Music Composition for Film and Television*, Argentinian composer Lalo Schifrin, best known for “Theme from Mission: Impossible,” (1967) states that:

“The whole object of the music, no matter what means are used, is to make a psychological contribution to the movie ... As a first step in the study of the relationship of music and emotions, we appeal to the Greek modes:

- Ionian (major scale) for positive moods, happiness, euphoria, exhilaration
- Dorian and Aeolian (minor scale) for sadness, melancholy, loneliness
- Phrygian for hope, longing, a sense of “almost there”
- Lydian for affirmation (more positive than Ionian)
- Mixolydian for searching, adventure, discovery
- Locrian, which is somewhat like Phrygian but toned down.” (Schifrin, 2011, p.2).

However, for this research project, I needed to find and analyse a film soundtrack that, whilst using the principles of 'leitmotif' for character or scenery themes, focused on creating atmospheric soundscapes like *Another Spring* and *Red Bird* to help guide the narrative of the film. My research brought me to the soundtrack of Michael Glazer's 2013 science-fiction and thriller adaptation of Michel Faber's 2000 novel, *Under the Skin*. Composed by British composer, Mica Levi. The film follows an alien (portrayed by Scarlett Johansson), disguised as a human, who preys on unsuspecting victims by seducing and luring them into a void to devour them.

As the film features very little spoken dialogue amongst the characters, it was the music's responsibility to be the film's narrative, and Levi's intention to create a score as if she dreamt the world came out of Scarlett Johansson's face (Wright, 2014) and to compose music with metaphorical sensations like: "*What does it sound like to be on fire?*" which was a direction the film's director Jonathan Glazer gave to Levi (Khomami, 2014) resulting in an eerie, haunting, atmospheric and largely minimalistic soundtrack, largely centred around a simple viola theme consisting of heavy colourful sound masses, highly dissonant sounding false harmonic strings and sampled metallic sounds to make the score sound unhuman-like, creating a musical canvas that brings together strings, percussion, distortion in speed and feedbacking microphones, displaying the mindset of an alien trying to blend in with a human world. It could even be possibly implying that the soundtrack was acting as the alien's language.

Two recurring motifs occur throughout the film which could be considered the "alien theme," predominantly featured in pieces such as '*Lips to Void, Beach, Andrew Void – Meat to Maths, and Death*'. The first, and possibly the most recognisable motif in the score is performed on sampled percussion, which is usually not the choice of the instrument when composing a character theme. I refer to this as the "hunt motif" as it appears when Scarlett Johansson's character baits her human victims into the void where they are consumed, as well as happening at the end of the film where this time the alien becomes the hunted rather than the hunter. The second motif is a three-note repeated melody played on the violins and violas. This theme has a seductive quality to it which (like the other motif) is used by the alien to seduce her victims to the void. It's a motif that could be replicated on a saxophone in a cliché romantic scenario, in which Levi states that the theme is the alien's "perfume," (Romney, 2016). As the score is principally atonal, made of clusters of chords and sampled sounds to sound inhuman, in the short scenes where the alien's character is experiencing what it means to be a human on Earth, the music, 'Love,' becomes tonal and human-like, based in a repeating passage in C major, while maintaining a small essence of an alien presence with slow chromatic ascending and descending glissandos (G4-A4) played on the violas and keyboards.

In an interview about her creative process behind the underscore, Levi explained that the unhuman-like sounds were achieved by editing the sounds of natural musical instruments (in this case, mostly the strings):

"Some parts are intended to be quite difficult. If your life force is being distilled by an alien, it's not necessarily going to sound very nice. It's supposed to be physical,

alarming, hot ... For *Under the Skin*, we were looking at the natural sound of an instrument to try and find something identifiably human in it, then slowing things down or changing the pitch of it to make it feel uncomfortable. There was a lot of talk of perverting material. It does sound creepy, but we were going for sexy.” - Mica Levi (Guardian, 2014)

With Levi's score being predominantly orchestral throughout with sampled percussion and other noises unlike the works of Dhomont and Wishart, it shows a strong influence from composers of the avant-garde, particularly György Ligeti. Often regarded as the founding father of sound-mass and colour, Levi demonstrates Ligeti's compositional methods, applying his concept of “Klangflächenkomposition” (composition with planes of sound) (Randel, 1999: 375) or his “micro polyphonic,” sound, a musical texture consisting of many lines of dense canons moving at different tempos or rhythms, resulting in colourful tone clusters in her score for *Under the Skin*. American author and composer David Cope states that micropolyphony works in that it “resembles cluster chords but differs in its use of moving rather than static lines”; it is “a simultaneity of different lines, rhythms, and timbres” (Cope 1997: 101). It was this compositional style that brought Ligeti's music, most notably ‘*Atmosphères*’ (1961), to the attention of film director Stanley Kubrick who used ‘*Atmosphères*’ along with other compositions by Ligeti, Richard Strauss and Johann Strauss, in his 1968 science-fiction film, 2001: A Space Odyssey.

While the soundtrack for *Under the Skin* certainly expresses a science-fiction-based atmosphere throughout the film, it can be difficult to gain a sense of location, not of where the sounds came from, but the location of what they are representing. While Dhomont's ‘*Another Spring*’ creates an aural image of the (Canadian) countryside, the sounds of the countryside are not unique to any specific location. It is the same situation with the sounds of a busy city. Unless you are the composer who knows where they recorded those sounds, any listener would only be able to determine that what they're hearing could be the sound of any city in the world. For this research project I needed to find a collection of narrative compositions in which the sound is critical to its location. By sticking to the style of science-fiction narrated scores like ‘*Under the Skin*,’ the compositions I intended to research needed to give a true sense of a specific and unique location that can only be found in certain areas of the world. To capture the essence of being in a specific location through sound, I took inspiration from Icelandic composer, Hildur Guðnadóttir, and her score for the 2019 HBO mini-series, *Chernobyl*, based on the nuclear disaster that occurred in 1986. Like Dhomont's approach to ‘*Another Spring*’, Guðnadóttir recorded sounds of the outdoors and other non-musical locations to create a clear image of a specific location or season to express these landscapes as narrative (and regarding both composers) electroacoustic music. An extreme example of recording the sound of the intended location, Guðnadóttir's original plan was to record the sound of the real decommissioned powerplant at Chernobyl, just like what Danish artist Jacob Kirkegaard had done for his 2006 album, 4 Rooms. However due to the high levels of radiation contamination

it was too dangerous for her to record samples of radiation there. Fortunately, she recorded the sounds of the decommissioned Nuclear Power Plant in Lithuania, which has the same reactors used in Chernobyl giving almost identical ambient sounds so she could make the radiation from the plant the voice of the soundtrack (Godfrey, 2019).

As well as providing the score with a true sense of authentication to the mini-series location, as with Levi's score for *Under the Skin*, it was vital for Guðnadóttir to maintain a connection between the score and human cast. Her main aspect in the score was to convey the human aspect, focusing on "the human tragedy and the human mistake," of causing such a global catastrophe (ScoreIt, 2019) as well as the sorrow, grief, politics and blame in the aftermath of the explosion (Goldowitz, 2019). When discussing this aspect in a Polish magazine, one of the most poignant soundtracks featured in the soundtrack is a vocal arrangement of the piece, '*Vichnaya Pamyat.*' Translating as 'Memory Eternal' in English. According to Guðnadóttir it is an old traditional hymn that is sung when someone dies (Błaszczak, 2019), and is used in the epilogue at the end of the series, which pays tribute to the real-life heroes, victims and casualties who risked everything to help prevent the spread of radiation, along with up-to-date statistics of the effects the explosion has had across Europe and parts of Asia.

### 1.3 Symphonic Poem and the Concept Album

The symphonic poem (or tone poem) is a descriptive term first applied by Hungarian Romantic composer Franz Liszt for his 13 one-movement orchestral works which, while on a symphonic scale, were not true symphonic movements because they dealt with descriptive subjects taken from classical mythology, Romantic literature, recent (for the time) history or imaginative fantasy. In other words, they were programmatic (Kennedy, 1994: 864).

Although Beethoven's *Pastoral Symphony* and Berlioz's *Symphonie Fantastique* shine as some of the earliest examples of programmatic composition, it was the Hungarian composer, Franz Liszt, who first brought about the idea of the 'Symphonic/Tone Poem' by expanding the programmatic practices of composers such as Beethoven and Mozart. By combining the practices of the cyclic form, a process in which a singular music theme is featured and developed throughout multiple movements of a symphony, as with the main motif in Beethoven's Fifth Symphony (1808) (Kennedy, 1994: 212) along with the second practice of thematic transformation, in which a leitmotif is varied and developed using permutation.

Richard Strauss's '*Death and Transfiguration*' (1889) was composed to depict the death of an artist, Strauss commissioned his friend and poet Alexander von Ritter to write the poem after the music was composed in a four-movement suite with the following synopsis:

- Largo (the sick man, near death)
- Allegro Molto Agitato (the battle of life and death offers no respite to the man)
- Meno Mosso (the dying man's life passing before him)

- Moderato (the sought-after transfiguration)

“The sick man lies in bed breathing heavily and irregularly in his sleep. Friendly dreams bring a smile to the sufferer; his sleep grows lighter; he awakens. Fearful pains once more begin to torture him, fever shakes his body. When the attack is over and the pain recedes, he recalls his past life; his childhood passes before his eyes; his youth with its striving and passions and then, while the pains return, there appears to him the goal of his life’s journey, the idea, the ideal which he attempted to embody, but which he was unable to perfect because such perfection could be achieved by no man. The fatal hour arrives. The soul leaves his body, to discover in the eternal cosmos the magnificent realization of the ideal that could not be fulfilled here below.” – Richard Strauss (Judd, 2020).

As a contemporary version of the tone poem and popular throughout the 1960s and 1970s, the concept album (unlike most standard pop/rock albums) features songs and or instrumental pieces that serve a larger purpose as a collective rather than individually and often focus on a single narrative whether being through instrumental and or lyrical compositions. Classic albums such as *Pet Sounds* (1966) by The Beach Boys, *Sgt Pepper’s Lonely Hearts Club Band* (1967) by The Beatles, *Tommy* (1969) by The Who, *The Lamb Lies Down On Broadway* (1974) by Genesis, and *The Wall* (1979) by Pink Floyd are regarded as being some of the most popular early examples of the concept album approach. However, for the purposes of this research I needed to find and research a concept album with an already-existing storyline and discover how the composer broke the story down into specific sections to be able to compose a musical narrative to accompany the story.

Resembling ‘Under the Skin’ and ‘Chernobyl’ mentioned in the previous subchapter, the key was to follow the science-fiction genre of ‘story and sound’ which led my research to Rick Wakeman’s 1974 musical adaption of Jules Vernes’ 1864 novel, *Journey to the Centre of the Earth*. As the keyboardist for British progressive rock band, Yes, Wakeman took part in the orchestral concerts of The Who’s live production of *Tommy* in 1972, which lead to the development of the idea to compose his concept album based on ‘Journey to the Centre of the Earth,’ with music written for an orchestra, rock band and choir (with additional narration). The originally recorded album was performed as a live show at the Royal Festival Hall in London in 1974, featuring Wakeman himself performing all the keyboard parts (and later producing the recording), the London Symphony Orchestra and The English Chamber Choir. To express the book’s narrative, Wakeman divided the story into four separate movements for a forty-minute production:

- Movement 1: “The Journey” (ACT 1)
- Movement 2: “Recollection” (ACT 1)
- Movement 3: “The Battle” (ACT 2)
- Movement 4: “The Forest” (ACT 2)

By splitting the story into four movements, Wakeman was able to tell Jules Verne's novel through his music and lyrics, along with the narration provided by English actor, David Hemmings.

Another example of taking an original story and transforming it into a musical suite in the progressive rock period of the early 1970s was Bo Hansson's 1970 album, *Music Inspired by Lord of the Rings* (book by J. R. R. Tolkien). Composed as chamber music for the mythologically minded, Hansson's psychedelic visions for Middle-Earth settle into a forty-minute suite of music with a wanderlust feeling throughout (Goldner, 2016). Having been fascinated by Tolkien's works, most notably *Lord of the Rings*, he chose the latter to be turned into an instrumental, twelve-song, concept album, telling the entire story without the use of spoken or sung dialogue (unlike Wakeman's approach with *Journey to the Centre of the Earth*).

## **1.4 Aria: Death in Song?**

Like the previously mentioned works in which music and sound are used to represent emotions and beings both metaphorically and literally, part of this research project is knowing how to represent 'death' as a sonic motif. While the main body of this research project focuses on creating sonic landscapes using environmental, mechanical and instrumental sounds, death is an event that humans experience, therefore suggesting that to simulate this feeling in music it will require the presence of human performance to represent succumbing to death. Arguably, the sound of pure silence could also represent death, as it shows that there are no signs of life in its sounds, however for the purposes of this research project I will be trying to represent 'death' as a musical/sonic motif.

A key piece to help express death as a musical component is the aria (a long-accompanied song for a solo voice, typically one in an opera or oratorio), 'When I am Laid in Earth' (or 'Dido's Lament') from the 1689 Baroque Opera, *Dido and Aeneas*, by the British composer Henry Purcell. The opera is based on the mythological story of Dido, Queen of Carthage and the Trojan prince Aeneas, to which this aria is written about her despair at his abandonment at the end of the third act, where she flings herself on a funeral pyre.

**Figure ii:** the lyrics to ‘When I am Laid in Earth’

**Recitative**

Thy hand, Belinda, darkness shades me,  
On thy bosom let me rest,  
More I would, but Death invades me;  
Death is now a welcome guest.

**Aria**

When I am laid, am laid in earth,  
May my wrongs create  
No trouble, no trouble in thy breast;  
Remember me, remember me, but  
ah! forget my fate.  
Remember me, but ah! forget my fate.

The opening lyrical passage from the recitative instantly sets a dark mood throughout the piece, with the words ‘darkness’ and ‘death’ being highlighted and extended with chromatic flourishes. Between the two sections, Purcell creates harmonic suspense by writing a chromatic descending ground bass melody, a common feature in baroque music which could metaphorically represent the body being lowered into the Earth. This chromatic descending technique is also featured on the first ‘laid’ in the Aria section, which like the ground bass melody, could metaphorically represent the body falling or being laid to rest in the Earth.

The rest of the vocal lines have an almost angel-like hymn quality to them, giving a further metaphorical representation of death. While the descending ground

bass and sung ‘laid’ give the impression of the body being laid to rest in the Earth, the rest of the vocals could represent the soul floating up towards the heavens.



**Figure iii:** The chromatic descending ground bass melody and vocal melody on ‘laid’ in

Purcell’s compositional practices for this aria to represent death is evident in film music. It could be suggested that film composer James Newton-Howard was inspired by Purcell when composing the score for Peter Jackson’s 2005 monster-adventure film, King Kong, most notably in the soundtrack ‘Beauty Killed the Beast Part 3’ when Kong is defeated by fighter planes and falls to his death from the top of the Empire State Building. Purcell’s influence over Newton-Howard can be heard in the 1995 historical drama film, Restoration. Newton-Howard’s main theme is based on the music of Purcell’s 1692 opera, The Fairy Queen (Wilson, n.d). Another film score that features this compositional technique is Hans Zimmer’s score from Christopher Nolan’s 2012 superhero film, The Dark Knight Rises, in the soundtrack ‘Rise’ in which Batman sacrifices himself to save Gotham City.

## 1.5 Conclusion

The literature discussed in the literature review of this research project demonstrates the significance of each composer's works and compositional practices to create music with narrative qualities. With Dhomonts and Wishart's demonstrating how their compositional practices can use music as an expressive vehicle to reinterpret other works in the style of musique concrete and create metaphorically sound imagery and sonic landscapes to guide a specific narrative through the recording and processing of environmental and human sounds. On the other hand, the practices applied in film scores such as 'Under the Skin' and concept albums such as 'Journey to the Centre of the Earth' allows a specific narrative to be present as a musical format. These two works are crucial to this research project as they also demonstrate how already published works can be reimagined as a musical compositions with the concept of looking through the eyes of a character. Although the literature discussed in this chapter explores a wide variety of different genres and practices in composition, they are all music written to express a narrative, scenery or language through the medium of sound. With my knowledge of narrative music used in film being my strength before this research project began, it was crucial to explore the practices of electroacoustic composition to gain a greater understanding of how music and sound can create complex sound imagery that can depict a narrative. In other words, each composer takes on a story-telling approach in their compositions. By understanding, combining and developing the practices of each composer discussed in this chapter, the main component of this research project will be a suite of 'Cinema for the Ears' composition retelling an already published work as a musical narrative.



## 2. Research Methods

### 2.1 Objectives

Following the fields of compositional practices discussed in the literature review, the creation of my composition must follow set objectives to express the inspiration and importance the works mentioned previously have on this research project. The following objectives are as such:

- 1) My composition will be a reimagination of an already published work and will incorporate the practices of traditional orchestral and electroacoustic composition to showcase my development as a composer, and to explain the influence the previously mentioned works and composers have had on this research project.
- 2) The narrative of the story will be expressed only through sound. No visuals or verbal narration will be present throughout any of the music. The music will represent feelings and events both literally and metaphorical in a sonic landscape, resulting in a ‘Cinema for the Ears’ inspired composition.
- 3) The piece is to be composed with the synopsis of looking through the eyes of the main character (like Levi’s approach with the score for ‘Under the Skin’).
- 4) My composition will be created using sound samples of my own collection and creation, featuring environmental, mechanical and instrumental sounds, resulting in a versatile original sound library.

### 2.2 Choosing a Narrative

From analysing the compositions discussed in the literature review, the main aim of this research is to compose a narrative suite of orchestral-infused electroacoustic music, in which the music acts as the sole narrator. In keeping with the science-fiction themes of *Under the Skin*, *Chernobyl*, and *Journey to the Centre of the Earth*, I needed to find a story that fitted in with that genre and that could be told through (mostly) instrumental composition. After deliberating my choices with my Director-of-Studies, Dr Tom Williams, we found the right story for this research project. *The Time Machine* (1895) by British author H.G. Wells. This story follows the adventures of an unidentified character, known simply as ‘The Time Traveller’, who travels forward in time to the year 802,701 AD and encounters various challenges and dangerous situations in his journey, including the discovery of two future subspecies of humans known as the Eloi’s and Morlocks.

I chose *The Time Machine* as the source for my composition not only because it ties in with the science fiction genre, but as it is a relatively short story, the entire story will be able to be reimaged as a musical suite. Also last year (2020) the story celebrated its 125<sup>th</sup> year

since its original publication, and it would be a great way to honour the story. The composition was named: *The Time Machine Reimagined*.

## 2.3 Compositional Approaches

### 2.3.1 Creating Movements and Narrative

Like Wakeman's approach to *Journey to the Centre of the Earth*, my composition would need to break the story into different sections to help guide the flow of the narrative as a one-movement piece, like the traditional layout of the tone poem. From reading and analysing the story of 'The Time Machine' I was able to break the plot into four separate movements for a thirty-minute suite of orchestral-infused electroacoustic music:

- Part 1: The Time Machine
- Part 2: 802,701 AD
- Part 3: Attack of the Morlocks
- Part 4: Into the Further Future

However, unlike *Journey to the Centre of the Earth*, my composition does not feature any narration to help guide the narrative, as my intentions were for the music to be the sole narrator of the project. Taking Mica Levi's methodology for the *Under the Skin* underscore, I will approach *The Time Machine Reimagined* with the intention of composing the suite as if the listener was looking through the eyes of the main character, in this case, the time traveller, and his journey into the future and all the challenges he faces. This project is different from Gobeil's approach to his adaption of The Time Machine (Point de Passage). As the story is written in third-person of somebody (possibly H.G. Wells) relaying and retelling the time travellers adventures to the reader, this project focuses on the first-person experiences of the time traveller.

### 2.3.2 Soundscapes

Like the methodologies used by Dhomont and Guðnadóttir in *Another Spring* and the underscore for the series *Chernobyl*, soundscape authenticity is an integral element of my compositions as it gives my composition a sense of location and the listener will create an audible image of being emersed in the scenery of sound. For *The Time Machine Reimagined* the main locations in the story are the time traveller's home, the countryside (earth in the year 802,701 AD), a cave/underground lair, and travelling through time and space. To be as authentic to these locations as possible, I will be recording samples of each location and documenting them in my results section and appendices.

### 2.3.3 Character Leitmotif's

With H.G. Wells' original story of *The Time Machine* being relatively short, there is only a small selection of characters within the story. For my musical reinterpretation of the story, I will compose short character tonal leitmotifs to help identify the characters throughout the predominantly electroacoustic narrative. The recurring character themes will help identify the time traveller, Weena (and the Eloi human species) and the Morlocks.

Although not a human character in the narrative, the time machine will have its own sonic motif throughout the suite. The sound of the time machine will be created using sounds to give literal and metaphorical meanings to the sonic motif, most notably the sound of time (a clock) changing to give a metaphorical representation of time travel. All are discussed in full detail in the results section.

### 2.3.4 Representing the State of Death

In the third and fourth movements of *The Time Machine Reimagined*, death is a dominant presence as, during the story of *The Time Machine*, Weena (the Eloi) is burned alive during an attack by the Morlocks, and, while trying to escape into the even further future, the time traveller witnesses the death and destruction of all life on Earth and the Sun. So, the question I need to ask myself is: How do I represent 'death' as a metaphorical or literal sound?

The common sound that most people associate with death is the sound of the long drone of a hospital heart monitor once the heart has stopped beating, but that sound effect would be a far too literal representation or cliché of death for this composition. To be able to appropriately represent death for *The Time Machine Reimagined*, I will be taking inspiration from classical, opera, religious (ceremonial) and film music. Relating back to Mica Levi's piece 'Love' from the score for *Under the Skin*, the music is tonal and soft to represent human emotions being felt by an alien, so it is important to feature a tonal music passage to signify death as a human emotion in the third and fourth movements of my composition. Also, from the soundtrack from Chernobyl (as mentioned previously), the piece 'Vichnaya Pamyat' used in the epilogue of the series is another way death could be represented due to its link to memorial services in Ukraine.

However, the main method of representing death as a sonic motif is by applying Purcell's practices of composing an aria-like his composition 'When I am Laid in Earth', from his 1689 opera, *Dido and Aeneas*. The aria chosen for this research projects a religious/angel-like quality and is singing about dying, which is the approach I have taken for my composition to a strong feature amongst the sound of chaos and deconstruction (wildfire breakout which kills Weena and the Morlocks). This not only will represent the death of Weena and the Morlocks, but also the death of the surrounding wildlife.

### **2.3.5 Production Processes**

Most of the recording processes of *The Time Machine Reimagined* were done using portable sound recorders (Zoom H5) to capture the sounds of the natural environment and maintain a sensation of soundscape authenticity. Other processes included the recording of home appliances and gym equipment which would be used predominantly in the sonic motif of the time machine itself. Although mostly being an electroacoustic narrative suite, acoustic and electric instruments (strings, piano and guitars) were recorded to add an atmospheric ambience to the suite, resembling Ligeti's approach with his piece 'Atmosphères,' as well as mechanical sounds to enhance the time machines sonic motif. All the sounds featured in the suite were edited and enhanced using the recording and editing software ProTools and GRM Tools. The completed project is presented as a stereo-mixed deliverable.

## **2.4 Overcoming Problems**

Due to the ongoing COVID-19 pandemic, the development of my research project ran into mostly practical problems throughout 2020-2021. My biggest problem was losing access to the recording studio facilities and not having the facilities to continue so at home to compose and record 'The Time Machine Suite,' and I had to find alternative methods of recording and collecting the sounds for my composition. As most of the sounds required for the suite were from the environment, I was able to obtain a portable recording device (Zoom H5) to record the sounds safely.

Although I didn't have access to the recording studio software's outside of universities such as ProTools and GRM Tools primarily for financial and hardware purposes, I was able to research into them so that when I regained access to the recording studio's I was familiar with how the software's operated in recording and editing sound recordings. I was also supported by Coventry University's Media Loan Shop who supplied with some recording equipment (microphones mainly) to be able to record more sounds at home.

# Part 2:

## *The Time Machine Reimagined* Critical Commentary

### 3. Results

#### 3.1 Concept

Throughout this thesis, the concepts of electroacoustic, programmatic and narrative music have been analysed and their significance to the creation of *The Time Machine Reimagined* explained. The compositional practices of the composers mentioned in my literature review have inspired me to create my narrative composition, combining and developing the styles and practices of their works and my own. The overall concept of this research project was to create a suite of ‘Cinema for the Ears’ compositions, made of orchestral-infused electroacoustic music, telling the story of H.G. Wells’ *The Time Machine* to look into a futuristic world through the eyes of the time traveller.

Being a relatively short story, it became easy for me to separate the novel into the four main sections which would later make up the narrative of the four movements of my composition. This is taking Wakeman’s four-movement approach with *Journey to the Centre of the Earth* into consideration, but unlike Wakeman’s compositions, mine does not feature any narrative dialogue to guide the flow of the story and music. The layout and timings of ‘The Time Machine Suite’ are present as such:

- Part 1: The Time Machine (00:00-04:20)
- Part 2: 802,701 AD (04:20-18:25)
- Part 3: Attack of the Morlocks (18:25-25:38)
- Part 4: Into the Further Future (25:38-31:29)

As each section flows into another without any distinctive breaks in between the sections unlike that of a traditional symphony, it resembles the structure of a symphonic poem as a single piece of music made of different sections.

For the synopsis of each movement please see **Figure 8** in the appendices

### 3.2 Sonic Motif of the Time Machine

The prime compositional objective was to create the sound of the time machine and all its components. Like Dhomont's approach in taking an electroacoustic approach to the sounds of Vivaldi's poem, *La Primavera (Spring)* for the Spring Movement in his Four Seasons concerti, it was important to capture all the details of the design of the time machine and create it using electroacoustic practices. Due to there being no description of the design of the time machine in H.G Wells' 1895 novel, the sound design created for 'The Time Machine Suite' comes from the design used in George Pals's 1960 film adaption of the original novel.

It was essential to capture the main parts of the time machine: the engine, turbines and the sensation of travelling through time at high velocity. With the element of speed and power being a dominant presence within the sound of the time machine, it was essential to record and create sounds that reflected those sensations. Achieving sounds to perfectly represent and express speed and power was attained from the recordings of various home and exercise appliances.

Three appliances used to represent the time machine's large spinning turbine were a spinning-exercise bicycle and a washing machine. With both devices sharing rotatory apparatuses and both releasing musical harmonics while in use, they became the body of the sound of the time machine.

For example, the spinning-exercise bicycle releases aleatoric clunks and bangs depending on the strength of its break resistance on its rotating wheel. As well as emulating the sounds of nuts and bolts being shaken at full speed, each clunk sound after each full 360-degree rotation resonates a cluster of harmonics along with a continuous drone from the spinning wheel, creating a colourful yet highly mechanical sound. The (fully loaded) washing machine however has a greater impact on the sound of speed and power. With it being electronically powered (rather than manually like the spinning bicycle), it was able to achieve higher rotisserie speeds, aleatoric rattling, and releasing a wider range of droned resonant harmonics.

To enhance the sound of power I also recorded a car engine and exhaust to combine with the washing machine. By using the accelerator in a stationary position, the engine's pitch and ferocity (like the washing machine) increased the harder the accelerator was pressed, combined with the addition of the exhaust resonating a low-end sub rumble. Combining raw and



**Figure :** The Time Machine design from George Pals 1960 film adaption

processed audio recordings, it gave the sonic motif of the time machine an overwhelming sense of power and speed that can only be fantasized in science-fiction.

Furthermore, another element in the creation of the time machine's sound evolved from the sound of highspeed wind resistance against a fast-travelling object. It could be suggested that the most significant engineering design that is defined by speed and power is the sound of a space shuttle launch, which lead to me to search for an easier alternative to sample the sounds of. By recording two large floor fans and changing the pitches and ferocity in postproduction, the resulting product was a sound like that of a space shuttle launch or an aeroplane engine, and heavy, low-end rumble layered with the sounds increasing gradually in pitch to simulate the time machine travelling faster through time.

Another small, though the highly critical element of the sonic motif, is the sound of the lever that activates the time machine. Taking inspiration from the Tardis from Doctor Who, the lever marks the point that the time machine has been activated to travel forward or backwards in time, but has another metaphorical meaning attached to the sound. The sound of the lever was recorded using the sounds of pulling a door handle down, closing a door quite forcefully, and low subsonic ambience. Processing the three sounds together it creates a mechanical sound of the lever being pulled by the time traveller, but the doors incorporate an additional meaning. Although time travel is impossible in the normal world, the sound of the door represents the opening to new ideas of ideas (pulling down the handle), as well as shutting out the idea of impossibilities, in which the time traveller has created a machine that would be thought to be an impossibility.

A common representation of travelling through time in a science-fiction persona is the idea of entering a portal that can take a person anywhere and anytime. Although the time machine can only travel through time and not location, it was important to capture that essence of travelling through a portal into an unknown world. The creation of a portal sound effect for this sonic movement was created using the sounds of book pages turning, both fast and slow and heavily processed. Not only does the processed sound of pages turning add the feeling of travelling through time and space, but they also act as a sound metaphor for a story.

Above all else, *'The Time Machine'* is a story, and all stories have a beginning and the reader travels along with the pages until they reach the end, therefore creating a metaphorical sound image for travelling through time, in which the time travellers' time (1895) is the start of the story, the arrival at the year 802,701 AD in the middle, and the story ends when he sees the end of all life on earth when he travels even further into the future. By the time the time traveller goes back to his own time, the page-turning sounds are reversed to signify that the reader of a story is going back to the start of the book.

Perhaps the most important element of the time machine's sonic motif is the representation of time itself. Time is a continuous sequence of events that is irreversible once an event has occurred and is mostly represented and defined through a clock. However, for this research project, time is a continuously changing element that can go forwards at various speeds as well

as backwards. To create the impression of travelling through time, the sound of a clock was recorded at the normal time (60 beats per minute) and was heavily processed, by speeding up, slowing down, and altering the pitch, velocity and timbre to give a metaphorical impression that the time machine is travelling through time, both when travelling forward in time and back in time. With it being easier to represent travelling forward in time, it is equally important to represent travelling back in time (at the end of the fourth movement) and that was achieved by reversing the sounds of the clock chimes to indicate that time in this sonic movement does not travel in a singular direction.

Combining the elements talked about above created a musical canvas of mechanical and metaphorical sounds, representing the full power and ferocity of the time machine. Other sounds were used to detail the smaller parts of the time machines design to enhance the inner mechanisms of the time machine are discussed in the appendices (see Table).

### **3.3 Continued Metaphorical Sound Imagery**

#### **3.3.1 Knowledge**

Along with the sounds featured throughout the sonic motif of the time machine, other sounds were used throughout the suite as metaphorical sound images. Firstly, the sound of a book is used again in the suite during the second movement, but this time is used to represent knowledge. This is inspired by Wishart's approach with *Red Bird* as he too uses the sound of books to represent knowledge, and I have taken a similar approach. As the time traveller finds himself in a world where all traces of his time have disappeared and where he encounters the "Eloi(s)" for the first time, he discusses that almost all previous human knowledge has been lost not only on the world but on the Eloi's as well. Later in the movement he is taken to what he describes as a museum of human artefacts that have seemed to have been forgotten about and some artefacts, most notably the books, disintegrate at his touch. To represent the sound of knowledge being lost and destroyed, I featured the songs of book pages being turned and ripped and later processed to sound like they're fading out of existence, giving the impression that human knowledge has been lost.

#### **3.3.2 Power and Royalty**

One subtle metaphorical sound image that is featured in the second and third movement of the suite, is the sound of a gong but struck by a single mallet. This is used to represent the white sphinx that marks the entrance to the Morlocks' underground lair. A gong is used as a symbol of wealth and power (particularly in Asian communities), which was used to represent the power the Morlocks held over the Eloi, despite their cannibalistic nature. The industrial sounds used in the representation of the underground lair demonstrate human intelligence which is not used to represent the carefree Eloi.



### **3.3.3 Destruction**

As part of my research of the score for 'Under the Skin,' I analysed some of Mica Levi's compositional approaches and methodologies, and there is one question/direction (mentioned previously in my literature review) that stuck in my mind about the creation of a specific metaphorical sensation:

“What does it sound like to be on fire?” (Khomami, 2014)

This question is highly significant to my research as during the third movement (Attack of the Morlocks) a wildfire breaks out, engulfing the environment, Morlocks and Weena. It was important to capture the sound of deconstructive power of fire on the environment by combining the sounds of a real fire, processed fire sounds, cracking of the wood and screams to create an 'end of the world' type metaphorical soundscape. The sound of fire grows immensely as the movement progresses, giving the impression of destruction growling and developing all around the time traveller, but this is enhanced by the sounds of screams. The screams sounds were created through recording and processing strings that were performed by rotating a 5p coin across the strings close to the bridge. The unprocessed sound alone gives a harsh, unpleasant scratchy tone but once slowed down, distorted and with added reverb, it creates an ambience of high harsh screams combined with the cracks of fire, creating a metaphorical image of being burnt alive. The sensation of death and deconstruction is continued into the fourth movement with the sounds of explosions, rocks crumbling and wood snapping to emulate the destruction and death of life on Earth and eventually the Sun.

### **3.3.4 Emptiness**

Another expression for emptiness is nothing. Again, taking inspiration from Mica Levi's underscore for 'Under the Skin,' she uses the sound of the void as a sensation for emptiness, which highlights the inspiration of Ligeti's piece 'Atmosphères' in her score. During the fourth movement of 'The Time Machine Suite' the time traveller witnesses the death and destruction of life on Earth and eventually the sun, resulting in an empty, hostile planet. Therefore, the sensation of emptiness was represented by the sound of low dissonant chromatic strings and a gong which was processed heavily to create the sound of a continuous drone, resulting in a low orbital rumble, indicating that Earth is simply floating through space with no life remaining.

## **3.4 Soundscape Location Authenticity**

To achieve the aim of creating a sonic palette of original sounds, I needed to collect sounds that will enhance the narrative flow of 'The Time Machine Suite.' Like the underscore for Chernobyl, it is important to create a sense of the location of a particular scenery by recording the sounds of specific locations, most notably natural sounds of the environment to create sonic

landscapes of different worlds. The main sonic landscapes featured throughout 'The Time Machine Suite' are the countryside, the inside of a cave and the vast emptiness of a dying Earth and Solar System.

Like Dhomont's 'Another Spring' the sound of the countryside features heavily throughout the second movement (802,701AD) as when the time traveller arrives in that year, he finds that nature has reclaimed the Earth, not showing any evidence of the human life he knew from whence he came from. To magnify the science-fiction genre throughout this movement though, the sound of the countryside is layered using strings and the feedback of several distorted electric guitars. The low-to-mid range strings create a broadness in space, emulating that of the soundtrack of the Void in 'Under the Skin' as well as Ligeti's 'Atmosphères,' while the feedback from the electric guitars not only amplified the broadness of space but the aleatoric frequencies they emitted could also emulate bird sounds, strengthened and enhancing the sounds of normal bird sounds used from the environmental recordings. With the addition of effects such as reverb, chorus and flange, the combined sounds of the strings, guitars and environment created a cosmic and almost orbital sound to act as a metaphor for being in a futuristic world. All the sounds of the countryside were recorded across several areas of North Warwickshire and the Peak District.

Another important element of the time machine's story is when the time traveller enters the underground layer of the Morlocks. Again, being as authentic to the sound and its location as possible, I decided to record the sounds of a cave. Like the layering of the sounds mentioned in the previous paragraph, the purpose of recording the sounds of a cave was to create space and the sensation of being underground. The significance of recording the sounds of a cave was that the sounds would bounce off the walls, creating the impression of being in a large though impact space, whereas the natural sounds of the environment have an almost never-ending sensation of space. The sounds of the cave were recorded in two locations: Thor's Cave in the Peak District, and a large fire escape corridor in the Ellen Terry Building at Coventry University.

## **3.5 Musical and Soundscape Themes**

### **3.5.1 'Exploring a New World'/'Glimpsing into the Past'**

Although not a predominant feature in the composition, these motifs are used subtly near the beginning and middle of the second section of the composition (802,701AD) to emphasise the sensation and curiosity of being in a futuristic and unfamiliar world. The first motif, 'Exploring a New World', is used where the time traveller after finding his time machine has been taken, has resumed his exploring in the new world before he rescues and meets Weena from the river. It is performed on an atmospheric piano in the key of B minor with the melody based around the B Dorian scale, according to Schrifin's guide mentioned in my literature review, this scale

is used to represent loneliness, which is what the time traveller is feeling in this section of the narrative. This motif appears at 07:23 on the recording.

The second motif, 'Glimpsing into the Past', was composed for the section in the narrative where the time traveller discovers the museum that contains artefacts from his time, only to disintegrate at his touch. Once again using an atmospheric piano sound and using the C# and B Dorian scales create a melancholy and emotional scene in which the time traveller is reflecting on the past times of the Earth. This motif is supported by the sounds of pages ripping and fading into oblivion, which as mentioned previously is a metaphorical representation of knowledge being lost when the time traveller tries to touch the artefacts. This motif enters at 14:05 on the recording. (See Figure 9 for the score).

### **3.5.2 'Weena'**

Weena's theme highlights a turning point for the time traveller, in which he finds a strong friendship with the Eloi girl after saving her from drowning in the river. Therefore, her theme needed to represent happiness and solidarity between the two characters. Composed in the key C major and using the C Ionian scale for the piano with a soft string accompaniment, this motif brings a feeling of joy and comfort to the composition and the time traveller as he knows he's now no longer by himself in this new period of the world. (See Figure 10).

### **3.5.3 'The Morlocks Lair'**

The basis of 'The Morlocks Lair' was created from natural and processed sounds of Thor's Cave in the Peak District and a large corridor in Coventry University's Ellen Terry Building, combined with low tremolo strings, soft breezes and subsonic ambience, that was layered with sounds of waterpipes softly trickling and scratchy violin sounds. All we heavily treated with reverb to recreate the atmosphere of being in a large underground cavern. The 3-note recurring melody was created using the sound sample 'Intensity' from the plugin 'Xpandii' to maintain an evocative sonic texture of the Morlock's lair. The final element of the motif's foundation is the sound of a match striking with a small flame, which is a literal representation of the time traveller entering the lair and using a match as a light.

The sounds of the Morlocks were created using my voice and the sounds of gorillas were processed and distorted to generate the sound of a futuristic ape.

### **3.5.4 'The Morlocks Ambush'**

With the Morlock(s) being portrayed as the novel's villain, they required a musical theme to represent them when ambushing the time traveller and Weena in the forest at night. Take Mica Levi's approach from *Under the Skin*, in which she composed what I refer to as 'the hunt

theme,’ a two-note distorted percussive motif which appears throughout the film where the alien’s character is luring her human prey into a void to be devoured, as well as when she is later in the film, the Morlocks hunt theme takes a similar approach.

The Morlocks hunt theme was created by combining sharp staccato string stabs, made of the notes between C#1 to D#3 and a high tremolo C# diminished chord that was processed using GRM Tools’s Evolution plugin. The theme dominates the opening of the third section of the composition (Attack of the Morlocks) where the Morlocks ambush the time traveller and Weena in the forest and is later reprised at the end when the time traveller is lured into the Morlock’s trap when trying to retrieve his time machine. The motif begins with a lot of low-end and high-end frequencies (anything below 300Hz and above 1Khz) are removed, which as the motif progresses are brought back by sliding the high and low pass filters on the EQ back to brighten and strengthen the sound of this motif to intensify the scenario the attack of the Morlocks before they and the environment surrounding them is engulfed in the fire.

All the accompanying sounds along with the aggressive sounds of the Morlocks are made up of piercing string sounds that were achieved by performing false harmonics, playing behind the bridge, rotating a coin across two strings (at a time), and being processed using GRM Tools’s Warp and Evolution to create the sounds of screaming to heighten the drama of this section in the composition.

### **3.5.5 ‘Nolite Oblivsci Me’**

During the climax of the third movement, the fire engulfs everything in its path including the Morlocks, and Weena. The time traveller watches on helplessly as his friend is taken from him. To represent the sensation of death, mainly for Weena, I took inspiration from Henry Purcell and his Opera, *Dido and Aeneas*, most notably the aria “When I am Laid in Earth.” As the lyrics of the aria depict the sensation of death, I decided to incorporate Purcell’s compositional approach and compose an aria to simulate Weena’s death as if she were singing it to the time traveller in spirit.

Composed as an aria for a solo soprano and ambient piano with a string accompaniment (see Figure 11), it is Weena’s farewell to the time traveller as well as her life, with the lyrics sung in Latin after being translated from English (see Figure 12). It is composed in the key of G minor with the melody based on the G aeolian scale, based around Schiffrin’s guide on using the Greek scales in film composition. The lyrics sang in Latin create an almost religious feeling to the piece, with the solo soprano line (performed by Miss Tiri Budd) giving a performance that features both angel-like hymn qualities and a sense of innocence, which is how Weena might have been. Resembling Purcell’s *When I am Laid in Earth*, my aria features a descending ground bass in the vocal melody for the line ‘Ego somnum in aeternum’ which translates as “I’ll sleep for eternity,” creating the impression of the body falling, not only into a never-ending sleep but falling along with the melody, especially with the diminished 2<sup>nd</sup> in the melody line. The vocals were recorded with a solo ambient piano which played the same melody in unison

with the soprano. Both were heavily mixed with reverb to create a broader sounding melody amongst the sounds of fire, destruction and screams going on around them.

### 3.6 Production

The recording processes for '*The Time Machine Reimagined*' took place in various stages and different environments. The bulk of the material was recorded using handheld recording devices to capture the sounds and acoustics of different locations to enhance the narrative and locations featured in the composition.

Starting with the sonic motif of the time machine, all the sounds present were captured from recording home appliances, gym equipment and car engines using a Behringer XR18 and a collection of large diaphragm condenser microphones such as the Neumann U87 and TLM103, and AKG C414 in acoustically dry spaces to focus on the sounds resonating from those appliances. All were treated with plugins such as GRM Tools's Freeze and Warp, to capture specific sound details in the raw audio, and to increase the pitches of the sounds, mostly the spin bike, car engines and washing machine, to create a sound image of increasing speed and power, accompanied sounds of the other appliances and musical instruments emanating mechanical sounds to reinforce the structure of the time machine.

All the environmental sounds were captured using a portable Zoom H5 in areas across North Warwickshire and the Peak District. Thor's Cave in the Peak District proved to be a significant location for recording as I was able to capture the natural reverb and noises inside the cave. I could have recreated the reverb of the cave using digital plugins but recording the realistic sounds of the cave provided the composition with an authentic timbre to represent the Morlocks lair.

Regarding the musical instrument and vocal recordings, different locations were used for the recording to capture the sound of space. For example, the strings were recorded in Atherstone Memorial Hall, a large community and exercise hall which had a large ambient sound. By recording the strings in this environment using large-diaphragm condenser microphones in various positions, such as close-miking the instrument, placing a microphone in the furthest part of the hall with a final microphone placed in the middle. I was able to combine the sounds from each microphone to create a sense of space that resonates throughout much of the composition. The memorial hall also offered more sound opportunities regarding the sound of water. Along with recording the sounds rushing using the Zoom H5 of water, I needed to capture the sound of water running and dripping in a more controlled and isolated environment. Examples of this can be heard in 'The Morlocks Lair' in which the sounds of water trickling softly through small pipes, along with water dripping from the ceiling and hitting wooden and concrete surfaces were recorded (and later processed) to emulate being inside a large cave. The electric guitar feedback sounds, that were used to replicate mystical bird sounds, were also recorded inside the memorial hall with the microphone placed approximately twenty feet from

the amplifier, to capture the sound of the room. The guitar used was an Epiphone Riviera semi-hollow-bodied electric guitar, which made creating feedback a lot easier than if I'd used a solid-bodied electric guitar.

The vocals for the aria, 'Nolite Oblivisci Me', were recorded using a Neumann U87 in one of Coventry University's recording studios. As the aria was composed to emulate a religious hymn though singing about death, the original plan was to record the vocals in a large space like a church hall to capture the natural reverb of the room. However, due to the ongoing COVID-19 pandemic I was unable to do the recording in such a space and finding a singer during those difficult times proved to be difficult within the period, I had to complete this project before my submission. Thankfully I was able to digitally recreate the sound of a large church hall using a large hall reverb plugin on ProTools (D-Verb) to substitute for the original plan.

The Morlock sounds were created by recording two different sounds. In the novel *The Time Machine*, H.G Wells describes the Morlocks as "white, ape-like" creatures (Wells, 2005, p.44) so it was important to find the right sounds to fit that character description. As they had divided (along with the Eloi) into a subspecies of humans, it was important to maintain subtle human-like qualities to their voices, along with the viscousness of an ape sound. The sound of the Morlocks is a combination of my voice, making growling snorting and roaring sounds, with the sounds of gorillas to enhance that primate quality to their tone. By combining, layering and editing the two sounds, mostly through changing the pitch and speed of the samples using the plugins TimeShift and GRM Tools Freeze and Fusion, the resulting sound is that of an aggressive futuristic ape-like human, heard predominantly throughout the third and part of the second sections of the composition.

The sound of the fire was achieved during the mixing stage. Through recording the sound of breaking a single stick and processing it using the GRM Tools Freeze plugin, the sound achieved resembled that of a large fire breaking out over the countryside (see Figure 13). Although seeming like a basic practice of electroacoustic composition, this technique created a realistic sound of fire that could not be achieved any other way.

The postproduction for *The Time Machine Reimagined* took place at one of the recording studios at Coventry University on ProTools in a stereo field. Working in a stereo field, I wanted to make realistic and authentic soundscapes to add width and depth to my composition. It also allowed panning of certain sounds such as water droplets, bird sounds and fire in multiple directions to allow them to shine above the other sounds in the background. These sounds were treated with the plugin Auto pan (mono/stereo) to bounce in-between the left and right monitors, therefore broadening the width of the mix and adding more depth to the soundscapes. The soundscapes for the countryside and cave were created by mixing and blending the natural sounds of the environments with the processed sounds and instrumental recordings, such as soft atmospheric low tremolo strings. Taking the approach of Ligeti's 'Atmosphères' (1961) in

which he orchestrated his piece to create an orbital effect, hence why it was used in the film, *2001: A Space Odyssey*, the soft strings in my composition add that orbital effect when combined with the sounds mentioned previously, giving an impression of the Earth turning, amplifying an almost cosmos-like atmosphere. This technique is also highlighted in Mica Levi's score for *Under the Skin*, particular for representing the alien exploring a human world. The orbital effect was strengthened near the centre of the fourth section (where he sees nothing but emptiness), I sampled a gong cymbal but only used the tail end of the sample and not the hit. By processing the tail of the recording using GRM Freeze and Spaces, the resulting sound was used as a metaphorical representation of emptiness, like being inside a void in *Under the Skin*.

Reverb and automation played an enormous part in the time of my composition. Firstly, reverb not only gave shape to and glued my composition together, but it creates dimensions in depth and distance. Relating to the previous point about the soft tremolo strings, lots of reverb was added to them as it created not only a soft timbre to those sections of my composition but created an illusion that the space and size of this futuristic world of 802,701 AD is endless. This means that the further an object or scenery is from the time traveller the more reverb would be applied to almost masking it, whilst the things that would come close to him would have less or almost no reverb to them, therefore balancing out the sound mix between those two elements.

This is where automation plays a key role in this technique. The closer an object or thing would be to the time traveller, the louder their volume would be, and the less reverb would be applied. But as soon as they move or fly away from him, the quieter they would become, and reverb would be applied to make the sound fade away to give the impression that something is travelling away from the main character. Another method to emulate the distance of sound is the use of EQ. The further the distance a sound is from its listener the less clear it is, as a lot of high frequencies are lost, resulting in a muffled quality to the tone. But when the sound comes closer to the listener, the clearer it becomes as the sound frequency levels balance out. This is achieved by rolling off high-end frequencies, roughly everything 500Hz-1KHz, using automation on an EQs low-pass frequencies to emulate the further something away is from the main character, and rolling them back on to clean up the sound represents that object or things coming closer to the main character.

So, by combining these three techniques in my composition, I created soundscapes of ever-changing sceneries to represent the time traveller exploring and discovering new things in this futuristic world. Examples of these techniques can be heard in the guitar-made bird sounds, which emulate the birds continuously flying all around him. It is also used for transitioning through different locations, such as when the time traveller is heading down the well, all the countryside sounds fade away into the distance and he has entered the Morlocks lair, and vice versa. Perhaps the most significant usage of this technique is to represent the Morlocks ambush. The hunt theme/motif for the Morlocks begins without a lot of high and low frequencies but regains its brightness and power as it progresses, along with its increase in

volume and decrease in reverb. This acts as a sensation that the Morlocks are getting ever closer to him and is reprised at the end of the third section when the time traveller gets trapped in the Morlock's lair when retrieving his time machine just before they ambush him again.

As well as creating the sensation of distance, using this technique allowed me to balance out important events in the composition with background noise. During 'Nolite Oblivisci Me' the vocals, atmospheric piano and strings are at the full front of the mix while the sounds of fire, screaming Morlocks and general destruction have had a lot of the higher frequencies removed. This allows the aria to be the focal point of the section, representing the time traveller looking backing on and fixating on where Weena would have been and almost forgetting about the events surrounding him. This technique is adapted from the scores from the films *King Kong* (2005) and *The Dark Knight Rises* (2012) as mentioned in my research methods. In both scores, in which an aria is sung, all the surrounding sound effects such as aeroplane engines (fighter crafts and the Bat Jet), city ambience, bomb explosions and even the human character dialogue and sounds (such as breathing and crying) are mixed very low or even muted in the mix to allow the music to bring the emotion to the scene as well as taking over the film's narration for that very short period.

Finally, mastering the completed stereo mix of *The Time Machine Reimagined* consisted of me cutting around 300Hz with a large Q bandwidth to remove some unwanted muddy tones, and boosting frequencies around 8K-16KHz to add clarity to the overall mix using the Waves Q10 EQ plugin. To control the low-end frequencies in the mix I used the Waves C4 Multi-band Compressor to reduce the strength of the lower frequencies, resulting in a clearer mix. The final stage was applying the Waves L2 Limiter to set the output ceiling to -0.2 dB to avoid the mix clipping and reducing the threshold to 12.5dB to glue the composition together with maintaining the different dynamics throughout the composition.

## 3.7 Case Studies

This subchapter will explore the approaches I took to achieve the sounds of specific moments in '*The Time Machine Reimagined*' to pay homage to H.G. Wells' original novel, along with George Pals 1960 film adaptation.

### 3.7.1 Time and The Time Machine

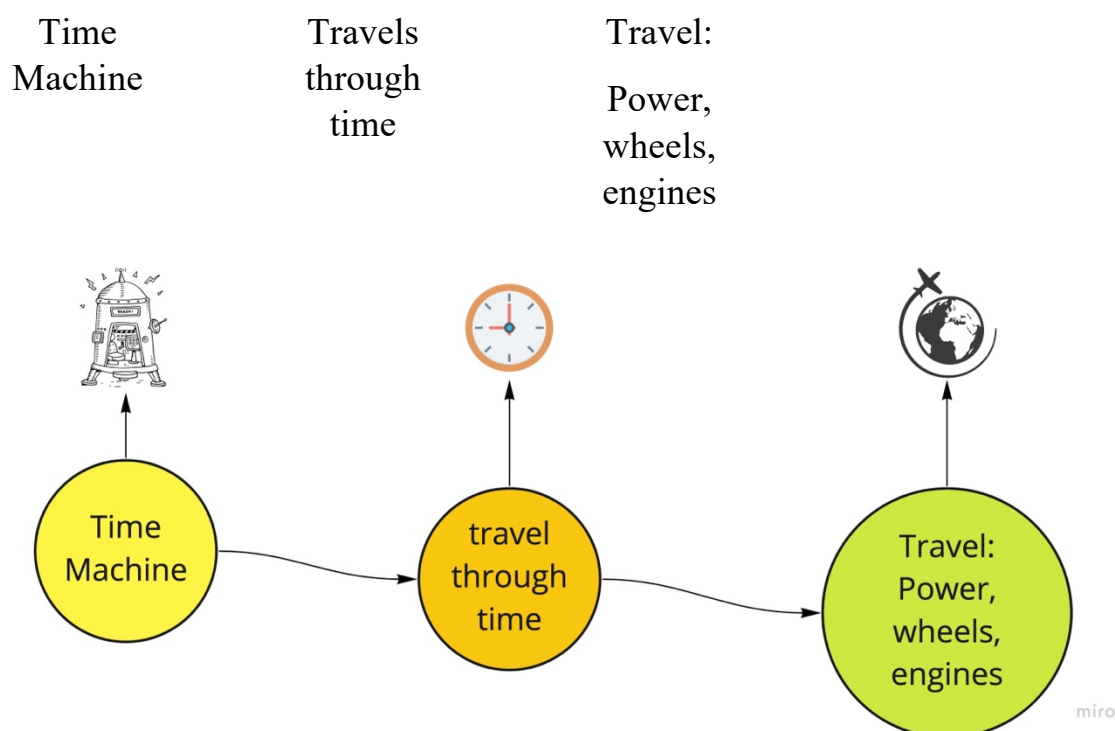
The creation of the time machine's sonic motif was planned and recorded to explore two different periods in time: a period where time is a stable continuous form, and another where it is unstable and constantly changing. It was important to get a sense of authenticity for the time in which the time traveller starts his journey (1895) so I needed the sound of a clock that would have been used approximately at the same time the book was written. The clock sound



you hear at the start and throughout the time machine's sonic movement is my grandparent's clock which was an American Colonial from the early 1900s.

However, it wasn't just the sound of the clock that was required for the sonic motif, but how time loses its stableness when travelling through it. The phrase 'time machine' can translate into a machine that travels through time. In this situation time is no longer a steady continuous being, so it was important to adapt the sounds of the clock by speeding it up and distorting the sound to emphasise the metaphorical sound image of travelling through time.

When approaching the 'time machine' element, I had to break it down into sections to choose the right appliances to record for the time machine's sonic motif:



Using a large-diaphragm condenser microphone (Neumann TLM103) allowed me to capture the sound of the entire appliance, whilst using a dynamic microphone (Shure SM57) enabled me to capture direct and specific sounds such as rattles, harmonics and other noises. After recording the sounds of car engines, a washing machine, a spinning exercise bicycle and electric fans, it was essential to process the sounds to make them sound completely abstract compared to the original recording. It was important for the sound of the time machine to have a unique sound all its own, so it was essential for the sounds recorded to be layered with each other and processed to create a never-before-heard sound to represent the time machine. To enhance the sound even further, string orchestration was used. Taking inspiration from Dhomont who used a viola to emphasise a dog bark in 'Another Spring,' I used the string players to play their instruments to sound like an engine. Each player performed large ascending tremolo glissandos to replicate the sound of a car engine in full acceleration. Four

overdubs were recorded for each musician with each take being played at different speeds, with played with natural and false harmonics to add colour and texture.

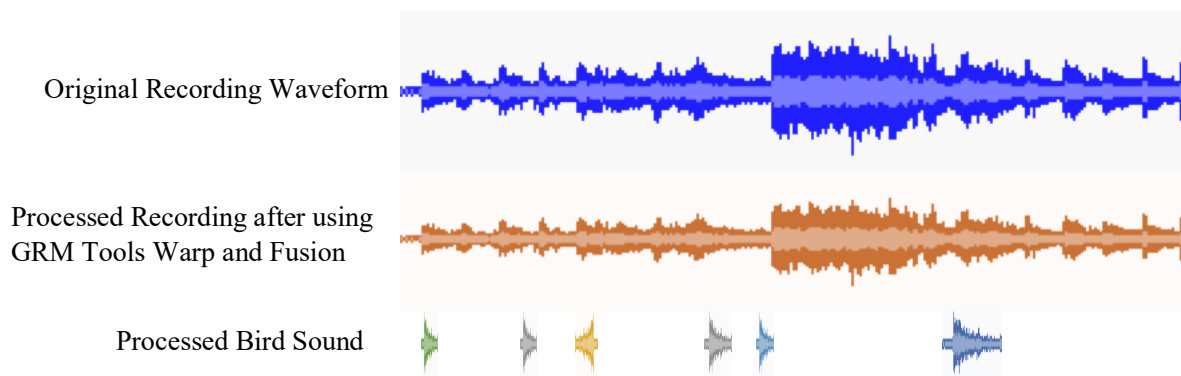
### 3.7.2 The Sound of 802,701AD

Creating the sound for the year 802,701AD required taking the sounds of the present-day environment and adapting them to make them sound futuristic. Because nobody knows what the future will sound like, it was important for me to record the environmental sounds of today and through processing and overdubbing electronically produced sounds, to produce a futuristic-sounding world that nobody has heard before. For an overall ambience of the environment, I would combine the original recordings and the processed sounds. By using digital plugins such as GRM Tools Warp and Fusion, the sounds of natural environments were transformed into an abstract collage of sound that was then infused with the non-processed sounds to create an ambience to show what the future may sound like.

The sound of the wildlife had to be taken into consideration too. Two main sound profiles that feature in the score are bird song and the Morlocks.

With my approach to try to present how the future may sound, I had to take the sounds of birds of today and edit them by slowing down, changing the pitch and adding effects such as chorus to make them a new species. Like the strings replicating car engines mentioned previously, I wanted a musical instrument to replicate bird calls but in an unconventional way. Rather than choosing a woodwind instrument like in Beethoven's Pastoral Symphony in which he composes a cadenza for the woodwind instruments that imitates bird calls: nightingale (flute), quail (oboe), and cuckoo (two clarinets), (Cooper, 2000), I opted for the sound of electric guitar feedback. Holding a hollow-bodied electric guitar (an Epiphone Riviera) in front of an amplifier with distortion, chorus and tremolo in a large space. This experiment resulted in high pitched feedback that would change tone when I moved the guitar around the amplifier. Blending the bird sounds with the guitar feedback resulted in a futuristic bird call that has not been heard in the natural world.

**Figure 15:** Layout of how I layered audio to create the atmospheric sound of 802,701 AD



Like the birds' sound, the Morlocks required a sound to represent them that had not been heard in today's world. Taking H.G. Wells' description of the Morlocks in his original novel (mentioned in 3.6 Production), the aim was to create a hybrid ape sound that expressed the viciousness of the Morlocks. As they had evolved from humans it was important to maintain a small amount of human presence in the sound whilst creating the impression of these creatures being more ape-like than like humans. I recorded my own voice trying to imitate apes and gorillas, by recording myself growling and snarling, and making inaudible whispering sounds before combining them with actual gorilla sounds. After combining the sounds, I added some effects such as distortion to make them sound more vicious and aggressive and low octave pitch shift to add depth and power to the sound.

### 3.8 Results

The resulting composition delivered for this research project is a thirty-minute four-section suite of orchestral-infused electroacoustic music retelling H.G. Wells' 1895 novel, *The Time Machine*, as a piece of 'Cinema for the Ears' acousmatic composition. After reviewing my methodology in writing this subchapter, choosing this novel was the right decision as I was able to successfully compose a suite of music telling the entire story but to look through the eyes of its main character, the time traveller. A significant aim for me was to build and adapt my skills as a composer and producer, and through my research and applied practices the suite demonstrates the combined and understood practices of electroacoustic, traditional programmatic and contemporary narrative composition, telling a complete story through literal and metaphorical sound imagery.

Another aim of this research project was to create a sound library of original samples. Collecting the variety of samples required for '*The Time Machine Reimagined*' drove me to many different geographical and acoustic environments, use a variety of musical and non-musical instruments, and use certain software's for the first time. Although being familiar with ProTools, GRM Tools opened a whole enabled me to have more freedom to experiment with turning basic recordings into abstract sound images, therefore extending my creativity for my adaption of *The Time Machine*.

Looking into the future I feel like I could take this research project even further. My initial plan was, after researching the fields of the music discussed in my literature review, to compose a 5.1 surround-sound suite for *The Time Machine*. Due to the ongoing COVID-19 pandemic I was unable to complete a 5.1 surround-sound mix of the suite, but it would be something I would consider undertaking in the future. When I can complete a surround-sound mix, I would like to, despite being a studio created piece, in which it could not be performed by live musicians, put on a live performance to an audience sitting in a surround-sound environment. Performing the suite in this setting would enable the audience to immerse themselves into the music to experience what I had set out to achieve: looking through the eyes of the time traveller through the medium of orchestral-infused electroacoustic sound-imagery.

## 4. Conclusion

Reinterpreting *The Time Machine* as a piece of ‘Cinema for the Ears’ composition has been an incredible experience for me. One of the main outcomes of this research project was to further my knowledge and practices as a composer and producer in new fields of composition, and I feel as if I have greatly achieved that. I now have a greater understanding of the practices of Musique concrète and electroacoustic composition after studying the works of Dhomont and Wishart in this research project.

Wishart’s *Red Bird* demonstrated how sounds can have more than a literal representation, in which they can project metaphorical meanings, particularly bird songs representing freedom and books representing knowledge. Dhomont’s *Another Spring* shows how a piece of already published work can be reimagined and restructured as a suite of sonic landscapes, creating a musical canvas based on a poem about Spring by recording and processing sounds of the natural world, as well as human and musical sounds. The principle of developing existing pieces of work into a musical format is also demonstrated like Dhomont’s piece, but outside the fields of electroacoustic composition.

Stretching from traditional nineteenth-century romantic tone poems from Strauss to twentieth-century rock concept albums from Wakeman and Hansson, the objective of composing that is based on or a reworking text has stretched over a wide range of compositions, with mine adapting and developing the practices studied in this research project that was applied in my composition. Also, revisiting areas of narrative film music, the area in which my understanding was strong even at the beginning of the research project, I felt that exploring and analysing film scores from *Under the Skin* and *Chernobyl* broadened my understanding of how these experimental scores created narrative soundscapes that create worlds to guide the narrative, especially whilst maintaining a sense of specific and unique sound location in their soundscapes.

All these practices and influences discussed above and in the bulk of my research have enabled me to create a versatile musical suite of ‘Cinema for the Ears’ composition, reimagining *The Time Machine* in which we the listeners are travelling through time and exploring a new world through the perspective of the time traveller. With this project starting in 2020, this project also pays tribute to the story with it being 125 years since its original publication.

There are things I could have done differently which could have improved my research project. The original plan for this research project was to record and mix my composition in a surround-sound/ambisonic format using software such as SoundParticles as well as 5.1 on ProTools, along with a stereo mix, which would have resulted in two submissions of the same composition. However, due to reasons such as the ongoing COVID-19 pandemic and therefore being unable to access the recording studio facilities at the university accompanied by not having the required recording and mixing equipment at home for financial reasons, along with

the changing and upgrading of the university studio equipment, mostly the desks, I was unable to acquaint myself with the workings of the equipment enough before my submission date, so it was decided during my PRP that it would be best for the time being to only produce a stereo mix of the composition.

To develop my research project in the future I would reinterpret and remix my composition as an ambisonic surround-sound project that would be mixed in the software SoundParticles, an immersive audio software capable of generating thousands (even millions) of sounds in a virtual 3D audio world (SoundParticles, n.d.), to create a three-dimensional composition of '*The Time Machine Reimagined*.'

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# Appendices

**Figure 1:** Vivaldi's poem 'La Primavera' which Dhomont used as a guide for his electroacoustic interpretation of the 'Spring' (first) movement from Vivaldi's Four Seasons.

## ***La Primavera (Spring)*** Opus 8, No. 1, in E Major

I. *Allegro*--  
Festive Spring has arrived,  
The birds salute it with their happy song.  
And the brooks, caressed by little Zephyrs,  
Flow with a sweet murmur.  
The sky is covered with a black mantle,  
And thunder, and lightning, announce a storm.  
When they are silent, the birds  
Return to sing their lovely song.  
II. *Largo e pianissimo sempre*--  
And in the meadow, rich with flowers,  
To the sweet murmur of leaves and plants,  
The goatherd sleeps, with his faithful dog at his side.  
III. *Danza pastorale. Allegro*--  
To the festive sound of pastoral bagpipes,  
Dance nymphs and shepherds,  
At Spring's brilliant appearance.

**Figure 2:** the lyrics to Purcell's aria 'When I am Laid in Earth' (1689)

**Recitative**  
Thy hand, Belinda, darkness shades me,  
On thy bosom let me rest,  
More I would, but Death invades me;  
Death is now a welcome guest.

**Aria**  
When I am laid, am laid in earth, May my wrongs create  
No trouble, no trouble in thy breast;  
Remember me, remember me, but ah! forget my fate.  
Remember me, but ah! forget my fate.

**Figure 3:** the descending chromatic ground bass and vocal melody (on 'laid') for 'When I am Laid' which Purcell used to give to the aria a sense darkness and death.



**Figure 4:** the recording of the American Colonial clock featured throughout the time machine suite. It was used not only for soundscape/time authenticity but to emulate a metaphorical feeling of travelling through time.



**Figure 5:** Thor's Cave in the Peak District National Park and the stairwell in Coventry University's Ellen Terry Building. The sounds of the cave were recorded and used to simulate the sonic atmosphere of a large space, most notably the inside of the Morlock's underground lair.





**Figure 6:** examples of leisure centre equipment, car engines and home appliances which were used in the creation of the sonic motif of the time machine.



**Figure 7:** some of the extended techniques used on the violin



**Figure 8:** the synopsis of the four movements of ‘The Time Machine’:

### **Movement 1: The Time Machine - Synopsis:**

The clock strikes one as the time traveller prepares to test his latest invention for the first time, and all is quiet around him except the ever-growing build-up of anticipation in his mind. He closes his eyes, switches his machine on, and waits. The machine rumbles slowly into life, its turbine start turnings and the hums gently in the night, but all around looks the same. He switches it off, and looks around and his study, seeing nothing around him as changed. Silence engulfs his surroundings, until the old clock on his wall strikes six. Knowing his latest invention was a success, an overwhelming feeling of accomplishment rushes over the time traveller, and he launches his time machine into full throttle. Due to the incredible speed of the machine, its turbines begin to swim faster and faster, the engine begins to rattle, and all the bolts start shaking rapidly. The force of the time machines throttle causes the time traveller to hold on in fear of falling off, and falling through time. All around him he sees his home disappearing, and future human life being born and destroyed repeatedly, before everything around him becomes vast green countryside. It is here that the time traveller switches off his machine.

### **Movement 2: 802,701 AD - Synopsis:**

After slowly regaining himself, the time traveller is greeted with the sight of open grasslands, forests and Sphinx-like structure. He checks his time machine to see not where he is, but when he is, only to discover he has travelled to the 802,701 AD. Shocked and amazed at how far he has travelled in such a short space of time, the time traveller begins to explore the area that would have been his hometown of Surrey, England. After exploring this vast, green, empty wilderness, he finally comes across human activity. The small, peaceful, childlike species of human, known as the Eloi, don't seem to be interested or afraid in his sudden appearance, and he returns to where the time machine had landed. Only to find it missing. He sees dragged markings in the ground leading into an underground lair bellow the Sphinx-like structure. Having no way to recover his time machine, he heads back towards the Eloi's and discovers one drowning in a river. After rescuing her, he learns her name is Weena, and the pair form a close friendship. After exploring her world with her he discovers a selection of wells that lead into an underground lair where he believes his time machine to be. After heading down one of the wells he comes to a large underground cavern, inhabited by another subspecies of human. The Morlocks. After lighting a match for light, he discovers that they are afraid of the light and fire, however once the match burns out, they advance on him. After narrowly escaping the Morlock's, he re-joins Weena and head back to the Eloi's home, where he discovers what he refers to as a museum of ancient human artifacts, giving a small insight to the past. Unfortunately, as they haven't been used for centuries some simply disintegrate in his hands. He knows he needs to retrieve his time machine from the Morlock's lair and knowing that they fear fire and light he decides to set a trap using fire at the entrance to the sphinx, taking Weena with him, who he intends to bring back to his own time once he gets the time machine back. On their way back from the sphinx the light starts to fade, and they are soon surrounded by darkness and his matches are running out.

### **Movement 3: Attack of the Morlocks - Synopsis:**

The time traveller and Weena are suddenly surrounded by the sound of growling and heavy footsteps coming from all around them. As they frantically look around, many pairs of yellow eyes become brighter and closer, causing Weena to faint with fear. Knowing he must protect his friend, the time traveller begins to fight off the Morlocks one by one, not realising an oncoming disaster heading straight for them. The fire trap they had set earlier that day had spread, igniting an immeasurable wildfire. The Morlocks growls quickly turn to shrieks of pain as the fire begins to swallow them, and the time traveller knows he needs to escape before he suffers the same fate as them. However, as he starts to run away, he remembers Weena, lying under a tree, being either burnt alive or being taken by the Morlocks. He watches on helplessly and thinks he can hear her call out for him from beneath the flames. Guilt, anger and betrayal engulf the time traveller as he knows that the only way he can save the fire and make it back to the time machine is to leave Weena behind. After one last turn in Weena's direction, the time traveller runs for the underground lair to take possession of his time machine again. Overwhelmed with guilt and shame after leaving his friend behind in the burning forest, the time traveller sprints towards the sphinx to where his time machine is waiting for him in the entrance. However as soon as he reaches it, the bronze doors slam shut, locking him inside with the sound of growls and sprinting growing ever strong, as more Morlocks arrive to ambush him. But before they could get close enough, the time traveller activates his time machine and skyrockets into the further future.

### **Movement 4: Into the Further Future - Synopsis:**

Travelling even faster than his previous trip, he witnesses the Earth experience extreme destruction and extinction of all life amongst it. Along with the Earth, the Sun life is accelerating rapid, becoming a super-red giant in a matter of minutes before exploding, lighting Earth and the Solar system in a blinding light, before revealing an empty sky and a lifeless Earth, 30 million years into the future. Horrified from witnessing the future, and the further future, the time traveller reverses everything on his time machine to take him back to 1895. Not daring to witness what he had just witnessed (this time in reverse) he closes his eyes and waits. After what feels like an age, the sound of the clock in his study rings out once more. He was home. Until he sets off again in his time machine, never to return.



**Figure 9:** Motif's from 'Exploring a New World'

Part 1

Part 1 of the musical score for 'Exploring a New World'. It consists of two systems of piano (Pno.) music. The first system starts at measure 20 with a tempo marking of  $\text{♩} = 80$ . The right hand (treble clef) plays a melody of eighth and quarter notes, while the left hand (bass clef) plays a steady eighth-note accompaniment. The second system starts at measure 27 and continues the same musical texture. The key signature is two sharps (F# and C#).

Part 2

Part 2 of the musical score for 'Exploring a New World'. It begins at measure 10 with a tempo marking of  $\text{♩} = 105$ . The right hand (treble clef) features a melodic line with a long slur spanning several measures, starting with a piano (*p*) dynamic. The left hand (bass clef) plays a complex accompaniment of chords and eighth notes, marked with a pianissimo (*pp*) dynamic. The key signature is three sharps (F#, C#, and G#).



Figure 10: Score for 'Weena's Theme'

**Weena's Theme**  
From "The Time Machine Reimagined" George Lloyd-O'Keeffe

♩ = 126

Legato

*p*

*pp*

11

1.

2. *rit.*

The musical score is written for piano and double bass in 4/4 time. The tempo is marked as ♩ = 126. The piano part (top staff) begins with a 'Legato' instruction and a piano (*p*) dynamic. It features a melodic line with eighth and quarter notes, some with slurs. The double bass part (bottom staff) starts with a pianissimo (*pp*) dynamic and consists of chords and single notes, some with slurs. The score includes a first ending (1.) and a second ending (2. *rit.*) marked with repeat signs. The piece concludes with a double bar line.

Figure 11: Score for 'Nolite Oblivisci Me'

# Nolite Oblivisci Me

From 'The Time Machine Reimagined'

George Lloyd-O'Keeffe

$\text{♩} = 68-75$

The score is written for Soprano solo, Piano, and Strings. It is in 4/4 time with a key signature of two flats (B-flat and E-flat). The tempo is marked as 68-75 beats per minute. The score is divided into three systems, each starting with a measure number (1, 8, and 16). The Soprano solo part has lyrics in Latin. The Piano part provides harmonic support with chords and arpeggios. The Strings part consists of sustained chords in the lower register.

**System 1 (Measures 1-4):**

Soprano solo: *mp* A-ni-ma me-a nunc li-be ro Corp-o-re me-o

Piano: *mp*

Strings: *pp* < *p*

**System 2 (Measures 5-8):**

S. solo: 8 pon-e-re - te Pon-e-re me in nat-ur-a se - pul - chro

Pno.

St.

**System 3 (Measures 9-16):**

S. solo: 16 No-li-te ob - liv - i - sci me No-li-te ob - liv - i - sci me

Pno.

St.

24

S. solo

No-li-te ob-liv-i-sci me Ig-nis-ad-ci-ne-rem

Pno.

St.

31

S. solo

Ci-nis ad ter-ram Eg-o som-nu-m in ae-ter-num

Pno.

St.

39

S. solo

Va-le Va-le Va-le Va-le

Pno.

St.

**Figure 12:** The Latin and English Lyrics to ‘Nolite Oblivisci Me’

*Latin Lyrics:*

Anima mea, nunc libero  
Corpore meo ponere te  
Ponere me in natura sepulchro

Nolite oblivisci me  
Nolite oblivisci me  
Nolite oblivisci me

Ignis ad cinerem  
Cinis ad terram  
Ego somnum in aeternum

Vale  
Vale  
Vale  
Vale

*English Lyrics:*

My soul is now free  
My body lay thee  
Lay me into natures tomb

Do not forget me  
Do not forget me  
Do not forget me

Fire to ashes  
Ashes to earth  
I'll sleep for eternity

Goodbye  
Goodbye  
Goodbye  
Goodbye

**Figure 13:** An example of how GRM Tools was used in the creative process of my composition. Here GRM Freeze was fed an audio file of a stick snapping, which was processed to sound like a roaring fire which appears in varying strengths throughout the second and third sections of the composition.

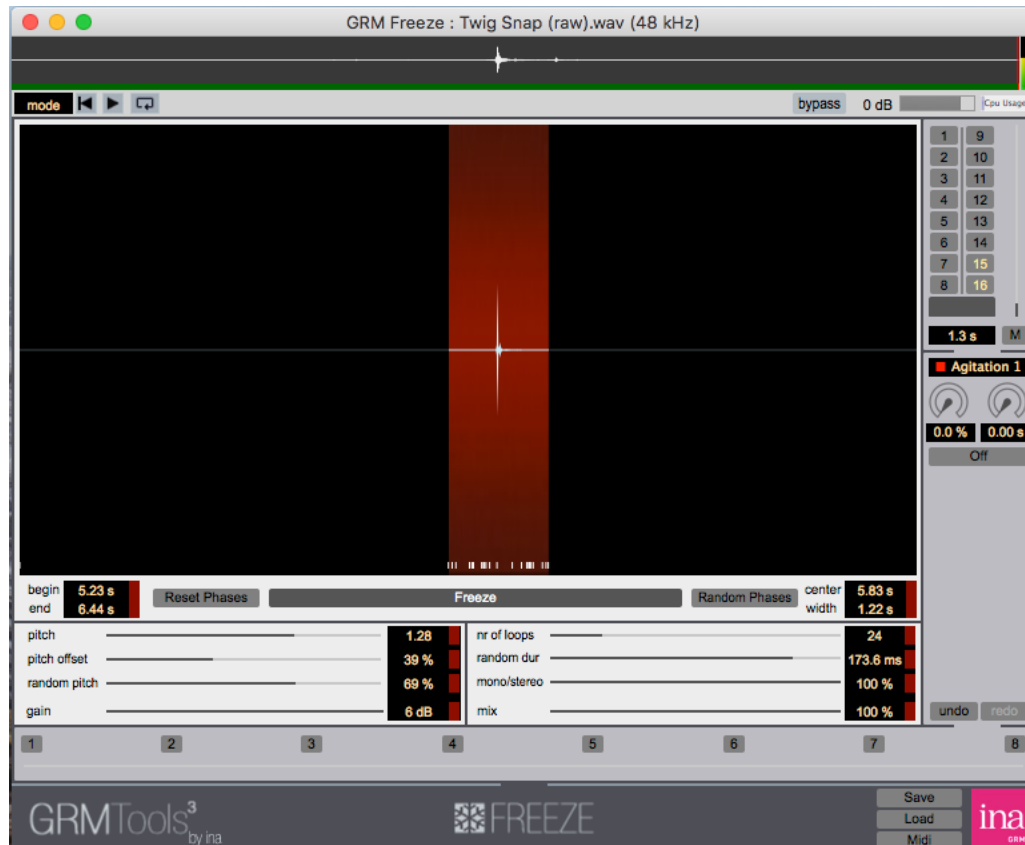
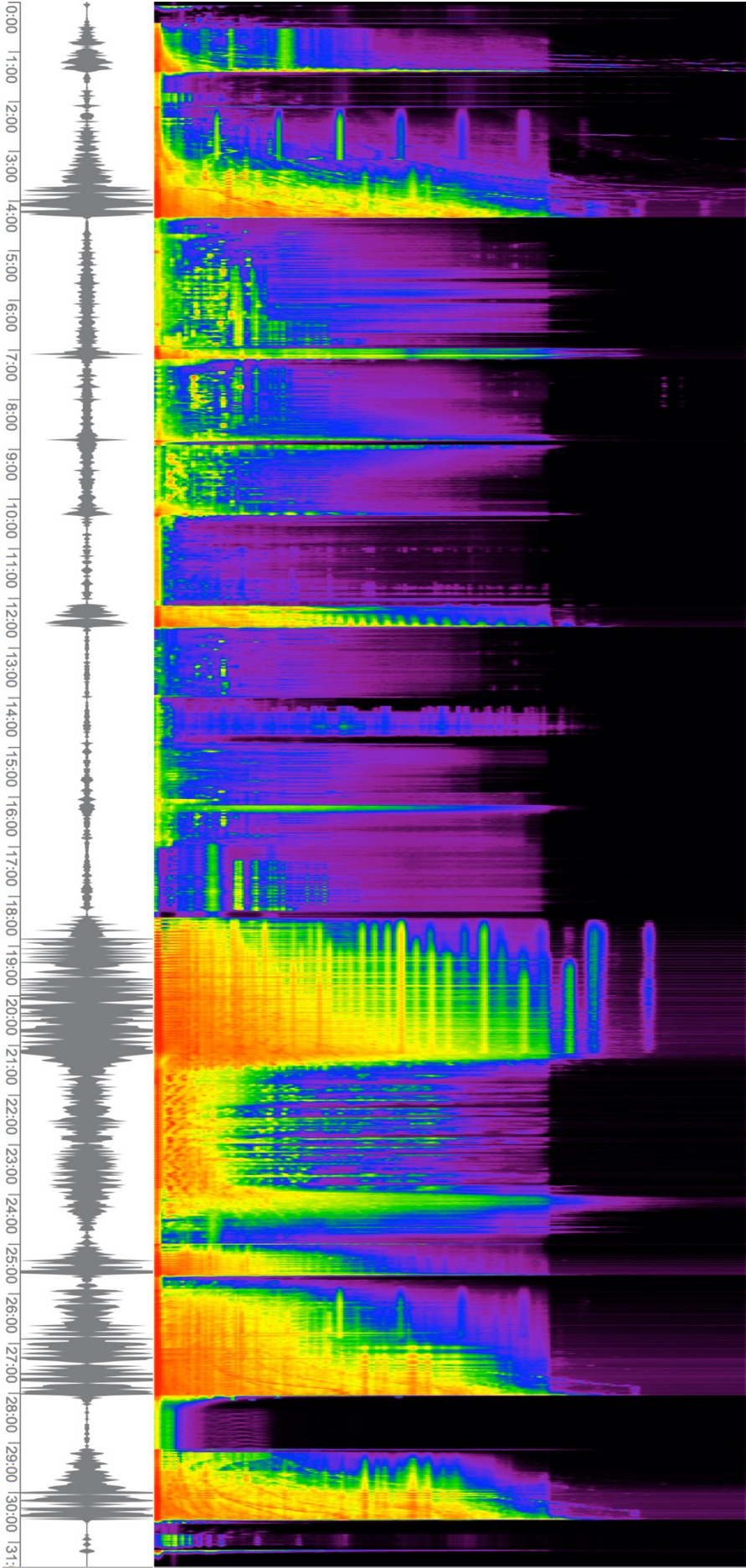


Figure 14: The



**Figure 15:** an emailed interview between myself and composer Gilles Gobeil, conducted on June 6<sup>th</sup>, 2022, discussing his approach to “cinema for the ears” composition and the works he has produced using this form:

**G.Lloyd-O’Keeffe:**

Can you explain how you have used the “cinema for the ears” approach in your compositions?

What of your pieces highlight this approach, and what was the inspiration behind them?

**G.Gobeil:**

I must tell you that I very often find my inspiration in literary texts, which I then try to translate into music. I have, among other things, “set to music” the following texts:

- Castalie (2008) / adaptation of Herman Hesse's "Game of Glass Beads"
- Le Contrat (The Contract) (1996-2003) / adaptation of Goethe's "Faust"
- Entre les Deux Rives du Printemps (Between the Two Shores of Spring) (2006) / adaptation of “Paradise” by Dante Golem (2012-13) / adaptation of the novel “Le golem” by Gustav Meyrink
- Nuit Cendre (Ashen Night) (1995) / adaptation of "Journey to the Centre of the Earth" by Jules Verne
- Point de Passage (Crossing Point) (1997) / adaptation of the novel "The Time Machine" by H.G. Wells
- Sibyelle (2010) / taken from Canto VI of the “Aeneid” by Virgil

I was also more directly interested in cinema by making the following compositions:

- The Sad Mirror (2007) / screenplay from the unshot film “Hoffmanniana” by Tarkovsky
- A Circle Out of the Tree (2014-15) / from the film “The Pier” by Chris Marker Sentinel (2019-20) / from the film "2001: A Space Odyssey" by Stanley Kubrick

My way of working is relatively simple.

I first analyse the scenes (cutting out the strong moments of the texts-scenario), then the sound content that would be conducive to evoking each of these scenes. I then go in search of the targeted sounds (in my own sound banks, which I have accumulated over more than 35 years, or by realizing myself the sounds that seem necessary to me, either by sound recording or by transforming existing sounds). Some sounds may not be used, and others may only be evocations of real sounds. I then proceed to the assembly which consists of putting in place the ideas from the text (the characters, the actions, the places to be evoked using the chosen sounds). The composition builds slowly this way.

From this moment, and it is very important to specify this, all this implementation becomes totally secondary. These organizations and structures must leave room for the music, which becomes the sole criterion of achievement (phrasing, movement, balance of timbres and dynamics, etc.). The preliminary work, upstream of the composition, serves as a sort of spark plug for the creative process, and the structures linked to the text are there only to help to circumscribe the work in order to avoid dispersion, thus allowing to focus the project on a very precise objective, that of the original text. It is very likely that the listener does not see a connection between the text and the resulting music. And that doesn't matter. The usefulness of the text is only an aid which will have made it possible to facilitate and concentrate the work on the musical creation. It is this second work, just as laborious, which is the most important.

Here is an example of the list of sounds for the first scene as well as the breakdown taken from the screenplay "Hoffmanniana" by Andreï Tarkovsky for the composition entitled "The sad mirror" (2007).

In keeping with Tarkovsky's script, I used some (modified) musical excerpts from:

- Glück (Iphigenia in Aulide)
- Mozart (Don Juan)
- Hoffmann (Dirna, Ondine).

#### Sounds for Scene 1:

Autumn rain – drizzle

18th century tavern atmosphere / few customers / muffled rustling Melancholy drinking song

Bursts of voice

Brouhaha – confused voices

Carriage-horses / creaks / sways

Walk in the darkness of the suburb

Step slip / Foley = dirt road

Night owl cry



Orchestral instruments that are tuned (A)

different winds

Waves on the shore

Cry of a seagull

Night atmosphere – heavy, stuffy

body falling to the ground

Breakdown of scenes:

- 0'00 – 1'30 - Overture – Glück Aulide
- 1'30 – 2'43 - The Tavern
- 2'43 – 5'13 - The fields, the Night, the Carriage
- 5'13 – 6'58 - Distant Rumours, The Fall
- 6'58 – 8'26 - The Lodge of Strangers
- 8'26 – 9'40 - The Representation
- 9'40 – 11'02 - Donna Anna, the Conversation
- 11'02 – 11'58 - Fatality
- 11'58 – 13'42 - The Aerial Balloon, the Last Flight