

Dissertation

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Title: What is the narrative and sonic importance of the organ in the soundtrack to “Interstellar”?

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Introduction

Interstellar is a 2014 epic science-fiction drama and an award-winning film directed by Christopher Nolan. Its plot involves space travel, questions of time and gravity, and predictions for the future of the human race. The screenplay was written by two brothers, Christopher and Jonathan Nolan, in collaboration with Kip Stephen Thorne, an American Noble Prize winner scientist.¹ As a result, every concept in the film is based on scientific theories and facts with great attention to detail.

The soundtrack to *Interstellar* was composed by Hans Zimmer, who had already collaborated with Christopher Nolan five times. The score was produced by Christopher Nolan, Hans Zimmer and Alex Gibson. Furthermore, Steve Mazzaro and Andrew Kawczynski were responsible for sequencing, and Gavin Greenway and Richard Harvey were the conductors. *Interstellar*'s sound world is unique for its combination of electronics and acoustic instruments and is often admired for “creating the sound of space”.² The character of the music strongly connects to the story's most important themes, such as love, separation, loss of a child, life, death and time.

The organ is one of the leading instruments in the soundtrack, and it is constantly present throughout the entire film, leading the music and its themes in all of the most important scenes. Its part is the most significant in providing a musical narrative to the story. Moreover, it is directly connected to its heart, the two main characters', Cooper's and Murph's, father and daughter connection and the emotional experiences they both go through.

This dissertation will answer the eponymous question in three main sections. One discussing the circumstances and the process of recording the organ, one focused on analysing and outlining the organ's part throughout the film, and the final one containing the conclusions.

¹ Thorne, 'The Science of Interstellar'

² Jamayr Productions, 'Interstellar – Sound of Space'

The organ and Mr Roger Sayer

This section will investigate the circumstances in which the organ was recorded for the soundtrack to *Interstellar*. A significant part of the research has been dedicated to this as it had a huge impact on the effect that the organ’s part ultimately has on the film. The process of making the recordings was complex, and it was crucial to shaping the organ’s role in the soundtrack, giving it its own voice while deeply connecting to the film’s story.

One of the reasons Hans Zimmer chose the pipe organ as one of the main instruments for *Interstellar* was its significance to science. ‘From the 17th century to the time of the telephone exchange, the pipe organ was known as the most complex man-made device ever invented.’³ Its physical appearance reminded the composer of spaceship afterburners, and ‘the airiness of the sound slipping through pipes replicates the experience of suited astronauts, where every breath is precious.’^{4 5} Moreover, Christopher Nolan also explained that even though the film is not religious, the use of organ, often associated with religion, represents ‘mankind’s attempt to portray the mystical or metaphysical, what is beyond us.’⁶

The instrument recorded for the film’s soundtrack is the 1926 four-manual Harrison & Harrison organ at the Temple Church in London. It is thirty-three feet wide; it contains 3,828 pipes and sixty-five stops. The church’s building was built by the Knights Templar in 1185, and it is one of the oldest churches in London. It also has a rich music history and traditions. The Temple Church has encompassed many distinguished formidable musicians in church music, such as George Frederick Händel (who has visited it) or John Stanley, a virtuoso blind organist and composer. Furthermore, ever since its foundation in 1841, the Temple Church Choir is still considered one of the finest choirs in London, and it has been involved with many projects outside its liturgical commitments.^{7 8}

The current Director of Music and Organist at The Temple Church is Mr Roger Martin Sayer. He has established an international career both as a conductor and an organist, and his many recordings have received wide critical acclaim.⁹ Furthermore, he is the organist who performed on the soundtrack to *Interstellar*. As part of the research for this dissertation, the present author interviewed Mr Roger Sayer at his organ recital at the Temple Church on 9th February 2022. The interview’s transcription and Mr Sayer’s consent to quote it throughout the essay are in Appendix 1 and Appendix 2.^{10 11}

³ Kilkeny, ‘Why *Interstellar*’s Organ Needs To Be So Loud’

⁴ Kilkeny, ‘Why *Interstellar*’s Organ Needs To Be So Loud’

⁵ Marie, ‘An Interview with Hans Zimmer’

⁶ Elegyscores, ‘Hans Zimmer – making of INTERSTELLAR Soundtrack’

⁷ The official website of the Temple Church

⁸ Culture Trip, ‘The 8 Oldest Churches in London’

⁹ The official website of the Temple Church

¹⁰ Appendix 1 Interview with Mr Roger Sayer

¹¹ Appendix 2 Consent form and information sheet

According to Mr Sayer, initially, Hans Zimmer had no intention of recording the organ live. He had written a score that he had intended to be electronic, and Warner Brothers had already signed it off. However, he came up with the idea that it might be worth recording a real instrument. He started looking for organs in the United Kingdom; he wanted to use the organ at the Salisbury Cathedral as this was the instrument he had had sampled on his equipment. However, it was impossible to make the cathedral available as they had too many services, and it was too busy to close the building. The same issue occurred at the St. Paul’s Cathedral. Furthermore, making recordings with traffic noises from outside would have been problematic.¹²

Then, one of Hans Zimmer’s staff remembered a recording made at the Temple Church from many years back and suggested contacting the current organist, so it was Mr Roger Sayer who took the call. In the interview, he said that it was all by chance, the fact that the church was free, that it did not have any loud roads running outside and that it had such a spectacular organ, which can be ‘not just strong and vibrant but also very gentle and exquisite at times.’¹³ After some negotiations between the church and the film producers, Mr Sayer agreed to take on the project, which, as this dissertation will argue, had an enormous impact on the entire soundtrack and the film.

When describing the recording process, Hans Zimmer said:

Well, we had set out on this sort of impossible journey. Everything I learned about the organ, I kept ignoring the bits where I read about limitation. And then when Chris [Christopher Nolan] and I got on the plane, I had one of those moments of incredible doubt, and I took him aside and said, “I think this is totally unplayable”. And then we get there, and we meet Roger Sayer, who in typical English self-depreciation goes, “Yeah, I had a look at it. Maybe we should play a little.” And literally he sat down, started playing, and I had this sort of involuntary smile on my face because I knew we were fine. I knew it was going to work, and we all knew it was going to work.¹⁴

In the interview, the present author asked Mr Sayer when he got to see the score for the first time and if it really was ‘unplayable’, as Hans Zimmer said. He explained that the music came in bits and pieces but that he had had a couple of weeks to prepare the majority of it before the recording week. Furthermore, he said that what was indeed “unplayable” about it was the fact that the organ part was written in many layers, which meant that it would be impossible to be played live:

If you looked at the score, you would see that there is Organ 1, Organ 2, Organ 3, which you can’t have live in one performance unless you have three organs

¹² Appendix 1 Interview with Mr Roger Sayer

¹³ Appendix 1 Interview with Mr. Roger Sayer

¹⁴ Marie, ‘An Interview with Hans Zimmer’

and three organists, but there’s no place in the world that has three or four organs of the same quality in the same building, so it’s impossible.¹⁵

As it is usually the case with recording soundtracks, Mr Sayer did not know much about the film when the recording was taking place. He and all the other people involved had to sign a confidentiality clause. Even the title on the scores said “Flora’s Letter”, not “Interstellar”, and it was only a day before the recording session started when Hans Zimmer revealed what it was about and what had made him write it.¹⁶

Mr Sayer’s performance in the soundtrack plays an integral role in narrating emotions and events taking place on-screen, and it has touched the hearts of thousands of people around the world. When asked about his approach to interpreting the music, especially considering the fact that he knew so little about the film, at first, he half-jokingly said he was mostly thinking about playing in time and accurately (as he was recording with a click track). However, he then explained that ‘you could tell from the music what it was about’ and that it was not the case that he interpreted it, as it was already done in the written music itself.¹⁷

Furthermore, he also said that the factor which had a crucial impact on the interpretation was choosing the organ’s sound, which was a process of collaboration. Mr Sayer would demonstrate the organ’s capabilities to Hans Zimmer and Christopher Nolan, and they would look for the sound that was ‘the most appropriate to the texture’.

We came across some sounds where he [Hans Zimmer] said he had this very particular set of stops [in his electronic organ sample], and I said we didn’t have “this”, but we have “this”, and he goes “Oh, I like that, have you got a bit more warmth”, “Yeah, we’ve got a little bit more warmth”, “Do you want a little bit more brightness?”, “Yeah, we got a little bit more brightness”: that sort of collaboration. And I would say: “This isn’t what you’ve asked for but do you like this?”, and he would go: “Yeah, I like that!”.¹⁸

As Hans Zimmer described it, there was an ‘endless discovery going’.¹⁹ They would explore all the complex harmonic structures looking for particular sounds, and according to Mr Sayer, in the end, what Hans Zimmer found in this organ was something better than he had expected to find.²⁰

The recordings for *Interstellar* were made using the church’s natural acoustics, making it possible to capture the subtle complexities and richness of the organ’s sound, as well as the natural reverb. ‘The building is part of the instrument’, as Mr Sayer put it, and at the

¹⁵ Appendix 1 Interview with Mr Roger Sayer

¹⁶ Appendix 1 Interview with Mr. Roger Sayer

¹⁷ Appendix 1 Interview with Mr Roger Sayer

¹⁸ Appendix 1 Interview with Mr Roger Sayer

¹⁹ Elegyscores, ‘Hans Zimmer - making of INTERSTELLAR Soundtrack’

²⁰ Appendix 1 Interview with Mr Roger Sayer

Temple Church, the acoustics change when it is quiet and empty; ‘it has more resonance, and the overtones have more impact.’²¹ In the film, ‘Christopher Nolan commonly extended shots to allow for natural reverb decays.’²² Microphones were placed in various places for the recording, from twenty to forty feet away from the organ.²³ Mr Sayer said that he had never seen the church so full of so much equipment and microphones.²⁴

Furthermore, in the editing process of some sequences, the recordings were multiplied and layered to create an even more spectacular effect; ‘you had one organ, but actually, you get the same organ five times.’²⁵ For example, the grand C Major chords used throughout the film were edited using that technique.²⁶

The live recordings of Mr Roger Sayer playing the organ at the Temple Church influenced the film significantly. Christopher Nolan said:

You feel human presence in every sound, and I think it was very important to keeping the film about not just the space that we’re looking at but the people in that space.²⁷

Lee Smith, the recordings’ editor, also said that ‘the live real human will always give the music this extra piece of magic and that they got plenty of magic in Roger’.²⁸ Hans Zimmer’s decision to record a live organ and Mr Sayer’s brilliant performance were crucial in giving the organ part the capacity to narrate the film’s story the way it does.

²¹ Appendix 1 Interview with Mr Roger Sayer

²² Gleckman, ‘Behing the Score: Interstellar’

²³ Gleckman, ‘Behing the Score: Interstellar’

²⁴ Appendix 1 Interview with Mr Roger Sayer

²⁵ Appendix 1 Interview with Mr Roger Sayer

²⁶ Appendix 1 Interview with Mr Roger Sayer

²⁷ Elegyscores, ‘Hans Zimmer – making of INTERSTELLAR Soundtrack’

²⁸ Elegyscores, ‘Hans Zimmer – making of INTERSTELLAR Soundtrack’

Analysis

This section will explain how the organ part narrates *Interstellar*’s story and Cooper’s and Murph’s relationship through analysis. It is divided into two parts: the first one contains a general overview of leitmotifs, the story and analysis of the main theme, a brief comparison to the main theme from Philip Glass’s *Koyaanisqatsi*, and an analysis of the second theme. The second part will outline the organ part throughout the film, analysing its role in the most significant scenes and marking out its own *motifs*.

Analysis part 1 Leitmotifs, the main theme and the second theme

The complete expanded edition of *Interstellar*’s soundtrack album contains thirty tracks.²⁹ ‘The music was being written in parallel over a span of two years with the production of the film’;³⁰ therefore, ‘the score was written quite freely to the cut.’³¹ As a result, only a few tracks are used in their entirety throughout the film, and the majority of them occur more than once, mainly showcasing the sequences with particular themes. It is especially noticeable after determining the specific timecodes of the tracks in the film. In Appendix 3, there is a table outlining them for each track.³²

Although the film has a main theme and one could differentiate a second theme and a few organ *motifs*, there are no leitmotifs linked to certain characters or places. In his article on the score to *Interstellar*, Mark Richards, a Professor of Music Theory, composer, and publisher, writes:

Rather than simply being associated with a certain character or group of characters, Zimmer’s themes tend to emphasise the emotions a particular character or group is feeling at various points in the film.³³

A few themes are diversely developed in different tracks. Some of them have a dual meaning, depending on the context they occur in the film.³⁴ Different people have associated them with different things, having identified the themes of ‘hope and discovery’, ‘lies and betrayal’, ‘love and action’, or ‘striving and in control’.^{35 36}

²⁹ WaterTower Music, ‘Interstellar Official Soundtrack I Full Album – Hans Zimmer I WaterTower’

³⁰ Gleckman, ‘Behing the Score: Interstellar’

³¹ Gleckman, ‘Behing the Score: Interstellar’

³² Appendix 3 The tracks throughout the film table

³³ Richards, ‘Oscar Nominees 2015, Best Original Score (Part 5 of 6): Hans Zimmer’s *Interstellar*’

³⁴ Richards, ‘Oscar Nominees 2015, Best Original Score (Part 5 of 6): Hans Zimmer’s *Interstellar*’

³⁵ u/der1x, ‘Musical Themes in Interstellar?’

³⁶ Richards, ‘Oscar Nominees 2015, Best Original Score (Part 5 of 6): Hans Zimmer’s *Interstellar*’

However, the next part of the dissertation will focus on analysing the two most important themes, the main theme and the second theme, as they are directly connected to the organ part.

The main theme

The story of how *Interstellar*'s main theme came to life is unique, as Hans Zimmer had no idea what the film would be about while composing it. Christopher Nolan gave him a page with a short story about a father leaving his son. It contained two lines of dialogue, “I’ll come back”, “When?”, and asked the composer to write a theme. “There was no movie to be made, there was no movie to discuss, we were talking about our children”,³⁷ said Zimmer in an interview for *The Guardian*, who has two daughters and a son. Zimmer’s theme moved Nolan, and it was only then that he revealed the idea for the film.

I asked him, “Well, yes, but what is the movie?” And he started describing this huge, epic tale of space and science and humanity on this epic scale. I’m going, “Chris, hang on, I’ve just written this highly personal thing, you know?” He goes, “Yes, but I now know where the heart of the movie is.” Everything about this movie was personal.³⁸

As stated by Hans Zimmer, this theme is about something very personal; it is about a bond between a father and a child, unconditional love and the pain of separation, which is the heart of *Interstellar*'s story. The main protagonist, Cooper, leaves his two children on Earth in order to try and save humanity. Even though it is painful for him to leave them with no certainty of ever seeing them again, he is also aware that they are all doomed to die if he stays.



Ex. 1 The main theme from *Interstellar* in its simplest form (from the *Day One* track)

³⁷ Shone, ‘Christopher Nolan: the man who rebooted the blockbuster’

³⁸ Shone, ‘Christopher Nolan: the man who rebooted the blockbuster’

The main theme is included in many different tracks, and it rarely changes throughout the film. It occurs in the early beginning (5:48-7:42³⁹), in the middle (1:18:11-1:21:26), in the culmination sequence (2:24:38-2:26:51), and in the finale (2:30:00-2:33:16). However, it is presented in its simplest form in *Day One* track (bars 52-75). The transcription of the track is in Appendix 6.⁴⁰

The main theme is in A Minor. It contains four chords, F – G – a – G, around a pedal note E. The sequence is eight bars long, and it is usually repeated many times. Although it occurs in different musical contexts throughout the film and the orchestration of the accompaniment varies, the main theme is always played by the organ (with just one exception when the piano plays it in 2:32:47-2:33:16).

The first chord is F major. However, the rising crotchets line and the pedal E make it sound as if it was minor (A Minor). This is also the case with the next chord (G Major), where crotchets and the E note suggest an E Minor chord. This musical procedure is simple but subtle, and it has a powerful influence on the music. The ambiguity of A Minor conveys a feeling of uncertainty and something tragic.

In the following chord, the rising crotchets' notes are the chords' components (third and fifth in A Minor). In contrast to the two previous chords, it settles the fact that it is minor. Furthermore, the lack of dissonance in the only minor chord in the sequence enhances the feeling of sadness. It is also the only chord integrating the pedal note E, which asserts the A Minor quality of the whole theme.

The last chord feels familiar as it already occurred two bars earlier. This time, it concludes the build-up of the tension. At the same time, it gives a feeling of resolution but also foreshadows the beginning of a new sequence.

The rising crotchets in the upper part keep reaching up to the pedal E in every bar as if trying to hold on to it. At first, it is a perfect fifth away, then a perfect fourth, then a major third and then, when it finally gets as close as a major second, it drops down again. It is almost as if the E was something the music desperately wants to hold on to but will always be out of its reach.

By contrast, the E as the pedal note gives the listener a sense of security; its meaning changes with each chord (the major seventh in F, the major sixth in G, the perfect fifth in a, the major sixth in G), shaping the harmony. In the context of the whole theme, it becomes an anchor, something familiar that the listener can hold on to.

³⁹ This timecode and all subsequent timecodes are relative to the film

⁴⁰ Appendix 6 Transcription of the Day One track

The first time the main theme occurs in the film is in one of the first scenes (5:48-7:42). Tom is changing a flat tyre in a car while Cooper and Murph are talking about Murphy's law.

Well, Murphy's law doesn't mean that something bad will happen. What it means is whatever can happen will happen.⁴¹

These two sentences inform the viewer about one of the fundamental concepts in the story, and in a way, it implies how one should approach witnessing the events that are about to come.

This scene is also crucial for establishing the meaning of the main theme and its connection to the organ. At first, it comes in quietly as an accompaniment to the conversation between Cooper and Murph. One can notice that while Tom (Cooper's son) is also present in the scene, he is in the background. It informs the viewer that the main theme and the story centred around Cooper's and Murph's connection, and it makes them instinctively link the music and the organ to these two characters.

Altogether, the main theme occurs in the film six times, five of which are played by the organ. The only exception is in 2:32:47-2:33:16 when the piano plays it, while the organ's sustained notes are mixed with other sounds in the background. The adult Murph has already found the data from 'the future Cooper', and she solves the equation of gravity. One could interpret that measure as a symbol that Cooper has now done everything he could, and it all depends on Murph and the work she needs to do on Earth by herself. However, the presence of the organ, even if only in the background, symbolises the fact that she never was and never will be truly alone, as her connection to Cooper will always prevail.

Interstellar and Koyaanisqatsi

Interstellar's main theme has often been compared to the main theme from *Koyaanisqatsi*.⁴² It is an eighty-five minutes long film directed by Godfrey Reggio and music composed by Philip Glass. In Hopi language, its title means "life out of balance". The film consists of footage of cities and natural landscapes, and there are no dialogues. Therefore, the tone of the narration is set primarily by music and its relation to the shown images. It was premiered in 1982, thirty-two years before *Interstellar*, and it is considered a cult film in cinematography.⁴³

⁴¹ Matthew McConaughey as Cooper in *Interstellar*

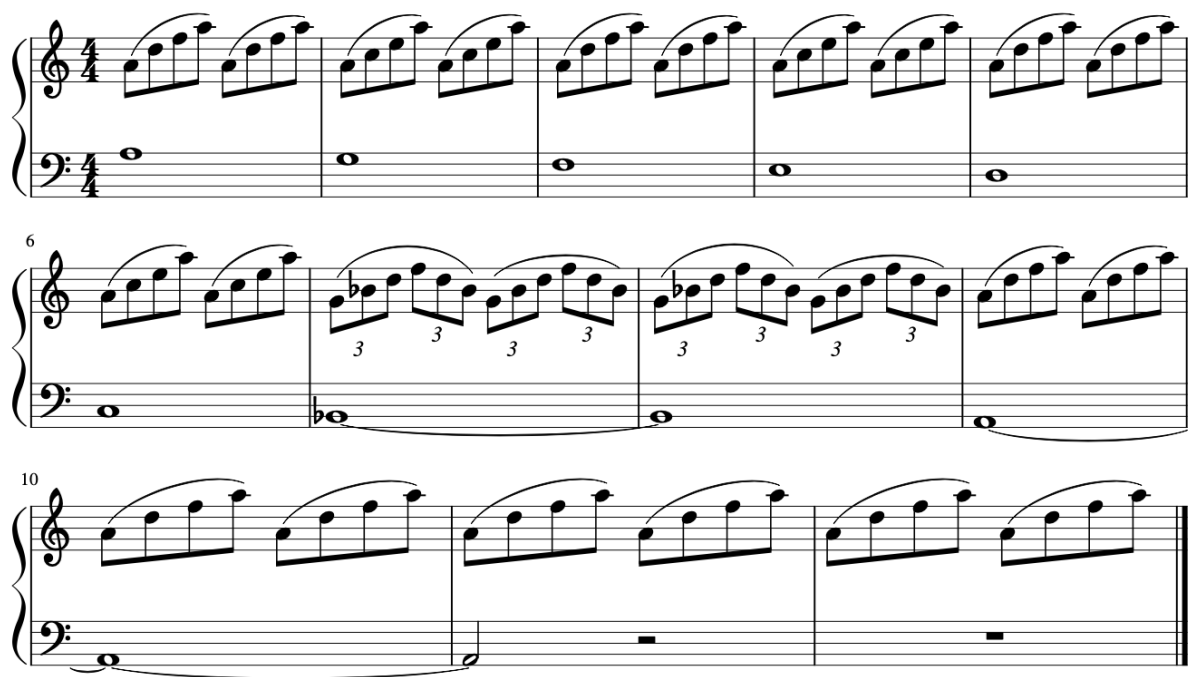
⁴² *Koyaanisqatsi*, dir. by Godfrey Reggio and music by Philip Glass (Institute for Regional Education, American Zoetrope, 1982)

⁴³ Schiff, 'Cult "Koyaanisqatsi" blends music, film'

One could come across online discussions about the two films’ soundtracks’ resemblance^{44 45} and numerous YouTube films with various montages mixing music from *Koyaanisqatsi* with scenes from *Interstellar* or the other way around.^{46 47} Furthermore, it has not gone unnoticed by music critics. Tim Robey of *The Telegraph* even mentions Hans Zimmer’s score as an ‘oddly sacred homage to *Koyaanisqatsi*’.⁴⁸

The undeniable similarity between *Interstellar*’s and *Koyaanisqatsi*’s main themes is their instrumentation, the organ as the leading instrument combined with electronics. However, Hans Zimmer has never revealed if Philip Glass’s soundtrack truly inspired him in his interviews.

Interstellar’s and *Koyaanisqatsi*’s main themes have a relatively simple melody, harmony and rhythm and are based on repeating the main sequence without ever changing the harmony. They develop through changes in the accompaniment, dynamics, rhythm and adding new melodic lines, and the pulse always stays the same. Finally, they evoke similar emotions such as melancholy and reflection.



Ex. 2 The main theme from *Koyaanisqatsi* (from the *Prophecies* track)

However, after a more detailed analysis, one could find a few significant differences between the themes. The general musical feel is similar, but one could argue that their

⁴⁴ u/dadsvhscollection, ‘You can definitely hear Hans Zimmer’s *Interstellar* Soundtrack in this track [Philip Glass - *Prophecies* - *Koyaanisqatsi* OST]’

⁴⁵ Musica Universalis, ‘Hidden Influences in Hans Zimmer’s Score to *Interstellar*’

⁴⁶ Syncom Data, ‘*Koyaanisqatsi* meets *Interstellar*’

⁴⁷ hi-tech Sergio, ‘Philip Glass – *Prophecies*/*Koyaanisqatsi* VIDEO (*INTERSTELLAR*)’

⁴⁸ Wikiwand, ‘*Interstellar* (soundtrack)’

similarities are outweighed by their differences. Firstly, the bass line in *Koyaanisqatsi*'s theme is descending, while in *Interstellar*, it is ascending. Secondly, the melody in *Koyaanisqatsi* changes the note it reaches (from A to F), while in *Interstellar*, it always goes up to E. Furthermore, the sequences differ in their time signatures (4/4 and 3/4) and their lengths (12 and 8 bars).

Moreover, *Koyaanisqatsi*'s theme has no pedal note and later, in its development, it uses a male choir singing. Finally, the sequence in *Koyaanisqatsi* starts and ends with the same chord (D Minor), giving it a sense of beginning and end. In contrast, in *Interstellar*, the chords progress (it starts with an F Major chord and ends with a G Major chord), giving it a feel of an open ending.

The second theme

There is another central theme that one could identify in *Interstellar*. It is a part of a few different tracks, and in the organ part, it occurs six times throughout the film. Therefore, one could distinct it as the second theme and call it the *Survival motif*.

First melody

Second melody

6

First melody

Second melody

12

First melody

Second melody

18

First melody

Second melody

Ex. 3 The second theme in its simplest form (based on the *Day One* track)

It is presented in its simplest form in the *Day One* track, and in a way, it is an introduction to the main theme. Even though the two themes’ harmonic sequences differ, they are both in A Minor and in 3/4 time signature. Furthermore, their most crucial linking factor is the organ, which is their leading instrument almost every time they occur in the film. They are also connected by what they represent. The *Survival motif* links to Cooper’s and Murph’s connection (main theme) as essentially, this is what they have to do to save other people and each other.

The second theme is based on two chords, A Minor and E Minor. It contains two melodies; they occur both separately and together throughout the film, as shown in Example 3. It is mainly played by the organ, and sometimes one of the melodies is played by the piano or the strings. There is also one scene where one melody is played by the organ and the other by the piano (1:56:04-1:56:56).

In *Day One* track⁴⁹, the first melody always stays within the range of a perfect fifth (A to E) and contains four notes (A, B, C, E). It mostly goes up and down the scale, using only major and minor seconds. In a way, it feels restricted, as if the melody was trapped in a small space, evoking the feeling of something worrisome and wearying. When it jumps by a perfect fifth and then a major third (A to E to C), which happens three times throughout, the E note feels like something distant and barely reachable, just as in the main theme. However, the melody finally manages to hold it in the last bar, ending the sequence on the minor dominant (E Minor).

The second melody’s range is wider by one note (G to E) and uses a wider variety of intervals. Whenever the melodies occur together, it fills in the first melody’s longer notes, providing movement. It creates the effect of the duality of passing time. While the first melody feels slower with its longer notes, the second one always moves in quavers, making it feel more agitated and as if time was passing faster.

The first time the second theme’s first melody is presented in the film is in one of the first scenes, the same as the main theme. It is in 8:07-9:30, after the drone Cooper, Murph, and Tom have been chasing flies back, and it turns out they managed to catch it. Murph and Cooper have a short dialogue about what they will do with it. She expresses her somewhat childish wish to let it go as if it was a living being.

This thing needs to learn how to adapt, Murph. Like the rest of us.⁵⁰

These two sentences represent another fundamental element in the film, the reflection on people’s ability to adapt in order to survive. Later in the story, both Cooper and Murph will have to face tough situations and make sacrifices or adjust. This moment also establishes the meaning of the second theme, which one could call the *Survival motif*.

⁴⁹ Appendix 6 Transcription of the Day One track

⁵⁰ Matthew McConaughey as Cooper in *Interstellar*

Whenever it occurs, the characters have to deal with challenging circumstances and adapt to them somehow.

Throughout the film, it is used in different ways. For instance, in 1:24:15-1:25:10, when Murph is examining professor Brand’s equation of gravity and realises that he has been trying to solve it with the wrong assumption about time, the second theme’s first melody is played quietly and slowly with a relatively bright sound in the organ’s higher register. It is accompanied by a few quiet notes played by the piano. Solving the equation is critical for saving people from Earth, and at that moment, the *Survival motif* is calm and alarming at the same time, evoking the feeling of hopelessness.

By contrast, during the docking scene in 2:08:07-2:09:58, it is transformed completely. It is in the *No Time For Caution* track; its transcription is in Appendix 8.⁵¹ In the beginning, the second melody of the *Survival motif* is played in the organ’s lower register and a much darker sound. Then the organ transitions to playing the first melody with short articulation, and in 2:08:31, it intertwines with the second melody being played by the strings. In 2:09:22, after a minor dominant preparation (B Minor with major sixth chord), it modulates from A minor to E Minor, making the music even more alarming as it gets higher. Moreover, its ascending and descending shape creates the effect of musically resembling the ship’s rotation. The time signature changes from 4/4 to 3/4; the music is very rhythmic, march-like and agitated, intertwining longer and shorter notes and building up the tension. In this case, the second theme is changed to resemble Cooper’s drive and determination to survive.

The image shows a musical score transcription for the track 'No Time For Caution'. It consists of three staves: Percussion, Organ, and Strings. The Percussion staff has a rhythmic pattern of eighth notes. The Organ staff has two staves, with the upper staff playing a melody of eighth notes and the lower staff playing a melody of quarter notes. The Strings staff has two staves, with the upper staff playing a melody of eighth notes and the lower staff playing a melody of quarter notes. The score is in A minor, with a key signature of one flat. The time signature is 4/4. The score is marked with 'mf' (mezzo-forte) and 'f' (forte) dynamics. The Organ and Strings are playing in unison, creating a powerful, driving sound.

Ex. 4 A fragment of transcription of the *No Time For Caution* track (after modulation to E Minor)

⁵¹ Appendix 8 Transcription of the *No Time For Caution* track

Analysis part 2 The organ part throughout the film

The organ’s sonic role in the soundtrack to *Interstellar* is crucial. It plays a significant role in providing a musical narrative to the story, and it is directly connected to its heart, Cooper’s and Murph’s connection. It is one of the leading instruments, and it is almost constantly present in the music. Appendix 4 provides an extension to this analysis part in the form of a table with timecodes and descriptions of the organ part throughout the film.⁵² Furthermore, Appendix 5 contains a table with timecodes and descriptions of its most significant *motifs*, which will be identified in this section.⁵³

The very first note in the film is a sustained C. In 00:00-3:30, the organ plays it with a delicate, shimmering timbre mixed with electronic sounds. It is then joined by a melody which keeps modulating between F Major and F Minor, setting the atmosphere right from the start. It evokes the unsettling feeling of uncertainty. It also foreshadows the juxtaposition of emotions that the viewer will experience as the story progresses. The fact that the organ is the first instrument to play in the film immediately informs the audience that it will play a crucial role in the film.

In her article on the organ in the soundtrack to *Interstellar*, Katie Kilkenny, a journalist at *The Hollywood Reporter*, states:

From the movie’s earliest moments, it [the organ] performs some very necessary narrative legwork for the overburdened screenplay.⁵⁴

In the interview, Mr Roger Sayer shared that they have recorded many sustained notes on the organ and that there are many of them throughout the film.⁵⁵ However, one could notice that it systematically occurs in particular moments and that the element linking all of them is transition.⁵⁶ Whenever there is a sustained C note, Cooper or he and other characters are experiencing the end of one thing and the beginning of another. Therefore, one could distinct it as the *Transition motif*.

In some cases, the transition relates to the characters physically travelling from one place to another, such as in 1:06:14-1:06:14, when Cooper and Dr Brand leave Rom on the ship to investigate Miller’s Planet. Here, the organ’s timbre contains mostly high overtones, giving it a piercing sound. One could associate it with a fire alarm or a siren; after a few minutes of no music with only sound effects and dialogues, it is meant to make the viewer more alarmed and narrate the transition to a new sequence of events. During these few seconds, Cooper sighs, preparing for what is about to come, and there is a shot of the ship

⁵² Appendix 4 The organ part throughout the film table

⁵³ Appendix 5 Significant organ motifs throughout the film table

⁵⁴ Kilkenny, ‘Why *Interstellar*’s Organ Needs To Be So Loud’

⁵⁵ Appendix 1 Interview with Mr Roger Sayer

⁵⁶ Appendix 5 Significant organ motifs throughout the film table

taking a course to the new planet. After the crew lands and before the *Mountains* track begins, the sustained C is audible for a few more seconds.

Another example of such transition is in 2:17:17-2:18:11 (when Cooper detaches himself from the Endurance ship to fall into Gargantula) or in 2:20:33-2:20:50 (when Cooper is falling into the unknown dimension). However, sometimes the *Transition motif* also relates to characters’ internal shifts of emotions. It can resemble both the physical and the metaphysical transitions; it is multi-dimensional, just as the film itself.

For instance, in 37:00-42:17, the sustained C note is present throughout the whole scene of Cooper talking to Murph for the last time before he leaves Earth. It is one of the most tragic moments in the entire film. Cooper is about to leave his little daughter, knowing that he might never see her again, to save her and other people from an otherwise inevitable death on Earth. Both he and Murph are going through the pain of separation, being aware that everything will change when Cooper leaves. The C note is played with the organ’s bright sound, and in 37:50, when Cooper says, ‘We’re just here to be memories for our kids’, a low resonant bass comes in; from then on, the two C notes are both present until the end of the scene. They are placed at a distance of a few octaves from each other, creating a huge gap and, thus, space for the emotional charge of this moment.

In general, the C tone centre is an integral part of the harmonic structure in *Interstellar*. There are two other organ *motifs* connected to it, and one of them is a C Major chord, which starts very quietly, then grows with a big *crescendo*, and then suddenly ends, leaving just a few-seconds long reverb decay. It occurs twice in the film. The first time takes place at the very beginning in 2:33-2:41, right after Cooper’s and Murph’s short dialogue. The chord grows as Cooper walks towards the window with a view of a big crops field, and its reverb decay ends with a close-up shot of his face. The second time occurs at the film’s end in 2:39:56-2:40:09, when Cooper walks into Murph’s hospital room to see her for the first time since he left her on Earth. One could call it the *Framing motif*, as it frames the entire story by marking its beginning and finale.

Another organ *motif* based on the C tone centre is an inflection of the *Framing motif*. It also starts quietly and grows with a big *crescendo*; however, it is an augmented Major chord that suddenly resolves to C Major only at its very end (also leaving a reverb decay). It occurs in three different scenes throughout the film, continuously enhancing the tension. The G sharp/A flat note creates a dissonance; the longer the chord lasts, the more teasing it becomes, building up the expectation to resolve. When it finally does by changing to G natural, the chord suddenly ends. The long-awaited resolution is only partly satisfying as it does not last for long; therefore, one could name it the *Tension motif*.

The first time it occurs is in 50:00-50:16, when professor Brand finishes reciting Dylan Thomas’s poem “Do not go gentle into that good night”, and there is a wide shot of the rotating ship receding from the Earth. The crew has just begun their journey, and the

organ’s grand chord marks the tension of this moment as everything is uncertain, and anything can happen on their mission. Furthermore, when it occurs again in 1:00:00-1:00:13 as they are flying into the wormhole, and later in 2:10:54-2:11:16 in the finale of the docking scene, it creates the same effect. Again, it enhances the feeling of distress, adding to the narration of the nerve-wracking action taking place on-screen.

The *Transition*, the *Framing* and the *Tension motifs* are all in the C tone centre; therefore, they all use the organ’s C notes in different octaves, depending on the particular parts of music. It is essential to point out that C is the lowest sound on the organ at the Temple Church. It is the longest pipe, and it is forty-two feet long. As Mr Roger Sayer said in the interview, it has more resonance than other notes.⁵⁷ Its use adds an incredible effect to the music, enriching the chords in overtones and making them sound powerful. It is also enhanced by the editing technique of multiplying and layering the recordings.⁵⁸

One could also notice that both central themes in the film (the main theme and the second theme) are in A Minor and that it is C Major’s relative minor tonality. Moreover, sometimes music modulates to E Minor (as in the *No Time For Caution* track⁵⁹). Therefore, the three central tone centres in the film are the A Minor tonic chord (A-C-E). It gives the organ’s C notes even more meaning as in the overall harmonic structure of the film, C, as the minor third, defines its minority.

Interstellar’s plot gets more complex as the story progresses, following storylines from different times and places simultaneously. The music often provides links between certain things. Mark Richards, a Professor of Music Theory, composer and publisher, writes:

The score provides an effective glue for the film by drawing emotional links between various events, character motivations, and visual spectacles that might otherwise seem rather disconnected.⁶⁰

For instance, in 20:12-20:14, when there is a close-up shot of the dust on the floor, the organ plays a very quiet high E note. It is very subtle, yet it crucially connects to what the viewer will discover in the film’s finale, that it was Cooper from the future who shaped the dust this way. One could interpret the E as a reference to the pedal note in the main theme. Another example of such a link is at 2:22:58-2:23:12, when Cooper is in the dimension created by “Them”. He is surrounded by visions of every moment that little Murph spent in her room whilst the adult Murph is in this very room on Earth, trying to find answers. At the same time, they are, and they are not in the same moment. The organ narrates that by playing repeated A and E notes, referencing Cooper’s and Murph’s theme (the main theme).

⁵⁷ Appendix 1 Interview with Mr Roger Sayer

⁵⁸ Appendix 1 Interview with Mr Roger Sayer

⁵⁹ Appendix 8 Transcription of the *No Time For Caution* track

⁶⁰ Richards, ‘Oscar Nominees 2015, Best Original Score (Part 5 of 6): Hans Zimmer’s *Interstellar*’

The main theme is directly connected to the organ part, and in the film, there is only one exception of it being played by another instrument (2:32:47-2:33:16). There are three particularly significant scenes when the main theme occurs. The first one is in 1:18:11-1:21:26, when Cooper and Amelia have just come back to the Endurance ship from Miller’s Planet, and Cooper is watching video messages from Earth from the past twenty-three years. This is one of the most emotional moments in the entire film, and here, the main theme is played by the organ solo.

This is the first time in the film when no other instruments or electronics accompany the organ, and the main theme is presented in its most straightforward, purest form, with just the melody and the bass notes of the chords. It is a tragic moment for Cooper as he has missed many years of his children’s lives, and the organ’s empty, cold timbre resembles the pain he is going through. One could also associate the solo organ with a church, which enhances the fact that watching the messages is a somewhat sacred moment for Cooper.

According to Mr Roger Sayer, when the music for this scene was being recorded, Hans Zimmer was unable to be at The Temple Church, and it was Christopher Nolan who was there. They had a particular sound in mind, and they placed great importance on recording it right. Even though Christopher Nolan is not a musician, with Mr Sayer’s help, they found the timbre they were looking for.⁶¹ Throughout this moment, the organ narrates Cooper’s internal experience.

Another significant scene accompanied by the main theme is in the film’s culmination sequence at 2:24:38-2:26:51, when Cooper is watching himself from the past having his last conversation with Murph on Earth. It is a part of the *S.T.A.Y.* track, and its transcription is in Appendix 7.⁶² Throughout the scene, the eight-bar sequence is repeated many times. Cooper’s desperate attempt to stop his past self from leaving is hopeless. At 2:25:34, when there is a close-up shot of Cooper’s decrypted message saying “STAY” in little Murph’s notebook, low organ pedal notes come in playing the primary notes of the main theme’s chords (F-G-a-G). The unchanging harmony enhances the fact that Cooper cannot change the past.

The last repetition of the main theme’s sequence starts at 2:26:19 (bars 56-69 in Appendix 7⁶³), and it includes a subtle but meaningful development. When adult Murph realises that Cooper was “her ghost”, the rising quavers are joined by added notes, and there is a new line in the organ part. In a way, it is a positive moment for Murph, as it means that her father never really abandoned her and that he has tried to communicate. It is significant for her as this is the first time she has found some form of contact with Cooper ever since he left. At first, the new organ line is in octaves with the pedal notes playing F-G-A, but then, instead of coming back to G, as one would expect it to, it continues going up to B and

⁶¹ Appendix 1 Interview with Mr Roger Sayer

⁶² Appendix 7 Transcription of the *S.T.A.Y.* track

⁶³ Appendix 7 Transcription of the *S.T.A.Y.* track

C. In addition, it is played with the organ’s different timbre, contrasting to the one used for the rising quavers line. It contains more overtones; it is fuller and warmer, resembling the change in Murph’s perspective. The use of two different timbres simultaneously also reflects the complexity of her feelings.

The last time the main theme occurs is in the film’s finale at 2:40:09. After everything Cooper and Murph have been through, they finally reunite to talk for the last time in their lives. For two minutes, it is played by the solo organ. Yet again, it shows the sacredness of the moment and provides a narrative to the complex emotions the two characters are experiencing. It also represents the purity of Cooper’s and Murph’s bond and their selfless love for each other.

From 2:41:46 on, other instruments and electronics start coming in while the organ is still playing the main theme. Murph tells Cooper to go back to Dr Brand; there are shots of her setting up a camp on Edmund’s Planet and Cooper and Tars stealing a ship to join her. Then, in 2:42:54, another organ part comes in with fast figurations, adding agitation and movement to the music. Throughout the film, one could notice that the organ has been getting a *noticeably more heavy-handed touch* as the plot progresses⁶⁴. In the interview, Mr Roger Sayer also pointed out that it becomes a stronger element towards the end.⁶⁵

At 2:43:55, the screen goes black, and the film ends. The music suddenly stops on the G Major chord, and the final two notes in the organ’s figurations are D and E. It is as if the music reached the E and finally did not have to go back to climbing onto it again; even though it stops suddenly, it gives closure to the main theme’s “struggle” and the harmonic F-G-a-G sequence is finished for the very last time. The organ frames the entire story, as it is both the first and the last instrument playing in the film.

⁶⁴ Kilkenney, ‘Why *Interstellar*’s Organ Needs To Be So Loud’

⁶⁵ Appendix 1 Interview with Mr Roger Sayer

Conclusions

The organ’s narrative and sonic importance in the soundtrack to *Interstellar* primarily lies in enabling the music to convey the complex emotions the characters experience in the story. It is the leading instrument throughout the film, and it marks all the most significant moments. Its *motifs* provide linking points in the story, making it easier for the viewer to comprehend the complicated plot.

Furthermore, the organ is directly connected to the main and the second theme, which are both related to the heart of the story, Cooper’s and Murph’s connection. Their bond gives reason and meaning to everything that happens in the film. The organ accompanies the two characters’ most significant interactions and provides musical links between them even when they are in different times and places.

Moreover, choosing an organ as the leading instrument provides a connection between music and science. However, at the same time, its association with church music and religiosity enhances the music’s connection to the metaphysical world. One could link these two things to the duality of the characters’ actions and motivations in the film. Although they are all scientists, and one could expect them to be logical and rational to the extreme, they constantly need to make decisions based solely on their instincts and feelings. Numerous times throughout the story, they have no choice but to have faith that what they are doing is right.

One could also find a connection between the fact that Hans Zimmer did not know what the film would be about while composing the main theme and that Mr Roger Sayer did not know anything about it either when recording the organ part. At the time, only the primary concept of the story was explained to them, which was a father being separated from his child. Perhaps, this measure was meant to give the artists as few “distractions” as possible and let them make their most honest, purest musical interpretations. One could wonder if the soundtrack’s effect of really moving one’s soul has been achieved due to that.

Finally, recording the organ live had a significant influence on its part in the film. Mr Roger Sayer’s performance on the historical instrument at the Temple Church gave the part its soul, making it a singular voice in the film. Furthermore, his collaboration with Hans Zimmer and Christopher Nolan, combined with the organ’s wide range of capabilities, resulted in achieving an extensive variety of timbres and effects. Throughout the film, the organ resembles and narrates an incredible spectrum of emotions, ranging from distress, through pain, to love.

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