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Non-diegetic film music as a narrative agency in Christopher Nolan's *Interstellar* (2014)

Abstract

This study sets out to investigate the non-diegetic music in Christopher Nolan's *Interstellar* (2014) in order to highlight its implicit narrative functions and meanings. The theoretical approach consists of semiotic concepts such as 'Cognitive denotative' and 'Cognitive connotative' functions by Emilio Audissino, 'Myth' and 'Anchorage' by Barthes as well as Claudia Gorbman's 'Connotative Cueing'. The musical concept called 'Leitmotif' is also used. The methodology used was a textual analysis, based on the 'Multi-code mind-set' where one thinks about film and music as two separate and competing entities that hand in hand creates dramatic representations.

The results show that the non-diegetic music can function as a narrative agent that creates and builds up tension, dynamic and energy within narrative contexts; an assistant to the spectator that helps one to better comprehend a narrative context where it connects one emotionally as well as perceptually to it and the characters within that context; enables the spectator to embrace a interpretation of implicit meanings in a narrative context; cues the viewer into narrational positions that can either lure the spectator into or prepare one for an upcoming narrative context; an indicator or ignitor of a specific diegetic event that heightens the mood and excitement of the visuals; a supporting film element that keeps a static, slow or boring passage of a scene interesting; enables the spectator to embrace a interpretation of implicit meanings in a narrative context; addresses what is implicit within the drama of a scene which helps the spectator to see what is not in the visuals; an narrative agent that can take the form of a specific music piece where its musical characteristics can carry a deeper narrative meaning which elucidates when one considers its musical modifications as well as its pattern of occurrence and reoccurrence within the narrative and its contexts.

It is also highlighted that there are both old and new films that resembles to the sound mixing 'issues' *Interstellar* has which sometimes interfere with the spectator's perception of dialogue because it has been, periodically, slightly mixed beneath the level of music and other sound effects and therefore has a lower level in the hierarchy of the spectator's cinematic attention.

Keywords: Interstellar, non-diegetic music, film music, Christopher Nolan, Hans Zimmer, implicit narrative functions, semiotic concepts, leitmotif, denotation, connotation.

Table of contents

1. Introduction

In 2014 Christopher Nolan's epic space saga, *Interstellar* (2014), had a worldwide premiere in theatres. It received massive criticism for its sound mixing issues, which "ignited a Hollywood uproar".[1] The complaints were centered on both the sound effects and the orchestral score of the film, composed by the Oscar-winning composer Hans Zimmer, which occasionally drowned the dialogue and made it hard, and even impossible, to understand. The complaints about the poor sound mixing were regarded as a technical issue within the theatres until Christopher Nolan broke silence and admitted that the "'impressionistic' sound was an 'unusual approach' for a mainstream blockbuster, [and he] insisted that it was the right choice for an 'experimental film' like *Interstellar*".[2] Nolan underlined that this 'unusual' sound mixing was intentionally chosen to make the dialogue harder to hear in certain scenes because "there are particular moments in [the film] where [he] decided to use dialogue as a sound effect, so [it] sometimes [was] mixed slightly underneath the other sound effects to emphasize how loud the surrounding noise [was]. It's not that nobody has ever done these things before, but it's a little unconventional for a Hollywood movie."[3]

Hans Zimmer too responded to the criticism, saying that he and Nolan wanted to take the audience on a journey by pushing the technology of what cinema and modern speakers can handle.[4] For Zimmer, they "[wanted] to be bold [regarding the sound mixing]. [Nolan & Zimmer] were aiming for the best sound systems. And […] it was really important for [them] that people wouldn't hear this music detached from the movie for the first time on their little computer screen because that's not what is designed for"[5]

In response to the complaints, a theatre in New York posted a sign on its door which clarified the sound controversy around *Interstellar* that there were no problems with the theatres sound equipment and underlined that Christopher Nolan had "mixed the soundtrack with emphasis on the music".[6]

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[1] Andy, Gensler, "Why 'Interstellar' Sound Issues Have Ignited a Hollywood Uproar'", www.billboard.com, 2014, November 14 (collected 2019-01-24).

[2] Hannah-Shaw, Williams, "Interstellar's Inaudible Dialogue Was an 'Adventours' choice", www.screenrant.com, 2014, November 16 (collected 2019-01-24).

[3] Hannah-Shaw, Williams, "Interstellar's Inaudible Dialogue Was an 'Adventours' choice", www.screenrant.com, 2014 November 16 (collected 2019-01-24).

[4] Hans, Zimmer, "Hans Zimmer Comments on '*Interstellar*' sound controversy", *The Hollywood Reporter*, www.youtube.com, 2014, December 23 (collected 2019-01-16).

[5] Kirsten, Acuna, "Composer Hans Zimmer speaks out against 'interstellar' Critics", www.businessinsider.com, 2014, November 18 (collected 2019-01-24).

[6] Kirsten, Acuna, "Composer Hans Zimmer speaks out against 'interstellar' Critics", www.businessinsider.com, 2014, November 18 (collected 2019-01-24).

The sound controversy around *Interstellar* has made it clear that sound design (especially music) can play a significant role for a spectator's experience of a film, not to say the least when it comes to a film produced by the duo Nolan & Zimmer.[7] Music, of course, helps the spectator connect emotionally and perceptually with the film being projected on the screen. Thus, it helps the spectator to comprehend films with complex narrative relations or even interpret implicit meanings and functions of the narrative.[8]

Today, film music has grown enormously since the early sound films of the 1920s and established itself as an important element in the audio-visual paradigm. Film scholar Claudia Gorbman means that the interrelation between music and film is important since it sets moods and tonalities in a film which "guides the spectator's vision both literally and figuratively".[9] The spectator, who enters the cinema to experience a story, rather receives a greater experience than that because of the different elements in the film such as the connotative systems of camera placement, editing, lightings and also music.[10] Yet there is and have always been a central discussion when it comes to the film music's aesthetics'; the music's place in the hierarchy of the spectators cinematic attention.[11] In *Unheard Melodies* (1987), Gorbman discusses a concept called 'Subordination to the voice', where she highlights Leonid Sabaneyev's[12] reasoning regarding narrative logic: "It should always be remembered, as a first principle of the aesthetics of music in the cinema, that logic requires music to give way to dialogue". [13] In other words, the dialogue must receive priority in the soundtrack mix, in order to not drown out the character's speech and to avoid, or rule out, any aural competition in order to ensure the dialogue's clarity. In contrast, in *Interstellar*, Nolan & Zimmer place the non-diegetic music on a higher level in the spectator's hierarchy of cinematic attention, sometimes drowning out the dialogue. This kind of sound mixing issue can also be found in recent BBC documentaries and dramas which the composer George Fenton underlines in a discussion with Mervyn Cooke.[14] Fenton means that the technological aspect is a crucial matter when it comes to be a sound

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[7] Nolan & Zimmer have previously received criticism for similar sound mixing issues in for example *The Dark Knight Rises* (2012) where audiences had problem of hearing and understanding Bane, the main villain in the final instalment of the Dark Knight trilogy. From: Borys, Kit, "'The Dark Knight Rises' Faces Big Problem: Audiences Can't Understand Villain", www.hollywoodreporter.com, 2011, December 20. (Collected 2019-01-25).

[8] Emilio, Audissino, *Film/Music Analysis*, 2017, Palgrave Macmillan, Southampton, p. 141.

[9] Claudia, Gorbman, *Unheard Melodies*, 1987, Indiana University Press, Bloomington & Indianapolis, p. 11.

[10] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 11.

[11] Claudia, Gorbman, "Film music" in: John, Hill & Pamela Church Gibson, *The Oxford Guide to Film Studies*, 1998, Oxford University Press, Oxford, p. 45.

[12] Leonid Sabaneyev (1881-1968) was a russian musicologist and composer.

[13] Claudia, Gorbman, *Unheard Melodies*, 1987, 1987, p.77.

[14] The full discussion can be found on page 109 in: Mervyn Cooke's & Fiona Ford's *The Cambridge companion to: Film Music*, 2016, Cambridge University Press, Cambridge.

mixer and deciding which media platform as well as which level of the spectator's hierarchy of cinematic attention they should prioritize. Even if this concerns mainly television, one cannot escape the same prevailing problems in cinema theatres which ignited the sound controversy around *Interstellar*.

Nolan & Zimmer's placement of the non-diegetic music, i.e. the films 'accompaniment' music which is external to the film's world and cannot be heard by the characters,[15] prioritizes narrative exposition where the score of *Interstellar* features a high degree of synchronization between music and narrative action and thus commonly relies on, what is called, 'Mickey-mousing'.[16] That is, the technique of closely synchronising music and images, where the music imitates the images direction or rhythm. It was employed on a regular basis in Hollywood film scores during the 1930s and 1940s[17] and was named after its musical practices in the early Disney sound cartoons.[18]

The classical score in Hollywood films often features a high degree of 'Mickey-mousing' which, usually, doesn't drown out the dialogue but rather obtains a convincing synchronization of image and sound, particularly when it comes to dialogue and lip movement.[19] Music is often deployed during the beginning, the progression and the ending of a film to either signify emotions among the audience or to create or emphasize character subjectivity[20] and should, as Max Steiner puts it, "always fit [the film] like a glove."[21] The music should not, according to Steiner, stray from the images but reinforce them and take its impetus completely from the narrative, together with the fact that film music will drop in volume when characters speak because the intelligibility of dialogue is more important in the narrative hierarchy.[22] Even in the old days, during the 1930s, one saw development of guide-lines for the composer and the orchestra music to be placed behind or beneath the dialogue to avoid unnecessary conflict with the character's voices.[23] The priority of dialogue's volume is a general rule within the classical score in cinema.

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[15] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 33.
[16] Claudia Gorbman, "Film Music" in: John, Hill & Pamela Church, Gibson, *The Oxford Guide to Film Studies*, 1998, The Ofxord University press, New York, p. 45.
[17] James, Buhler & David, Neumeyer, *Hearing the Movies: Music and Sound in Film History*, 2010, Oxford University Press, New York, p. 85.
[18] Kevin. J. Donnelly, *Film Music: Critical Approaches*, 2001, The Continuum International Publishing Groups Inc, New York, p. 46.
[19] Kevin. J. Donnelly, *Film Music: Critical Approaches*, 2001, p. 45.
[20] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 79.
[21] Kevin. J. Donnelly, *Film Music: Critical Approaches*, 2001, p. 45.
[22] Kevin. J. Donnelly, *Film Music: Critical Approaches*, 2001, p. 45. & Claudia, Gorbman, *Unheard Melodies*, 1987, p. 59.
[23] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 78.

Nolan's & Zimmer's choices regarding the sound mixing puts *Interstellar* in an oscillating position between the classical Hollywood mainstream film and experiment's films since it's non-diegetic music fits the film 'like a glove' at the same time as it drowns out the dialogue, almost erasing the relationship between sound and dialogue / lip movement. Moreover, Nolan breaks the norms for sound mixing in Hollywood mainstream films which in turn slightly expands the full potential of the Hollywood mainstream film (in a similar but not the same way as George Méliés did with the science fiction genre in the early cinema era of the 1900s). [24] By breaking the norms for sound mixing in classic Hollywood mainstream films *Interstellar* raises certain interests concerning the non-diegetic music. Is its placement in the hierarchy of the spectator's cinematic attention important for the narrative? How does it affect the spectator's perception of the narrative? What is the narrative agency of *Interstellar's* non-diegetic film music? How is it understood in relation to what is happening on the screen?

1.1 Aims, research question and hypothesis

Interstellar (2014) and its non-diegetic music will serve as the main object of this study, in order to scrutinize what the non-diegetic music's narrative agency is in three specific, but yet narratively important, scenes. Hence the research question:

- What is the narrative agency of the non-diegetic music in *Interstellar*?

I argue that the non-diegetic music can, in each scene, function as a narrative agency which carries implicit narrative functions and meanings; functions and meanings which can be discerned when analysed in relation to the sequences of the chosen scenes. Furthermore, the non-diegetic music can, I would argue, assist the spectator in better comprehending narrative contexts, by dramatize and characterize them with music, as well as understanding the entirety of the narrative. Additionally, it is assumed that *Interstellar* and the choices regarding its sound mixing resembles to historical counterparts in cinema in order to enable the spectator to grasp the film in the way as the director intended to.

1.2 Disposition

The work is divided into seven major parts. The introduction, part two is *Previous research* in which there is a presentation of the earlier conducted research concerning film music and research related to the chosen subject. Part three is *Theoretical framework* in which a theoretical

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[24] Hannah-Shaw, Williams, "Interstellar's Inaudible Dialogue Was an 'Adventours' choice", www.screenrant.com, 2014 November 16 (collected 2019-01-24).

framework of reference, consisting mainly of Claudia Gorbman and Emilio Audissino, will be presented. It contains presentations of different semiotic concepts as well as a musical concept. All used in analytical manner which is illustrated in part six. In the fourth chapter, the methodological approach is presented together with delimitations and selections regarding the number of sequences of scenes chosen for the present study. The fifth chapter presents the origins of the *Interstellar* soundtrack where a short background story is presented which highlights the birth of the film's soundtrack. The sixth chapter is introduced with a short plot summary of *Interstellar* which is followed by three analytical subchapters.

The seventh and final chapter presents and discusses the results. It includes a part called 'discussion', 'reflection' and 'suggestions for further research'. The first part will highlight how the non-diegetic music in *Interstellar* as well as its sound mixing resembles to and differs from old and new films in order to underline a historical context concerning film genres and directors. The other part concerns a reflection upon the analytical approach and tools used in this study. The latter part includes suggestions of how one could approach the subject or a similar one by using other observations methods and research questions.

2. Previous research

In the following section, an overview of previous research on film music will be given in order to outline and construct the relevant research field for this thesis. It will also highlight that there is a 'missing piece' in the big puzzle of film music and *Interstellar* in the research field of film studies.

2.1 Film music

The study of film music has taken place in the margins of academia for a long time but has come of age during the last two decades.[25] It is a complicated field since it is a complex subject matter. It is both about music and film, which proclaims that two separate disciplines, film studies and musicology, can claim they are entitled to study it where the latter one has increasingly dominated the field of film and media studies.[26] Interestingly enough, the academic study of film music was initiated by film scholars and not musicologists. Film music has evolved into becoming a legitimate object of study and therefore musicologists and music

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[25] Claudia, Gorbman, "Film music" in: John, Hill & Pamela Church Gibson, *The Oxford guide to film studies*, 1998, p. 43.
[26] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 1

theoreticians have dominated the field. But from a film studies perspective, music is a sound element to be addressed as it appears within the film and film scholars have adopted tools, that are already in use in Film Studies, which has been imported from literary semiotics and narratology as well as from Lacanian psychoanalysis. [27]

During the beginning of the 1980s a new wave of film scholarship aimed to treat film as an audio-visual unit which emerged and blossomed a decade later. One of the most widely read books concerning film music is *Unheard Melodies* (1987) by film scholar Claudia Gorbman. It is a systematic study of the power of music to shape the spectator's perception of a narrative and has laid the foreground for most of the film music studies today. It is a balance of survey and theoretical perspectives new to film musicology and uses ideas from semiotics, narratology and suture theory in order to explain the workings of underscoring in narrative fiction films. Different musical codes (pure, cultural and cinematic) are discussed in order to highlight different analytical approaches to film music. The work applies its tools to classic Hollywood films such as *The Jazz Singer* (1920), *Mildred Pierce* (1945) and *Citizen Kane* (1941) but also French new wave films and the most interesting idea, which also gave the book its title, is that the melodies of film scores usually go unheard, evading conscious audience awareness.[28] In one of the most relevant parts of the book, Gorbman discusses how film music supplies 'anchorage' in the images, an interpretive assistance (originated from Barthes' concept 'anchorage') to combat potential ambiguity of visual cues. She underlines that music anchors interpretation by forming mood and historical setting and by supplying emotional depth not conveyed in words, since music parallels the mechanisms of the subconscious and substitutes for experience. The concept of 'Anchorage' as well as 'Connotative cueing' will be discussed in the third chapter where the theoretical framework is presented.

In 'Tools for Analysis and Interpretation' David Neumeyer presents a part called 'Interpretation and implicit meanings' where he discusses interpretation and implicit meanings by exemplifying it through Gorbman's three musical codes (pure, cultural and cinematic) in relation to his close reading of Bellour's analysis of Steiner's score in the car scene from *The Big Sleep* (1946). Neumeyer emphasizes that Bellour's goal is to "draw attention to what he calls the 'elementary but subtle operations' that underlie the simplicity or 'obviousness' of th[e] scene".[29] Bellour claims, according to Neumeyer, that the large number of shots in the scene

[27] Emilio, Audissino, *Film/Music Analysis*, 2017. p. 29.
[28] Mervyn, Cooke & Fiona, Ford, *The Cambridge companion to: Film Music*, 2016, p. 109.
[29] David, Neumeyer, *Meaning and interpretation of music in cinema*, 2015, Bloomington, Indiana University Press, p. 60 f.

together with Steiner's music generates or reinforces the direction of the narrative and he concludes that the scene is an audiovisual symmetry of design. Neumeyer then dissects the analysis by highlighting how Gorbman's musical codes are applied to Bellour's analysis where the 'pure' musical code is absent while the 'cultural' and 'cinematic' codes are active since they are "at work in virtually any music in film. The question is not their presence but to the degree to which they are active."[30] He also means that the recurrence of music in a scene invites the audio-viewer to make connections to the scene, reinforcing the idea of the film as a coherent narrative. The contribution Neumeyer provides with here can be found in *Meaning and interpretation of music in cinema* (2015).[31]

In an essay, called 'Analytical and Interpretive Essays (I): Analysing the Music', by Neumeyer and Jim Buhler they examine the musicological methods for their applicability to film music studies. Both Neumeyer and Buhler highlight central concepts under which musicology functions, but as well as the historical logics under which the field has functioned. Buhler's essay, 'Analytical and Interpretive Approaches to Film Music (II): Analysing Interactions of Music and Film', considers music as an element to the overall sonic composition of the film itself. Buhlers cites Michel Chion and Rick Altman, two pivotal theorists of sound in film, where Buhler negotiates his position between Chion (who emphasizes sound in relation to the larger sound design) and Altman (who argues that the various elements of film sound constitute an equally integral part of the filmic experience): "Following Michel Chion, I argue for interpreting music as an element within the overall sound design, but with Rick Altman and against Chion, I argue that the three elements of the soundtrack (dialogue, music and effects) do indeed constitute an integral, parallel track to the images".[32] The two essays can be found in Kevin J. Donnelly's *Film Music: Critical approaches* (2001) which consists of a collection of essays that outlines a variety of approaches to film music.

Peter Larsen has written 'Analysing music' and 'Musical meanings' which are two chapters in *Film Music* (2005).[33] In the former chapter, Larsen discusses music in context, moreover how the music itself has "its own language" which one must try to hear by concentrating only on the music in order to "maintain a certain distance from the overall film

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[30] David, Neumeyer, *Meaning and interpretation of music in cinema*, 2015, p. 61.

[31] The work also includes contributions from James Buhler and introduces an eloquent and a wide range of film music theory which focuses on the spectator's cognitive activities in constructing and enhancing meanings through film music and sound effects

[32] Kevin J. Donnelly's *Film Music: Critical approaches*, 2001, Edinburgh University press, Edinburgh, p. 39.

[33] The work is similar to Neumeyer's with the exception that Larsen traces the history of music in film and discusses central theoretical enquiries concerning narrative and psychological functions

narrative, and then to change perspective and allow the film to be the overall context of the analysis."[34] Larsen also points out the difficulty with music as a mode of representation in film:

> Anyone can see what a photograph, a film image or a figurative painting represents and describe it in words. Anyone can retell what is written in a text. It is, however, much more difficult to say what a piece of music 'means' or 'deals with'. Music, like a series of images or a text, is an organized sequence of elements. But unlike images and texts this sequence does not produce a precise content. While images and texts are signs […] music is first and foremost structured sound, [a] sounding form, and sequences of notes that are organized in relation to underlying syntactic codes.[35]

Therefore, one is forced to describe the music itself since music doesn't, according to Larsen, represent anything. It doesn't convey a different 'content' that one can refer to and use as a point of reference in the description. In the latter chapter, 'Musical meanings', Larsen emphasizes that musical meanings exist on a scale that ranges from extremely simple structural similarities via complex, cultural connotations to produced references of leitmotifs, to which can be added various expressions of emotions which can be linked to specific sections of the music. He also underlines that it is important to emphasize that those semantic functions are not mutually exclusive. One and the same piece of music can convey many kinds of meaning simultaneously.[36] Leitmotifs and how they acquire meaning are also discussed by Larsen and will be further discussed in chapter three.

With musicologists' domination in the field of Film-Music Studies Emilio Audissino's *Film/Music Analysis: A film studies approach*, (2017) brings the discipline back into the domain of film studies. Audissino blends Neoformalism with psychology and musicology. The study treats film music as a cinematic element with an approach to film music in which music and visuals are seen as equals where Audissino presents a review of the issues which make most past and current approaches to film music incomplete or biased. He also presents his theoretical frameworks of reference which consists mainly of Kristin Thompson's Neoformalism. Audissino propose, later on, a method to "analyse music in films based on three spheres of mental activity in which the viewer is engaged: perception, emotion and cognition. As guidelines for the analysis [Audissino] finally offer[s] a set of three functions that music can fulfil in films, based on those three spheres of mental activity."[37] Audissino highlights that when music helps the viewer comprehend more complex narrative relations or even interpret implicit or symptomatic meanings he calls it music with a 'Cognitive function', since "higher-level mental processes are involved, including productive thinking, in the case of interpretation."[38]

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[34] Peter, Larsen, *Film Music*, 2005, Reaktion books, London, p. 42.
[35] Peter, Larsen, *Film Music*, 2005, p. 43.
[36] Peter, Larsen, *Film Music*, 2005, p. 75.
[37] Emilio, Audissino, *Film/Music Analysis*, 2017, p. VI.
[38] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 141.

This function can be divided into 'Denotative cognitive function' and 'Connotative cognitive function' which will be presented in the theoretical framework chapter.

The present study will borrow some of the abovementioned semiotic concepts such as the 'Denotative cognitive' and 'Connotative cognitive' function from Emilio Audissino, Claudia Gorbmans discussion of the 'Connotative cueing' concept as well as her reflection of Barthes' 'Anchorage' concept. The musical concept 'Leitmotif, which can be found in Peter Larsen's *Film music*, will also be used to structure the theoretical framework.

2.2 Articles related to the chosen subject of the present study

Interstellar, which is a relatively new film, has overall a very narrow range in research reception. Yet, there are a couple of contributions which concerns specifically *Interstellar* such as "Biopolitics in the Anthropocene: On the invention of future Biopolitics in *Snowpiercer, Elysium* and *Interstellar*"[39] and "Visualizing *Interstellar's* Wormhole".[40] Although, none of them focus on the subject for the present study. Instead, one could supplement the field of research regarding the subject by highlighting articles related to and considered as useful for the present study.

One example is Dominic Case's article "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right".[41] Case discusses how sound mixers have tended to take advantage of today's sound equipment and the systems' dynamic sound range in movie theatres. In a film, the soundtrack can be too "loud [and] is likely to upset an audience rather than involve them in the story, and 'loudness' has to do with much more than just the peak level of a track. The mix of high and low frequencies, as well as the proportion of loud to quiet sounds, must all be factored in when technical measurements of 'loudness' are to be made."[42] He also stresses that the whole dynamic range of a sound system allows for very quiet parts and loud ones in a feature film at the theatre. Dialogue in movies, at the theatre, has always been mixed at a similar level to how loud people speak in reality and since the newer sound systems have an increased dynamic

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[39] Gregers, Andersen & Esben Bjerggaard Nielsen, "Biopolitics in the Anthropocence: On the invention of future Biopolitics in *Snowpiercer, Elysium* and *Interstellar*" in: *The Journal of Popular Culture*, Vol. 0, No. 0, 2018, Wiley Periodicals, Inc.

[40] Kip, Thorne, Oliver James, Eugénie von Tunzelmann and Paul Franklin, "Visualizing *Interstellar's* Wormhole, *American Journal of Physics*, June 2015, Vol. 83 Issue 6, p. 486.

[41] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20, Trade Journal, Mediaweb Ltd, Auckland, FIAF International Index to Film Periodicals Database.

[42] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20 p. 1.

range of sound, mixers have utilized the possibilities with the new systems which, in other words, have made both sound effects and music louder than before, simply because they can.[43] Case also highlights that music has grown from being a background mood-setter in films to a character in itself and that the digital sound systems are amazingly good at filling out the sound space without drowning out the dialogue. In the earlier times of sound film, no one complained about the films being too loud compared to how it is today.[44]

In "The role of music communication in cinema" by Scott D. Lipscomb & David E. Tolchinsky they introduce empirical and theoretical models of film music perception and the role of music in film.[45] They refer to some of the most significant research investigating the relationship between sound and image in the cinematic context.[46] By using a cognitive approach they study musical communication in cinema. The authors discuss how music conveys general moods of a film, internal life, thoughts and feelings of a character as well as narrative structure. Further, they stresses that the typical role of a film score is, according to them, to reinforce, alter or augment the emotional content of a cinematic narrative. Lipscomb & Tolchinsky proposes an extended set of ways in which the soundtrack can serve to communicate meaning through "sound (including music), taking into account the director's – and therefore, the composer's – intensions, the narrative content of the film, and the overall strategy of the director in constructing the multifaceted soundtrack."[47] They mean that "music is capable of conveying the overall perspective or message intended by the director, as related to both character's and on-screen events." Additionally, they mean, a musical score can augment the narrative in order to express unspoken and unseen implications that underlie the drama, that is the auditory component (both music and sound effects) of a motion picture can add depth and meaning to the cinematic experience.[48] Lipscomb and Tolchinsky emphasizes that within the context of a completed film "roles of the various individuals involved in the music communication process

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[43] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20, p. 1.

[44] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20, p. 1 f.

[45] Scott D., Lipscomb & David E., Tolchinsky, "The role of music communication in cinema", *Musical Communication*, March 2012, Oxford university press.

[46] For example: M, Boltz "Musical soundtracks as schematic influence on the cognitive processing of filmed events" in *Music Perception*; R.M., Prendergast, *Film music: A neglected art*, 1992; C. Bullerjahn & M. Güldenring, "An empirical investigation of effects of film music using qualitative content analysis", *Psychomusicology* and S.K. Marhsall & A.J. Cohen, "effects of musical soundtracks on attitudes toward animated geometric figures, *Music Perception*.

[47] Scott D., Lipscomb & David E., Tolchinsky, "The role of music communication in cinema", *Musical Communication*, March 2012, p. 3.

[48] Scott D., Lipscomb & David E., Tolchinsky, "The role of music communication in cinema", *Musical Communication*, March 2012, p. 4.

become multifaceted and difficult - if not impossible – to disentangle one from another."[49] They also mentions that it is important to have in mind that the role of the composer to the film score is, often, dramatically influenced by the wishes and expressed input of the director. This is something that could be most certainly applicable to the duo Nolan & Zimmer.[50]

Both articles thus highlight aspects highly relevant for the present study. Case emphasizes how the technological aspect has become a crucial matter since todays sound equipment gives the sound mixers new possibilities of pushing the technology almost to its limits which can interfere with the spectators' perception of dialogue in today's theatres. Lipscomb & Tolchinsky discuss how film music can unveil the foreshadowed messages that symbolizes the underlying psychological drama of a film. Both articles will be applied and used in the analysis as well as in the concluding chapter.

3. Theoretical framework

3.1 Semiotics – 'Multi-code mind-set' and 'Myth'

The semiotic approach can be used to discuss language-based and image-based media, because in either case we find signs that carry a meaning.[51] Signs (something that refers to something else) and what they communicate (codes; sets of conventions used to interpret sign systems and to communicate meanings) is the main interest in semiotics. Each means of communications has its own type of signs and codes, and thus there are semiotic studies of different sign-systems such as literary books, comic books, photographs, films, music etc. So, when it comes to music in films, there is the tendency to "approach the task with a 'Multi-code mind-set', that is, to think of cinema as one code system and of music as another."[52] Here, film scholars has adopted and blended semiotics with psychoanalysis. This leads to thinking about film and music as two separate and competing entities that, hand in hand, creates dramatic representations.[53] It is also important to remember that the meanings in film texts depend, obviously, on how both the visual and aural signs of any film narrative are structured.[54] The audio-visual signs are not only used to denote something but to trigger a whole range of connotations attached to the sign. Barthes calls this the 'bringing-together' of signs and their connotations to form a particular

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[49] Scott D., Lipscomb & David E., Tolchinsky, "The role of music communication in cinema", *Musical Communication*, March 2012, p. 5.
[50] See chapter five for more information about the duo and their working process on *Interstellar*.
[51] Jonathan Bignell, *Media Semiotics*, 2002, Manchester University Press, New York, p. 5-6.
[52] Emilio, Audissino, *Film/Music Analysis*, 2017. p. 29 f.
[53] Emilio, Audissino, *Film/Music Analysis*, 2017. p. 35.
[54] Jonathan Bignell, *Media Semiotics*, 2002, p. 197.

message, hence the making of: 'Myth'. In this context, 'Myth' doesn't refer to the mythology in the usual sense of traditional stories. Instead, it refers to the ways of thinking about characters, objects, places or even ideas which are structured to send particular messages to the spectator of the film text. In other words, 'Myth' takes hold of an already existing sign within the text and makes it function as a signifier on another level, in turn making a new sign system out of them.[55]

3.2 'Connotative cueing' and Barthes concept of 'Anchorage'

The general purpose of film music is, according to Gorbman, to "lull the spectator into being an untroublesome viewing subject"[56] and it also functions to ward off the viewer's potential recognition of the technological basis of the filmic articulation. Moreover, anything (such as gaps, cuts, the frame itself or silences in the soundtrack) that can remind the viewers of cinemas materiality jeopardizes the formation of subjectivity and are therefore smoothed over by the music.[57]

The specific kind of music used in major feature films has connotative values so intensely codified that it can bear a similar relation to the images as headlines does to news photographs. It interprets the image, pinpoints and channels a meaning of the narrative events depicted which supplies it with information to supplement the possibly vague diegetic images and sounds. It cues the viewer in to narrational positions, hence 'Connotative cueing'. For example, in *Jaws* (1975), the viewer is given advance knowledge of the narrative threat when the menacing 'shark' theme is played even before the camera reveals the deadly shark closing in on the unsuspecting swimmers.[58] Furthermore, film music establishes, in an effective way, historical and geographical setting and atmosphere through its cultural coding. The signification reached through the use of this film music averts the discontentment of the image's potential ambiguity, which Barthes characterized as 'the terror of signs'. Barthes has called this, primarily semiotic functioning of music, 'anchorage' which lies in connection with the photograph caption. Film music, like the caption, anchors the image in meaning. It "throws a net around the floating visual signifier [which] assures the viewer of a safely channeled signified."[59] As narrative film music 'anchors' the image in meanings, it expresses moods and connotations which in combination with the images and other sounds aids in interpreting the events depicted on the

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[55] Jonathan Bignell, *Media Semiotics*, 2002, p. 16-17.
[56] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 58.
[57] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 58.
[58] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 58.
[59] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 58.

screen which can indicate different character factors such as moral, class or ethnic values. Furthermore, the characteristics of the melodies, the instrumentation used, and the rhythm imitates or illustrates physical events on the screen. Film music reinforces what is already "signified by dialogue, gestures, lighting, color, tempo of figure movement and editing."[60] Yet it is important to remember that "music has tremendous power to influence mood [and] that different music will cue the viewer to different interpretations of an image or scene". [61] Emilio Audissino also discusses the 'anchorage' concept where he highlights that it is not only music that anchors ambiguous meaning in the visual images but also "any other extra-musical elements that anchors the vague meaning of the music."[62] A piece of film music makes the narrative progress and it clarifies narrative information which helps the spectator to engage with the characters but most of all it reveals possible interpretations of a particular moment of the film and how these work in relation to the co-existing elements in the scene.[63]

3.3 'Denotative cognitive' and 'Connotative cognitive' functions

As previously mentioned in the second chapter, Audissino discusses how music can have a 'cognitive function' since it helps the viewer comprehend complex narrative relations or when it comes to interpret implicit or symptomatic meanings. This function can be divided into a 'Denotative cognitive' and a 'Connotative cognitive' function where the former is when music highlights relations amongst the different elements in the narrative and thematic levels that help the viewer comprehend the narrative and its contexts in a better and less vague way. Audissino further highlights this by applying the concept to film excerpts from *Letto a tre piazza* (1960) and *The Treasure of the Sierre Madre* (1948) where he emphasises that music can anticipate a narrative turning point as well as clarify one's understanding of a character's motive for a certain action or of, as I will try to apply, a specific moment of action in the film. The latter one, when music has a 'Connotative cognitive function', its functions and motivations are less directly graspable than in the denotative cases. Here, it is not a matter of comprehension but rather an interpretation of the audio-visual relationship which in turn means that the music suggests some connotation that can be either consistent or inconsistent with the visuals. Audissino also underlines that if one knows the story behind the musical choices, the film can,

[60] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 84.
[61] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 85.
[62] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 114.
[63] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 126.

with the help of the 'Connotative cognitive function", reveal the deeper layers of a film's scene or a segment of it since the connotations become then even more evident. [64]

3.4 'Leitmotif'

A leitmotif is "a theme whose recurrences remain specifically directed and unchanged in their diegetic associations" and it is usually a short piece of music that is associated with a character, place, situation or something or someone else of particular narrative importance.[65] 'Letimotif's'' can be used in a way to add additional information missing in the moving images to certify or determine what is already available in the image. The leitmotif doesn't only signify its referent, that is: the character, thing, place or situation. It is also modified to reflect its context which is done through musical variation which can be (1) subtle, where the orchestra or composer changes or adjusts the tempo or dynamics or the pitch, (2) it can be substantial as well, where one alters the meter, rhythm or mode for example, from major to minor.[66] During the course of the film, leitmotifs reoccurs and the recurrence, besides creating a coherent mood for the characters and settings, helps the viewers' comprehension of the story and helps to follow its development through the leitmotifs that make the viewer recall previous events, situations or characters and the emotion associated with those.[67] The leitmotif's function, then, is to represent something or someone of narrative importance and when it reoccurs it creates a reminder, closure or a feeling of completeness. For example, in the case of Hitchcocks *Psycho* the reoccurring *Rhee! Rhee! Rhee!* leitmotif characterizes, according to Audissino, the murder(er) and making one feel the violence and pain of each stab in Marion's body. When the same piece of (murder) music outburst in a scene later on in the narrative, we know it means murder because we previously heard it during Marion's death scene.[68] It functions, as Larsen means, to evoke the meaning it was assigned to in that particular context which signals the character, setting or context as well as it can vary nuance in a films dynamic progression. [69]

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[64] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 144-145.
[65] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 27.
[66] James, Buhler & David, Neumeyer, *Hearing the Movies: Music and Sound in Film History*, 2010, p. 200-201.
[67] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 134.
[68] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 131 ff.
[69] Peter, Larsen, *Film Music*, 2005, p. 70.

4. Methodology

4.1 Textual analysis

Traditionally, studies of film are based on textual analysis. For the present study, it is the relationship between the moving images on the screen and the music coming out of the speakers that is scrutinized. Therefore, it is important to highlight that it isn't only the non-diegetic music but also the visuals that are analysed which, together, can elucidate the implicit functions and meanings of the narrative communicated to the spectator. The audio-visual aspect of the chosen scenes from *Interstellar* is therefore closely read through the glasses of the, previously mentioned, 'Multi-code mind-set' with the double code systems (images and music). Secondly, Audissino's 'Denotative cognitive' and 'Connotative cognitive' functions, with Barthes two semiotic concepts 'Myth' and 'Anchorage', will be applied in order to highlight the underlying narrative functions and meanings in the chosen scenes in which the audio-visual aspect will be scrutinized. The concept of 'Leitmotif' will also be applied together with the above-mentioned approaches, yet it will only be applicable in the final analysis.

One should also have in mind, when it comes to a semiotic approach, that we are surrounded by and shaped by sign systems where conventions and codes are fundamental for our construction of reality, but typically we are seldom consciously aware of our own habitual ways of perceiving the world.[70] By living in a western society the sign systems we frequently encounter differs from other cultures and societies. For example, an interpretation of a film, book or a piece of music could be illogic and perhaps strange compared to how an easterner would interpret it and vice versa.

4.2 Delimitations and selections

The present study will rely on only one research object, *Interstellar*. Yet, there has been limitations regarding the number of scenes that have been chosen for the analysis part.

Interstellar has a play time of two hour and forty-nine minutes. Many of the scenes involves non-diegetic music. Yet, there are three specific sequences of scenes that are significantly important, both for the entirety of the narrative and the purpose of this study. They involve (some but not all) key moments of the narrative and are all accompanied by non-diegetic music. The non-diegetic music is, in each scene, intermittently, significantly loud and, for most part, synchronized with the moving images that depict different objects and characters

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[70] Jonathan, Bignell, *Media semiotics*, 2002, p. 7.

in key moments of the story. Therefore, the scenes are regarded as fruitful for the present study together with the fact that they bear importance for the progression of the narrative structure. Thus, there is a high possibility that the chosen scenes carry important narrative functions and meanings as well.

The scenes have been named after the film's soundtracks. Hence the main names for each scene and analysis is: 'Mountains', 'No time for Caution' and 'Detach'.

The following chapter contains a short presentation concerning Hans Zimmer's and Christopher Nolan's background story to the origin of the film's soundtrack.

5. Origin of the *Interstellar* soundtrack

After nine years, working together on the *Batman*-trilogy (2005-2012) and *Inception* (2010)[71], Christopher Nolan did something he never done before during his career as a filmmaker. He gave Hans Zimmer (during 2013) one page of the, at the time unfinished, *Interstellar* script, and asked him to write a piece of music to it without telling him about neither the genre, title, characters nor the plot of the film.[72] "It was very important to me [Nolan] that the music did not pay any attention to the genre. What I wanted to do was to engage Hans in a very pure creative process. What I wrote Hans, to get him started, was some dialogue that I've written for the film mixed with some ideas behind the film without any indication to genre or scale just to free him up from that."[73] By starting the process with this experimentation Nolan & Zimmer managed to capture the 'heart of the movie' which is what it means to be a parent and Zimmer says that he sat down and wrote the music piece which is "about what it feels like to be a father and what it feels like to have a son and I [Zimmer] was writing about my son." It was only later Zimmer found out that the son, in the script Nolan had handed to Zimmer, really was a daughter and when Zimmer played the piece of music for Nolan for the first time, it became: "the basis for the entire score, I [Nolan] thought it was absolutely perfect and captured the emotional cords of the film I wanted and it was at that point that I told him it was actually a large scale science

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[71] www.imdb.com, "Christopher Nolan" and "Hans Zimmer" pages (collected 2019-02-15).

[72] Jeff, Jensen, "END WITHOUT INFINITY IS A NEW BEGINNING Dejan Stojanovic, The sun watches the sun", *Entertainment Weekly*, 2014 October 24, Issue 1334, p. 20-28.

[73] Christopher, Nolan, "Cosmic Sounds—The concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014, Warner Bros. Entertainment Inc. and Paramount Pictures Corporation.

fiction film, but I didn't give him any clues about that. I think what that did for him was that it set him very firmly in a direction related to the heart of the film." [74]

In creating the soundtrack for *Interstellar* Nolan & Zimmer conducted 45 scoring sessions which triple their number on the soundtrack to *Inception* (2010).[75] The reason for the high number of sessions was because Nolan & Zimmer wanted to abandon old habits regarding, especially, the certain sound they had developed for the *Batman* trilogy which Zimmer means:

> had seeped into the zeitgeist of other movies. So, we went 'okay let's not do anything we did on that. […] No actiony-string, no thundering drums, none of this […] and the way we [Nolan & Zimmer] talk about music is always on story, we always talk about the story and in some way this talk about story which was really about celebrating science [and scientist] Chris was talking about how movies have become more and more internal and psychological, we wanted to do something which was looking outwards and upwards [and] one of the things we started to talk about was the musical instruments where Chris at one point mentioned pipe-organs and if you think about it, by the 17th century they were the most complex machine that man had ever created and held that pole position of complexity until the telephone exchange was invented. And if you think about the way [pipe-organs] look as well, they look like afterburners on a spaceship.[76]

New sounds were sought by Nolan & Zimmer and they were again experimenting and looking for new ways of creating a unique soundtrack in order to avoid the typically characterization of their music in previous projects. One third of the 45 scoring sessions were mainly experimentation and learning how the musical instrument functioned, which was the church organ that consists of pipe-organs. The choice of the church organ for the *Interstellar* soundtrack was, according to Nolan who made a strong case about the choice, that it had some "feeling of religiosity to it, even if *Interstellar* isn't religious but rather that the church organ and the architectural cathedrals represents mankind's attempt of portraying the mystical or meta-physical, what is beyond us, beyond the realm of the everyday."[77]

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[74] Christopher, Nolan, "Cosmic Sounds—The concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014.

[75] Jeff, Jensen, "END WITHOUT INFINITY IS A NEW BEGINNING Dejan Stojanovic, The sun watches the sun", *Entertainment Weekly*, 2014 October 24, Issue 1334, p. 20-28.

[76] Hans, Zimmer, **"**Trent Reznor, Hans Zimmer, Danny Elfman and more Composers for THR's Roundtable | Oscars 2015**"**, www.youtube.com. (Collected 2019-02-17).

[77] Christopher, Nolan, "Cosmic Sounds—the concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014.

(The mobile recording system setup in Temple church in central London with the church organ in the background)[78]

The church organ is, according to Zimmer, a huge complicated synthesizer which consists of different pipes "and when you think about it, you have a pipe and air blows through it and that makes the sound and it makes the sound of one pitch and if you want to shift colour you add another pipe or more pipes and it becomes this really complex harmonic structures. […] There is something very human about it because it can only make the sound with air and it needs to breath and on each note you hear the breath, you hear the exhale."[79] Nolan also emphasizes that with the church organ you can "feel human presence in every sound" and it was important to keep the film about, not just the endless universe, but the people who are in that space as well.[80]
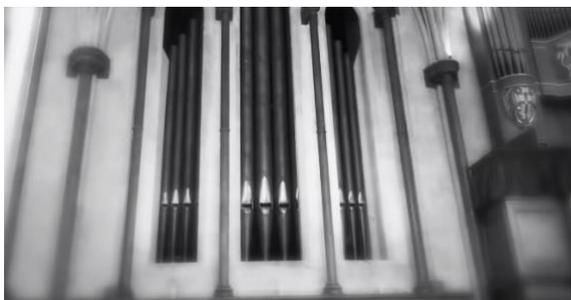
The experimentation Nolan & Zimmer did, result, one could argue, in a unique sonic landscape that carries a human touch which expresses human mankind at the same time as it generates a feeling of religiosity as well as something greater and larger than human life which exists beyond our universe.

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[78] Lee Smith, A.C.E. (sound editor), "Cosmic Sounds—the concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014.

[79] Hans, Zimmer, "Cosmic Sounds—the concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014.

[80] Christopher, Nolan, "Cosmic Sounds—the concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014.

The following chapters contains the analysis of the chosen scenes and finally a concluding chapter will follow with a reflective discussion concerning *Interstellar* and film music.

6. *Interstellar*

6.1 Plot summary

The film follows the former NASA test-pilot and engineer turned farmer, Joseph Cooper (Matthew McConaughey). Along with his daughter Murphy, son and father-in-law they live in a world set in a near future where the earth is stricken by a slow collapse since it is turning into a polluted dust-bowl incapable of sustaining its slowly starving and increasingly ill population due to drought, dust storms and diseased crops. When Cooper and Murphy find a hidden NASA facility, whose rural location has been discovered under strange circumstances, an exploratory space mission to find a new home is addressed to Cooper in order to survey new possible planets for human habitation. Together with Cooper's team, consisting of Dr. Brand (Anne Hathaway), Doyle (Wes Bentley), Romilly (David Gyasi) and two talking robots named CASE and TARS, the exploratory mission does not proceed as planned. The first two planets (Miller's planet consisting of only water; Mann's planet consisting of only ice) surveyed proved to be uninhabitable. Consequently, Cooper and the team must contend with limited resources such as time and fuel as well as a rogue scientist from an earlier mission. In a final attempt to reach the last planet (Edmund's planet consisting of a rocky desert) by doing a slingshot manoeuvre around a black hole, Cooper detaches his shuttle from the main ship which allows Dr. Brand to continue on. As Cooper is drawn into the black hole he is saved by an unknown intelligence and placed within the tesseract which connects him to Murphy's bedroom on earth. Cooper manages to encode the mission data into his old watch on a shelf in the room back on earth which allows Murphy (now adult) to calculate the equation for harnessing gravity. The film ends with Cooper waking up on a space station called 'Murphy' which orbits around Jupiter and he reunites with Murphy (now aging). Not having a place in this new order, Cooper embarks on a journey in order to find Dr. Brand who has reached and settled on Edmund's planet.

6.2 'Mountains' – ticking and roaring

After Cooper and his team has left Earth and woken up from hypersleep, they pass through a wormhole which takes them to another solar system where Miller's planet is located. The gravity on Miller's planet is 130% compared to Earth's. The planet is orbiting around a black hole called 'Gargantua', making the time on the surface of Miller's planet to pass very slow.

This makes one hour on the planet equate seven years back on earth. The immense gravity of the black hole also causes the water on the planet to roil periodically which makes the planet uninhabitable.

(Moments after Cooper and his team has landed on Miller's planet[81])

Moments after Cooper lands 'Ranger 1' shuttle on the surface of Miller's planet, 'Mountains' starts to play in the background. It consists only of a prominent ticking noise during the first minute of the track. During this minute Cooper remains on 'Ranger 1' while Dr. Brand, Doyle and CASE steps outside to find Miller and her research data. In the search after Miller, the ticking noise continues in the background.

(The team searches after Miller[82])

When the team reaches the nearby location where the signal of Miller's beacon is transmitting they find nothing but water. CASE, the robot, digs up wreckage parts of Miller's beacon that supposedly was attached to her space shuttle. The moment CASE digs up the beacon the ticking noise gets accompanied by the pipe organ which is being played in a minor key with a fast pace. Dr. Brand immediately starts moving towards the mountains far ahead in order to pick up Miller's data recorder among the floating wreckage parts. Cooper realizes that the mountains in the distance are in fact tidal waves. At this point the ticking noise, together with the pipe organ, gets accompanied by another tone from the pipe organ but with a higher pitch. It is synched with the ticking noise which makes the original ticking noise become more powerful. When Dr. Brand tries to get the recorder from the wreckages Cooper steps outside 'Ranger 1'

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[81] Approximately at one hour and eight minutes in: Christopher, Nolan, *Interstellar*, 2014.
[82] Approximately at one hour and eight minutes in: Christopher, Nolan, *Interstellar*, 2014.

and sees the towering wave (4,000 feet high) coming behind them. When the wave enters the shot (see image below) the pipe organs goes into an even higher pitch which weaves the other musical tones into a single harsh and powerful pitch with a volume that, during a second, drowns out all other sounds in the scene.

(The wave towering over 'Ranger 1'[83])

Cooper orders the team to get back to 'Ranger 1'. Dr. Brand refuses to leave without Miller's data and continues the search as the wave is coming closer. As she finds the data recorder she gets trapped underneath a wreckage part and tells the team to go without her. Cooper refuses to leave her and Doyle tells CASE to go get her since his robotic body doesn't get affected by the gravity in the same way as humans. During this time of the scene, the music has continued but without the powerful pitch. Instead the pace of the pipe organs has accelerated with an increased volume which has almost replaced the original ticking noise (it's in the background of the other musical elements).

(Dr. Brand trapped under the wreckage part which the data recorder is attached to[84])

When CASE gets to Dr. Brand and frees her from the wreckage part, Cooper tells Doyle to get back to 'Ranger 1'. CASE returns to 'Ranger 1' with Dr. Brand in his robotic arms and gets inside. Here, the pipe organs have changed to a higher volume which has been reinforced with an applied choir that almost makes the wave roar as it is towering over them. Moments later

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[83] Approximately at one hour and eleven minutes in: Christopher, Nolan, *Interstellar*, 2014.
[84] Approximately at one hour and eleven minutes in: Christopher, Nolan, *Interstellar*, 2014.

Doyle is washed away by the wave just before it hits 'Ranger 1' and floods the main engine. The score then abruptly stops and 'Ranger 1' is washed away on top of the wave's surface. When they return to the 'Endurance', Romilly who stayed behind on the spaceship, tells them that 23 years has passed since they landed on Miller's planet.

So, what is the narrative function of the non-diegetic music here? How does 'Mountains' convey meaning to what happens on Miller's planet?

Firstly, time, which has been a reoccurring theme in Christopher Nolan's other films,[85] is certainly a matter of importance in the thematic level of *Interstellar* as well. In the process of interpreting the meanings of the audio-visual aspect here, one must have in mind Audissino's concept of the 'Denotative cognitive' and 'Connotative cognitive' function in order to see how 'Mountains' convey meaning to the context of the scene.

The ticking noise, which occurs every 1.25 second in the scene, represents one day of time back on Earth[86] and one cannot elude how the ticking noise resemblance to the sound of an analogue ticking clock. By applying the 'Denotative cognitive' concept when looking closer on the ticking noise, it becomes the direct musical sign that denotes time ticking away on Miller's planet. With the help of the 'Connotative cognitive' concept the ticking noise rather connotes that it carries the specific meaning of the time dimension on Miller's planet and as a narrative function, it builds up and creates a 'don't-waste-a-second' tension and thus it highlights *time* as the main threat for both the survival of the mission as well as the species of mankind back on earth. When one hears the ticking noise in relation to the perception of the visual elements in the narrative context it helps us to comprehend the scene in a less equivocal way.[87] 'Mountains' simply captures the time threat and represents it by being compositionally motivated as it, as Audissino means, "makes the narrative progress [and] clarifies the [underlying] narrative information" which is highlighted on Miller's planet.[88] Thus, 'Mountains' carries a specific formal relationship to the coexisting elements of the scene such as the characters, the dialogue containing information about the time slippage, Miller's planet itself and its resemblance to the action and mood of the scene. 'Mountains' basically helps the viewer "connect emotionally and perceptually" with the conditions of Miller's planet and

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[85] *Following* (1998), *Memento* (2000), *Inception* (2010) and *Dunkirk* (2017).
[86] The math to this can be found in the comments section by user "akick31" in a post on www.reddit.com from 2018-09-01. (Collected 2019-03-14). See the entire link in the reference chapter under 'Other'.
[87] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 126.
[88] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 126.

simplifies the comprehension of the viewer's interpretation of the implicit meaning of the scene: the extreme time slippage.[89]

Another interesting part of the scene that needs to be highlighted in the discussion of 'Mountains' is the tidal wave. To begin with, besides the ticking noise, 'Mountains' can be described as a non-diegetic soundtrack that successively builds up and increases in volume at the same time as the texture of the pipe organs consequently roars in a high pitch with an abrupt ending. The tidal wave, which isn't seen during half the scene could be interpreted to be a character itself since it is almost sneaking up behind Cooper and his crew the moment they land. As the pipe organs is applied later on in 'Mountains', and replaces the ticking noise, it slowly increases in volume and intensity as well as in acceleration in relation to the wave itself that grows in both size and intensity the closer it gets to Cooper and his crew. In general, non-diegetic music often cues the viewers into a narrational position with information, hence the 'Connotative cueing', because of the connotative values of the audio-visual relationships which can give the viewer "advance knowledge of the narrative threat" if the director intends to, as with the menacing 'shark' theme in Spielberg's *Jaws* (1975). Although, the viewer of *Interstellar* doesn't know about the threat of the roiling tidal waves since it is an unexplored planet the characters land on where the waves sneak upon them on screen, which also makes it almost sneaking up on the viewer as well since they are too busy focusing on the teams search after Miller's data and the time threat where the ticking noise overshadows the wave. Thus, 'Mountains' doesn't supply the viewer with advanced knowledge and information to supplement the interpretation of the threats on Miller's planet as the shark theme does in *Jaws*. Instead, it rather gives the viewer the same (limited) information as the characters which makes both the viewer and characters exploring the planet together and unsuspectedly get surprised and intercepted by the tidal wave. By thinking through the 'Connotative cognitive' function, this connotes that 'Mountains' represents an unseen narrative threat which also characterizes the tidal wave as a character who sneaks upon the small humans. This characterization is also highlighted by the applied choir at the end of the track which seems to give the tidal wave a roaring voice of its own, almost telling the humans to leave.

Considering how the narrative function of 'Mountains', in collaboration with the visual images, seems to create tension and lure the viewer into an unknown narrative threat, it facilitates the viewer to get the, almost, full experience of visiting Miller's planet as the non-diegetic music 'anchors' the visuals in these meanings. It expresses not only the moods of the

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[89] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 141.

characters and the living conditions on the planet, but it, as Gorbman means, reinforces what is already "signified by dialogue, gestures, lighting, color, tempo of figure movement and editing."[90] The 'anchoring' of 'Mountains', hence Barthe's 'Anchorage' concept, helps the viewer to engage with the tension projected on screen and conceals the unknown luring threat at this particular moment of the film and how the co-existing elements of the scene work in relation to the music.

Finally, when one brings together the direct musical sign and their connotations of 'Mountains', hence the 'Myth' concept, the soundtrack sends an overall structured message to the viewer through this new sign system. 'Mountains' represents Miller's planet which makes it narratively function on another level. It rather gives birth to an idea that the soundtrack is a representation of the entirety of the elements of Miller's planet, which includes the time and space dimension of the planet as well as its atmosphere which contains conditions making it uninhabitable for humans. 'Mountains' helps the viewer grasp the dangers of Miller's planet and reinforces the experience of its lethality and alienation which the sonic landscape of the soundtrack expresses. It also expresses, as Nolan means; something greater and larger than human life that exists beyond our universe.[91] Furthermore, as Peter Larsen means, the soundtrack functions here as a parallel commentary on a narrative level where the music "in a language of its own [underlines] certain tendencies, or meanings of the picture it accompanies."[92]

6.3 'No time for Caution' – chasing and dancing

Dr. Mann, a scientist who survived an earlier mission, secretly knows that his planet can never support human life. He lies to Cooper and his team about the collected data from the planets soil and attempts to kill Cooper in order to escape in 'Ranger 1'. Mann also destroys the evidence of the failed data by causing an explosion which kills Romilly. Mann then leaves Cooper and the rest of the team in order to reach Edmund's planet and colonize it through 5000 frozen zygotes[93] along with equipment necessary to create a self-sustaining colony. Cooper and Dr. Brand, together with CASE and TARS, leaves Mann's planet in 'Lander 1' space shuttle where they try to intercept Mann who is trying to dock with the main ship, 'Endurance' and leave them behind. After an imperfect docking with the 'Endurance', Mann is instantly killed

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[90] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 84.
[91] Christopher, Nolan, "Cosmic Sounds—the concepts, process, and recording of Hans Zimmer's unforgettable score" from the special features from the Blu-ray version of *Interstellar*, 2014.
[92] Peter, Larsen, *Film Music*, 2005, p. 42.
[93] An egg that has been fertilized by sperm and which could develop into an embryo.

when the airlock depressurizes. The 'Endurance' is put into a rapid spin by the explosion. Here, the soundtrack 'No time for Caution' starts. It is played in one single tone which slowly increases in volume while Cooper and Dr. Brand watches the explosion far ahead. Cooper immediately starts the engine thrusters on 'Lander 1' and in doing so the tone transpires into a fast-paced beat which consists of a harsh light pitch followed by four soft ones (1-4 rhythm). Cooper, who tells CASE to analyze the 'Endurance's' spin, starts to move 'Lander 1' closer to the 'Endurance'. The fast-paced beat continues. When Dr. Brand asks Cooper what he is doing, he answers "docking". In answering the question, the pipe organs instantly start to play in a quick pace that consists of heavy and harsh pitches that intermittently shifts which puts the 1-4 rhythm in the background and is drowned out.

('Lander 1' in pursuit of the spinning 'Endurance' above Mann's planet[94])

When 'Lander 1' is in range of the 'Endurance' Cooper maneuvers the spacecraft into docking position with the 'Endurance' (see image below). He then initiates a spinning maneuver at the same time as the 'Endurance' is hitting the stratosphere of Mann's planet and starts to slowly breaking apart because of its lack of heatshields.


('Lander 1' lined up with 'Endurance's' docking position[95])

The very moment Cooper says "initiating spin" the spin appears in the visuals and the pipe organs pitch in 'No time for Caution' instantly changes. It becomes quicker and harsher with a slightly increased volume. Cooper's maneuver puts 'Lander 1' into a spinning mode which

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[94] Approximately at two hours and eight minutes in: Christopher, Nolan, *Interstellar*, 2014.
[95] Approximately at two hours and nine minutes in: Christopher, Nolan, *Interstellar*, 2014.

makes Dr. Brand pass out because of the intense g-forces. During the spinning, the pitches of the pipe organs shifts between harsher and softer pitches as Cooper struggles to remain conscious.
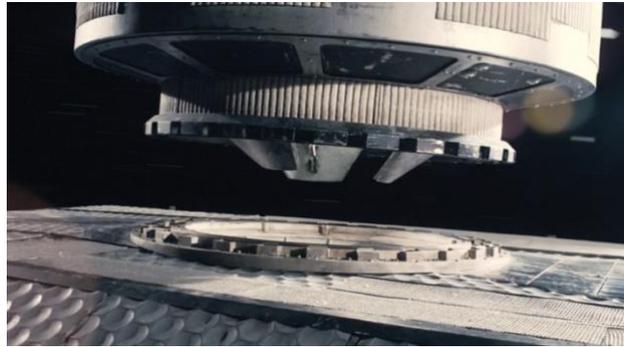
('Lander 1' spinning into right docking position with the 'Endurance'[96])

When 'Lander 1' is in synch with the 'Endurance', Cooper docks and ignites the main engine which pushes the 'Endurance' out of the orbit of Mann's planet. When the 'Endurance' is safe, the main engine of 'Lander 1' is shut down by Cooper and the music stops abruptly.
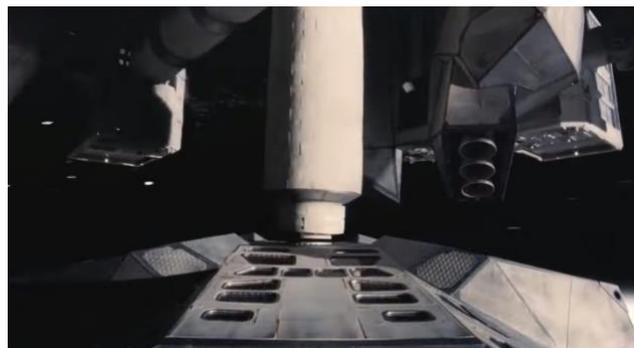
('Lander 1' docked with the 'Endurance'[97])

This scene features a high degree of synchronization between the non-diegetic music and the narrative action on screen, hence the 'Mickey-mousing' technique. The relationship between music and dramatic visual representations has gone hand in hand ever since the ancient Greek theatre, even before the ritual forms and has been developed ever since. During the early sound film, music permitted a deeper psychic investment in the grey wordless two-dimensional film which provided depth, rhythm and 'life' to the picture.[98] One of the central preoccupations was to obtain this synchronized relationship, although, the focus, during this time, were not on music and the actions on screen but rather on the relationship between dialogue and lip movement. During the transition to sound film, in the late twenties, the non-diegetic music, played by live

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[96] Approximately at two hours and ten minutes in: Christopher, Nolan, *Interstellar*, 2014.
[97] Approximately at two hours and ten minutes in: Christopher, Nolan, *Interstellar*, 2014.
[98] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 40–41.

musicians during the silent era, had a different kind of relationship, not only to the narrative, but to the spectator as well which gave consequences to the wholeness of the cinematic experience. The spectator, who had experienced silent cinema with continuous streams of music, now heard music outside of the film world and experienced films with non-musical sections which allowed the music to play a much more intimate and emotionally effective part. The origins of film music are traditionally traced to the early 1890s in Paris where piano music was the films first musical accompaniment. This was before the development of the technology that enabled synchronization of picture with sound.[99] Today, live cinema musicians can be seen at cinema concerts and other cinema events where the dialogue-lip synchronization has become a forgotten element since it is a general integrated part of film, which the music-image relationship seems to have become as well.[100] But what does the synchronization convey in the above-mentioned scene from *Interstellar*? What narrative function and meaning do 'No time for Caution' have in the scene?

Firstly, the scene can be divided into two segments: 'chasing' and 'dancing'. Secondly, each segment is musically characterized by different pitches and paces which in turn seems to create synchronizations that has different meanings, moods and contexts of the scene. Although, it is important to have in mind that, in this scene, the music's placement in the spectator's hierarchy of cinematic attention momentarily prioritizes the narrative exposition which in general is considered as an issue for the aesthetics of film music.[101] An issue that, as Dominic Case means, makes audiences to frequently complain about films being excessively loud due to the sound mixers advantage with new sound technology that offers newer possibilities which momentarily drowns out the dialogue; interfering with the spectators' perception of it.[102] In *Interstellar*, the unusual sound mixing which puts the dialogue underneath the music and sound effects was intentionally chosen by Nolan & Zimmer in order to emphasize how loud the surrounding noise is in order to capture the feeling of closeness to Nolan's space adventure.[103] With that in mind, the first segment begins the moment Cooper starts the engines where the 1-4 beat is first heard and later followed by the pipe organs heavy and harsh pitches. The narrative function of the direct musical sign, the 1-4 beat, is simply there to build up tension which also

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[99] Mervyn, Cooke, *A History of film music*, 2008, Cambridge University Press, p. 7.
[100] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 4.
[101] Claudia, Gorbman, "Film music" in: John, Hill & Pamela Church Gibson, *The Oxford guide to film studies*, 1998, p. 45.
[102] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20 p. 1.
[103] Hannah-Shaw, Williams, "Interstellar's Inaudible Dialogue Was an 'Adventours' choice", www.screenrant.com, 2014 November 16 (collected 2019-01-24).

cues the viewer into a narrational position, hence the ``Connotative cueing'. Although, the viewer isn't given advance knowledge of exactly what the upcoming narrative threat is since they don't know what Cooper's next move is after the explosion. Instead, the beat supplies the viewer with vague narrative information that that puts the viewer in a prepared position. When the pipe organs instantly start to play after Cooper says "docking", the viewer is given direct narrative information about the upcoming event which the soundtrack underlines and characterizes by bursting into heavy and harsh pitches that are synched with the images projecting the chase between 'Ranger 1' and the 'Endurance'. When one applies the 'Denotative cognitive' function here, it denotes that the music, together with Cooper's line, ignites the chase, almost as a stoplight turns green at the start of a sports race. Through the 'Connotative cognitive' function, the characterization of the music connotes a heightened mood of the scene as well as anxiety and uncertainties about the outcome of the hazardous situation of docking with the 'Endurance' which is slowly breaking apart because of its rapid spinning and descent into the stratosphere of Mann's planet. Gorbman means that composers very often add enthralling music to characterize chase scenes in order to heighten its excitement which makes the music become a signifier of emotion, depth, the observe logic and tempo of the scene.[104] The music in this scene is an example of that and is further sustained in the 'dancing' segment where 'Ranger 1' is put into spin by Cooper, who says "initiating spin", where the music's synchronization with the spinning 'Ranger 1' become the binding element that harmonises the pace and rhythm of the editing and the actors bodies that twists because of the intense spinning motion. The movements of the action projected on screen is paced to match exactly with the rhythm of the non-diegetic music. This synchronization almost transforms the docking context into a dance between the two spaceships which makes the scene acquire not only a stronger cohesion but a clearer chronological orientation of the scenes outcome because of the uninterrupted and logical temporal flow of the music.

The synchronization between 'No time for Caution' and the moving images seems to have an implicit narrative function that is based on utilizing the visuals in order to enhance the feeling and intensity of the events being projected on screen, which clarifies the intense situation. In terms of configurations, the sudden and noticeable change of music lets the spectator know that there is an important change within the narrative context as well.[105] When looking through the concept of Barthes 'Anchorage', the film music here 'anchors' the visuals in the abovementioned meanings which helps the viewer grasp and understand the two contexts

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[104] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 79.
[105] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 138.

produced by the audio-visual aspect that begins with a chase and ends with a rotating docking manoeuvre as well as it underlines what the characters are going through in each segment. Hence, the dazzling space-docking sequence is enhanced by the soundtrack which underlines the dangerous situation as well as the g-forces which seems to put the entire theatre- or home entertainment system in the living room into one big centrifuge. 'No time for Caution' simply fits the visual action, as Steiner puts it, "like a glove" [106] where it reinforces the visuals. When one brings together all the signs and meanings of the soundtrack and the visuals, hence the 'Myth' concept, it triggers a range of connotations attached to the music and underlines an implicit overall message. Firstly, the power of the spacecraft and the lethal environment in space is characterized by the music which in turn creates or further underlines the anxiety of the outcome of the dangerous situation. Secondly, in conjunction with the images and other sound effects, 'No time for Caution' demonstrates, in a musical way, a confirmation of how dangerous and treacherous space is for humans since the violence and general mood of the scene is sustained by the music. Thirdly, 'No time for caution' seems to represent the entirety of the docking process which starts with a beginning and stops with an ending where both parts are musically characterized by different pitches and paces hence different synchronizations and the contexts it produces together with the visuals.

6.4 'Detach' – leaving and sacrificing

After having docked with the 'Endurance', there isn't enough fuel to reach Edmund's planet. Cooper and Dr. Brand decides to utilize the orbit of 'Gargantua' in order to gather enough speed with the help of 'Lander 1's' and 'Ranger 2's' rocket booster which will push the 'Endurance' out of the black holes gravity. It results in a slingshot maneuver that facilitates the journey to Edmund's planet. By minimize the spaceships weight they will detach 'Lander 1' (with TARS inside) into the black hole which eases the escape.

The first 71 seconds of 'Detach' consists of one single outdrawn tone that begins silently. Slowly but successively it increases in volume until it reaches its peak at 71 seconds. During these 71 seconds Cooper and the team is discussing the sling-shot plan. After the peak, the tone fades out in echoes until another tone with a similar but lighter pitch starts. This tone varies in volume (the frequency goes from high to low in a slow pace) and gets accompanied by a strong pulsing rhythm with elements of light piano tones which occur momentarily.

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[106] Kevin. J., Donnelly, *Film Music: Critical Approaches*, 2001, p. 45.

('Endurance' moves in to 'Gargantua's' gravity well[107])

As they move closer to 'Gargantua', the varying tone is light, and the pulsing rhythm has evolved into a stronger ticking sound which relates to the ticking noise in the beginning of 'Mountains'. Cooper and his crew maximize 'Endurance's' speed and prepares to start the rocket boosters. CASE begins the countdown and afterwards when he says "mark", the rocket boosters starts on 'Lander 1'.
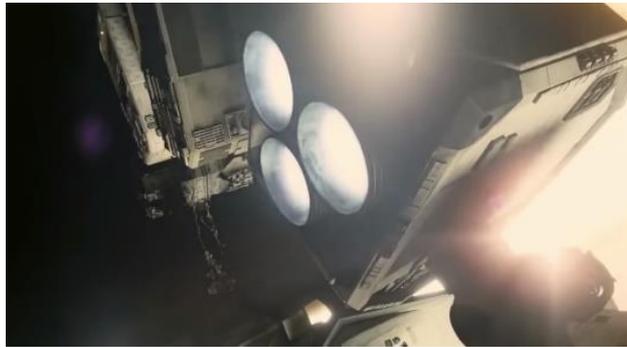
('Lander 1's' rocket booster's starts[108])

When the rockets boosters ignite, the varying tone as well as the pulsing rhythm stops. Instead the pipe organ instantly overtakes in a powerful and loud pitch. At the same time Dr. Brand is being pushed back into the seat by the heavy g-forces. The loud pitch almost drowns out CASE's countdown of the ignition of 'Ranger 2'. When Cooper confirms the ignition and ignites the boosters, the high volume of the music makes his dialogue almost inaudible.

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[107] Approximately at two hours and fifteen minutes in: Christopher, Nolan, *Interstellar*, 2014.
[108] Approximately at two hours and fifteen minutes in: Christopher, Nolan, *Interstellar*, 2014.

(Dr. Brand endures g-forces in the 'Endurance'[109])

The dialogue that follows between Cooper and Dr. Brand is heavily suppressed by the music, but one can still understand what they say since they are (almost) yelling out the dialogue about how they will have aged to over 120 years by being this close to 'Gargantua'. When the 'Endurance' has made the slingshot maneuver the rockets boosters are shut down and the loud powerful pitch has ceased. Here, one could argue that there is a small amount of synchronization between the music and the rockets boosters. CASE then begins the countdown for the detachment of 'Lander 1' where the varying tone has returned in a low volume and the dialogue is now audible. Moments after TARS detaches with 'Lander 1' CASE starts to count down the detachment of 'Ranger 2' which Cooper is in. When this countdown begins the pipe organ blossoms in a smooth but high pitch. In tears, Dr. Brand begs Cooper to stay and when he detaches, the blossom sound fades out as Cooper floats into the black hole.

('Ranger 2' detaches from 'Endurance'[110])

Before beginning the analysis of 'Detach' one needs to have an earlier scene in mind in order to grasp the entirety of 'Detach's' meaning. Moments before Cooper leaves earth and begins the space mission, he has an emotionally hard farewell to his, at the time, young daughter Murphy who begs him to stay. Cooper tries to comfort her by explaining the time differences between Earth and a black hole, how they will be at the same age when Cooper returns to earth because of the extreme time slippage.

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[109] Approximately at two hours and fifteen minutes in: Christopher, Nolan, *Interstellar*, 2014.
[110] Approximately at two hours and seventeen minutes in: Christopher, Nolan, *Interstellar*, 2014.

(Cooper says farewell to Murphy[111])

During this scene, the soundtrack 'Stay' is playing in the background in a low single tone, almost inaudible. It is similar to the musical structure and elements used in 'Detach' except the pace, which is much slower. It sounds almost sad and tired and doesn't include 'Detach's' part with the blossomly pipe organs. Although, when Cooper drives off and leaves his home and family, the pipe organ bursts out in in a powerful and loud pitch with a slow pace which is accompanied by a voice who is giving a countdown for the launch of the 'Endurance' which is about to leave earth. All this reminds of the black hole scene which is highly similar to how the pipe organs roars when the 'Endurance's' rockets boosters start after CASE's countdown.

(Pipe organs starts to roar when the camera shot shifts to Cooper driving away from his family, accompanied with a voice-over giving a countdown)

(Cooper leaves his family[112])

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[111] Approximately at 39 minutes in: Christopher, Nolan, *Interstellar*, 2014.
[112] Approximately at 42 minutes in: Christopher, Nolan, *Interstellar*, 2014.

The characterization of the long-outdrawn tone and the pipe organs in both tracks are almost identical but differs in pace and one must not forget that 'Detach' has a longer play time which includes the pipe organs blossom sound when Cooper detaches. But what does the characterization of the 'Detach' and 'Stay' mean for the black hole scene? Do they make the scenes related to each other? Are there conveyed meanings in both scenes that first elucidates when their soundtracks are observed together?

Here, one needs to have the concept of 'Leitmotif' in mind in order to understand the implicit meanings in both scenes and their possible relation. As previously mentioned in chapter 3.4, leitmotifs are usually a short piece of music, but can't they be a longer piece as well? Or have different playtimes? Since 'Detach' and 'Stay' have similar musical elements and structure but with different playtimes one could argue that both are one and the same leitmotif but have been modified and adjusted in different ways in order to fit the scenes' different contexts. A composer or orchestra can change or adjust the tempo, dynamics and pitch of a leitmotif. It can be further modified by altering the rhythm and mode: from major to minor.[113] Moreover, Zimmer's modification of the leitmotif seems to have resulted into two different versions where the musical characterization of 'Stay' is perceived as sad and tired while 'Detach' is perceived as heroic and epic because of its relation to the events projected on screen. Here, Zimmer has, one could argue, adapted the leitmotif to the different contexts of the visuals. It is also important to remember that a leitmotif is characterized by reoccurring during the course of a film where its recurrence helps the viewer comprehend the story and its development through the leitmotif since it makes the viewer recall previous events, situations, characters and the emotions associated with those.[114] Thus, a leitmotif evokes the meaning it was assigned to in a particular context which in turn signals a character, setting or context and becomes a reminder for the viewer.[115] But what is the narrative function and meaning of the leitmotif in these two scenes? Since there are two different modifications of the leitmotif and different contexts, does this mean that there are different meanings anchored in each scene? Or are they the same?

One cannot escape the fact that the similarities between the musical elements and structure in 'Detach' and 'Stay', as well as the visual content in both scenes, seems to have an underlying relation that bears significant meaning. The indication of this is mainly the musical elements of both soundtracks and its similarities as well as the information given to the spectator

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[113] James, Buhler & David, Neumeyer, *Hearing the Movies: Music and Sound in Film History*, 2010, p. 201.
[114] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 134.
[115] Peter, Larsen, *Film Music*, 2005, p. 70

by dialogue and events projected on screen. To begin with, the musical elements which consists of the long introducing tone that varies in volume, as well as the pulsing rhythm, is the direct musical sign which, when one uses the 'Denotative cognitive' function, could interpret it to indicate mystification of the black hole (in reality a black hole is a great mystery since no one knows what happens when one crosses over its horizon[116]). By applying the 'Connotative cognitive' function, the long-outdrawn tone seems to connote a representation or reflection of the time effect, meaning, how time slows down near a black hole while the rhythmic beat could be a representation of how time quickly slips away back on earth (since it is highly similar to the ticking sound in 'Mountains' that underlined the time aspect). The tone and rhythm, together, function as a supporting narrative element for the (almost boring but necessary) passage of the scene where the slingshot maneuver is discussed by the characters. The tone and rhythm simply support both the scene as well as the spectator in a narratively way. It keeps the spectator on its heels, putting one in a narrational position, hence the 'Connotative queuing', waiting for the slingshot maneuver to begin and it would seem narratively strange, perhaps unsettling, to not have non-diegetic music playing in an important scene like this, especially since most of the film contains non-diegetic music.[117] It would be even stranger if there were loud music of any kind which would intrude on the spectator who is absorbing the, important, narrative information from the characters who is, basically, giving the spectator a walkthrough of the upcoming slingshot maneuver. But does 'Stay' in the Cooper-Murphy scene carry the same meaning as 'Detach' because of the similarities in the musical elements? Even if the pulsing rhythm is missing in it?

To begin with, there is no crucial time aspect involved in the scene between Cooper and Murphy, other than them dialoguing about the time difference they might experience, hence why 'Stay' is missing the pulsing rhythm. Instead, one could argue, it is the relationship between Cooper and Murphy that is central in the scene where 'Stay' is being played in the background. The long-outdrawn tone, with the sad and tired pitch, simply gives one, when using the 'Denotative cognitive' function, an idea of how the music denotes a reflection of the characters low emotional state. The music configures the visual aspect additionally with an

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[116] On April 10th, 2019, experts at the European Southern Observatory (ESO) released the first image ever of a black hole. Captured by the Event Horizon telescope. Source: Sean, Martin, "Black hole picture release: First image EVER captured by Event Horizon telescope", www.express.co.uk, 2019-04-10. (Collected 2019-04-10).
[117] *Interstellar's* playtime consists of two hours and forty-nine minutes while the full film score consists of approximately three and a half hours. The standard film score of *Interstellar* doesn't include all soundtracks that are played in the film. For example, 'No time for Caution' isn't included in the standard soundtrack album (on Spotify), it can be found in the deluxe bonus edition.

emotional tone. Hence, presenting the outward features of the characters sadness.[118] While using the 'Connotative cognitive' function it gives one the possibility of perceiving a strong and problematic relation between a father and his daughter which is perceived to be the main theme of the scene (as well as the entire film) since it is reoccurring throughout the narrative which Zimmer himself means is the 'heart of the movie'.[119] Periodically throughout the course of the film there are several other scenes that highlights the tense and problematic relation between Cooper and Murphy because of Cooper's choices (see images below).

(Cooper sees, for the first time, his grown-up daughter, Murphy, in an audiovisual message from earth on the 'Endurance' after returning from Miller's planet.)

(Murphy appears in the message. She reminds Cooper that it is her birthday and that it is a special one since she is now the same age as he was when he left and that he had promised to be back by then.)

The problems of being a parent such as making hard decisions and sacrifices appears in the visuals but becomes further enhanced by the implemented musical elements such as the roaring pipe organs in 'Stay'. This enhances the feeling of the visuals which facilitates the viewer to better comprehend and understand the characters emotional state which seems to flourish in synchronization with the roaring pipe organs. Another important thing to remember is the title of the soundtrack, 'Stay'. It simply characterizes the whole scene: Murphy wants her father to stay, maintain her relationship with him. But what does the roaring pipe organs in 'Detach' means, together with the blossom sound that 'Stay' doesn't include?

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[118] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 112 f.
[119] Christopher, Nolan, "Cosmic Sounds—The concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014.

Firstly, the shape and form of the pipe organs appearance resembles to afterburners on a spaceship, as Zimmer himself points out.[120] Secondly, the sound, which the pipe organs create, initiates a feeling of religiosity. Since pipe organs are installed in churches, one, in general, makes automatically a religious interpretation of the sound because of cultural influences. Yet, the feeling of religiosity could be seen, one could argue, as an audible representation of, as Nolan means regarding the feeling which the sound the pipe organs produces, mankind's attempt of portraying the mystical or meta-physical, or moreover, what exist beyond us and the realm of everyday.[121] With that in mind, when one is observing the black hole scene and absorbing the information given through the events projected on screen, the synchronization between the sound of the roaring pipe organs and the visuals of the rocket boosters it simply highlights, when looking through the glasses of the 'Denotative cognitive' function, the startling power of the rocket boosters. This makes one feel the power of the rocket boosters in a similar way as the murder leitmotif (Rhee! Rhee! Rhee!) from *Psycho* makes one feel the violence and each stab in Marion's body. The power of the rocket boosters is also further highlighted since the characters dialogue gets suppressed by mainly the music but the sound effects as well. Generally, film music is "subordinated [and] drops in volume when characters speak, because the intelligibility of dialogue is more important than narrative hierarchy".[122] Nolan on the other hand has gone the complete opposite way in order to capture the feeling of the space adventure. Since Zimmer himself underlines that the pipe organs were, during the 17th century, "the most complex machine that man had ever created and held that pole position of complexity until the telephone exchange was invented" and that they "look like afterburners on a spaceship"[123] it is highly likely, as Larsen means in his discussion concerning composers in the 1920s, that "the music used by the composer [is chosen because he or she] might want to express fascination with the technology of the modern world".[124] In this case, it concerns technology from 17th century. But when one is looking through the glasses of 'Connotative cognitive' function while keeping in mind that the sound, which the pipe organs produce, creates a feeling of religiosity, this, in relation to the events projected on screen, could be seen as a representation of the smallness of the human race in the vast universe and its magnitude.

[120] Hans, Zimmer, "Trent Reznor, Hans Zimmer, Danny Elfman and more Composers for THR's Roundtable | Oscars 2015", www.youtube.com, December 23, 2014. (Collected 2019-02-17).

[121] Christopher, Nolan, "Cosmic Sounds—the concepts, process, and recording of Hans Zimmer's unforgettable score" from the special features from the Blu-ray version of *Interstellar*, 2014.

[122] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 59.

[123] Hans, Zimmer, "Trent Reznor, Hans Zimmer, Danny Elfman and more Composers for THR's Roundtable | Oscars 2015", www.youtube.com, December 23, 2014. (Collected 2019-02-17).

[124] Peter, Larsen, *Film Music*, 2005, p. 67.

Gorbman means, in 'Music and epic feeling', that music can: "trigger a response of 'epic feeling'"[125] as it does in the black hole scene where the roaring pipe organ leans the spectator into something majestic and greater than life. The epic feeling which 'Detach' provides the scene with also triggers a feeling of heroism and sacrifice when the pipe organs blossoms in 'Detach' as Cooper detaches himself from the 'Endurance'. The music proclaims the fundamental heroism of Cooper. This "elevates the individuality of the represented character to universal significance"[126] which makes him bigger than life which suggests him having a divine destiny since he survives the passage through the black hole.

The black hole scene is simply sustained, or 'anchored', with these meanings because of how the non-diegetic music, partially synchronized with the rocket boosters, creates or enhances different feelings in coordination with the motion and the wholeness of the scene which in turn enables the unthought-of perceptions of it. 'Detach' basically, by using Gorbman's formulation of the 'Anchorage' concept, "throws a net around the floating visual signifier, and assures the viewer of a safely channeled signified".[127] Moreover, the non-diegetic music enables or helps the spectator to get a widener and logic interpretation of the visuals. One could argue that 'Detach' in this case, as with previous analysis, pinpoints and channels the meaning of the narrative events projected on screen which supplies the viewer with information, feelings and unthought-of perceptions.[128]

By taking into account all signs and meanings of 'Detach', hence applying the 'Myth' concept, together with the leitmotif thinking, there seems to be an implicit overall message in the black hole scene (related to the Cooper-Murphy scene) one might not perceive in first hand. As previously mentioned, a leitmotif is often characterized by reoccurring during the course of a film and is modified to reflect a context through musical variation (change/adjust tempo or rhythm, alters the mode from minor to major).[129] "Recurrence is repetition", according to Audissino, "which takes place after there has been a departure from whatever has been established as given in the particular piece".[130] Moreover, the recurrence of a leitmotif represents or re-represents what the spectator previously have observed and absorbed in a previous context that highlights a person, situation or emotion. In this case, the long-outdrawn tone and the roaring pipe organs in 'Detach', which is highly similar to 'Stay' that was played

[125] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 81.
[126] Ibid.
[127] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 58.
[128] Ibid.
[129] James, Buhler & David, Neumeyer, *Hearing the Movies: Music and Sound in Film History*, 2010, p. 200-201.
[130] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 135.

during the Cooper-Murphy scene which emphasizes their relation and emotional state, makes an association to that in the black hole scene. Why? Firstly, the musical elements and structure in 'Detach' is very similar, almost identical, to 'Stay. Secondly, both contexts of the scenes' highlights, in one way or the other, the black hole. The context of the Cooper-Murphy scene mentions the black hole and the time differences through dialogue while the context of the latter scene consists of it. Thirdly, leitmotifs functions to represent something or someone of narrative importance[131] which Murphy is both for Cooper as well as for the narrative's dynamic progression since she breaks the equation that needs to be solved in order to save mankind. Fourthly, one could argue that the leitmotif began with a fixed and static designation ('Stay') and when it reoccurs ('Detach') it has evolved and contributed to the dynamic flow of the narrative by carrying its meaning into a another realm but with the same signification: the relation between Cooper and Murphy.[132] Moreover, the reoccurrence of the leitmotif in the black hole scene can, when looking through the 'Myth' and the 'Leitmotif' concept, create, as Audissino means, closure and a feeling of completeness of the adventure.[133] To further clarify, by dramatically repeating the leitmotif in appropriate variations throughout the film, the leitmotif makes the narrative passages and associations stronger as well as clearer and the overall narrative composition more unified. It interacts with the deeper meaning of the black hole scene which is distinct from a surface-level meaning. It is rather addressing to what is implicit within the drama of the scene, not to what is explicit, to what you cannot see but need to think about.[134] Hence, the musical treatment of the leitmotif expressively underscores the main narrative conflict of *Interstellar*: Cooper and Murphy's relation or, as Zimmer means, what it means to be a parent.[135] Additionally, I would argue, it highlights what it feels like of making hard decisions and sacrifices as a parent that affects not just themselves, but their family members as well. In this case the leitmotif unveils that non-diegetic music can affect what the spectator sees (and don't see) in the visuals and how one interprets it. Thus, the non-diegetic music is well suited to show one what is not within the visuals but in the deeper layers of it.[136] Here, one could reference to Lipscomb & Tolchinsky who argue that film music is capable of conveying (overall) hidden messages intended by the director (and the composer), as related to both characters and on-screen events. Moreover, Lipscomb & Tolchinsky means that "one of

[131] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 134 f.

[132] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 3.

[133] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 135.

[134] Kevin. J. Donnelly, *Film Music: Critical Approaches*, 2001, p. 49.

[135] Christopher, Nolan, "Cosmic Sounds—The concepts, process, and recording of Hans Zimmer's unforgettable score" in: the special features from the Blu-ray version of *Interstellar*, 2014.

[136] Kevin. J. Donnelly, *Film Music: Critical Approaches*, 2001, p. 51

the most effective ways in which a musical score can augment the narrative is to express the unspoken thoughts and unseen implications that underlie the drama."[137] One could say it is communicating the underlying psychological drama of the narrative but at a subconscious level, very much like the Cooper-Murphy relation that is the main narrative conflict in *Interstellar*.

What if one wouldn't have the origin story of the *Interstellar* soundtrack as a support in the process of interpretation? Would one still make the same interpretation?

A leitmotif is considered to be extremely economical since it absorbs the diegetic associations when it first occurs where it's very repetition can subsequently recall that first filmic context. This means, as Gorbman discuss, even if the music is in itself nonrepresentational, the repeated occurrence in conjunction with the representational elements in the film, such as speech, characters or situations, it can cause the music to carry representational meaning. The leimotif accumulate meaning to varying degrees and is assigned a static function constantly signaling the same character or situation each time it appears and thus play a part in the films dynamic evolution.[138] Or, as Audissino means, the meaning of a leitmotif is also "the result of its encounter with our mental faculties; a piece of music makes sense to the spectator if [one] sees a pattern in it. They can simply recognize that the piece 'makes sense' in that patterns and an overall developmental form are noticeable."[139] The interpretation might never be completely accurate, even with the origin of the soundtrack as a support, but one can always interpret it in a logic way with the help of considering the following factors: which characters, contexts or elements are projected on screen when the leitmotif occurs and if it is the same factors when it reoccurs. If not, then it might be a musical theme[140]one hears and not a leitmotif.

7. Conclusion

7.1 Results

The present study has focused on the musical aspect of the modern film in order to determine how the non-diegetic music gains and carries implicit narrative functions and meanings. By

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[137] Scott D., Lipscomb & David E., Tolchinsky, "The role of music communication in cinema", *Musical Communication*, March 2012, p. 4.

[138] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 27.

[139] Emilio, Audissino, *Film/Music Analysis*, 2017, p. 97.

[140] A theme is by definition a musical element that is repeated during the course of a film where it gains narrative associations which in turn infuse themselves into each new thematic statement while a leitmotif has a specifically directed and unchanged diegetic association. Collected from: Claudia Gorbman, *Unheard Melodies*, 1987, p. 27.

borrowing and applying the different semiotic concepts,[141] by Audissino, Barthes and Gorbman as well as the concept of 'Leitmotif', on three narratively important scenes from *Interstellar* (that works as examples in this study) it gives one a notion of how the non-diegetic music is understood in relation to the narrative and thus contribute ultimately to the film's meanings. Moreover, each analytical stage highlights, in one way or another, how the non-diegetic music becomes a narrative agent where it functions as; (1) a creator of suspense that builds up tension, dynamic and energy within narrative contexts; (2) an assistant to the spectator that helps one to better comprehend a narrative context where it connects one emotionally as well as perceptually to it and the characters within that context. Moreover, it becomes an enhancer of the visuals which underlines the feeling and intensity of for example a specific scene or a character's emotional state. It helps to dramatize and characterize the narrative contexts as well as the shifts and changes that appears within that context; (3) an audible representation of characters and the elements of Mise-en-scéne in an context; (4) an narrative agent that cues the viewer into narrational positions that can either lure the spectator into or prepare one for an upcoming narrative context; (5) an indicator or ignitor of a specific diegetic event that heightens the mood and excitement of the visuals; (6) a supporting element that keeps a static, slow or boring passage of a scene interesting; (7) an narrative agent that enable the spectator to embrace a interpretation of implicit meanings in a narrative context. Moreover, the non-diegetic music can be used in order to address what is implicit within the drama of a scene. It helps the spectator to see what is not in the visuals, revealing the deeper layers of a scene's meaning; (8) a narrative agent that can take the form of a specific music piece where its musical characteristics can carry a deeper narrative meaning which elucidates when one considers its musical modifications as well as its pattern of occurrence and reoccurrence within the narrative and its contexts in which the piece occurs.

Overall the non-diegetic music is an element of discourse that magnifies, heightens, and intensifies the emotional values suggested by the story projected on screen. One must not forget that film music (both non-diegetic and diegetic) can also be seen as a tool or instrument which functions as an expressive or a suppressing technique at the filmmaker's disposal that bonds spectator to spectacle which has proven to be a pervading method used by Nolan & Zimmer.

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[141] Multi mind-set, Myth, Connotative cueing, Anchorage, Denotative and Connotative cognitive functions.

7.2 Discussion

One of the most important tasks of film music, according to Larsen, is to function as a parallel commentary to the visuals. The music restates, in a language of its own, certain tendencies, or meanings of the pictures it accompanies. Here, one could argue, it is true that it functions as a parallel commentary but not only. It can, as has been shown in the analysis of *Interstellar*, have a greater function than that. Which is: a narrative agency that carries implicit narrative functions and meanings that lies underneath the surface of the narrative level and partially the spectator's hierarchy of cinematic attention. Music affects how and what one sees in the visuals and how one interprets it. In an overall perspective one could claim that the non-diegetic music can be seen as one of the main narrative elements that functions as a catalyst or enhancer of the visuals in many and different ways which codifies filmic contexts while itself is codified by it. One could also argue that it ultimately is in narrative contexts the interrelations between the non-diegetic (and diegetic) music as well as the rest of the films systems that determines the effectiveness of film music. Non-diegetic music appears extensively in films and can be seen as significantly the only film element that carries a flexibility that, when one understands it, shows how many different kinds of functions it can have; temporal, spatial, dramatic, structural, denotative, connotative both in diachronic flow of a film and at various interpretative levels simultaneously.[142] It invites the spectator to contemplate the narrative contexts; it lends epic quality to the diegetic events which involves one in the narrative while it also places one in contemplation of it. It's making a spectacle of the visuals it is accompanying and globally speaking music remains as the hypnotic element in films that bids the spectator to "believe, focus, behold, identify [and] consume [the narrative]."[143] Music, as Gorbman means, simply "greases the wheels of the cinematic pleasure machine by easing the spectators' passage into subjectivity".[144]

Previously, in chapter 1, there was a small discussion concerning *Interstellar* oscillating between being a classical Hollywood film and an experimental one due to the choices regarding the sound mixing. But what does Nolan & Zimmer contribute with *Interstellar* which could be seen as an expansion of the Hollywood mainstream film? Could one claim that they might have affected other film genres and directors with *Interstellar*?

The sonic landscape of *Interstellar* is an example of how a Hollywood mainstream film with experimental elements breaks the conventional norms in classic Hollywood cinema. It

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[142] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 22.
[143] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 69.
[144] Claudia, Gorbman, *Unheard Melodies*, 1987, p. 69.

could be considered that the duo's experimentation with *Interstellar* plays with the conventions of the Hollywood mainstream film and elevates into the science fiction genre in a very similar way as Stanley Kubrick did with *2001: A Space Odyssey* (1968). *2001* is considered to be, on one level, a revival of the science fiction genre and, on another level, it exploits the enigmatic symbolism of European art cinema as well as an ironic use of music.[145] This draws parallel to *Interstellar* and its oscillating position. It is no chock that *2001* had a big influence on Christopher Nolan:

> I've always been a huge fan of science fiction films and Kubrick's film [*2001: A Space Odyssey*] made such an impression on me as a kid. *2001* is one of those rare instances where it doesn't need to be understood it [rather] needs to be felt and you just need to have this great experience [of it].[146]

The feeling and experience of an epic space journey Nolan experienced from *2001* is something he has, one could argue, in his own way, transferred to *Interstellar* with the help of creating the unique sonic landscape. Nolan also underlines:

> I think the single biggest influence [for making *Interstellar*] probably have to be *2001* […] it was such a memorable experience for me just to go on that journey in that way. To tell similarly how ambitious the story [is] in terms of the scope of [its] scale.[147]

By experimenting as Nolan & Zimmer did, inspired by Kubrick, it is also similar to the Russian filmmaker Andrei Tarkovsky and his experiment film *Solaris* (1968) which was widely touted as Russia's answer to Kubrick's *2001* and irrevocably elevated science fiction films.[148] Moreover, by breaking the norms as Nolan & Zimmer did with *Interstellar*, by following the footsteps of mainly Kubrick, but Tarkovsky as well, they explore the Hollywood mainstream film to its fullest potential and emerges it with the science fiction genre. This might have influenced scores of films and generations of filmmakers to do similar explorations of the Hollywood mainstream film and the science fiction genre as well as other genres that can utilize or requires great sound mixing by exploiting the possibilities, as many sound mixers do,[149] of today's sound equipment and the systems dynamic sound range in movies theatres. One film that isn't within the science fiction genre but is similar to *Interstellar*, that requires great sound

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[145] Kristin, Thompson & David, Bordwell, *Film History: An introduction*, 2010, McGraw-Hill, New York, p. 478.

[146] Stephen, Galloway, "Watch The Hollywood Reporter's Full 'Interstellar' Discussion With Christopher Nolan & the Stars", www.hollywoodreporter.com, November 1, 2014. (Collected 2019-05-04).

[147] Christopher, Nolan, "Comic-Con 2014: INTERSTELLAR Panel; feat: CHRISTOPHER NOLAN, MATTHEW MCCONAUGHEY", www.youtube.com, July 25, 2014. (Collected 2019-05-04).

[148] Kristin, Thompson & David, Bordwell, *Film History: An introduction*, 2010, McGraw-Hill, New York, p. 514.

[149] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20, p. 1.

mixing and utilizes the very potential of both sound equipment and the possibilities of today's sound mixing, is Damien Chazelle's *First Man* (2018). It is a mix of a Hollywood mainstream film and a documentary. It depicts the life of an American astronaut where the spectator gets to follow Neil Armstrong's (played by Ryan Gosling) personal life during his involvement in the legendary space mission that led him to become the first man to walk on the moon during the summer of 69'. It depicts scenes inside "the claustrophobic space capsules, where the droning hums of air pressure and metal clicks of belts and plugs underscore muffled voices and radio static" that underlines the "journey to space [and that it is a] hellish ride to the stars, despite the way other nostalgic NASA dramas and 'antiseptic' sci-fi movies make it seem. To be strapped in a clunky metal box going thousands of miles an hour is nothing like a rollercoaster, and *First Man's* Oscar-nominated sound played a big part in making that palpable."[150] Chazelle wanted to capture the feeling and make the spectator "see what the characters see, hear what they hear and feel what they feel".[151] In order to do that the sound mixing was, just as in *Interstellar*, one of the main components that enhanced the experience of the events projected on screen, giving the spectator the ultimate feeling of closeness to it. Or as Tom Cross, the sound designer of *First Man*, puts it "it's all about making the viewer's 'hypersensitive' to the [sound] elements."[152]

There seems to be a similarity between *First Man* and *Interstellar* regarding the sonic landscape despite the genre differences. For example, the composer Hurwitz, according to the *Variety* post, "makes bold choices in its musical design to slip the bonds of Earth. The use of a massive orchestra — 94 pieces — comes as little surprise, but Hurwitz also incorporated such unusual instruments as the electronic theremin and the Moog synthesizer as well as vintage sound-altering machines including Leslie speakers and an Echoplex".[153] The bold choices of musical instruments as well as the sound mixing which momentarily muffles the characters dialogue, which puts it underneath the level of sound effects, forms a similar sonic landscape as *Interstellar* with the same intentions: capturing the feeling of closeness to the space journey. Although, in *First Man* it is primarily the sound effects that drowns out the dialogue and not always the non-diegetic music. Hurwitz & Chazelle worked:

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[150] Eric, Francisco, "How the Oscar-Nominated 'First Man' Uses Sound to 'Take Your Breath Away', www.inverse.com, February 21, 2019. (Collected 2019-04-24).

[151] Damien, Chazelle, "First Man – The Editing & Sound of First Man", www.youtube.com on: Universal Pictures channel. (Collected 2019-04-24).

[152] Damien, Chazelle, "First Man – The Editing & Sound of First Man", www.youtube.com: Uniersal Pictures channel (Collected 2019-04-24).

[153] Jon, Burlingame, "'First Man' Gets Space-Age Feel With Unusual Instruments, Retro Sounds", www.variety.com, September 5 2018. (Collected 2019-05-02)

closely [together], supplying musical demos. 'The movie found itself as the music found itself, so they were inextricably linked. It's the way I [Chazelle] like to work, and I love that Justin likes to work that way as well. Justin lives for that experimentation. […] He wants to do to something that's new and different, that plays with the form in some way, while at the same time create something that's going to affect you emotionally as a viewer.[154]

The experimentation Hurwitz & Chazelle did is similar to Zimmer's & Nolan's. Both duos sought new sounds they could apply to the narrative in order to express not only the feeling and experience of a space journey but the underlying psychological drama as well. Furthermore, *First Man* is, at its heart, a story about Neil Armstrong and his losses and hardships where the music captures the feeling of "grief and about someone who lost a lot of people he loved, and what those losses did to him. There was something, [according to Chazelle], about the theremin that seemed to convey that grief that spanned across the cosmos. It obviously makes you think of space, but it also has the qualities of the human voice, a sort of wailing, that could feel mournful to me [Chazelle]."[155] The theremin carries a similar musical character as the pipe organs in *Interstellar*: it has a human touch or feeling, as Zimmer describes it, at the same time as it carries associations to space and something greater and larger than life. Both films depict space adventures while the inner core of both stories is really about humans, their relations and losses that becomes underlined by the non-diegetic music. *First Man* could be an example of how other directors and composers continues to expand, in a similar way as Nolan & Zimmer, the Hollywood mainstream films by implementing unusual sound mixing, musical instruments as well as seeking new sounds and creating unique sonic landscapes together with an astonishing cinematographic. One film, that isn't within the science fiction genre and doesn't refer to space journeys, has received similar criticism as *Interstellar* when it comes to hard-to-hear/follow-dialogue which is the Oscar winning *Birdman* (2015) directed by Alejandro González Inárritu. The dialogue is momentarily put beneath the surrounding sound effects as well as the non-diegetic music. The reason for this is mainly because of the ADR. A post production process known as Automated Dialogue Replacement. It is a standard procedure in film and TV productions where one re-records the actor's lines later in the studio in order to have a clear and audible dialogue. In *Birdman*, according to the film's sound designer Martín Hernández, only thirty percent of the films dialogue were ADR which explains the difficulty of

[154] Jon, Burlingame, "'First Man' Gets Space-Age Feel With Unusual Instruments, Retro Sounds", www.variety.com, September 5 2018. (Collected 2019-05-02)
[155] Jon, Burlingame, "'First Man' Gets Space-Age Feel With Unusual Instruments, Retro Sounds", www.variety.com, September 5 2018. (Collected 2019-05-02)

hearing the dialogue in cinema.[156] A possible reason to why directors keep making the basic 'errors', as many spectators perceives these sound mixing 'issues', is that the directors and their teams knows the script so well that they already know what the actors are trying to say. This could make it "hard to project themselves into the spectator's point of view who has no prior knowledge of the script."[157] Or, as in *Interstellar* and *First Man*, it is an intentional choice by the directors in order to capture realism to offer a greater experience as well as a feeling of closeness to the film. Another reason could be, as Kevin J. Donnelly means, that directors today, compared to fifteen years ago, has: "an [better] idea [and understanding] of how powerful music can be as an [cinematic] effect" and that it is an "easy way for them to get [these] big effect[s]".[158] But have these dialogue 'issues' always existed?

Historical counterparts with hard-to-hear/follow-dialogue could be David Lynch's *Twin Peaks* (1992), Robert Altman's *McCabe and Mrs Miller* (1971) and *On the Waterfront* (1954) by Elia Kazan. All three have different 'issues' with the dialogue. For example, the dialogue in the club scene from Lynch's *Twin Peaks* is roughly drowned out by the loud and intense club (diegetic) music that is played within the scene. One cannot hear what the characters are saying to each other during the scene. Here, one could argue that Lynch underlines, as Donnelly means, that "it doesn't matter what these characters say. The experience of going to clubs is just like that. You don't go to clubs to talk to people. You go to clubs to hear loud music and to dance."[159] Lynch wanted to capture the true feeling of being on the dancefloor, one could argue, which draws parallel to Nolan's (as well as Damien's) intentions regarding the sound mixing in capturing the feeling of closeness to the diegetic events projected on screen. Although, the dialogue in the two latter films, *McCabe* and *Waterfront* aren't interfered by the non-diegetic music, diegetic music or affected by ADR. Instead Altman has, in a similar way as Nolan, intentionally made a choice that would affect the spectator's perception of the dialogue in *McCabe*. He had his actors speak on top of one another; making it hard to hear a clear dialogue between the characters playing poker in the film's introductory. This brings a feeling of realism and spirit of spontaneity to it. In real life, people don't always politely wait for the other person to finish speaking as they do in most movies. In *Waterfront*, the dialogue is sometimes hard to

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[156] SBS Movies, "Turn It Up: Why was the Dialogue in Birdman and Interstellar So Hard to Hear?", www.sbs.com.au, February 17 2015. (Collected 2019-05-03).
[157] SBS Movies, "Turn It Up: Why was the Dialogue in Birdman and Interstellar So Hard to Hear?", www.sbs.com.au, February 17 2015. (Collected 2019-05-03).
[158] Kevin J. Donnelly; professor of film and film music at the University of Southampton, Lecture: The Sweet Spot: Audio-Visual Culture, May 9, 2019, Lund.
[159] Kevin J. Donnelly; professor of film and film music at the University of Southampton, Lecture: The Sweet Spot: Audio-Visual Culture, May 9, 2019, Lund.

grasp. This is because of Marlon Brando, famed for his mumbled speaking, and his way of mediating the dialogue which might not be in favour for the spectator.[160] These films are, in different ways, similar to the issues concerning the dialogue in *Interstellar* but there are no issues directly related to sound mixing. Rather it is 'issues' related to how a director chooses to direct a scene by implementing certain elements or how an actor mediates the dialogue. Another important thing to have in mind here is the technological aspect. During the mid-50's and early 70's the sound technology wasn't developed in the same way as it is today. The theatres didn't have the newer digital sound systems with dynamic sound range which the sound mixers couldn't take advantage of, hence the films soundscape was limited compared to how it is today.[161] Thus the sound mixing 'issues' hadn't had time to occur. The films weren't too loud, the music hadn't had time to grow from a background mood-setter to a character in its own and the films dialogue was clear.[162]

7.3 Reflection

By using primarily, a semiotic approach in the present study it has aided each analytical stage in unveiling and highlighting the implicit narrative functions and meanings of the non-diegetic music. The 'Multi-code mind-set' concept has given a perspective of seeing a film's visual and sonic elements, as two separate code systems, which can, together, create dramatic representations as well as carry implicit narrative functions and meanings. Although, it has erased the possibility of analysing the non-diegetic music without the images and vice versa. If one would use an approach like that it would be suitable to use Michel Chion's method of observation called 'Masking'. The approach is based on discovering the sonic elements and the visual elements separately before putting them back together. This gives one the opportunity to hear the sound as it is, and not as the image transforms and disguises it. Furthermore, it also lets one see the image as it is without having the sound recreating it.[163] Or, one could use Chion's other approach called 'Forced Marriage' where one takes a single sequence of film and accompany it with a selection of diverse kinds of music. By changing the music over the same image dramatically illustrates, according to Chion, "the phenomena of added value, synchresis, sound-image associations, and so forth. By observing the kinds of music, the image 'resists'

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[160] SBS Movies, "Turn It Up: Why was the Dialogue in Birdman and Interstellar So Hard to Hear?", www.sbs.com.au, February 17 2015. (Collected 2019-05-03).

[161] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20, p. 1.

[162] Dominic, Case, "SPOTLIGHT FEATURE: POST-PRODUCTION SOUND; Loud & clear: A beginner's guide to getting your films soundtrack right", *On film*, November 2004, Issue 20, p. 1.

[163] Michel, Chion, *Audio-Vision – sound on screen*, 1994, Columbia University Press, New York, p. 187 f.

and the kinds of music cues it yields to, one begins to see the image in all its potential signification and expression".[164] I will return to this in subchapter 7.4.

By using and applying the 'Denotative cognitive' and 'Connotative cognitive' functions as well as the other semiotic analytical concepts it has helped in the process of dissecting the chosen scenes in order to underline what narrative functions and meanings lies beneath the surface of the narrative level as well within the hierarchy of the spectator's cinematic attention when it comes to visual and sonic elements. The difficulties of using the 'Connotative cognitive' function is that its function and motivation are "less directly graspable than in the denotative cases" because it is not a matter of "comprehension but rather an interpretation of the audio-visual relationship which in turn means that the music suggests some connotation that can be either consistent or inconsistent with the visuals".[165]

Although, one concept which, isn't semiotic and, has proven to be especially important for the present study is the musical concept 'Leitmotif'. In the process of writing the third analysis the concept made it possible to find and reveal the connection of the black hole scene and the scene between Cooper and Murphy. From the beginning, the third analysis was supposed to be about just the black hole scene but when one scrutinized the scenes together there was actually a leitmotif involved that seemed to carry narrative importance. The 'Leitmotif' concept and the leitmotif itself further revealed the connection between the scenes. It has been a useful but limited analytical tool because the chosen scenes and the film itself doesn't include any other leitmotifs.

7.4 Suggestions for further research

Through the present study it has surfaced questions that could be a point of departure for a further research. As mentioned above, Chion's concept of 'Forced Marriage' would be an interesting approach, especially if one would apply, for example, Howard Shore's music from *The Lord of the Rings Trilogy* (2001-2003), John William's *Jurassic Park* (1993) theme or Max Steiner's score from *King Kong* (1933), just to mention a few, on one of the scenes from *Interstellar* or a segment from any film made today. How would the interpretation be then? How would it function if one applied classical music such as Beethoven or Bach onto the docking scene in *Interstellar*? Or, if one would apply 1930's non-diegetic music onto one of today's Hollywood films, how would it function? What tone would it give to the entirety of the

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[164] Michel, Chion, *Audio-Vision – sound on screen*, 1994, p. 188 f.
[165] Emilio, Audissino, *Film/Music Analysis,* 2017, p. 144.

film? One could also take it a step further by looking closer on how non-diegetic music from one specific genre would function when its applied to another. For example, how would it be if one applied non-diegetic horror music to a romance film or a documentary? It would most certainly affect the spectator's experience of the film.

These questions and thoughts could be a point of departure for a future study.

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<u>Films</u>

Title: *Interstellar*

Production Company: Paramount Pictures, Warner Bros, Legendary Entertainment.

Country: USA, UK, Canada.

Production year: 2014.

Producers: Christopher Nolan, Lynda Obst, Emma Thomas.

Director: Christopher Nolan.

Scriptwriter: Christopher Nolan, Jonathan Nolan.

Cinematographer: Hoyte Van Hoytema.

Film editing: Lee Smith.

Music: Hans Zimmer.

Actors: Matthew McConaughey, Jessica Chastain, Anne Hathaway, Wes Bentley, John Lithgow.

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Kevin J. Donnelly; professor of film and film music at the University of Southampton, Lecture: The Sweet Spot: Audio-Visual Culture, May 9, 2019, Lund.

"In Interstellar on the water planet, the soundtrack in the background has a prominent ticking noise. These ticks happens every 1.25 seconds. Each tick you hear is a whole day passing on Earth. (Math in the comments)" – Posted by akick31, 2018-09-01 on www.reddit.com

www.reddit.com/r/MovieDetails/comments/90luwh/in_interstellar_on_the_water_planet_the/