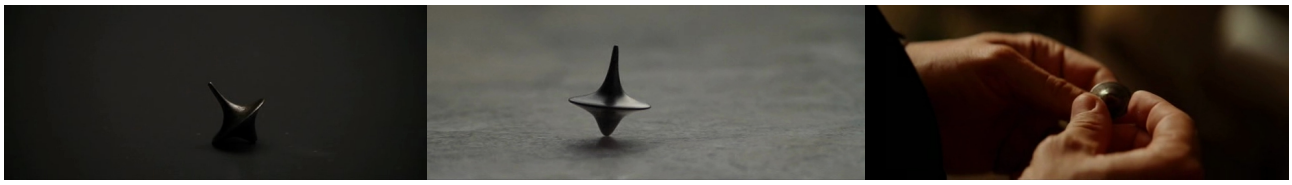
Film scoring today - Theory, practice and analysis



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A. Introduction

Film music – this field of study seems like a neat niche of scholarly discourse at first glance. But as one is soon to understand, even a niche can be as vast, complex and ambiguous as a maze. This field of study may be young, and its history short in comparison to other academic disciplines, but none the less its discourse already rooms a large diversity of perspectives, theories, debates and paradigms. The scientific approaches to film music span from semiotics and musicology to psychoanalysis, cognitive theory and neurological research.

Much like a niche presents itself as a neat little space at first glance, the notion that film music resides at the intersection between to art forms, film and music, seems like child's play. Yet this notion entails the necessity to merge the theories of several scientific realms, in order to make sense and understand film music. One has to explore the reciprocal effects between a nonrepresentational art form and a representational art form, an aural art and a primarily visual art. The history of scholarly discourse on film music shows, that the visual realm of film has always been assumed to be superior and more expressive than the aural realm of film, including film sound and music. To render music a mere aural accessory to film may be as simple and short-sighted a thought, as thinking of film music research as a little manageable niche of scholarly discourse. This is just one of the assumptions and paradigm established throughout the evolving discourse in film theory. Scholars have debated various concerns such as the effect of film sound and the claim to realism or a lack thereof. Film music has been described as a field within film studies that has been largely neglected and eschewed. A reason for this avoidance might be, that research on film music necessitates the inquiry of at least two scholarly disciplines, musicology and film studies. It can be argued that the field of study for film music, by its inherent constitution based on two different art forms, requires a versatile interdisciplinary discussion reflecting film music's context of interrelation between two art forms. In addition, the linguistic description of music is always a challenge, one has to face when considering film music in an analytical approach. While working on the analysis chapter, I was also confronted with the particular difficulty to describe music intelligibly - to do right by an art form, which is known for its defiance of description.

In this thesis I will take a closer look at the field of film music and the way film music is produced and employed today. My thesis will cite the theoretical discourse on film music, the developments in film sound technologies, current production routines and practices as well as the employment of music in a Hollywood film of recent date. By discussing different schools of

thought, considering historical perspectives on film music and citing recent cognitive research on the subject, I will provide a framework to expound on the different functions and effects music can have in film. To exemplify the theoretical and practical aspects of film music, I will give an analysis of *Inception* (2010), a recent Hollywood picture, in which I elaborate on the way music is employed in the film and what functions it serves. The goal of this thesis is to scrutinize the different scientific approaches to film music and the practical process of modern film scoring. The analysis will provide an illustrative showcase of functions and effects in film music, delineated in the theoretical part of the thesis.

With this thesis, I hope to give an insightful overview of the current state in film music research as well as the present-day practice in film scoring. I hope to I would like to specify, that my thesis primarily focuses on the American film industry and its practice. This choice was necessary in order to keep a manageable framework for the thesis and to facilitate a coherent relation between the theoretical, practical and analytical parts of this thesis. Firstly, I will consider the history of film music and the theoretical discourse on the topic.

1. Film and music – positions in theory

1.1 Music and the advent of film

Although it is widely assumed that music accompanied film since its advent in the late 19th century, this historical claim still is in dispute. There are several theories and assumptions as to when film was first joined by music and what circumstances initiated the practice. Although 1895 is largely regarded as the year of film music's initiation, since it marks film's (and film music's) introduction in the public sphere, an idea uttered by Thomas Edison, in respect to his invention of the phonograph in 1877, seems interesting in relation to film music: he imagined moving pictures to accompany the presentation of the phonograph.[1] Although a reversal of the relation between image and music is implied, image accompanying music not vice versa as in film, it seems quite a pioneering thought in retrospect. W.K.L. Dickson, who experimented with mechanized synchronization in Edison's laboratories, stated that moving pictures «should do the same thing for the eye what the phonograph does for the ear.»[2]

With this early linkage of music and moving pictures in mind, it can be argued that the aesthetic conjunction of music and film was due to be made, to the benefit of both artistic expressions and to enhance the perceptual impression. In the case of Edison's phonograph the marriage of music and moving pictures had its initial focal point on the sound technology. Yet with the development of his Kinetoscope in 1889, Edison turned his initial idea into the invention of a device, which merged musical and visual expressions in a different way.[3] While the idea to add moving pictures to the music was initiated by the phonograph, the Kinetoscope clearly put the user's focal point of attention on the visual. The initial thought of adding moving pictures to the presentation of the phonograph and the eventual invention of the Kinetoscope twelve years later illustrate, how the focus of creating spectacle shifted from aural to visual stimuli long before the first official displays of film accompanied by music took place. As Tom Gunning has argued, the combination of two different media was not informed by a desire of perfect representation, but rather by a fear to divide the human body's senses and thereby alter the subjective human perception.[4]

The first public occasion of a film being shown (and allegedly music being played alongside) was the Lumière brothers' show on December 28, 1895 at the Grand Café in Paris. Still today it is in dispute whether the projection was accompanied by music or not - and if so, what kind

1 Kalinak, Kathryn, *Settling The Score*, (London: The University of Wisconsin Press, 1992), 40.
2 Ibid., 40.
3 Cooke, Mervyn, *A History of Film* Music, (Cambridge: Cambridge University Press,2008), 8.
4 Ibid., 42.

of music, what kind of instruments were played.[5] In contrast to contradictory reports on musical accompaniment in the early days of film, it is largely documented that the earliest film displays took place in so called *music halls* and theaters As part of variety and vaudeville shows in the late 1890s and the early 20th century, small films were shown as a form of spectacle and embraced as such.[6] It seems plausible, that early film projections were accompanied by music, since almost all the other vaudeville acts and performances were. As theater, acting, circus and other entertainment acts, film found itself accompanied by music. Music served as a aesthetic device to enhance and support the visual spectacle.[7] A popular and convincing explanation, as to why film was accompanied by music, sees film as the last link in a long chain of artistic expressions, all of which include music as a form of accompaniment for instance Greek drama, Elizabethan theater, opera, theater and nineteenth-century melodrama.[8]

1.2 Music and the hierarchical paradigm

As historical documentation shows, music has been part of different cultural events. Thus it is not a surprising development, that music became interlocked with the new culture of film. It is however important to note, that all these cultural events employing music, rest upon the same inherent paradigm, which renders the visual perception superior to the aural perception[9]. Rooted in writing dating back to ancient Greece, where philosophers like Heraclitus, Aristotle and Plato reasoned upon the nature of aural and visual perception assuming an inherent hierarchy of the senses, these assumptions grew to be a paradigm ranking the sense of hearing lower than the visual sense in terms of perceptual accuracy.[10] In turn the ear was assumed to have direct access to the soul, conveying music, the «purest form of sound», to the emotional core of man. A similar position was taken by 19th century theorists and scientists, like Georg Ohm, Hermann Helmholtz, John William Strutt and Lord Raleigh, who conducted experimental research on the auditory and visual apparatus of the human body and asserted a theory of the senses, which put hearing close to the emotional and vision close to the intellectual domaines of human experience.

> [...] aural art, and in particular music, «stands in a much closer connection with pure sensation than any of the other arts» because it is directly apprehended «without any intervening act of the intellect.» [...][11]

5 Larsen, Peter; *Filmmusikk – Historie, analyse, teori,*(Oslo: Universitetsforlaget, 2005), 17-18.
6 Ibid.,19.
7 Ibid., 187-188.
8 Kalinak, *Settling the Score*, 41.
9 Ibid., 26 ff.
10 Ibid., 21-22.
11 Ibid., 23.

> The mediating force of consciousness in the act of vision serves to objectify the information processed through it, while the act of hearing is more suspect because of its stronger connection to subjectivity.[12]

The correlation of objectivity and reliability informs this hierarchical paradigm of sensory perception: while visual impressions are associated with a general sense of objectivity and thus a sense of reliability and authenticity, aural impressions are considered as more subjective and therefore less reliable. Another factor beneficial to the hierarchical paradigm, is the temporal aspects of visual and aural perception. While a visual stimulus is induced by light, an aural stimulus occurs through the waves of sound resonating in the eardrum. The perception of sound requires a longer duration of the sound waves than does the perception of a light-induced visual stimulus. Although this empirical account of visual stimuli entering faster than aural stimuli, the mere difference in operation between the two senses was made synonymous with one of them being superior to the other. This evaluation informs the hierarchical paradigm and renders it problematic at the same time.[13] Despite its assumed inferiority to the visual, aural perception and the perception of music in particular was characterized as the closest sense to emotion: contemplating the nature of music and the human reactions to it, the philosophers in ancient Greece concluded, that music was the most immaculate form of sound and therefore, with the auditory closely linked to the emotional core of mankind, the «most potent elicitor of emotional response».[14]

The hierarchical paradigm of perception has been contained and is a vital part of the very foundations of classical film theory. The predominance of the visual in relation to film is evident in as banal an expression as «to go *see* a movie» or calling the audience of a film «spectators», as if they only *see* the film. Neither expression accounts for the auditory part of the film and the audience hearing film sound and film music. Not only did the established paradigm inform such expressions, it also manifested in the theoretical discourse on film sound and film music, which always implied the soundtrack's position towards the visual: it could either run as a parallel to the film's visual creation of meaning or in counterpoint to it. But by these terms, parallelism and counterpoint, it is implied that the soundtrack itself cannot produce meaning independently.

As I will illustrate in the following, music reveals itself to be far more complex in its constitution and its capacities of signification than the concept of parallelism and counterpoint suggests. Yet firstly, I will focus on the sound debate ensuing with the advent of film sound and music's position in film: the assumed inferiority of the auditory can be connected to music's

12 Ibid., 24.
13 Ibid., 20.
14 Ibid., 22.

constitution as a nonrepresentational art form.

1.3 The advent of film sound and the sound debate

Music's functions in film were affected when its sole reign over the aural realm of film was ended by the advent of film sound. With sound coherently matching the film's visual display, the supposed ghostly impression of silent film was no longer an urging topic of debate. Film sound contributed to film's expression by widening the aural sphere with dialogue, sound effects and enhanced the images to illusive effect. Questions, as to which effects sound had on film and how sound should be employed, gave rise to a principle debate amongst film theorists. As film sound came about in the late 1920s, it altered not only the means of film making and film language, it also triggered the fierce discussion of parallelism versus counterpoint. These two terms signify two different artistic approaches to the use of film sound and music. The discussion evolving in the late 1920s and throughout the following decades, was fueled by the Soviet formalists Sergei Eisenstein, Vsevolod Pudovkin and Grigori Alexandrov and their pamphlet *«Statement on Sound»* from 1928.[15] They assumed that, in order to continue the established style of montage, it had to be ensured that film sound was not to be used to «realistic» effect but rather in a contrapuntal manner, emphasizing the juxtaposition between image and sound and their heterogeneity.[16] Like theorist Béla Balázs, the Soviet formalists feared that film sound might be detrimental to the culture of silent film. Contrasting the concept of counterpoint, parallelism described the use of music, which established expressive coherence between sound and image, to realistic effect.

In terms of the sound debate on parallelism versus counterpoint Siegfried Kracauer, like the Soviet Formalists, argued against parallelism and its, as he implied, inherent redundancy by mimicking the visual. Kracauer argued in favor of the non-consonance of visual and aural elements.[17] Contrary to Kracauer, Rudolf Arnheim was more ambiguous in his position and argumentation concerning the matter, but favored the concept of parallelism, when stating that music *«transmits the feelings and moods and also the inherent rhythm of movements [in] the visual performance»,* which enhances the visual with paralleling it by musical means.[18]

Enthusiastic about film's capability of representing reality in an authentic way, Arnheim welcomed film sound as a gain to the art and a crucial means of perfect illusion.[19] Arnheim admits

15 Cooke, *A History of Film Music,* 44.
16 Stam, Robert, *Film Theory,* (Malden MA: Blackwell Publishing, 2000), 58-9.
17 Paulin, Scott D., "Richard Wagner and the Fantasy of Cinematic Unity" in *Music and Cinema,* Buhler, James; Flinn, Caryl; Neumeyer, David, (Hanover: Wesleyan University Press, Hanover, 2000), 58-84, 71.
18 Arnheim, Rudolf, quoted in Kalinak, *Settling the Score*, 25.
19 Arnheim, Rudolf, "The Complete Film", in *Filmtheory and Criticism,* Baudry, Leo; Cohen, Marshall, (New York: Oxford University Press, 2009), 167-170, 169.

the fundamental change brought onto film, by the advent of film sound and that *«the introduction of sound film must be considered as the imposition of a technical novelty that did not lie on the path the best film artists were pursuing».* Directors were required to adapt to new approaches due to film sound. As narrating a story became easier and more effective through film sound, the technical requirements of filming became more complex. In the light of a new era in film, Arnheim anticipates what he calls the «complete» film, which will render the silent film redundant and «*inferior [...] in the capacity to imitate nature. Therefore the «complete» film is certain to be considered an advance upon the preceding film forms, and will supplant them all*».[20]
Albeit theorists like Balázs, Arnheim and Kracauer argued for different uses of music and sound, they all relied on the concept of parallelism and counterpoint, which imply a bias towards the visual superiority in film[21] - as touched upon earlier, both expressions refer to the soundtrack's relation to the image and thereby reassert the prevalent hierarchical paradigm.

The terms parallelism and counterpoint have been largely criticized for being ambiguously defined and unclear and subsequently abandoned in contemporary film theory due to their inaccuracy. In more recent film theory, scholars have deconstructed the concepts of counterpoint and parallelism and rendered them as inadequate. Frequently accused of its redundancy, the congruent expression of sound and image aids to mask the multimedia nature of cinema, as Rick Altman and Scott D. Paulin have argued by stating that music, *"through semiotics of timbre, rhythm, meter, melody, harmony"* construes a

> The musical commentary always constructs (through semiotics of timbre, rhythm, meter, melody, harmony) a reading of the image no matter how «parallel» or «redundant» to the image it may seem. [...]Sound and image validate – not duplicate – each other, and together disguise the material heterogeneity of the «whole».[22]

As Kathryn Kalinak observes, it is easier to render the concept of parallelism and counterpoint as unfitting in the theoretical discourse, than to rid ourselves of the current terminology and scholarly tendencies rooted in the assumption of visual superiority and aural dependence.[23]

20 Baudry, Leo; Cohen, Marshall, *Filmtheory and Criticism* (New York: Oxford University Press, 2009), 170.
21 Kalinak, *Settling the Score,* 25-27.
22 Paulin, "Richard Wagner and the Fantasy of Cinematic Unity", 73.
23 Kalinak, *Settling the score,* 30.

1.4 A nonrepresentational art form and «added value»

While the visual of a film always represents and refers to reality in varying extent, music does neither represent something else nor signify meaning as language and visual stimuli do. Music is considered a nonrepresentational art form, a property which informs the way music is perceived and used. As discussed earlier, the difference in the perceptual process between music, constituted by aural stimuli, and forms of visual stimuli possibly informed the assumption, that music was prone to be perceived in a more subjective way, whereas visual stimuli were assumed to be closer linked to objectivity.

The nonrepresentational trait of music's constitution clearly distinguishes music from all other art forms.[24] Music in itself doesn't «mean» something: it doesn't deploy signs or symbols, which refer to non-musical objects or concepts. As Royal S. Brown expounds, music exclusively uses a system of signifiers alien to other art forms and means of expression.[25] Music doesn't possess a narrative in itself and yet music is capable of adding meaning in the art form it accompanies.[26] Music can instill associations and elicit meaning in a film scene for instance, though it doesn't compulsively do so. Not only does music transport emotional meaning, it can also lead the spectator's attention to certain objects or characters shown in the visual part of the film. Questions as to how and why music elicits associations to identifiable emotions, concepts and phenomena, despite of its nonrepresentational character, haven't been entirely fathomed by the theoretical discourse, though the matter has been approached by a variety of scientific disciplines. One approach asserts a structural congruence between music's formal elements and other narrative structures in signification systems such as language: music is a matter-of-fact development in time and it is an elaborate sequence of audible elements. These formal parallels, music shares with narrative formulas, explain why we are often inclined to describe music in narrative terms.[27]

Another important feature of music is informed by the fact that all music is, by its constitution, referring to other preexisting music. Reminding the listener of preexisting music, the musical expression which is heard at the time also inherits the associations to culture implicit in the preexisting music. As Peter Larsen points out, this process of association is related to the linguistic property of connotation.[28] If the cultural associations evoked by a specific piece of music (e.g a certain historical period, particular events or particular countries and their cultures) are as a matter of fact historically correct, is oftentimes irrelevant to the spectator's association process. Once the

24 Larsen, *Filmmusikk,* 46.
25 Brown, Royal S. *Overtones and Undertones – Reading Film Music,* (Berkeley and Los Angeles: University of California Press, 1994), 18.
26 Kalinak, *Settling the Score*, 8.
27 Larsen, *Filmmusikk,* 208.
28 Ibid., 70-71.

association between a certain culture, age or country and a certain type of tune, melody or instrument has been established and reinforced by its usage throughout film history, the association will stick regardless of whether its initial usage was historically correct or not. Using not only the capacity of tonality and other musical properties, film composers will also avail themselves of the cultural and historical associations connected to certain melodies and instruments to evoke these associations in the spectator. Such cultural and historical associations within music bear similarities to what Michel Chion defined as «added value» in film sound.

Michel Chion's theory about «added value» points out, that film sound not only complements the sensual experience of film but adds value to the visual part of the film. Chion coined the term *synchresis*[29] to describe the spectator's instantaneous reciprocal correlation of what he sees and what he hears. Whether the sound element and the image have the same source or the sound was added subsequently to the shot of the image is irrelevant to the process of *synchresis*. As we know by *foley*[30] and other sound effects as well as ADR (Automatic Dialogue Replacement), what we hear in a film is not always what was recorded simultaneously with the image. But this perceptual illusion contributes to the «suspension» of reality facilitating the spectator's engagement in the cinematic experience. Although meaning and information might initially be transported and induced by film sound, the spectator will often attribute these informative values to the film's visual expression rather than to its aural expression. These bits of aural expression and information thereby «add» to the value of the visual part, hence Chion established the expression «added value» for describing this particular phenomenon of perception. *Added value* can stem from different aural elements, such as language (dialogue, display of written word) and music. Like an aural spotlight, film sound assists to guide the spectator through the visual information of the image. Sound as well as music can function as a means of orientation, putting the image into a particular context. Chion describes the added value of music in film by its capacity to enhance or ignore the emotion depicted in the image (empathetic and anempathetic music[31]). While Chion's evaluation of music's emotional effects in film only distinguishes between empathetic and anempathetic music, recent research on

29 Chion defines *synchresis* (an amalgam of synchronism and synthesis) as «the forging of an immediate and necessary relationship between something one hears and something one sees». Chion, Michel, "Projections of Sound on Image" in *Film and Theory – an anthology,* Stam, Robert; Miller, Toby, (Malden, MA: Blackwell Publishing, 2000),111-124, 112.

30 The term *foley* has its origin in the name of sound designer Jack Donovan Foley, who was one of the first sound artists to customize sounds related to characters in the diegesis of a film. *Foley* effects are sound effects which are recorded live in post production onto a separate track and synchronized with the image at the dubbing stage to alter and/or enhance the sound scape of a film. *Foley* effects can include anything from sounds of movement such as footsteps or a body moving in heavy armor, hits and thuds to more delicate sounds which do not possess the intended texture, timbre and volume on the original soundtrack of a shot. *Foley* effects are mostly sounds caused by human characters and constitute a form of «sweetening». (Davis, Richard, *Complete guide to film scoring,*(Boston: Berklee Press, 2010), 76.; Buhler, Neumeyer, Deemer, *Hearing the Movies,* 416-17.)

31 Chion, Michel, "Projections of Sound on Image", in *Film and Theory – an anthology* ,Stam, Robert; Miller, Toby, (Malden, MA: Blackwell Publishing, 2000),111-124, 114.

music's emotional effect reveals this quality to be more diverse, as I will discuss in the paragraph about music's emotional functions later on.

In the age of silent film, music grew to be an important narrative device: even if a film's dialogue was mediated to the audience via *inter titles*[32], music still took a commentary role and functioned as a directive to convey the mood and course of action displayed in the images. Various contemporary critics noted a particular effect the silent moving images had on the spectatorship – the images displayed living people, who moved and talked in complete muteness. Since one is accustomed to the fact, that all things which move make some sort of noise or sound and since one is accustomed to hear a voice when the eye sees someone speak, the silence of film posed a perceptual paradox. As some theorists and critics claimed, the spectator experienced the silence of the moving images as estranging and angst-inducing. Theorist Béla Balázs approached the phenomenon by asking, why music is always accompanies the display of films. He renders the cinematic display without music as an embarrassing experience, stressing the spectator's discomfort at the sight of ghost-like mute images. Hence the employment of music was to cache the film's muteness. Balázs' assertion was later reinforced by Siegfried Kracauer, who argued for music's capability to eliminate the film's need for sound rather than merely substituting it. Cultural critic Theodor Adorno and composer Hanns Eisler were among the fiercest critics of cinema's estranging and allegedly terrifying character. In their pamphlet *«Composing for the Films»* they asserted, that without music talking characters shown in a film will seem unpleasant and music was to fill the void of silence contradicting the life-like images projected onto the screen and relieve the spectator from his anxiety of mute mouths talking.[33] Formulating the phenomenon in a polemic manner, Adorno assigns to music the effect of an antidote against the image, redeeming the spectator from the estrangement implied in the mute and hence false representation of his own nature.[34]

1.5 Time paradox and *matching*

Even though the assumptions about the ghost-like impression of silent films by Adorno, Balázs and others can be disputed, scholars have frequently found reasons to believe, that music in film is supposed to «cover up» something. It wasn't necessarily the silence of moving pictures that necessitated musical accompaniment, but rather another aspect of film and photographic depictions in general: the fact that the (moving) pictures, we see, depict something, that has once been and is now shown to us as if it still is. This poses an initial conundrum to our consciousness. While we

32 Inter titles were photographed panels of written dialogue edited into the film to explain the mute dialogues seen on screen.
33 Cooke, *A History of Film Music,* 7-8.
34 Larsen, *Filmmusikk,* 189-90.

watch a film, we are perfectly aware of the fact that what we see is not reality, we are supposed to engage into the film's story and characters all the same. Even documentaries showing footage of real life events, are subject to the time paradox: they show events that happened in the past and display them in the present. Regardless of whether it is a fiction or non-fiction feature we see, there is a gap between the point in time when the scenes we see where recorded and the time of their display. This time paradox is a strong contradiction in our experience of time – to see something, that no longer is, evokes a certain resistance in our consciousness, since we are experiencing two realities: the reality of us sitting in the darkened room of the cinema watching a projection on a screen and the reality depicted within the film's diegesis.

Music reinforces the experience of fictive time. It can be an aesthetic device to smooth out the film's paradoxical effect on our consciousness. First it was music accompanying the film, later joined by film sound that made it easier for the audience to forget its actual situation and embrace the illusive power of the film projection. The darkness in theaters and one might add today's 3D-glasses aid the same goal: to minimize the distractions of the real world and maximize the engagement into a fictive world.

Another important function of music, in the era of the silent film as much as now, is the structuring effect. Take away film sound and music and a film is nothing more than an artful assembly of different scenes, a fragmented row of moving pictures, one might argue. In the silent era, music was a potent vehicle to give the audience some orientation in the vast mass of visual impression, it was exposed to. With music playing along, the overall expression of a film also gained in terms of continuity and wholeness. Music's function as a bridge between different visual fragments enhanced a film's aesthetic harmony and facilitated the audience's comprehension of the film's content and meaning.[35] This enhancement of comprehensibility and orientation is part of what Chion refers to as the «added value» of sound and music. These structuring and orientating effects of film music still hold true today, although the advent of film sound facilitated the conversion of meaning significantly.

An important perceptual phenomenon in aural and visual interplay is prevalent in both silent and sound film. Not only does music relieve the time paradox inherent in film and structure the film's visual realm, it also stimulates the spectator's ability to shape *synaesthetical equivalences*. That is to say, the spectator is biased by his/her inherent perceptual imperative to make sense of what he/she sees and hears. He will search and find structural similarities in different material.[36] The spectator automatically performs the act of *matching* by trying to merge visual and aural

35 Ibid., 192-93.
36 Ibid., 206.

impressions to a perceptual wholeness, disregarding whether the music actually «matches» the scene or not. *Matching* implies the same cognitive process, which Chion refers to as the phenomenon of *synchresis*, which I described above. When we see and hear a film with all its aural and visual elements and perceive it as a perceptual wholeness, we automatically assume that there is a particular intention behind it. And since we assume an intention or «a story», «a sense» in the film, we automatically make sense of what we experience by means of *matching*. We treat each part of the film, image, editing, dialogue, music and ambient sound as indicators to the meaning we presume underneath the construction of the film. Although film scholars have elaborated a terminology and theory on this perceptual process, thorough and conclusive neurological experiments to confirm the theory of synaesthetical equivalences have only been conducted recently.[37]

A contrapuntal approach to coordinating film with music is more likely to challenge the spectator's capability to match the aural stimuli with the visual, but unless the divergence between music and image becomes obscene, the spectator will try and succeed in generating cohesion and make sense of the constellation presented. An example of this approach can be found in a scene of Quentin Taratino's *Reservoir Dogs*, which I will refer to in the paragraph on music's emotional functions later on. In the following paragraph, I will outline a recent cognitive model, which illustrates the perceptual process of matching visual and aural stimuli in film.

1.6 Synaesthetical equivalences in a cognitive perspective

In the previous paragraph, I have touched upon the perceptual process of creating synaesthetical equivalences, which comes into play when the spectator tries to make sense of what he sees and hears. As the spectator matches visual and aural elements to a perceptual wholeness, creating a *synchresis* as Chion calls it, the human brain employs both the stimuli provided by the film and its long-term memory to construct the film's narrative. In contrast to semiotics and psychoanalysis, cognitivism poses a new angle, not only to film theory in general but also to the academic discourse on film music in particular. The school of cognitivism focuses the analysis of human thought, emotion and action and seeks to understand processes by means of empirical physiological evidence. Within film theory, scholars like David Bordwell, Kristin Thompson and Noël Carroll

37 Juslin, Patrik N.; Liljeström, Simon; Västfjäll, Daniel; Lundqvist, Lars-Olov; "How does music evoke emotions? Exploring the underlying mechanisms" in *Music and Emotion – Theory, Research, Applications,* Juslin, Patrick N.; Sloboda, John A., (Oxford: Oxford University Press, 2010), 605-642.
Cohen, Annabel J. "Music as a source of emotion in film" in *Music and Emotion – Theory, Research, Applications,* Juslin, Patrick N.; Sloboda, John A. (Oxford: Oxford University Press, 2010), 879-908.
Cohen, Annabel J., "Film Music – Perspectives from Cognitive Psychology" in *Music and Cinema,*Buhler, James; Flinn, Caryl; Neumeyer, David; (Hanover: Wesleyan University Press,2000), 360-377.

have been associated with cognitivism, which has grown more prominent in film theory throughout the 1980s. In *Post-Theory* Bordwell deconstructs the doctrines of the so-called Grand Theories and argues for a middle-level research approach such as cognitivism, which combines empirical and theoretical approaches as opposed to subject-position theory and culturalism.[38] In terms of film music, a cognitive account of the perceptual process has been made by Annabel J. Cohen.

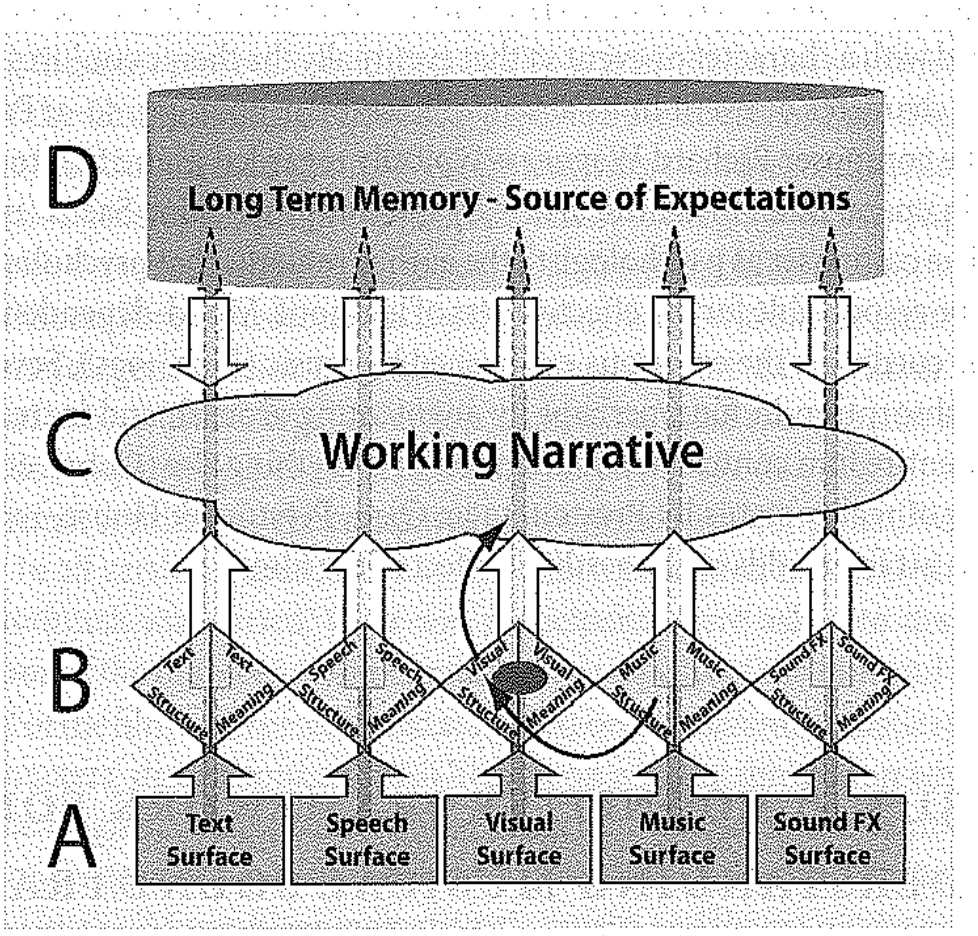

Fig.1.5.1 The Congruence-Associationist Model (CAM) illustrates how the human brain analysis and arranges film's various stimuli[39]

She has mapped this perceptual activity in the Congruence-Associationist Model (CAM) in order to demonstrate its elements and processes. Cohen divides the model into four levels and two movements: the bottom-up process (A and B) and the top-down process (D). Both processes lead to the level of conscious attention (C), where the working narrative, the spectator's understanding of the film, is created.[40] In the model above, the bottom level A shows all the types of stimuli presented in an usual film: the text surface, the speech surface, the visual surface, the music surface and the

38 Bordwell, David; Carroll, Noël (ed.), *Post-Theory – Reconstructing Film Studies,*(Madison, WI: The University of Wisconsin Press, 1996), 6-27.

39 Cohen, Annabel J. "Music as a source of emotion in film" in Juslin, Patrick N.; Sloboda, John A. *Music and Emotion – Theory, Research, Applications*, (Oxford: Oxford University Press, 2010), 892.

40 Ibid., 891.

sound FX surface.

On level A these stimuli are broken down into their basic components for instance lines and shapes in the visual features or phonemes and frequencies in aural features. Then the features are analyzed and arranged according to their structural and semantic information on level B. Music is analyzed in its temporal structure, its semantic information as well as its emotional meaning. Visual features are analyzed according to motion patterns, temporal structure and informative objects. Part of this output will «leak» through to level D, the long-term memory (LTM).

The analysis and perceptual grouping (A and B) constitutes the bottom-up process, which holds the potential of creating what Cohen calls *cross-modal congruencies*.[41] If certain aural and visual modalities share accent patterns, the spectator's focus of attention is prone to lie on the part of the visual and aural information, which is congruent with one another.

The top-down process is initiated on level D, the long-term memory, which constitutes both a rich background for associations and a source of expectations. As mentioned above, some of the information analyzed on level B leaks to LTM. The top-down process is essentially a matching or inference process, where information from level B is matched up against information in LTM. This top-down process produces inferences and determines the associations established in the brain's orbitofrontal cortex (OFC) as well as predictions as to how the stimuli entering via the bottom-up process will be interpreted in the working narrative.[42] The top-down process can generate inferences between past emotional experience (from LTM) with the visual and emotional information of the film.

Of particular interest is the fact, that LTM will generate inferences with the emotional information conveyed by musical stimuli, but not with the acoustical aspects of the music conveying the emotional information (the perception of music differs when music is put in another presentational context such as music videos, diegetic music and formal use of music in opening titles[43]). Cohen reasons, that the paradox, non-diegetic music in film poses for our perception, is in fact the impetus to analyze the acoustical information of music. By analyzing the music in a state of preattentive perception, the spectator will form emotional inferences, which "match" and cohere with the film's diegesis.[44] Cohen also infers, that LTM's incapacity to create inferences with the acoustical aspects of musical accompaniment is one of the reasons why we do not pose or dwell upon the question, where non-diegetic musical underscoring comes from while we watch a film.[45]

Both the bottom-up and the top-down process lead to level C, the working narrative, where

41 Ibid., 893.
42 Ibid., 895.
43 Ibid., 896.
44 Ibid., 885-6.
45 Ibid., 896.

the information and its implied inferences are used to construe the narrative. Cross-modal congruencies between visual and aural information (marked as a circle on Level B in the model above) and the additional information of musical meaning are transferred to the working narrative (from B to C). Due to its helpfulness to interpret the visual, music's emotional meaning is usually transferred to the level of the working narrative. As does other information, some elements of the music's emotional meaning will leak to level D and facilitate the correspondence necessary between stimuli and LTM. The information incorporated and utilized in the working narrative can be memorized in LTM and used as memory stock for subsequent top-down processes. As Cohen points out, music's acoustical aspects may be perceived simultaneously to its emotional meaning and be stored in LTM as well.[46]

Cohen's model demonstrates how music is part of the perceptual process taking place in the brain while we watch a film. The selective attention, focusing on cross-modal congruencies and selected aspects valuable to the working narrative, pose an example of the common perceptual operation of the brain, which employs association and congruence, that is to say grouping principles and learned connections.[47] In this process the emotional information stored in musical stimuli can play an important role in determining the film's perceived narrative. The process of extracting emotional information from non-diegetic music, while dissecting its acoustical aspects, also offers an explanation as to why we usually do not wonder where non-diegetic musical underscoring stems from while we watch a film.[48]

Although the process of generating inferences and perform matching has already been assumed in different terms and by various school of thought, cognitive experiments and neurological knowledge of recent date have affirmed these assumptions and adduced the scientific evidence as to how the brain processes information and makes sense of visual and aural stimuli by means of grouping principles and learned connections.[49] A starting point and fundamental ground work for further engagement into the cognitive neurological branch of film music research are experiments and research conducted by Patrik N. Juslin, Simon Liljeström, Daniel Västfjäll and Lars-Olov Lundqvist. Juslin and Västfjäll. As part of the AMUSE-project initiated at the University of Uppsala, Sweden, they have investigated the mechanisms and causal interrelations in the process of emotional reaction to music.[50] In addition to cognitive appraisal they assert a broadened canon of

46 Ibid., 896.
47 Ibid., 884.; 891-92.
48 Ibid., 895.
49 Ibid., 901.
50 Juslin, Patrik N.; Liljeström, Simon; Västfjäll, Daniel; Lundqvist, Lars-Olov; "How does music evoke emotions? Exploring the underlying mechanisms" in *Music and Emotion – Theory, Research, Applications,* Juslin, Patrick N.; Sloboda, John A. (Oxford: Oxford University Press,2010), 605-642.

mechanisms essential to the evocation of emotion by music: brain stem reflexes, rhythmic entrainment, evaluative conditioning, contagion, visual imagery, episodic memory and musical expectancy.[51] Though the experiments conducted do not consider music in the context of film in particular, the experiments and finding on how emotion is evoked in us, are beneficial to the discourse on film music's emotional effects.

Experiments, specifically considering music's effect in the cinematic context, have been conducted with various scientific focus. Annabel J. Cohen cites a number of experimental trials with short film clips, which for instance examine how musical closure and lack thereof effects the sense of closure in the underscored scene the subject sees.[52] Other experimental trials have investigated music's influence on interpretation, such as foreshadowing a upcoming event or affecting the spectator's ability to predict the outcome of a certain scene. Furthermore the effect of altering music's character between non-diegetic and diegetic has been analyzed in experimental trials.[53] Thus the cognitive possibilities of researching music's effect on emotion and the perception of music in film in particular begins to shed new light on the theoretical discourse about film music and facilitates greater empirical insights on the field.

1.7 Unheard music, suture and *spectacle*

The hierarchical subordination of music was strongly advocated in the Golden Age in Hollywood, where film music's ideal was to remain «unheard». By serving merely as an accompaniment to the film, music was considered to be at its best, when it wasn't consciously heard and went unnoticed by the spectator, lurking in the background of the perceptual realm of the film.[54] Connecting the notion of unheard music with the theory of *suture*, Claudia Gorbman broached the issue in her book *Unheard Melodies* from 1987. The concept of suture, as the term indicates, assumes that visual and aural gaps and breaches occur in film due to visual editing, changes of time and place, auditive inconsistencies and so forth. These gaps which threaten to break the suspension of disbelief in the spectator, are sutured and mended by various techniques at the filmmaker's disposal.

One of these techniques is to underscore the film. As an additional aural coat, music was supposed to conceal the technological origin of the film and lower the spectator's consciousness into a quasi hypnotized state in which he was more likely to indulge in the fictive world of the film. Music was to mend the breaches and cover the seams of the film, for instance cuts between shots or a collage of different scenes, but it was also supposed to distract from the fact of film's technicality,

51 Ibid., 619-628.
52 Cohen, “Music as a source of emotion in film”, 887.
53 Ibid., 890.
54 Larsen, *Filmmusikk,* 195-6.

the theater's projector and sound system. Gorbman refers to suture and «unheard» music as a means of concealing the fictive nature of cinema and lulling the spectator into a state in which he will be less critical and less alert to the fictionality of film and disregard the fact, that he sits in a darkened room while watching a fictive story unfold on screen. This notion seems to have a lot in common with the initial «task» of film music in the silent era as discussed earlier, where philosophers and theorists like Béla Balázs proclaimed that the uncanny ghostly impression a silent film had on the spectator, could be cast into relief by music soothing the fearful audience.

Albeit Gorbman claims the hypnotizing effect of film music on the spectator, she also asserts that film music has the capacity to lend certain sequences an epic, larger than life-quality, which makes the spectator marvel at the spectacle of the film he sees rather than augmenting his indulgence in the diegesis. These two capacities Gorbman attributes to music juxtapose and contradict each other.[55]

Not only does Gorbman's theory about «unheard music» contradict itself, her reasoning about the unsettling effect of film lacking music seems flawed, too, since many films of the early sound period featured little or no music but only dialogue. Peter Larsen cites Howard Hawks' *Bringing Up Baby* (1938) as a prominent example of the fact, that dialogue-laden films still engage the audience although no music was put in to suture the supposed breaches and the film's technological and fictive character.[56] Thus the loss of the audience's engagement to the narrative, as Gorbman anticipates in case of lacking musical suture, seems to be an invalid point. Gorbman subsequently phrases the potential of music's soothing effect more openly and replaces the absolute necessity of music's hypnotic agency with the possibility of music as a potent agent of narrative.

The point is as simple as this: there is no way for a hearing audience to not physically hear the music underscoring a film, yet the way the audience perceives the music can to be differentiated as shown in Cohen's model above. The music is processed and interpreted in relation to its emotional meaning, its historical and cultural connotations as well as its synaesthetical equivalences to the visual and aural stimuli featured in a film. Yet music's «inaudibility» is a valid point to the extent, that its acoustical features will be processed differently than its emotional meaning. As Annabel J. Cohen points out:

> [Music] is a vehicle that is often «inaudible» (Gorbman 1987) much as the font of this page in transparent until I draw attention to it. (...) [T]he viewer/listener accepts the musical meaning, but acoustical properties of the music itself seem to function transparently as a

55 Ibid., 200.
56 Ibid., 199.

kind of «acoustical font».[57]

Without over-simplifying the point, Cohen's description seems to be a fitting analogy as to how circumstantial the perception of music is and how some of music's aspects may be «inaudible» whereas other aspects are audible to the extent that they are perceived and processed. Yet Gorbman's notion about the *spectacle* character, music can lend a film scene, seems interesting. While Gorbman suggests that certain scenes will gain an epic character when accompanied by dramatic epical music, Kathryn Kalinak asserts that the more a film's narrative turns to *«pure spectacle»* and *«away from naturalistic reproduction of sound»* the more music will be consciously perceived in compensation.[58] Although Kalinak cites this phenomenon in connection to Classical Hollywood cinema, it holds true in today's film as well. In the analysis I will give an example of this application of film music (see 3.13).

Just as the notion of «unheard music» was vividly discussed between critics and composers, another pair of concepts, parallelism and counterpoint has been an object of fierce debate ever since sound made its entry into the world of film.

1.8 Film music – a musical and cinematic practice

Considering film music from a theoretical perspective, it is necessary to reflect and acknowledge film music's position «between» two separate forms of expression. Stating that film music is an expression constituted by film and music seems a blatant and obvious remark, yet it implies all the complexity of analyzing and understanding film music. As Kathryn Kalinak sees film music as an art form, which finds itself at the intersection of two art forms – the cinematic practice and the musical practice. Thus, Kalinak reasons, the theoretical discourse is required to consider film music in respect to both of the artistic practices.[59] Film music's constitution as a musical practice is informed by its function in the cinematic practice. In turn the way cinema deploys music is also informed by music's inherent properties and capacities. This duality between music and film and the synergetic effects resulting from it, is what makes studying film music so interesting and fascinating. Thorough explanations of the musical terminology I will apply in the analysis chapter can be found in the appendix.

Besides other aspects of cinematic practice like editing, film sound, cinematography and so forth music serves as a stylistic device to facilitate and support the evolution of a film's narrative. Music is a vehicle utilized in different ways to the benefit of a film's comprehensiveness,

57 Cohen, "Film Music – Perspectives from Cognitive Psychology", 366.
58 Kalinak, *Settling the* score, 97.; 190.
59 Kalinak, Kathryn *Film Music – A Very Short Introduction,* (Oxford: Oxford University Press, 2010), 10.

dramatization and artistic expression. Within these conditions music has various functions. They can be categorized into formal, narrative and emotional functions.[60] Another possible categorization is to divide between physical, technical and psychological functions of music in film.[61] I will refer to the former categorization since it is the one more commonly used in the literature at hand and since I regard the terms «physical» and «technical» as slightly misleading in the context of film music. Before I will elaborate on film music's functions, I want to explain the basic categorization of diegetic and non-diegetic music, as well as extra-fictional music.

Diegetic/ non-diegetic music and extra-fictional music

The diegesis of a film is the world or universe depicted in it. All music that originates in the diegesis is called diegetic music, for instance the sound of a radio shown in the film or a song played by a live band in the film. Any music from outside the film's universe is called non-diegetic as is the case for most scores accompanying a film. On few occasions it remains unclear whether the music heard, stems from inside the diegesis or not.[62]

Another category of music used in film is extra-fictional music. Extra-fictional means that the music heard is not only outside the film's diegesis but also outside the fictional realm of the film. A common place example of extra-fictional music is the music accompanying the titles at the beginning and the end of a film. Here music is set to function as an aural gateway, leading the spectator into the diegesis and out again.[63] This deployment of music is also a prominent example of music's formal functions.

1.9 Formal functions

When music is employed in film, it's incorporated in the film in order to lend its inherent structural properties to the overall structure of the film. Music's formal function is to sort, diverge, smooth and contrast elements of the film. It serves as a mediator for the visually fragmented nature of film, which is constituted by cuts and edited shots. It can blend over and smooth out sequences, which would seem fragmented and confusing without underscoring. Especially in montage sequences, e.g. consecutive shots illustrating the passing of time or progress, music serves as a brace bridging the shots' varied settings and time.

But music can also have a contrasting function: it can conclude a segment of the film and open up a new segment. It can accentuate similarities in the narrative or juxtapose the image by

60 Kalinak; Larsen; Buhler, Neumeyer, Deemer.
61 Davis, Richard, *Complete guide to film scoring,*(Boston: Berklee Press, 2010)*,* 140-48.
62 Bordwell, David; Thompson, Kristin, *Film Art – An Introduction, 7th edition,* (Boston: McGraw-Hill, 2004), 366-67.
63 Larsen, *Filmmusikk,* 213.

means of contrapoint. Music can give the audience a sensual orientation within the film's universe while its own capacities for suspense can be transferred to a film's expression. A very common formal function of music is the introduction and conclusion of a film: As soon as the film starts we oftentimes hear music underscoring the opening titles and engaging us into the universe of the film. Music is almost always heard when the film's end titles roll on the screen. In this case music functions as a formal bracket to introduce the audience into the film and to usher it out of the film's universe at the end.

Furthermore music is deployed to blend the cut from one scene to another. If a film is organized in several acts, a common way to structure a film, music is likely to underscore the transition from one act to the next. The change in music at the end of one chapter and the beginning of the next can also accentuate the film's structure musically. Thus, depending on how it is used in a transition, music can suggest continuity or discontinuity. For example an abrupt change of music accompanying the transition to a different shot will suggest discontinuity and support the impression that something new happens, maybe in a different context, location or time. As Peter Larsen points out, music can suggest continuity and discontinuity at the same time, by expressing continuity through its unbroken flow though a visual transition from one scene to another and expressing discontinuity by changing its tone, tempo or other characteristics with the change in the image.[64] Although being capable of inducing a sense of discontinuity, music will lend a film an overall continuity and wholesomeness since it underlines the film's narrative architecture and dramatic build. Usually accompanying the film's beginning and end, music can be regarded as a safeguard to the audience, leading it through the experience of the film.

1.10 Narrative functions

Albeit music is in itself a nonrepresentational art form (except when meaning is added via lyrics, that is to say language) some properties in music can instill certain associations in the audience's mind. Instrumentation can suggest a certain time or place to the audience just as a harpsichord will sooner be associated with the 18th century than with the present and a banjo bears connotations of Americana and suggests a Western-setting rather than a film noir. Since music is a cultural phenomenon practiced in all parts of the world and all periods of human history, it bears geographical, cultural, periodical and even social connotations, that can be employed to the benefit of a film's expressiveness. Music can suggest a film's genre as well as its setting in time and space.[65] This categorization will also help to instill the «right» expectations to the film in the audience. If the

64 Ibid., 210.
65 Ibid., 211.

film music hints to the Western genre, most people will have certain expectations as to how the film will evolve, which archetypes of characters will make an appearance and a rough idea where and when the film is set. While some composers and directors make use of music's indicative functions others decline to let the music be infused by the film's genre, setting and theme. But since music is a stylistic device both powerful and flexible, it's functions are inclined to be used to a certain extent.

Music can convey the whereabouts of a film in the temporal and geographical space. But it can also assist to characterize a narrative's canon of protagonists. By attaching a specific *motif* to a certain character, music will not only help to identify the character by means of musical *motifs*, but also instill certain emotions towards that character by means of style. A prominent example of such practice is Howard Shore's score for the *Lord of the Rings* trilogy (2001, 2002, 2003).[66] and John Williams score for the *Star Wars* episodes (1977, 1980, 1983, 1999, 2002, 2005).[67] Widely discussed and employed as a stylistic device, musical *motifs* in film music have largely been referred to as *leitmotifs*, a term informed by the theoretical writings of Richard Wagner, who assigned particular leitmotifs to the characters in his compositions.[68] Although the term has been commonly used in analysis and writing on the subject of film music, the term leitmotif strikes me as unfitting for the field of film music, since motifs used in film scores can hardly be used synonymously with Wagner's definition of the term and the employment of leitmotifs in opera. Additionally, the term has been defined differently by various film scholars, so I prefer to simply refer to *motifs* in my following analysis.

Annabel J. Cohen puts the narrative effect of musical motifs in a cognitive perspective:

> The cognition of film music is additive: its sums up the associations or meanings mentally generated by the different film and music components. [...]Music adds information that is both consistent and inconsistent with the narrative. The affective quality is consistent; the acoustical aspects of the music are not. Although the affective associations produced by the music seem to belong the the corresponding images, the sounds that produce those associations do not. [69]

The semantic dimension of music is effective in the spectator's mind while the «unnatural» occurrence of music, for instance in dialogue scenes (real life dialogues aren't underscored by music, unless circumstantial), is ignored by the spectator. I explained the nature of this phenomenon

66 IMDb, „Lord of the Rings“, source: http://www.imdb.com/title/tt0120737/ (last access 26/05/12)

67 IMDb, „Star Wars“, source: http://www.imdb.com/title/tt0076759/ (last access 26/05/12)

68 Kalinak, *Settling the score,* 61-63.

69 Cohen, “Film Music – Perspectives from Cognitive Psychology” , 363. 373.

in a cognitive perspective in a previous paragraph (see 1.3). Film sound encourages the illusion of reality in film while directing the attention of the spectator in the manner intended by having a deliberate focus. Film sound and music are capable of transporting a sense of subjectivity in regards to a particular character of a film. While point-of-view shots are commonly used to illustrate a character's perspective and view of things, film sound and music can focalize a character's point-of-hearing as well as express a character's moods, actions and his/her experience of the world around him/her.

1.11 Emotional functions

As discussed previously in this chapter, music is considered to evoke emotions in the listener/spectator. Some of its capacity to suggest emotions derives from music's non-representational character. Its effect on emotional reactions is presumably one of the reasons music has been found useful in film. In order to define the term emotion more specifically and in accordance to the context of film, I choose to distinguish between three different types, which are cited by Annabel J. Cohen.[70] These definition are derived from perspectives that consider music in a non-cinematic context, yet they are deplorable for the cinematic use of music as well.

Firstly, music can elicit a reaction in the spectator that recognizes and identifies the depicted emotion without having that emotion himself. Differing from the passive acknowledgment of an emotion is the effect of music to elicit and establish a subjective feeling in the spectator, that is to say the emotion is not just identified on an observational level but actually instilled in the spectator's subjective consciousness. Thirdly, music may cause the spectator to have a «intense. Affective» reaction to the character or action seen on screen.

Furthermore, Cohen draws a distinction between mood and emotion. A mood is merely an emotional atmosphere that causes the spectator to experience the scene in a particular way. Suspense can be an example of a mood induced by musical underscoring. Emotion by contrast is object-related, which is to say that emotion is by definition always tied to an object by which the emotion is «caused». In the context of film, emotions will be tied to objects seen on screen.

> The emotional associations generated by music attach themselves automatically to the visual focus of attention or the implied topic of the narrative. Because film content provides the object of emotion generated by music, the film helps to control the definition of the object if the emotion experienced during the presence of music.[71]

70 Cohen, “Music as a source of emotion in film”, 880.
71 Ibid., 880.

As it does in its formal and narrative functions, music is deployed to guide the spectator not only into the film's universe and through the narrative but it also serves to amplify certain emotions of film characters as well as elicit emotions in the spectator. By instilling and sustaining a certain emotion, be it suggested by the film's setting, dialogue and cinematography or not, music reinforces the emotion in question and weakens any other emotional association the spectator might have to the scene. Michel Chion, as discussed previously, differentiated between empathetic music and anempathetic music, which again illustrates that music is largely considered to affect the perception of depicted emotion and to induce emotion in the spectator.[72] Royal S. Brown describes the duality with which music performs affective suggestion.

> It is, then, the merging of the cinematic object-event and the musical score into the surface narrative that transforms the morphological affect of music into specific emotions and allows us to «have them» while also imputing them to someone and/or something else, namely the cinematic character and/or situation.[73]

As touched upon earlier, the aural realm of perception and music in particular has been associated with the soul and the emotional cognition since Ancient philosophers reflected upon the matter. The perceptional paradigm of the visual over the aural is disputable as I have discussed previously in this chapter, yet the presumed perceptual hierarchy still informs large parts of today's concepts in film theory.

As illustrated by Annabel J. Cohen's Congruence-Associationist Model above, the perceptional process taking place in the brain extracts the emotional meaning of music and uses this information to help construe the narrative of a film. Considering film's emotional potential in general, a film score can be used as a key element to direct the spectator's emotional reaction. The registry of emotional association in music is vast and as an emotional agent music is versatile: it can instill a sense of suspense, of sadness, happiness, anger or, as emotion is often an amalgam of various aspects, a combination of different feelings.

The correlation between music being a non-representational art form and the way it elicits emotion is not yet fully fathomed. Yet the comparison between visual and aural stimuli has led theorists to believe that music eludes from the conscious preset of interpretation and takes effect directly in the listener's emotional percipience. Music is believed to sustain the anticipated impression of the film by adding an emotional «directive». These anticipations can be turned and twisted against what might seem an appropriate emotional reaction by altering the musical

72 Chion, “Projections of Sound on Image”, 114.
73 Brown, *Overtones and Undertones,* 27.

underscoring and thereby manipulating the spectator's emotional reaction. As Kathryn Kalinak exemplifies by analyzing the song «Stuck in the Middle with You», which underscores a torture scene in Quentin Tarantino's *Reservoir Dogs* (1992), the fusion of deliberately heterogeneous expressions in image and music can produce a quite precise emotional formulation, in the case of *Reservoir Dogs* (1992), the sadistic nature of Mister Blonde. Though in this case music functions in various ways, it also instills a certain emotional reaction in the spectator, namely compassion and identification with Mister Blonde. Instead of inducing compassionate feelings for Mr. Blonde's victim in the spectator, the music in this sequence evokes emotional attachment and engagement with a psychopathic torturer.[74] Thereby Kalinak demonstrates how music manipulates and alters the way we perceive visual and aural information.

The way «Stuck in the Middle with You» is deployed in the scene gives a powerful showcase of how music manages to circumvent our «natural» emotional reflexes of compassion for the victim and how filmmakers use music to induce a certain reaction in the audience, which is calculated beforehand. The connection and affection we feel towards characters and events, the identification taking place when we engage in the narrative, can be decisively informed by music.

74 Kalinak, *Film Music*, 1-8.

2. Technology and production practice today

2.1 Technological development and advantages

The digitalization of data content and music in particular has brought an unprecedented change to vast parts of creative and artistic processes. In terms of music production the means of the recording and editing were profoundly changed by digital sound. Not only did it bring a change in pace to production routines, it also opened up new ways of generating sound and altering it's capacities through filters and effects. Digital recording enables a much higher fidelity particularly in high frequencies and a vaster dynamic range. Earlier the layering of several dubs provoked signal interference and a loss of definition. The aspect of layering is one of the most important properties in digital sound used in film scoring and film sound. Combining a variety of sound layers such as dialogue, ambient sound and music the sound track of a film is heavily dependent on high fidelity dubbing. In a digital format layers of sound and music do no longer interfere and inhibit each other due to enhanced mixing and dubbing capacities. Thus the technological innovations not only changed the means of film scoring but arguably enhances and liberates the possibilities of composing, recording and collaborating in the business of film scoring.[1]

2.2 Distribution

As much freedom this technological revolution brought to the production process, the effectuation of digital sound in film distribution and screening facilities faced various problems and set backs in terms of marketing and technical conversion.

Digital sound was used in post-production by the end of the 1970s. The next decade gave rise to digital recording and rerecording in the film industry. Yet the technological level in theaters was far behind the state of the art. Due to the popularization of the CD in the 1980s and its superior properties in sound such as higher dynamic response and frequency, Dolby stereo's sound was paradoxically substandard in comparison. The problem posed to digital sound was though a spacial one.[2] Up until then the sound information had been located on the optical tracks but Dolby came up with a bold and smart solution: the digital information was digitally recorded on 35 mm film using the space between the sprocket holes. By these means, Dolby Labs was the first company to present a standardized digital sound format. In 1992 *Batman Begins* was the first film to be released in Dolby's new codec, Dolby Digital, also known as AC-3. Using a 5.1 channel system it provides five

1 Kalinak, Kathryn, *Film Music – a very short introduction,* (Oxford: Oxford University Press, 2010), 111.
2 Buhler, James; Neumeyer, David; Deemer, Rob *Hearing The Movies – Music and Sound in Film History* (Oxford: University Press, 2010), 393.

primary channels of audio: left, right, center, two surround channels. Additionally Dolby Digital features a channel for low-frequency effects as sub woofer.

Soon to follow was DTS, whose system was based on combining the film's visuals with the sound track recorded on CD. Adequate synchronization of film and soundtrack was ensured by embossing a time code on the film. *Jurassic Park* (1993) was the first film to feature DTS (Digital Theater System) at its release. The same year a third competitor, Sony, entered the new marked of multichannel digital theater sound. As Dolby Digital and DTS, Sony Dynamic Digital Sound (SDDS) was encoded on the film itself. Sony's encoding was first used on *Last Action Hero* (1993). In order to provide all three system options to theaters, films were released with Dolby Digital, DTS and SDDS codec on the film.[3]

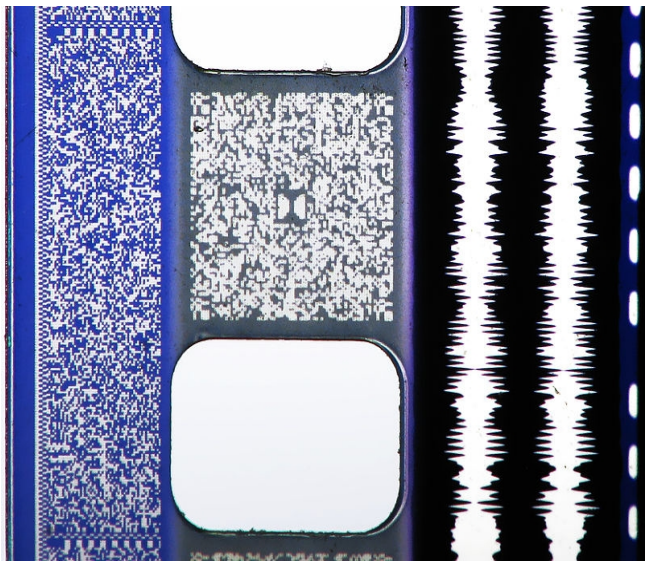

Fig. 2.2.1 Detailed close-up of a film reel showing different encoding and optical tracks
On the far left in blue, the SDDS code, between the sprocket holes, as shown with the little DD-emblem, Dolby Digital's encoding, further to the right two analog optical tracks in Dolby surround and on the far right in blue the DTS encoding for synchronization with the corresponding soundtrack on CD.[4]

2.3 Structural delays in marketing

Despite the introduction of digital sound in theaters and its developing range of competitors, the new technique had faced the same structural adversities as stereo sound had in the 1970s. Even though stereo sound had been introduced in wide-screen systems as early as in the 1950s, the

3 Ibid., 393.
4 Ibid., 394

majority of theaters didn't have the means to upgrade their technical equipment. This economical obstacle resulted in filmmakers' hesitation to embrace the advantages of stereo sound. Since filmmakers couldn't be sure, if their films would be shown in the proper stereo sound format – theaters' technical level varied greatly – they tended to be reluctant to use the format properly. Additionally the popularization of magnetic tape in the 1970s and its impact on sound design slackened the process of stereo sound conquering the market. Not until 1980 stereo sound, first introduced by Dolby, finally became widely spread as the technical standard of theater sound.[5]
The same phenomenon of a "frozen revolution" in technology distribution ensued when digital sound came along. Most theaters had changed their equipment to Dolby Stereo by the late 1970s. Now they had to change their equipment yet again to follow the technological advance of digital sound. Due to the mechanics of the film market, no production company will produce a film, no theater is able to play. No theater, no revenue ergo no production was the rational conclusion producers made, so again the eventual transfer in theaters from stereo to digital took its time.

Another issue for the film marketing of the 1980s and 1990s was the quandary two coexisting media formats posed. The prolonged success of magnetic tape, VHS cassettes, and the new CD format put film distribution in a double bind: on the one hand VHS was still the preferred format in private customer film distribution, a major income source to the film market. VHS home entertainment used a two channel stereo sound, which was congruent with Dolby stereo although quality was lessened. On the other hand the popularization of the CD and its superior sound properties forced the film industry to keep in pace with the quality levels of CD sound. So while film sound had to improve due to the CD's sound level, it also had to satisfy the VHS market, the home audience and revenues being much larger than those of theaters. When the change to digital sound in film production and theaters eventually came about, it caused profound shifts in the manner film scores were produced.

2.4 General changes in the process of scoring

Although digital recording and re-recording first came into practice in the early 1980s, where it started to modify the means of producing music, it was not until later, that it was standardized and brought major ramifications to the entire process of creating a film sound track. An essential advantage of digital sound in the working process is its non-linear workability. In a digital format a film (and its sound track) can easily be fragmented, selected and edited at whichever point needed. This also implies, that editors are able to work on the sound track of the entire film without having to deal with the individual reels of film as it was necessary in earlier stages of sound editing.

5 Ibid., 366.

Reworking the sound of an entire film was possible before digitalization, but it meant an enormous amount of effort and large budget to make such practice possible. Another crucial advantage of the digital format is its capacity of duplication. It enlarges composers' and editors' freedom to experiment with different versions and combinations of sound track layers without having to fear a loss of material or previous versions.[6]

In combination with the world wide web writing, recording and editing a film score can take place simultaneously on different locations. By these means, composers can direct and interact with an orchestra's recording session taking place literally on the other side of the world. Not only can this enable a quicker and less complicated interaction between all parties involved but often also a cut in production costs. Saving both time and money due to digitalization, most composers face much tighter deadlines in the post-production process as a consequence. The practical facilitation digital sound processing brought to the film industry was rather predictable, since earlier technological achievements had induced similar changes towards more efficiency. A different matter entirely is the alteration brought to the aesthetic realm of film scores.

The possibilities available through digital sound do change production conditions for film producers to the better. As much large film productions might gain artistically and financially due to digital sound processing, it is the smaller independent film makers and producers who might profit the most from the new found opportunities and ease enabled through digital editing. While large film productions command solid budgets, small independent production companies don't have the financial means to record a film score with a symphony orchestra or get licensing for popular songs. For instance the impression of a large orchestra can be mimicked by recording only a few musicians, e.g. strings, and layering several takes onto each other. Also, costs can be reduced since digital editing doesn't produce material discard and sound editors can work at a different speed than earlier. With the necessary software and knowledge at hand, a film can be edited, cut and scored by a single person using his/her personal computer at home.

Not only does digital technology change the practical and structural nature of film production, but also the aesthetic aspects of film. Digitalization's effect on the visual realm of film left aside, it has brought new prospects to how films sound today.

2.5 Changes in film sound aesthetics

On a technical level digital sound features a heightened control of the dynamic range. In the production process volume levels are easier to edit and to layer. At several points in sound production the dynamic levels can be accessed and changed. Although the dynamic range in a

6 Ibid., 403.

cinema is usually 0 to 105 dB, the entire dynamic spectrum is never used.[7] The crucial factor in creating an effective sound track is more a matter of sound and volume precision than mere high volume. Improved means of controlling and directing sound imply higher precision in "placing" the sound in a theater's surround system. This is particularly interesting in respect to off-screen sound and point-of-view sound. For instance hearing the voice of an actor, who is off-screen in the left back corner will give the audience a aural orientation and increase a sense of "being in the film".
Earlier sound formats like Dolby Stereo focused on the scale of frequency most needed, such as frequencies of dialogue, underscoring and so forth. Apart from offering better sound definition across the board, it is the high and low frequencies where digital sound really marks its superior sound properties. Highly defined upper frequencies convey a sense of proximity and thus intimacy to the audience. Generally speaking high frequency definition induces more liveliness and density in film sound:

> "If the sound tracks of recent films seem particularly "live", if the film worlds seem brimming with an almost uncontainable amount of sound, this is due in large measure to the presence of extensive high frequency sound."[8]

Since digital sound processing allows for more strands to be incorporated in the mix, later scores and sound tracks tend to have a thicker texture. The effect of thickening a score's texture is also a matter of register. If several strands share a close proximity in register, the texture of the piece will gain density.

Apart from extended technical possibilities like sound definition and dynamic range, these capacities are used to varying degree, often depending on the genre of a film. While definition and sound placement are important factors for films heavy on dialogue, for instance comedies or romances, action films are known to make prevalent use of the outer points of the dynamic range. Dramatic sound devices like heavy distortion, thick orchestration and textural density are used both in action films and dramas of various sorts. Another dramatic stylistic device is the use of dynamic contrast, often with a distinct stinger-effect. Of course some of these stylistic devices have been used in films long before digital sound came along, but most of them rise to unprecedented effectiveness due to refined sound quality. In the course of creating a film score there are various parties involved, who follow a certain division of labor.

7 Ibid., 39.
8 Ibid., 400.

2.6 The composer's time frame and setup

The *composer* is responsible for initial creative ideas for the score like themes and the structural build of the score. The concept behind a score is the creative realm of the composer although the musical execution of this concept is obviously key to a successful score. The composer sketches ideas, concepts and an overall vision of what the music should eventually sound like in the film. But the composer's job description varies greatly with the director's approach to scoring and the entire creative process of making a film. Therefore the composer might or might not have a say in how his/her music will be used in the film. Also, the process of orchestrating the score will determine how the music will eventually sound. Composers from "the old school" like John Williams or Ennio Morricone are known to provide very thorough sketches of scoring or even orchestrate and conduct their scores themselves, while younger generations of composers oftentimes don't have the musical skills to orchestrate or conduct their sketches, hence losing a certain amount of control over the final score.[9] Composers without classical musical training, lacking the skill of orchestration and sometimes even notation, are referred to a "hummers" in pejorative manner.[10] In large productions, the composer usually works with several co-composers or assistants, who for instance elaborate the timbral qualities of a piece, develop further pieces using the initial thread of themes provided by the composer and so forth. Although co-composers are often referred to as assistants, many contemporary composers work as a team with the signing composer being the eventual decision-maker. Such is also the practice of Hans Zimmer, who signed as the composer of the *Inception* score. He collaborates with several composers in his *Remote Control Studios*.

In terms of contracts and payment the today's composers in Hollywood are usually offered so called "package deals", also called "all-in" deals. This type of contract requires the composer not only to compose the score for a film, but also to record and produce the score. The agents hiring the composer for the production in question negotiate a flat fee with the composer, which settles all of the services provided by the composer. Another way to administrate the payrolls of scoring a film is to pay the composer a "creative fee" for merely composing the music. The orchestrators, musicians and recording personnel required for the score will then be paid separately. For the most part the "package deal" is more lucrative for the composer and the clear divide of responsibilities is convenient and less troublesome for both the producer and the composer. Since recording devices, personal computers and synthesizers became affordable, composers are able to create and record music without external assistance or even without musicians. This development led to many

9 Davis, Richard, *Complete guide to film scoring,*(Boston: Berklee Press, 2010), 109-10.
10 Kalinak, *Film music,*109.

composers establishing their own “home studios” and accepting package deals. Richard Davis explains:

> Since the biggest cost outside of the composer's fee is hiring the musicians and recording studio, when a composer accepts a package deal, they are often planning on producing most, if not all of the music electronically. Many high profile composers now accept deals like this. […] The advantage to the composer of a package deal is that if he works quickly and enjoys working with synthesizers and samplers, a good profit can be made. [...]The disadvantage is that the pressure of music production and the music budget is on the composer's shoulders. The reality of the film scoring business today is that in many instances, if a composer does not agree to the package deal, they will not get the job.[11]

Even though the “package deal” obligates the composer to cover a large part of the scoring expenses from the received fee, there are differences from deal to deal, which costs the composer has to pay and who is on the composer's payroll. The tasks usually taken care of by the producer's payroll are the music editing costs, the licensing of songs not written by the composer (e.g. preexisting music added to the score) their reuse or new use. The producer's payroll may also take care of other payments e.g. payments to union musicians and if a re-scoring of the film is necessary for creative reasons, which are not due to the fault or omission of the composer.[12] All these specifications are enlisted in the composer's contract and each paragraph is thoroughly negotiated by attorneys and agents in advance. The contract establishes the conditions of work and contains details like the maximum extent of the score in minutes and the number of live musicians employed for the recordings. It used to be a rule of thumb in budgeting films to invest 1,5 to 3 % of the entire budget in the score creation and production. With budgets up to $ 200 million this ratio is no longer deployed. Richard Davis estimates the composer's fee between $ 25 000 for a low budget production to $ 700 000 for an accomplished composer in a big budget production.[13]

Although the time frame for the composer can vary greatly from film to film, the production process usually puts its constraint on the composer's schedule. Since the film is normally handed to the composer in post-production, as a rough cut, the composer usually has about six weeks to compose before recording sessions start. As Kathryn Kalinak points out, production routines in the old Hollywood studio system gave the composer a window of three to six weeks to create the score

11 Davis, *Complete Guide to Film Scoring,* 213-14.
12 Ibid., 213-14
13 Ibid., 213-14

and so the time frame for composers nowadays is much the same.[14] Some composers are brought in earlier than the post-production stage and have thereby more time at their disposal to get familiar with the film, its concept and the mindset of the director. As in the studio system, accomplished composers often have the prerogative to demand more time for composing or generally set their desired time frames as a condition for collaboration. The time frame for composers has been tight since the studio system and anyone with a part in a film's post-production is confronted with the risk of the production schedule running late. This is a risk most composers face since they usually can't get to work until the film has been edited and locked, or at least edited as a rough cut.

With tight deadlines being part of the business of scoring and technology facilitating a high pace modus operandi, many composers write their scores sitting in front of a computer. A common setup for a composer consists of high performance processors, composition software and digital sample libraries. Richard Davis outlines two different ways to go about scoring a film in terms of working method. A composer who scores in the "traditional" style will take spotting notes at the spotting session and have the music editor create timing notes. Then the composer can sit down with the timing notes for each cue and create a sketch of music for the orchestrator with pencil and paper. Using the "non-traditional" way of scoring, a composer takes his spotting notes and sequences and adds his musical ideas by simply playing along to the film. If the music is to be electronic the composer will be assisted by the music editor and a recording engineer to record the music played in each cue. If the music is to be recorded by live musicians, the orchestrator will transfer the musical sketches recorded by the composer into musical notation. As Richard Davis points out the "non-traditional" way of scoring is quicker and thereby more suitable for the tight schedule many composers run on.[15]

Whether the task is to sequence a mock-up score or to write and notate the music to be played at the live recording sessions, the software available to composers today has turned many processes formally performed in analog manner with pencil and paper to a matter of computer skills. The most used software for composing and programming as of this writing is *Pro Tools* by Avid. Other programs commonly used for scoring are *Logic* (for Mac), *Digital Performer* (for Mac) and *Sonar* (for PC). Popular software specifically created for the notation of music are programs like *Finale* and *Sibelius*.[16]

Paramount for being able to sample a score is a vast library of samples, containing live recordings

14 Kalinak, *Film Music,* 94.
15 Davis, *Complete Guide to Film Scoring,* 82.
16 Ibid., 62-3.

of individual instruments. In contrast to electronic sounds generated by a synthesizer, a sample is a recorded live sound of an instrument, which can be arranged with other samples. By sampling a piece of music, a composer can not only record what he plays on e.g. the piano but also record a virtual orchestra playing the piece of music in the complexity envisioned. Basic libraries contain the sound samples of a classical orchestra, but oftentimes composers have to utilize more specialized sound and sample libraries in order to achieve the sound texture and timbre required for a score. There are also libraries, which only contain percussion samples, exotic instruments or other sound effects, which can help to enrich the texture and feel of a piece. Widely deployed libraries are the *Vienna Symphony Library*, *Garritan Personal Orchestra* or the *East-West Quantum Leap Symphony Orchestra*.[17] Most composers keep a variety of different libraries at their disposal. With one library using around 100 gigabytes of memory, it is obvious why home studios first became widely attractive when powerful computer processors and hard-drives as well as large memory hard-discs became available and affordable. Before digital sample libraries were employed, composers had *samplers* - outboard pieces of equipment, each one usually capable of producing a small number of instrument samples. Oftentimes one sampler was restricted to produce samples of only one instrument or instrument group.[18]

2.7 Division of labor in film scoring

Although the one mainly credited for a film score is usually the composer, there is a fine division of labor structuring the process of scoring a film.

The *music editor* can be regarded as the accountant of the music department. He or she is in charge of various tasks assisting the composer. The music editor is collaborating with both the director and the composer and has to attend to the wishes of both. This makes the music editor's diplomatic skills paramount for his/her work. The first responsibility of the music editor is to prepare the temp track according to the directives and wishes of the director. The music editor also takes spotting notes at the spotting session., which are then worked into the *Master Cue List,* a list containing all the timing notes (also called cue sheets) with detailed descriptions and timings as to where each cue has to be placed in the final cut of the film.[19] Also the music editor assists the composer in synchronizing music to film, for example creating the click tracks for each cue. At the recording session the music editor again functions as an accountant, keeping a log of each recorded take. Earlier the music editors had to use magnetic tape to perform the final dubbing, today this task is usually performed in the digital format: the music editor receives a digital file with all cues and

17 Ibid., 61.
18 Ibid., 58.
19 Ibid., 99.

"locks" them to picture, sound effects and dialogue according to the SMPTE time code.[20] The final task for the music editor in the production process is creating the *music clearance sheet* with all the music used in the final version of the film.[21]

The *music supervisor* usually deals with the legal affairs of a film's soundtrack. For instance it has become broadly popular within certain genres, to include preexisting songs by various artists or featuring a song, whose release is timed with the film's premiere. In those cases the music supervisor deals with the legal demands, licensing and other issues, which can make up a considerable part of a film production's spending. In order to budget these costs and deal with legal issues, the music supervisor is mostly involved in the pre-production stage of planning a film. In some productions the director chooses preexisting songs himself/herself, a famous example is Quentin Tarantino known for his eclectic choice of popular music. But regularly these choices are made by the music supervisor, who has an accurate idea of what the director wishes to achieve with the external music material. With women being widely underrepresented in the scoring business, the post of the music supervisor has become one of the niches for women. In today's Hollywood women are better represented than men in music supervision.[22]

Working closely with the composer is the *chief orchestrator*. Especially since electronic composing and mock-up scores have become common practice, the orchestrators' job is even more crucial to the production process than before the digital age. The orchestrator's job is very much the job of a translator: he converts the initial sketch of a cue, written on paper or sequenced by the composer, into the necessary orchestra format by spelling out each part for each instrument. It is the orchestrator's task to analyze the (usually) electronic score version provided by the composer and translate it into an actual orchestral score. This step marks the stage in post-production, where the score is polished and shaped to its final version. Therefore the orchestrator and composer cooperate on a close level before and during recording. At this stage, usually the crux of getting the score right, the music preparation supervisor makes up the third party in the process.[23] When the orchestrator has finished a part of the orchestral score, it is sent over to the music preparation office. In the old Studio system the office was part of the studio and was located on the premisses. Today, orchestrators and other music personnel are usually freelancers and the work loads are contracted out to various small companies and individuals.[24]

At the music preparation stage, the orchestral score arrives at the office cue by cue. A score can consist of up to fifty individual cues. Arriving at the music preparation office each cue is

20 Ibid., 94, 104.
21 Ibid., 104.
22 Kalinak, *Film Music,* 5-6.
23 Buhler; Neumeyer; Deemer, *Hearing the Movies,* 406-7.
24 Davis, *Complete Guide to Film Scoring,* 114.

differentiated into whichever instruments required. Firstly the cue is checked off on the Master Cue Chart to keep track of every cue during the process. So called *copyists* and *part extractors* segregate each instrument and make up the note sheets for each musician in the orchestra. After the sorting of score fragments is completed, the part extractor feazes each fragment's orchestral body into its singular strands and instruments. For each instrument the individual part is formatted and saved to the corresponding file in the database. Thus the score is first decomposed and then reassembled in order to be performed by an ensemble or entire orchestra. Since the late 1990s this work process has been transferred from handwritten to computer-supported work. Software like Finale or Sibelius help generate the notes for every cue. After the copyists and part extractors are done with the cue, a proof reader makes sure that each part for each instrument is coherent with the master score. After the cue has passed the proof reading, the music preparation supervisor checks it off as completed on the Master Cue Chart. [25] Before the recording session *librarians* take care of the printing and distribution of the notes for each musician. The librarians are also in charge of counter checking the notes on whether they belong to the cue in question and whether they are on the stand of the right instrument. The contribution of librarians becomes especially important when short notice changes are made under recording sessions. When the composer wishes to record a certain cue, the librarians check the Master Cue Chart if the cue in question is readily partitioned and printed.

As Richard Davis mentions, the music preparation team is often under extraordinary time pressure since its work is performed late in post-production. By the time the team gets to work, the entire production is often already behind schedule. This means a particularly high work-load within a shortened time span for the music preparation team.[26] The *music preparation supervisor* has to keep an overview and constitutes the link between the orchestrator and the composer. He or she is responsible for monitoring the progress of music preparation, making sure all cues are ready at their recording dates.

Finally the *conductor* and the *musicians* get to perform the score and record it, some parts in several versions. During the recording sessions the composer and conductor, who tends to work as the orchestrator as well, will take notes and may make alterations e.g. in terms of the music's texture or tempo.

2.8 Production phases

Making a film has a schedule divided into three phases: pre-production, production and post-production. Pre-production is the time span in which the producer organizes all the requirements of

25 Ibid., 115.
26 Ibid., 115.

production. This includes financing, hiring staff, supervising castings, setting up a schedule for shooting with the director et cetera. The initial impulse for making a movie can construct itself in different manners. Some films are the initiative of a single actor/writer/director. A book or play catching the attention of a screenwriter/director/producer, an actor passionate about an idea or a director creating a so called “treatment”, a sketch of the film, pitching it to a producer – there are many roads that lead to Rome. Often Hollywood films are initiated in a top-down manner: a producer's attention is caught by an idea or a screenplay, pitched to him, and then decides to make a project out of it. The producer sits with the financing of a film but it isn't necessarily his/her money, that is invested in the film's production.[27] Though some directors have made enough money directing successful pictures to produce their own films. Steven Spielberg is the most prominent example of a producer-director figure. The tasks of pre-production include legal allowances (e.g. the rights for a book or play), obtaining sufficient financing, hiring the main creative staff, hiring actors, scheduling, scouting for locations and eventually hiring the shooting film crew.[28] After the financing and organisatory tasks have been checked off and the screenwriter has edited and rewritten the script to the satisfaction of director and producer, the shooting script is signed off by all the parties involved and the actual production of the film can commence.

The production phase of a film usually takes several weeks up to a couple of months. Pre-production can take anything from a couple of months to years. The production involves rehearsals with actors, shooting the film, production of special effects and ADR (Automatic Dialogue Replacement). The editing of the shot material already starts in production and as the special effects department, responsible for animation and special effects photography, the editor team continues its work into the post-production phase of the project.

Post-production involves both editing and assembling the visual and the aural part of the film. In this phase the composer enters the picture. Even though the scoring can already start while the film crew is still shooting and the composer gathers ideas and sketches for the film's score, the major work load of the composer starts when picture editing is finished and the final visual version of the film is “locked.

2.9 Temp tracks

This is a track made out of preexisting music, that is supposed to give test audiences and production executives an idea of how the real score will sound like. For this, the music editor discusses the style (genre, rhythm, harmonies) and dramatic placement of music in the film with the director. The

27 Ibid., 68-71.
28 Ibid., 73.

director gives a rough idea and specifications of what the music should sound like and where to put it in the work-print of the film.[29] The reaction of the producers and particularly the test audiences gives the production team and the director important input on whether the music's style, placement and tone works or not. The temp track is crucial for what the composer will eventually come up with for the real score, since it provides musical guidelines and ideas. A prominent example of how the temp track influences the eventual score is given by Richard Davis:

> […] the temp track of *Titanic* was built from music recorded by the Irish singer Enya. Composer James Horner then had to adapt this kind of flowing, ethereal, New Age style to fit the action. Another good example is the temp track for *Star Wars*. This was Gustav Holst's 1917 classical piece *The Planets*.[30]

Temp tracking usually takes place halfway through post production. At the spotting session with director, producer and composer the music editor is responsible for taking spotting notes. The notes include the precise timing of each cue, where the music starts and ends and particularities discussed between director and composer: for example where a theme should be placed or stingers should hit within a cue. From these detailed spotting notes the music editor creates timing notes, also called cue sheets, with every cut, every shot and every word of dialogue spoken in a scene. The timing notes are necessary for the composer to find the exact spot where to put the music. Software programs like Cue help preparing the timing notes. As Richard Davis points out timing notes are unnecessary for composers, who prefer to play along to the video. In these cases a condensed version of timing notes, a list of sync-points in the film, will suffice.[31] In contrast to other working steps in film scoring, temp tracks are a quite recent development. In the earlier days of cinema, for instance, the Golden Age in Hollywood, there would be no temp tracks since it is a practice, which was technologically unavailable.

2.10 The spotting session

There are different approaches to the question where in the production process a composer starts working on the score. The production process of a film usually dictates a certain time frame and a tight setting of consecutive working stages. As for the composer, he or she can start sketching score ideas as soon as the the project is in motion, but the main decisions of score placement in the film are made after the film is shot and edited. The final visual version of the film is reviewed by

29 Ibid., 96.
30 Ibid., 96.
31 Ibid., 101.

director, editor and executive producers and after the version is agreed upon by all parties, the film is "locked".[32] As Richard Davis points out the stage of a film being "locked" is being somewhat loosened since digital editing makes it possible for the director or the editor to make further changes even though the film has been signed off and locked. This can provoke trouble for the composer since all scenes which have been re-edited will mean a change in the film's time and composition. Timing being crucial for the cohesion between a film's visual and aural part, the composer will have to re-edit his score version if the director decides to alter the film again.

After locking the film the spotting session takes place. It is a screening of the final version usually attended by the director, editor, producer, music editor and composer. All major decisions in terms of the score are made. In this screening it is determined where and how to use music in the film. Musical cues are set up as well as the music's tonal, timbral and dramatic properties required for the scene in question.[33] One of the crucial aspects of the spotting session are the decisions made about the dramatic cohesion between film and score. Since the individual scoring can both enhance and weaken the dramatic amplitude of a scene, it is important to thoroughly discuss each cue's timing, tone and intended dramatic effect. Also musical specifications such as style, instrumentation and the intended emotional impact as well as thematic connotations of the score are discussed throughout the session.[34]

It appears obvious, that this is the most important moment for the cohesiveness between a film's visual and musical expression. The spotting session is key to scoring the film in an effective and artistically coherent manner. The communication skills of composer and director are crucial for the outcome of the session and the film in general. The average number of cues in a film amounts to 40-50 individual cues, which in turn illustrates the painstaking process of "spotting" a film.

2.11 The mock-up score

A common practice for composers nowadays is to write a so-called mock-up score. This score is a mostly digitally produced prototype, a rough version of the final score to be recorded. Mock-up scores enable an early involvement of the director in the score and tighten the interaction between composer and director:

> Once a score is close to completion bit before it is passed on to the orchestrator, the composer will preview a mock-up score for the director's (and producer's) approval. (…) Because the stakes of the mock-up session are so high, composers often have to

32 Ibid., 74.
33 Ibid., 81.
34 Ibid., 89.

> spend as much time preparing the mock-up musical files as they do writing the score itself.[35]

Although it implies a considerable amount of preparation, the mock-up score practice has prevailed in film production. Playing the mock-up score to the director, altering and discussing it will also ensure the artistic unison between picture and music, themes in the film and the music. Since the mock-up scores are still subject to discussion with the music supervisor and the director, composers start writing a mock-up sometimes as early as having read a film's script.

In large film productions the composer will employ a staff of co-composers or assistants to work out different versions of a theme or develop further pieces on his/her behalf. On some occasions two composers collaborate on a score, for instance Hans Zimmer and James Newton Howard who co-operated on the score for *Batman Begins* (2005) and *The Dark Knight* (2008).[36]

Communication between composer, director and music supervisor varies greatly at this stage of the process due to individual work approaches. Some composers tend to keep in close contact with the director, exchanging ideas and options along the way, while others prefer to work in a more secluded atmosphere. After the composer has produced a mock-up score, it is reviewed by the director, producer and music supervisor. This is a crucial point in scoring a film since the mock-up can either be a satisfactory counterpart to the film's visual expression or disappoint the expectations of the producer and the director - sometimes both. Therefore an early exchange of thoughts and ideas between composer and director is paramount to create an aesthetic synergy between the score and the film. Mutual trust gained in a film project is often the start of long lasting director-composer collaborations. Prominent examples of this phenomenon are for instance Alfred Hitchcock and Bernhard Herrmann, Sergio Leone and Ennio Morricone, Luc Besson and Éric Serra, Ethan and Joel Coen and Carter Burwell as well as Tim Burton and Danny Elfman. After director and composer conclude discussing and changing the mock-up version, the score production moves to the phase of orchestration. This phase takes place in the film's post-production stage.

2.12 Orchestration

At the stage of orchestration, the composer presents the score in its provisional state to the chief orchestrator to review instrumental and orchestral solutions for the score pieces concerned. Since electronic scoring imitates the sounds of symphonic instruments, but for instance provides great liberties in distortion and range, this can be a difficult process. Surely, the recordings can be

35 Buhler; Neumeyer; Deemer, *Hearing the Movies,* 405.

36 IMDb, „Batman Begin“;„The Dark Knight“, source: http://www.imdb.com/title/tt0372784/fullcredits#cast ; http://www.imdb.com/title/tt0468569/fullcredits#cast (last access 20/11/2011)

digitally edited and layered, but the goal is to profit from the orchestra's bona fide and pristine qualities, such as the organic play of all individual musicians and the collective momentum of the group. It's paramount for the orchestrator to have a thorough knowledge of each instrument: its sound properties, its high and low range and its rhythmical and timbral compatability with other instruments. The orchestrator oftentimes has to add or rewrite several aspects to composer's initial sketch in order to make the cue sound right. With many composers lacking classical musical training, often recording what they play alongside the film rather than writing down notes, the orchestrator often has to make major decisions about how to convert an electronic cue's tonal and timbral properties to live instrument orchestration. In terms of composition the orchestrator might have to add harmonies and counterlines to a cue, if it lacks suspense or depth.[37] The work process of orchestrating nowadays takes place not on note sheets but on the computer. In addition to orchestration software, the orchestrator usually uses *Quicktime* snippets of the film, showing the visual and aural action of each cue. This makes it easier for the orchestrator to gain an overview of where stingers or themes should be in the cue and what other aural elements (ambient sound, sound effects and dialogue) need to be taken into account.[38] As mentioned the liberties of electronic composing can pose great challenges for the orchestrator, since not every texture and effect reached by electronic imitation can be copied with a real life orchestra. It is then the composer's and chief orchestrator's job to figure out viable solutions, either by arranging the orchestra in a certain way or settling the issue by electronically editing the recordings afterward.

2.13 Recording sessions

Actual recording sessions take place after the film has been shot. The preparation for those sessions sometimes starts even before the film goes into production. If brought into the project at an early stage, the composer might already have an idea which and how many musicians are needed for recording. After the score is filed and partitioned by the copyists and approved by the music preparation supervisor, the composer discusses recording personnel with the *music contractor.* They have to determine which and how many musicians are hired for the recording sessions. The contractor also books the studio and administrates the payroll and makes sure that the musicians' work conditions meet those given by the musicians union. The bookings are usually made a couple of weeks or sometimes even just days before the recording session. The recording studios are usually very frequented, so productions sometimes have to settle for the one slot available in the studio's schedule. This is why venues have to be booked as soon as the finishing of the score is

37 Davis, *Complete Guide to Film Scoring,* 113-14.
38 Ibid., 110.

within reach. It is crucial to the budget of a film, to run a tight schedule while recording. The contractor and the composer have to work out, when which segment of the orchestra records. They will try to sum up the cues that have to be played by the entire orchestra in one segment, while grouping together those cues who will be recorded with only a few instruments. Costing several hundreds US-dollars a minute huge costs can arise if having the entire orchestra in the studio. Although the efficiency of these professional sight-reading musicians is remarkably high, errors are sometimes made costing time and money.[39] Since the studio era it has been common to hire, for instance, five string players and record them several times to make the score sound like being played by an entire string orchestra. These tricks help save money and are used by smaller film productions as well as larger ones. Though some scores require an entire orchestra to play, it is usual to record several cues of the score with only a small group or certain segments of an orchestra.[40] An important factor is also the demise of large recording studios since the Golden Age. Many recording studios are simply not large enough to hold room more than a 90 piece orchestra.

Usually the recordings take place in 3-hour-blocks. When working for a feature film, the musicians are allowed to record no more than nine minutes of music within the three hours block. These regulations are set by the union in order to protect musicians from being exploited to the maximum within the given time frame.[41] It has become common practice to create an electronic pre-dubbing version of the score, which is the musical guideline for musicians while recording. In addition a click track is put on the pre-dubs and each of the cues, to give an aural orientation to the conductor and the musicians. These pre-recording tasks are executed by the music preparation supervisor, the music editor and the click-track operator.[42]

The recording sessions are attended by all the major people in the production. Recording the score is one of the last steps in post-production, only the dubbing stage and the “color correction”, authorized by the director, take place afterward. Present at the recording sessions are: the composer, the conductor (sometimes the composer conducts the orchestra himself), the director, the producer, the music editor, musicians, engineers and assistants of different departments. While previous generations of film composers tended to have a classical musical education and usually conducted the orchestra themselves, younger generations of film composers have varied musical background and few of them take the task of conducting during recordings.[43]

In the studio's control room sits the recording engineer, who is in charge of recording all the cues planned for the day. An orchestrator usually assists the engineer, helping to keep an overview

39 Ibid., 120.
40 Ibid., 120.
41 Ibid., 120.
42 Buhler; Neumeyer; Deemer, *Hearing the Movies,* 409.
43 Ibid., 410.

of the instruments to be recorded at each cue. For instance, if the next cue to be recorded is a violoncello solo, the engineer will have to set the recording levels in a certain way in order to record the solo in the best way possible.[44] When a cue has been recorded, the composer will discuss with the director and producer in the control room, take a look at the scene of the film with the respective cue playing. The director has to decide whether he accepts the cue as it was recorded or he wants to change something about the cue. These changes requested by the director can be marginal and easy to correct or they can necessitate a complete rewrite of the cue. [45]

Since the stage of recording is one of the last options to alter a film's expression, it is common that the director will request several changes throughout the sessions. This makes flexibility an essential asset of the composer's working style.[46] A composer has to be able to detach himself from his work to a certain degree in order to cooperate with the director who might have a different idea of how the film and score should interact. The preparation of temp tracks earlier in production, exchange of ideas at the spotting session and the creation of mock-ups help to minimize the risk of major disagreements at the recording stage.

Usually the recorded cues last no longer than three to four minutes, since the best way to record an orchestra is in one take. Although digital editing allows for major fixes after the recording, the multiple tracks recorded to cover the orchestra cannot be clearly separated since the sound track of e.g. the brass section can easily "bleed over" to the sound track of the string section. This is why at recording sessions the goal is normally to get the orchestra in one take. To minimize the possibility of errors and the loss of time, composers tend to stick to a three to four minute length of cues. For the same reason, longer cues are usually recorded in *segues* or *overlaps:* a long cue is cut into shorter pieces, these segments are recorded and edited together to one long cue afterward.[47] The approved cues are saved in several back-ups, to ensure that no take is lost. The recording engineer usually sets certain rough mix levels already while recording, sorting different sections of the orchestra such as woodwinds, strings and brass sections, into individual *stems*. Stems are sub-mixes, which are adjusted to the sound properties of each particular section.[48] Later on, while mixing the music, the usage of stems, will make work easier and quicker for the mixing engineer(s) (ideally the same engineer(s) who did the recording) since not each instrument has to be mixed individually. The stems also come in handy at the dubbing stage.

44 Davis*, Compete Guide to Film Scoring,* 119.
45 Ibid., 121.
46 Ibid., 122.
47 Ibid.*,* 122-23.
48 Ibid., 124.

The recording stage is always an exciting and nerve-wracking process since composer and director have to get it right and there are no second chances after the recording is done. Being an extremely sensitive and crucial point in the entire production process recordings are inclined to be a tense situation for all parties involved. This is the moment, where the score really shows its character and compatibility with the film. Recording sessions are also the point, where a film production's hierarchy really shows. All heads of the project – production, direction and scoring – are gathered in one room, each carrying a different concern of financial, cinematic and musical nature. This often causes conflicts of interest and can be a quite trying balancing act. More often than not, last changes are made during the recording sessions in order to optimize the merging of music and film. Here all personnel of score production are present to make changes as quick and thorough as possible. These final decisions on changes are made by the director[49].

Especially for the composer, the recording is a watershed, since now and again it occurs that a director rejects a score all together. It might also be the producer or the studio executives who decide to reject the score. The reasons for rejection can stem from various backgrounds: most of the time it is not the score's quality that's lacking. It can be an artistic issue, a lack of coherence between film and music or even just the personal dislike of someone who is in charge[50]. If a score is turned down, the composer is still paid, but a new composer is brought in to re-score the film. Obviously the decision to reject a score ensues major additional expenses for the producers. Also, the film is usually already running late in the recording stage, so to make another composer write a new score usually exceeds the time schedule for the project.

Examples of rejected scores to large productions are Howard Shore's score for Peter Jackson's *King Kong* (2005), which was eventually re-scored by James Newton Howard. In turn Howard Shore (and Peter Gabriel) re-scored *Gangs of New York* (2002) by Martin Scorsese after the original score by Elmer Bernstein was turned down. Despite the long and accomplished Hermann-Hitchcock collaboration, Bernhard Herrmann's score for Alfred Hitchcock's *Torn Curtain* (1966), was substituted with a score by John Addison.[51]

After recording sessions, the process moves on to music post-production: the music is mixed and then incorporated into the final version of the film. The latter task is performed during the final dubbing session.

49 Buhler; Neumeyer; Deemer, *Hearing the Movies,* 409.
50 Davis, *Complete Guide to Film Scoring,* 122.
51 Cooke, Mervyn, *A History Of Film Music*, (Cambridge: Cambridge University Press, 2008), 493.

2.14 Music post-production and final dubbing session

Before the score can be merged with other sound elements in the final dubbing session it has to undergo a line of adjustments. Following the recording sessions, the composer and the sound engineer will review the recordings. The selection of which take of the cue to use in the final version of the film is either made by the director in the recording sessions or while reviewing the takes with the sound engineer and the composer. The sound engineer will perform technical adjustments such as leveling frequency and editing sound balance at the mixdown studio.[5253] Since the film is often running late at this point in post-production, sound engineers are forced to start mixing the recorded cues while other cues are still being recorded. The average ratio of mixing is 10 minutes of music per day. [54] The establishing of stems or sub-mixes during recording facilitate an easier and quicker process in the mixing stage. The stems can be adjusted during the final dubbing session. If for example the levels of a string stem interferes with the tonal level of a voice during a cue, the string stem can be adjusted, so that the voice is clearly distinguished from the music. By being able to access the individual stems, the sound engineer isn't forced to alternate the mix of the entire orchestra. This practice saves a lot of time in the process.

> A sound palette that sounds natural and lets each voice or sound speak where necessary is the ultimate goal. Dubbing is the next to last stage in the entire film-making process, and it is actually the final stage of the creative process.[55]

Now all the aural and visual elements of the film are combined and mixed to desired measures. In large Hollywood productions three re-recording engineers will combine dialogue tracks, sound effects and the score to one sound track. The final dubbing session is performed in a purpose-built dubbing theater. Although executed by re-recording engineers, the composer, director and producer as well as other sound and editing staff are present at these sessions. Like the recording sessions, the final dubbing sessions are a high tension enterprise and stage for heated discussions. How the film will eventually sound like in theaters is determined here.[56]

52 Davis, *Complete Guide to Film Scoring,* 123.
53 Buhler; Neumeyer; Deemer, *Hearing the Movies,* 410-11.
54 Davis*, Complete Guide to Film Scoring,* 123.
55 Ibid., 125.
56 Buhler; Neumeyer; Deemer, *Hearing the Movies,* 411.

3. Inception – a musical analysis

3.1 Outline of analysis

In the following I'd like to take a closer look at *Inception* (2010) and the ways music is deployed in the film.[1] The aim of this analysis is to showcase the formal, narrative and emotional functions in film music, which I have discussed above. I have analyzed the entire film in terms of its use of music, yet I will limit the analytical part of this thesis to certain sequences and musical events of interest.

The reason I chose this film, is a combination of several considerations. Firstly, I wanted to analyze a film, which could stand exemplary for the commercially successful big budget films, which gross large sums not only on the U.S. market but also internationally.[2] Conceptually, the film is interesting since it fuses science-fiction elements, like a futuristic technology, with psychological concepts about the human subconsciousness and dreaming. Most importantly I chose *Inception* due to its score. Musically the score of *Inception* is representative for a tendency in film scoring, which employs a fusion of electronic sounds and classical instruments. Hans Zimmer, the composer of the score, ranks not only amongst the most productive and successful composers in Hollywood, but more importantly his work style seems to reflect the current developments in the scoring business. Like some of the most accomplished contemporary composers, Zimmer has his musical background not in a classical training but rather in pop music. Musically, *Inception* seems interesting, since it features non-diegetic music as well as diegetic music with a specific function rooted in the narrative. Also the extensiveness of the score and its dynamics are of analytical interest.

My analysis will focus on a central musical motif of the score and exemplify the formal, narrative and emotional functions by showcasing certain sequences. The music cited in this analysis was considered in respect to the identifiable pieces of the score, which were published as a CD, accompanying the film's release in theaters in July 2010.[3] In order to provide a framework for the following analysis, I will give a short synopsis of the film and outline its narrative in a segmentation. Additionally, I chose to consider the film in terms of genre and its psychological topics. Before elaborating on selected sequences and motifs of the score, I will give a general description of the soundtrack, its instrumentation and consider some of the statements on the score made by composer Hans Zimmer and director Christopher Nolan.

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1 *Inception* © 2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

2 According to imdb.com *Inception* (U.S. release date July 18th 2010) had an estimated budget of $160 million and grossed $820 million worldwide by November 14th 2010. 1 IMDb, „Box office/business for Inception“, source: http://www.imdb.com/title/tt1375666/business (last access 21/05/2012)

3 *Inception -Music from the motion picture, Music composed by Hans Zimmer,* ©2010 WaterTower Music.

3.2 Synopsis

The story of *Inception* (2010) is one of an elaborated heist. The story's main character, Dom Cobb, works as a contractor in the twilight realm of corporate espionage and has specialized in a particular trade of idea theft called extraction. The practice involves shared dreaming, which is facilitated by a technological dream device to which all participants of the shared dream are hooked up.

Extractor Cobb had to flee from the U.S. and desert his children because his wife Mal committed suicide and had made arrangements for Cobb to be persecuted for killing her in case Cobb wasn't willing to commit suicide alongside with her. Mal killed herself because Cobb had incepted the idea into her mind, that reality was a dream and the only way to wake up from that dream was to commit suicide. Cobb incepted this idea into Mal's mind when their experiments with shared dreaming led them to spend approximately fifty years in limbo dream space and Mal refused to exit the dream. Unintentionally the idea kept growing in Mal's mind after they both woke up from limbo and Mal continued to believe they had to kill themselves in order to wake up in reality. Thus she committed suicide.

Cobb is offered the possibility to return back home to his children, after trying to perform an extraction on business man Saito, who embarked on the attempted extraction in order to test Cobb and his skills. After this audition, Saito asks Cobb to incept an idea into the mind of Saito's main competitor Robert Fischer. In exchange for Cobb's services, Saito offers Cobb an unobstructed return home by virtue of his connections. Cobb accepts the offer and assembles a team of specialists to execute the job (see segments «Ariadne's introduction» and «Mombasa»). While preparing the undertaking, one of Cobb's team members, the architect student Ariadne, discovers that Cobb is haunted by his late wife in his dreams (see segment «Elevator to the memories»).

The preparational phase ends, when the team embarks on the same plane as Robert Fischer, giving them 10 hours to perform the inception on him. On the first dream level, a rainy city dreamed by chemist Yusuf, the team runs into trouble as armed Fischer's subconsciousness security personnel try to stop them. Thus the operation has to be executed quicker than anticipated. Saito is severely injured on the first level and Cobb tells Ariadne about the time he and Mal were stuck in limbo for fifty years. While Yusuf remains on the first dream level, the others continue into the second dream level, a hotel dreamed by Arthur, a loyal associate of Cobb. Again they are met by Fischer's subconsciousness security and Fischer and the team (except Arthur) leap into the third dream level, a fortress in a mountain landscape dreamed by Eames, the forger in Cobb's team. On this level, which lies yet deeper in Fischer's subconsciousness, the idea, which will make Fischer split up his father's empire, is supposed to be incepted. But before the final inception can take place Cobb's projection of his late wife Mal kills Fischer. Thus Cobb declares that the operation has

failed, but Ariadne proposes that she and Cobb can retrieve Fischer (and the injured Saito) from death by entering a fourth dream level, limbo. Entering limbo, an eery deserted metropolis, Ariadne and Cobb search for Mal and find her. Cobb admits to Mal that the idea, which made her commit suicide, came from him and he is able to let go of her. Ariadne has found Fischer and wakes him up from the fourth dream level by dropping him from the high building she found him in. On the third dream level, Eames leads Fischer to a room, where Fischer meets the projection of his dying father and the idea of splitting up his father's empire is incepted. On the fourth dream level Ariadne jumps off the building and wakes up on the third dream level, which location is blown up by Eames so all dreamers wake up on the second dream level. There, Arthur induces the sense of falling on the team, which gives them the jolt to wake up on the first dream level. On the first dream level, Yusuf drops the team by driving the van the team sits in off a bridge. Five minutes in reality translates into one hour on the first dream level and the effect is compounded by each additional dream level, so the process of waking up the team on each level has to be synchronized while acknowledging that time passes faster the further down the dream level is.

The only two team members remaining on the fourth dream level are Cobb and Saito. After Cobb convinces Saito to kill both of them in order to wake up, Cobb wakes up on the plane where the rest of the team and Fischer have already woken up. The inception was successful and Saito arranges for Cobb to pass through U.S.- immigration without a problem. Cobb rejoins his children at home and yet some doubt is left if he is back in reality or still dreaming.

3.3 Segmentation

Opening titles	(00:00:00 – 00:00:39)
Prelude (Cobb and Saito in limbo)	(00:00:39 – 00:02:48)
The Audition	(00:02:48 – 00:22:07)
Ariadne's Introduction	(00:22:07 – 00:35:03)
Mombasa	(00:35:03 – 00:45:45)
Preparations	(00:45:45 – 00:54:14)
Elevator to the Memories	(00:54:14 – 01:01:22)
The Inception	(01:01:22 – 02:14:19) [45]

- first dream level: Yusuf's dream (01:04:07 – 02:14:19)
- second dream level: Arthur's dream (01:25:22 – 02:14:19)

4 The time span of the inception and its respective dream levels are given in Cobb's perspective, since him and Saito are the last ones to emerge from dream space.

5 See also appendix: *Fig.3.3.1* Schematic illustration of dream levels

- third dream level: Eames' dream (01:37:25 – 02:14:19)
- fourth dream level: limbo (01:54:52 – 02:14:19)

Home to reality? (02:14:19 – 02:20:25)

End titles (02:20:25 – 02:28:03)

3.4 Inception and genre

The action genre, into which the film can be classified, is prone to extensive use of music. *Inception* also features traits that can be located in other genres such as the science fiction genre, *film noir* and the heist movie genre. The concept of sharing dreams and to break into someone else's subconsciousness is fictional yet scientifically possible in the film's diegesis. With its plot revolving around a group of people trying to pull off an intricately planned crime, Inception also bears central traits of a heist movie. The character of Mal appears as an attractive and seductive yet manipulative and malevolent figure in the dream space and is a version of the typical *femme fatale* central to *film noir*. The overall manner of editing, dramaturgy, character drawing, color palette[6] and use of music indicate towards the action genre, although the emotionally laden theme of regret and reconciliation is sooner to be found in love or family related drama film. The film makes references to different film genres as well as particular films. Apart from *film noir*, heist movies and science fiction, the film also features chase-sequences with the one taking place on skis in the mountains being particularly reminiscent of James Bond-films such as *The Spy Who Loved Me* (1977). In his analysis of the film, David Bordwell states that *Inception* draws its motivation primarily from genre and its reliance on *«commonsense realism»*.[7]

3.5 Characterization and emotion - psychological topics in *Inception*

The emotional core of the plot in *Inception* (2010) revolves around the feeling of guilt and regret, which are attributed to the main character Dom Cobb and the relationship between him and his late wife Mal. The issue of regret is vocalized in phrases, which are central and are citated by Dom Cobb and Saito in different segments of the film.[8][9][10] Cobb feels responsible for his wife's suicide and the subsequent desertion of his children, he was forced into due to legal persecution. It can be

6 Bordwell, David; Thompson, Kristin; *Film History – second edition,*(Boston: McGraw-Hill, 2003), 687.

7 „Observations on film"; David Bordwell, „Inception or dream a little dream a little dream within a dream with me", source: http://www.davidbordwell.net/blog/2010/08/06/inception-or-dream-a-little-dream-within-a-dream-with-me/(last access 19/05/12)

8 «Do you want to take a leap of faith or become an old man filled with regret waiting to die alone?» Saito to Cobb (00:21:13)

9 Cobb:»Limbo is gonna become your reality. You're gonna be lost down there so long, that you're gonna become an old man...» Saito:»...filled with regret.» Cobb: »...waiting to die alone...» (01:13:38)

10 Saito: «I'm an old man.» Cobb: «...filled with regret...» Saito:»...waiting to die alone...» (02:16:05)

argued that the psychological topic of regret is musically echoed by the song *«Non, je ne regrette rien»* (directly translated: «No, I don't regret anything») sung by Edith Piaf, which has a central function in Cobb's working routine as an extractor. In turn, the psychological topic of reconciliation, a possibility to resolve emotions of guilt and regret, is mainly broached in the depiction of the relationship between Maurice Fischer and his son Robert Fischer, Cobb's target. While planning the inception of the idea into Fischer junior's mind to break up his father's corporate empire, Cobb explains to his team that a positive notion is more potent and easier to plant than a negatively laden idea. Cobb voices the wish of reconciliation as a central motive for everyone.[11] In his private life Cobb also seeks reconciliation, both in form of the anticipated reunion with his children in reality and in form of his anticipated detachment from his projections of his late wife in dream stage and forgiveness towards himself.

The emotional topics are voiced throughout the film. Although it is not suitable nor appropriate to assign certain musical motifs exclusively to these emotional poles of the plot, there are motifs which are prone to appear alongside a certain emotional topic depicted on screen. Other pieces of the score appear more as filling material on the soundtrack than clearly phrased musical motifs. In the following I shall discuss the score of *Inception* and its essential segments and analyze their musical structure and deployment in the film.

3.6 Elements of the soundtrack and the score

In order to document the use of music in *Inception* sufficiently, I have reviewed the film and assembled its musical cues, sound elements and points of action in a time line.[12] Summing up the use of music in a general manner, it can be stated, that the film features musical underscoring in approximately 80 % of its total running time of 2 hours and 28 minutes. The extensive use of music in the film can be considered in respect to the film's action genre. In terms of style, characterization, manner of exposition, the film can at large be considered a heist movie with strong action elements. Due to the constant drive of suspense and the narrative's focus on dramatic events, films within the action genre are likely to feature large spans of scoring in order to add dramatic momentum to the action on screen.

As Peter Larsen points out, some types of film scenes are less likely to feature musical accompaniment than others, dialogue scenes being one of them.[13] Although the dialogue underscoring in *Inception* is barely audible in some scenes, the music tends to linger during dialogue. One can reckon that most of the low volume underscoring in the film, even hard to detect

11 Cobb: «We're all here for reconciliation. Catharsis.» (00:50:40)
12 See appendix: ii *Inception* - time line and musical cues
13 Larsen, Peter *Filmmusikk*, (Oslo: Universitetforlaget, 2005), 210.

when listening closely, is not consciously heard by the common audience, which is inclined to pay more attention to the visual part of the film and the dialogue. In combination with the extensive use of music in the film, the dialogue underscoring functions as a means to suggest continuity in the film. Throughout the film but particularly the last third of the film features prominent sound effects. The soundtrack also exhibits sound effects, that show a distinct departure from a realistic sound scape congruent with visual events. Such sound effects include for instance the unnatural prolonged reverb of a wine glass breaking (00:58:53). The film features numerous scenes of slow-motion, which are mostly accompanied by sound effects in very low pitch reminiscent of the decelerated recording of a sound. Sound advances of speech are frequently used as well as dialogue underscoring. For instance, a sound advance is featured in a scene of the preparation segment of the film where the image shows Ariadne and Arthur going through the architectural models of the dream levels. Although we see Ariadne explain something to Arthur we do not hear her voice. Instead we hear Eames and Cobb in a conversation, which takes place in the scene succeeding the scene with Ariadne and Arthur (sound advance 00:53:23 – 00:53:28). The sound advance (and its opposite the sound lag) can be used to compress a sequence and serves, much like music, as a formal transition device on the aural level.[14] The scene mentioned above illustrates Ariadne's and Arthur's preparation on the visual level as well as exposing Eames' and Cobb's strategy plans on the aural level. Sound advances are primarily used in the preparation segment (see 3.3 segmentation), which seems logical since the preparations are shown as a collage of different meetings and try-outs over a presumable time span of weeks and sound advances are employed to condense and unite the different cuts and information given in the sequence.

Apart from the case of the chanson *«Non, je ne regrette rien»* sung by Edith Piaf[15] (and the radio playing in a hijacked cab (01:04:55)[16]) the film features no music that stems from within the diegesis. In many cases the musical underscoring fades in on a level of low volume and develops into a multi-layered texture of different beats and sound elements that builds up and dissolves again but is unbroken in its continuity. Oftentimes the music appears to be a continuous musical thread into which different motifs are interwoven consecutively.

The score features several distinct musical ideas, which are connected to certain characters. For instance the musical motif of *Waiting For A Train* is assigned to Mal and Cobb, while the motif of *528491* is connected to Robert Fischer and the relationship with his father Maurice Fischer and his godfather Browning. Though it becomes attached to the main character Cobb, the musical motif

14 Buhler, James; Neumeyer, David; Deemer, Rob *Hearing the Movies – Music and Sound in Film History* (Oxford: University Press, 2010), 93-4.

15 *"Non, je ne regrette rien",* written by Charles Dumont and Michel Vaucaire, performed by Edith Piaf

16 *"Aboun Salehoun"*, written by Youssef El Mejjad and Pat Jabbar, performed by Amira Saqati

of *Time* serves a purpose exceeding the assignment to character. It occurs both at the very beginning and the very end of the film and can thus be considered a musical bracket ushering the spectator in and out of the diegesis. The motif also plays an important part in the course of the film: it occurs in several variations in the pieces *Half Remembered Dream, Dream Within A Dream* and *Paradox* as well as in the piece *Waiting For A Train.* As I will show later on in this chapter, the *Time*-motif is employed at crucial points in the narrative and signposts the course of catharsis the main character Cobb is undergoing. The piece *Waiting For A Train* includes a range of musical elements also found in other pieces of the score, including Piaf's *«Non, je ne regrette rien».* The score also includes a percussive «action» theme (*Mombasa*), which accompanies the sequence of Cobb being chased through the alleys of Mombasa (00:37:19 – 00:39:20). The piece *One Simple Idea* is not only featured in the scene of Ariadne's introduction, which I will discuss later on, but the ostinato playing in the piece can be considered the «workhorse» of the score, since it is frequently used in other scenes as an unobtrusive underscoring to sustain a certain level of business and continuity. The piece *We built our own world* is primarily used in flashbacks to Cobb's and Mal's time in limbo and in the segment "Elevator to the memories" (see segmentation). The piece is largely used as an underscoring for voice-overs. *Old Souls* is a spherical piece and is very similar to the beginning of the piece *Waiting For A Train*, which is why it was hard to distinguish between cues of *Old Souls* and *Waiting For A Train*.

In the last segment of the film a condensation of musical ideas comes into play. Starting with the confrontational conversation between Cobb and Mal a musical dramatic build-up ensues, lasting for 15 minutes (02:02:43 – 02:17:16). This build-up features the pieces *Waiting For A Train, 528491, Dream Is Collapsing* and *Paradox.* The final 10 minutes of the film from the point where Cobb wakes up on the plane (02:17:16) is underscored by *Time,* which follows its own dramatic build-up. The pieces I referred to thus far, are all featured on the soundtrack album of the film, except *"Non, je ne regrette rien".* In addition to those pieces, the film also features several ambient tracks, some vague and some more distinct in musical articulation. Unfortunately these pieces cannot be accounted for properly in this analysis, since they cannot be clearly defined.

In general the score of *Inception* features a few distinct motifs, which are employed throughout the film as well as certain musical ideas, like the ostinato of *One Simple Idea*, which are extensively used in the film. Additionally to the score composed by Zimmer, the film features a piece of preexisting music, Edith Piaf's *«Non, je ne regrette rien»*, which is assigned to a concrete function within the diegesis. Apart from featuring a distinct «action» piece, the score is largely reliant on pieces with slow tempo and a rather solemn character. In the following I will consider the score's instrumentation as well as statements on the scoring process made by composer Hans

Zimmer and director/writer Christopher Nolan.

3.7 Instrumentation and the process of scoring *Inception*

The instrumentation of the score of *Inception* stretches from classical instruments like strings and brass to modern instruments such as the electric guitar and the synthesizer. The score includes pieces, which rely heavily on percussion such as *Mombasa* and pieces which fuse orchestral strings and brass with electric guitar riffs and electronic sounds such as *Dream Is Collapsing*. Particularly noteworthy is the prominent use of a large brass section in the score. Composer Hans Zimmer explains:

> "I booked the biggest craziest brass section, I think, ever assembled in a studio: six bass trombones, six tenor trombones, four tubas in the middle and six French horns above." [17]

> "I don't think people realize, that this probably the loudest music ever featured in a movie throughout."[18]

Brass, such as French horns, trombones and trumpets traditionally bear heroic connotations, in the tradition and convention of Hollywood that is.[19] In *Inception* the extensive use of brass can be considered under various aspects. Firstly, there is the traditional aspect, which implies that an audience accustomed to Hollywood film is likely to have heroic associations when brass is played in a certain manner. Secondly, this choice of instrumentation leads back to the composer, Hans Zimmer, who has used brass extensively in other scores before, such as his scores for *Batman Begins* (2005) and *The Dark Knight* (2008) (in collaboration with James Newton Howard). Thirdly, brass is verbatim in timbre, so that it also can induce a sense of suspense and danger. A legendary example of this capacity of brass is John Williams motif for the shark in *Jaws* (1975), which was composed for bass and trombone.[20]

A less conventional choice in the score's instrumentation is the electric guitar. Not being a rock score and lacking other instruments commonly related with the electric guitar, the instrument becomes an alien and thus particularly prominent entity of the score. Concerning the process of composing, Zimmer is known to deliver remarkably precise mock-ups for his scores. Mock-ups, as

17 Youtube.com, "Hans Zimmer – Making Of Inception Soundtrack", interview quote Hans Zimmer (my transcript); source: http://www.youtube.com/watch?v=W1FIv7rFbv4&feature=related (last access 27/5/2012)

18 Youtube.com, "Hans Zimmer talks Inception Part 4 of 4". interview quote Hans Zimmer (my transcript); source: http://www.youtube.com/watch?NR=1&v=t1bKiqxP6DI (last access 27/5/2012)

19 Kalinak, Kathryn, *Film music – a very short introduction,* (Oxford: Oxford University Press, 2010), 14.

20 Kalinak, Kathryn, *Settling The Score*, (London: The University of Wisconsin Press, 1992), 190.

described above, are the second stage of scoring a film after having created temp tracks from preexisting music. In the case of *Inception*, it is likely Nolan and Zimmer used music material from their previous collaborations, the Batman-films, to create the temp tracks for *Inception.* Thus some of the timbral and textural aspects of the *Inception*-score are strikingly similar, for instance the way brass sounds and the textural qualities of electronic sounds. This might also be due to Zimmer's personal preferences and style, but once temp tracks are created, their effect on the eventual score cannot be underestimated.

In terms of musical motifs in the score, some motifs are featured in varying instrumentation such as the *Time*-motif, which appears in strings, piano and electronic sounds. The motif featured at the beginning of the piece *528491* is only played by in strings and brass and occurs only in scenes addressing the character of Robert Fischer and the relationship he has with his father Maurice and his godfather Browning. The motif is also played by a single cello. Although parts of the score are recorded with live musicians, all of the pieces also feature electronic sounds and timbres as well as electronic alterations and distortions. Concerning the composition and production of the score, Zimmer states that he created the pieces completely electronically and reversed the initial purpose of synthesizers to imitate real instruments.

> «We took things that were created completely electronically, these ambiances, these atmosphere tracks and put them in front of the orchestra and said: OK, now. I want the orchestra to go and imitate - synthesize electronic sounds.»[21]

> «Synthesizers where always misused for imitating acoustic instruments so on this one we did it the other way round. We do these very elaborate electronic things and then notate them and tell the orchestra to imitate the electronics. So this artificial world would be made up by human organic play which seemed to fit in with the idea of dreams.»

The collaboration between Hans Zimmer and director and writer of *Inception* Christopher Nolan already began before the film was shot in the period from July 2009 to mid-November 2009. Nolan has stated that he encouraged Zimmer to write freely before the score would be matched to the film's specific scenes and cuts. While Zimmer as credited as composer, a total of sixteen artists, assistants and engineers are credited in the musical department of the film, for instance: Bruce Fowler credited as orchestrator, Mel Wesson credited for ambient music design, Mark Wherry credited for digital instrument design, Geoff Forster credited for score coordinator and Lorne Balfe,

21 Youtube.com, "Hans Zimmer – Making Of Inception Soundtrack", interview quote Hans Zimmer (my transcript); source: http://www.youtube.com/watch?v=W1FIv7rFbv4&feature=related (last access 20/5/2012)

credited for score production and additional music.[22] A musician of distinction, who collaborated on the score of *Inception* is Johnny Marr, guitarist of *The Smiths*, who contributed the guitar elements to the score.[23]

Concerning the final dubbing stage, in which the film's different aural elements are mixed and mastered, Zimmer has stated that he didn't participate in the sessions and that it was Nolan, who decided to increase the dynamic levels of the music in the film to the extent evident in the final version of the film[24]. Nolan describes Zimmer as a minimalist composer with a maximized production sense, meaning that Zimmer's musical ideas are simple and concise whereas his style of recording them and producing them turns those simple ideas into a «colossal» scale.[25] One can appreciate Nolan's point when taking a closer look on the way the *Time* motif develops in the piece, and gains range by means of orchestration (piano to strings to horns), distortion (reverb, electronically devised alterations) and dynamics (continuous crescendo). Concerning the last forty minutes of the film, which features one long arc of dramatic build-up, Nolan states:

> «[...] there is a point where, particularly on reel six and seven where [...] we just let the music take over everything. We'd make them turn the music louder and louder and louder, because you realize that the momentum of the film is entirely defined by the structure of the music as the film snowballs towards the end.»[26]

The general instrumentation of the score can be described as a fusion of classical instruments such as strings, brass and piano and synthesized electronic sounds and textures. While the classic instruments and the live-play of them brings an authentic element to the score, the electronic sounds and distortions, add to the textural and timbral diversity of the score. One musical feature in the score, is the distinguished fanfare of brass, which grows prominent towards the finale of the film and is also featured in the underscoring of the film's opening titles. This double fanfare is derived from decelerating Edith Piaf's *«Non, je ne regrette rien»* and extracting it.[27] Although this anecdote is very popular amongst *Inception*'s large fan community and has been confirmed by Zimmer, the assumption circulating, that the entire score is based upon this, is absurd and erroneous.

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22 Youtube.com,"Hans Zimmer talks Inception Score, Part 4 of 4". source: http://www.youtube.com/watch?NR=1&v=t1bKiqxP6DI (last access 27/5/2012)

23 End credits, *Inception* (02:27:15)

24 Youtube.com,"Hans Zimmer talks Inception Score, Part 4 of 4". source: http://www.youtube.com/watch?NR=1&v=t1bKiqxP6DI (last access 27/5/2012)

25 Youtube.com, source: http://www.youtube.com/watch?v=W1FIv7rFbv4&feature=related (last access 28/5/2012)

26 Youtube.com, source: http://www.youtube.com/watch?v=V6pq7ODR6PY&feature=related (last access 27/5/2012)

27 nytimes.com, „Hans Zimmer extracts the secrets of the Inception score", Source, (last access 23/04/2012) http://artsbeat.blogs.nytimes.com/2010/07/28/hans-zimmer-extracts-the-secrets-of-the-inception-score/

3.8 *Time*

Fig. 3.8.1 Cobb and his spinning top totem, close-up of totem

3.8.1 The *Time* motif

The piece called *Time* elaborates an eight-bar motif, which can be considered to be the most central musical motif of the score. This eight-bar-nucleus continuously appears throughout the film and occurs in several variations. Although it appears in other pieces of the score, the motif is most elaborated in the *Time* piece, so I will call it the *Time*-motif for practical reasons. The *Time*-motif is closely linked to the central character Cobb and the emotional process and catharsis he undergoes in the course of the film. Other pieces of the score, *Half Remembered Dream, Paradox, Dream Within A Dream* and *Waiting For A Train* also feature versions of the *Time*-motif shown below.

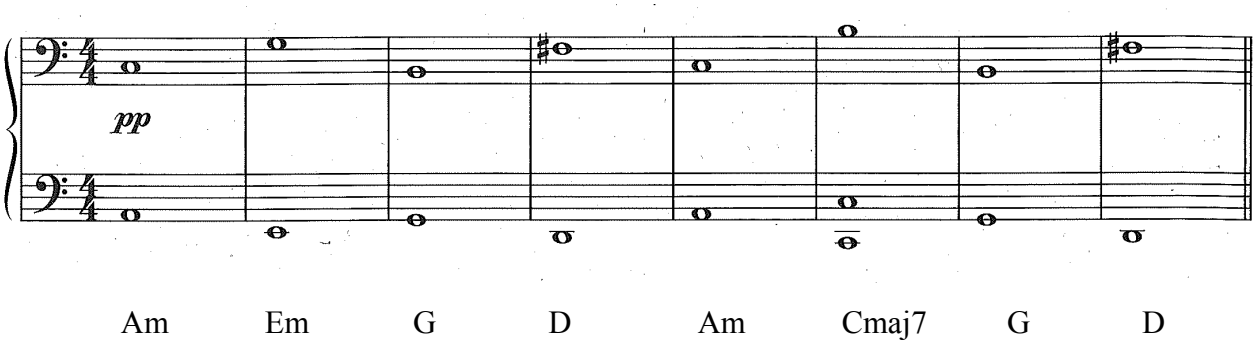

Fig.3.8.1.1 *Time*, notation for piano – first eight bars

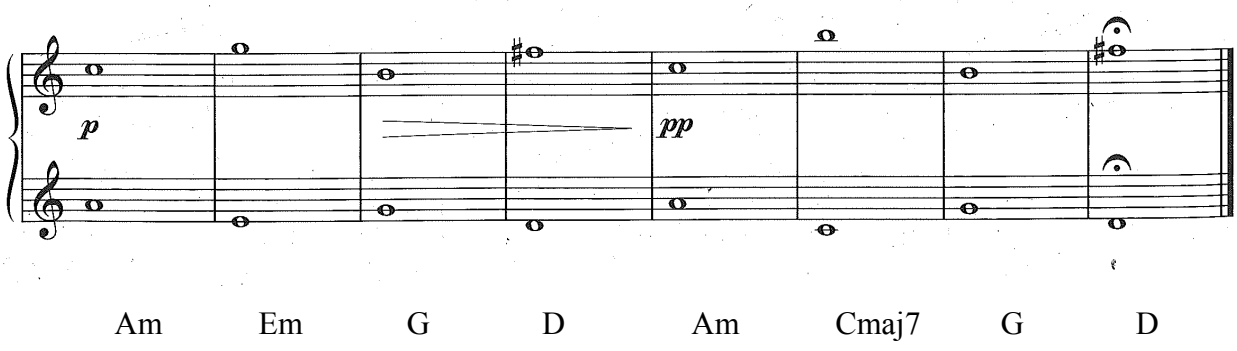

Fig.3.8.1.2 *Time*, notation for piano – last eight bars

The succession of chords in the *Time*-motif are A-minor, E-minor, G-major, D-major, A-minor, C-major-7, G-major and D-major. In terms of harmony the *Time*-motif has its harmonic pivot point in the sixth bar, the chord Cmaj7. Am and Em constituting a minor third and G and D constituting a major third, the replacement of Em through Cmaj7 in the second part of the motif, poses a departure from the previous alignment of chords (Am, Em, G, D) and can therefore be considered a harmonic source of tension, which is subsequently relieved as the alignment returns to its already established pair of chords, G and D.

3.8.2 The *Time* piece

The *Time* piece of the score elaborates the *Time*-motif. Throughout the entire piece the *Time*-motif is continuously repeated and built up both in orchestration, dynamics and rhythmics. The *Time*-piece is based on quarter notes. The rhythmic density is strengthened by a quarter beat that is heard in low pitch and soft muffled timbre at the beginning of the piece and gains volume and distinction throughout the piece. In terms of orchestration the piece builds up with each eight-bar-segment. Firstly the chords are played as whole notes in two voices by piano, only accompanied by the muffled beat mentioned above. In the second eight-bar-segment strings in low pitch play alongside the piano in three voices alternatively four voices.

In the third segment horns join in and the beat grows more distinct. Horns and strings formulate a melody, which is harmonically congruent with the basic eight chords. In this third segment strings in high pitch set in to emphasize the sixth chord Cmaj7 and the subsequent resolution in G and D.

In the following segments a significant rise in dynamics comes into force and the orchestration gains range, the beat grows more distinct, emphasizing the first, third, fifth and seventh beat and an E-guitar line sets in, playing half notes and heightening the textural density of the piece. An accentuated quarter beat played by low-pitched strings adds to the dramatic gravity by accentuating rhythm and increasing the volume. In the seventh segment, distinct high-pitched horns set in and layer over each chord of the *Time*-motif. This phase can be viewed as the orchestral and dynamic climax of the piece. In the subsequent part, the orchestration breaks down to high-pitched strings and piano, playing the chords in two voices. In the last part of the piece only the piano is heard playing the chords in two voices and whole notes. The last chord is distorted into a compressed high-pitched sound of the upper voice with a timbral quality of contact noise. It grows to high volume in a quick crescendo and ends very abruptly.

3.8.3 The *Time*-motif in *Inception*

The version of the *Time* piece, as described above, appears only once in its entirety when it plays throughout the final minutes of the film (02:17:16 – 02:20:53). But the *Time*-motif appears in different versions and at a number of other occasions throughout the film.

One version of the *Time*-motif is heard during the opening titles of the film (00:00:03 – 00:00:22). The piece *Half Remembered Dream*, starts with the *Time*-motif in high pitch, played by a piano and accompanied by a spherical sound, lingering and as well in high pitch.

After the opening titles, the *Time*-motif appears again when Cobb spins his totem (a spinning top) in order to assure that he is back in reality (00:33:56). Simultaneously to the onset of the *Time*-motif, a voice-over of Arthur and Ariadne is heard, as Arthur explains to Ariadne the concept and nature of a totem.

A fraction of the *Time*-motif appears in a short variation interwoven with the prevalent music of the scene, when Ariadne confronts Cobb about the fact that he can't be the architect of dreams anymore since his projection of Mal will sabotage the dream. Cobb explains his wish to get back home and that he can't go home because the U.S. jurisdiction thinks he killed his wife (00:49:36 – 00:49:49).

The *Time*-motif occurs again in high-pitched strings when Ariadne follows Cobb into his memories (see segmentation «Elevator to the memories»). The motif in high strings underscores a conversation between Mal and Cobb, until Mal looks at Ariadne and a stinger with metallic timbre hits (00:55:28).

The motif also occurs when Ariadne takes the elevator down to the basement of Cobb's memories. There, she meets Mal in a hotel room at the night of her suicide. The onset of the *Time*-motif is cued with Mal's question «How could you understand?! Do you know what it is to be a lover?» and lasts throughout her remark about «waiting for a train» (00:59:15 – 01:00:04)[28]. The remark about «waiting for a train» is important in the narrative as I will illustrate later on. The musical cue lasts until Mal attacks Ariadne and two stingers with low-pitched brass in high volume hit (01:00:04).

Towards the film's dramatic climax the *Time*-motif appears again as Cobb and Ariadne enter the fourth dream level of the inception, limbo. The course of action is underscored by the piece *Dream Within A Dream,* which extensively employs the *Time*-motif (running time 01:57:10; track time *Dream Within A Dream* 03:00). With the cut to Arthur of the second dream level, orchestration gains range as strings and piano set in to accompany the horns playing the motif (running time

28 Mal: “You're waiting for a train. A train that will take you far away. You know where you hope this train will take you. But you don't know for sure. But it doesn't matter. How can it not matter to you where this train will take you?” Cobb: “Because you'll be together.” (00:59:33 – 00:59:55)

01:57:27). With a cut back to Cobb and Ariadne, guitar strings set in playing a variation of the motif in an ostinato form (running time 01:57:50).

As Ariadne and Cobb walk into a building, high-pitched strings set in to accompany the motif. The high-pitched strings grow in volume when the bar in Cmaj7 is played. With the next bar the image cuts to Eames fighting guards and the music volume jumps to a higher level of volume (01:58:38). With this cut a beat sets in to accompany the playing motif and accentuates the rhythm of the music. The image then cuts to Arthur on the second dream level and the rhythm is taken over by low-pitched strings. Yet again, the bar of Cmaj7 and its resolution in G and D is accentuated by horns playing Cmaj7 with a distinct crescendo and sustaining the volume during the following two chords (01:58:58). The music gains textural density as strings in high tempo add another layer to the music (01:59:25). The dramatic underscoring echoes the gravity of Cobb's remark to Ariadne: «There is something you should know about me. About inception.».

Cobb and Ariadne have reached the flat to which they were headed and the dramatic build-up seizes and the music changes in volume and texture (01:59:40). The *Time*-motif plays in long-drawn low-pitched strings and horns as they encounter Mal sitting on the kitchen table of the flat. The *Time*-motif blends over to the spherical sounds of *Waiting For A Train* as the conversation between Cobb and Mal ensues (01:59:57).

The *Time*-motif underscores the conversation taking place between Cobb and Mal. Cobb reveals to Mal that he incepted an idea into her mind, which caused her to question reality and led to her suicide (02:04:49 – 02:05:15). This cue of the *Time*-motif ends as the image cuts to a flashback of Mal's suicide, which is again underscored by *Waiting For A Train.* The *Time*-motif is cued again later in the conversation between Cobb and Mal when Ariadne has already shot Mal and she is dying in Cobb's arms. Mal reminds Cobb that he told her he dreamed of growing old with her when they married. The *Time*-motif sets in as Cobb replies «But we did.» and shots of old Cobb and Mal in limbo are shown, where they had spent 50 years together. Cobb tells Mal that he has to let her go and she dies. The motif is first played in low volume and distinct high-pitched strings, then solemn horns in low pitch set in to accompany the strings (02.12:58- 02:13:50).

The final cue of the film and of the *Time*-motif , this time featured in the entire *Time*-piece, starts, when Cobb wakes up in reality after having been kicked up from the four dream levels he was in. The cue starts as he opens his eyes on the plane and lasts until the last shot of the film as he rejoins his children at home and the camera closes up on the spinning totem on the kitchen table (02:17:16 – 02:20:53).

The last part of the film is certainly the most intense in terms of drama and music. But as the *Time*

piece the film heads to a dramatic climax and then the resolution ensues in a calmer yet emotionally engaging manner: as the last segment of *Time* played by piano and strings constitutes a calm and yet powerful resolution of the piece's dramatic build-up, the last segment of the film depicting Cobb's return home, is emotionally laden but dramatized in a more solemn and subtle way than the action-filled climax of the film lasting until the point when the van hits the water (02:12:34).

Considering the scenes in which the *Time*-motif occurs, it becomes clear that the motif is connected to Cobb, his emotional turmoil of guilt and regret as well as his process of catharsis throughout the film. Yet the motif is not only attached to Cobb and his emotions but also serves in a formal manner as a musical bracket reaching from beginning to end of the film, which lends an impression of entirety to the film and the score itself. The film's final shot and the ending of the *Time* piece underscoring it lacks a sense of closure. By holding the last note and twisting it in timbre and increasing its volume in rapid crescendo, the tension of the music isn't released and there is no resolution. This holds also true for the narrative of the film. Since the totem, which won't topple if not in reality, still spins when the screen goes black. The film ends while the uncertainty, whether Cobb is back in reality and actually rejoins his children, is sustained. The last scene of *Inception* is inconclusive and unresolved, a quality which is also evident in the ending of the *Time* piece underscoring the scene.

Considering the *Time*-motif exclusively in regard to the entirety of the score, it becomes clear that the motif serves to consolidate and unify the score, since it features in various parts of the score and is fused with the other main motif of the score, *Waiting for a train.* Thus the *Time*-motif not only functions as a musical motif to which emotional and narrative information and association is attached, it also functions in a formal way by lending the score structure and recognition value.

3.8.4 *Time* and totem

Fig. 3.8.4.1 Spinning top totem at the early on and in the last shot of *Inception*

Concerning the film's beginning and its end, Cobb's totem and the *Time*-motif serve a similar function, respectively in the visual and auditive realm of the film. The totem is shown throughout

the film, but also at its beginning (00:01:48) and at its very end (02:20:04). The eight-bar *Time*-motif plays at the opening titles of the film and at the final scene of the film. At this last cue (02:16:38 – 02:20:53), the entire *Time* piece plays out and the cue starts as a close-up of Cobb's spinning top is shown. While Cobb's totem becomes a visual symbol, the *Time*-motif functions as a sonic token. The totem becomes connected to the characters of Cobb and his late wife Mal at an early stage in the film and appears continuously throughout the film. The spinning top was originally Mal's totem and Cobb used it to perform his first inception on his wife, which led to her suicide, his escape from the U.S. and the separation from his children, his engagement into corporate espionage and so forth. The totem can thus be considered the symbol of Cobb's tragic dilemma, his emotional turmoil of guilt and regret towards his wife and children, but also a symbol of his catharsis and a visual constant lending a sense of causality and consistency to the complicated narrative of the film.

3.9 *Waiting For A Train*

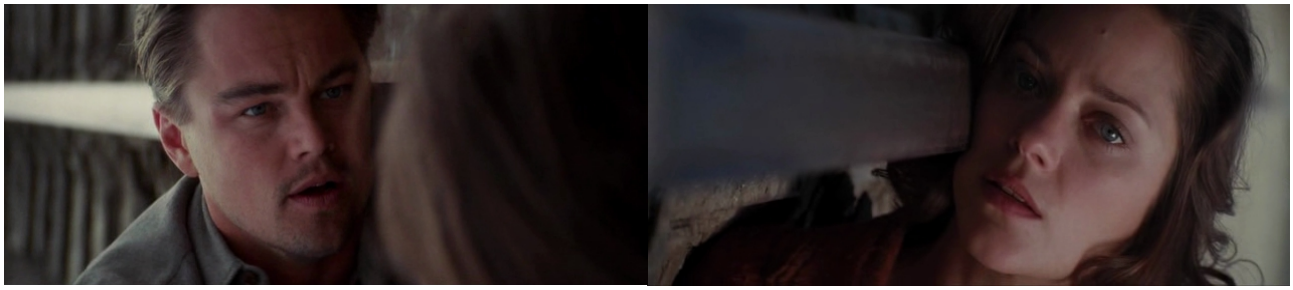

Fig.3.9.1 Cobb and Mal on train tracks to exit limbo

The second prominent motif in the *Inception* score appears in the piece *Waiting for a train.* The piece consists of several melodic elements such as the string motif, the guitar motif and the ostinato. *Waiting For A Train* is a piece, which includes various different motifs, as well as beat structures and even a extract of Edith Piaf's *«Non, je ne regrette rien»*. Sudden changes in volume, tonality and so forth occur since the piece's is deployed in one of the film's dramatic build-ups towards the climax, where the action on four different dream levels are intercut with one another. Due to the piece's numerous segments, I chose to select certain segments of interest, which appear not only in the full cue of the piece, but are also cued in other scenes of the film.

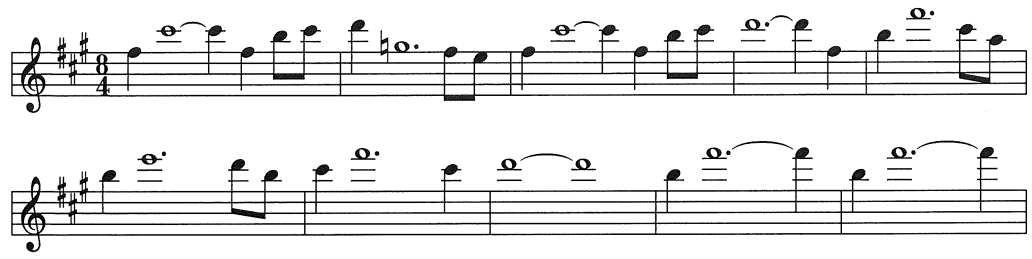

Fig.3.9.1 Waiting for a train – string motif

(F#m, Em7, F#m, Em7, Bm, Em7, F#m, Em7, Bm, Bm)

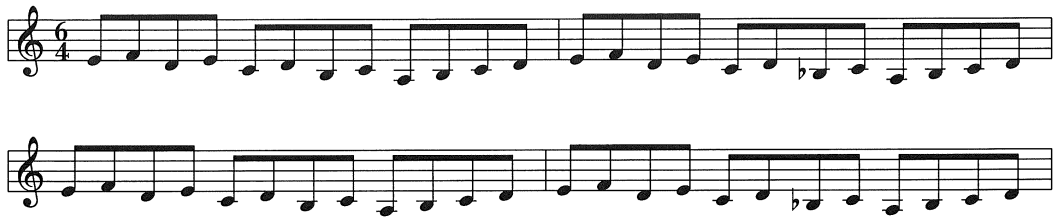

Fig.3.9.2 Waiting for a train – ostinato – scale in Am

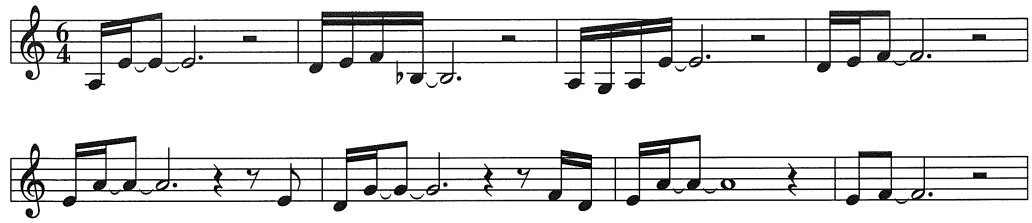

Fig.3.9.3 Waiting for a train – guitar motif

(Am9, Bbmaj7, Am9, Bbmaj7, Am9, Gm79, Am9, Bbmaj7)

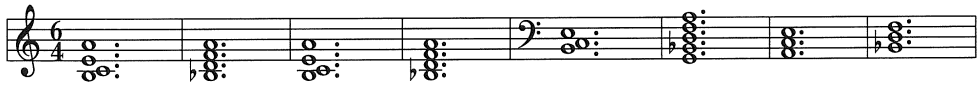

Fig.3.9.4 Waiting for a train – chords- played in lingering spherical electronic sounds

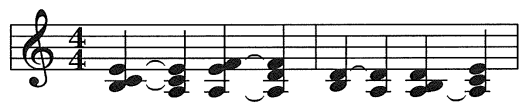

Fig.3.9.5 Waiting for a train – climax

The motif with its three main elements, the string motif, the ostinato and the guitar motif, functions as a musical token assigned to Mal and her relationship with Cobb.

The motif is linked to Mal right from its first appearance where it coincides with Mal's first appearance in the film (cue duration 00:05:31 – 00:06:56). Throughout the film the motif occurs repeatedly in scenes in which she is mentioned or present. During the audition (see segmentation), Arthur spots Mal standing by the balustrade on the roof-deck of a mansion. As Cobb walks towards Mal the ostinato sets in accompanied by low-pitched strings. As Cobb approaches her Mal says her first line in the film: «If I jump, would I survive?», which is underscored by a strand of strings in higher pitch. The conversation between Cobb and Mal is underscored by the *Waiting For A Train*-motif throughout its duration, which undergoes a set change. The cue ends when Mal gets up from the chair Cobb tied a rope to, with which he repels on the outside of the mansion (conversation 00:05:40 – 00:06:39). The conversation functions as a means of exposition and clarifies the basics of Mal's and Cobb's relationship, for instance that they have children and that Mal is no longer with them. Cobb also says that he can't trust Mal anymore but does so anyway and his trust is in vain (rope situation). Mal's introduction scene not only ties the motif to her, but also characterizes her as a morbid, malevolent and interfering entity, possessing emotional power over Cobb.

The next scene underscored by the *Waiting For A Train*-motif is an exposition scene, in which a phone conversation between Cobb and his young children takes place. The phone conversation (00:16:18 – 00:17:38) explains the relationship between Cobb and his children and the fact that he can't come home, as well as the indication that Mal, their mother, is dead. The first minute of the conversation is underscored with low volume lingering muffles brass elements and fractions of the ostinato as well as the string-motif played by piano in slow tempo, low volume and thin timbre. When James asks Cobb if «Mum» is with him, the music changes in volume, orchestration and tonality. Low-pitched solemn strings grow in volume as a flashback occurs, in which Mal looks straight into the camera. Cobb answers to his son that *«Mummy is not here anymore.»*. In this scene, *Waiting For A Train* becomes interlocked with Mal's death and Cobb's relationship with his children. As the conversation ends abruptly by someone hanging up the phone, the string-motif sets in played by piano with reverb (cue duration 00:15:45 – 00:17:43).

The ostinato appears again in the conversation taking place between Cobb and his father Miles as Cobb is trying to recruit one of Miles' students for the inception job. When Miles tells Cobb to design the dream levels himself, Cobb answers «Mal won't let me.» It is in this point of the conversation the ostinato sets in as fractions played in piano. The interference of Mal, which was already established in the first scene featuring the motif is reasserted by Cobb's comment (cue 00:23:58-00:24:42).

A short variation of the guitar-motif occurs, when Arthur tells Ariadne that Mal is dead (cue duration 00:41:07 – 00:41:26) and the string-motif is cued, with slight variation, when Cobb tells

Ariadne, that the concept of the personal totem was Mal's idea and how her totem worked (cue duration 00:48:44 – 00:48:58).When Cobb and Ariadne take the elevator to Cobb's last memory of his children, the ostinato sets in again in piano notes and slightly distorted, while Cobb relives the circumstances of his flight from home (cue duration 00:57:20 – 00:58:20). The ostinato sets in. Again the motif is connected with Cobb's sense of regret and the relationship with his children.

A long cue of *Waiting For A Train* underscores a sequence, in which Cobb explains to Ariadne when he was in limbo and about the night of Mal's suicide, his hastened flight of the country and his desertion of his children. In the sequence, shots of the conversation between Ariadne and Cobb (on the first dream level) are intercut with flashbacks of the time in limbo, Mal's subsequent psychosis, the night of her suicide and Cobb's flight from home (cue duration 01:15:29 – 01:21:10). First, the guitar theme sets in orchestrated in piano. When the image cuts to a flashback of Mal in limbo, the ostinato sets in. The string motif sets in as flashbacks of Cobb and Mal in limbo are shown. The music grows louder in volume in the course of the cue. A significant change in tonality occurs, when a flashback of Cobb and Mal fighting is shown. Cobb recalls the night of their wedding anniversary in a hotel and the music grows with strings and low-pitched horns. The music grows significantly louder as Mal, sitting on a ledge of a window, threatening to jump, lets one of her shoes slip off and fall. As Mal tells Cobb that she arranged for him to be suspected of killing her, another strand of higher strings is added. When Mal closes her eyes and recites the phrases about «Waiting for a train»[29], the *Time* motif sets in with high-pitched strings leading towards the emotional and musical climax of the cue, in which Mal leaps to her death while Cobb is watching helplessly (see «climax»-notes above, running time of Mal's jump 01:21:07, track time *Waiting For A Train* 05:52). This is the first time the *Time* and *Waiting for a train*-motif are combined.

They are interlocked at a second occasion later on in the film on the fourth dream level, limbo, as Cobb talks about his feeling of guilt and reveals to Mal that the idea, that limbo is reality, is an idea he incepted into her mind. Cobb explains to Ariadne why he planted the idea in his wife's mind and flashbacks of their life in limbo are intercut with the conversation. One flashback shows Cobb and Mal as they lie down on train tracks and Cobb soothes Mal by talking about waiting for a train[30]. They are run over by the freight train in limbo in order to wake back up in reality. The flashback is accompanied by *Waiting For A Train* up until it cuts to shots of Mal and Cobb waking up and living in reality. Then the *Time*-motif sets in with high-pitched strings and piano (02:04:49 –

29 Mal: «You're waiting for a train. A train that will take you far away. You don't know where this train will take you. But it doesn't matter, because we'll be together.» (01:20:48 – 01:21:06)

30 Cobb:»You're waiting for a train. A train that will take you far away. You don't know where this train will take you. But it doesn't matter – now tell me why!» Mal:»...because we'll be together!»

02:05:02). With the cut back to Cobb confronting Mal in the fourth dream level, the piano voice sets in addition to the strings playing the *Time*-motif. While Cobb continues talking further flashbacks are intercut: a flashback to Cobb and Mal at the dinner table and a flashback of Mal letting one of her shoes slip of and fall down from the ledge of the hotel building. The image cuts back to Cobb on the fourth dream level. The *Time*-motif ends and with the cut to the shot of Mal leaping to her death from the hotel building and Cobb's scream «Mal no!» *Waiting For A Train* sets in on its dramatic climax (*Waiting For A Train* 05:53).

Firstly, the *Waiting for a train*-motif and its respective elements becomes attached to Mal and the emotional attachment Cobb has to her. Later on, the motif is connected to Cobb, his relationship with his children as well as the tragic event of Mal's death. When the reason for her suicide is explained and clarified to the spectator, the motif appears again. In this case, the music can be considered to facilitate comprehension of the narrative and helps the spectator to draw causal connections between events. The sequence of Cobb's first account of Mal's suicide is interesting since two important motifs are interlocked with one another. Not only does the music accentuate the drama of the scene but the connection of the *Waiting for a train*-motif and the *Time*-motif also serves to draw connections between Cobb's emotional turmoil, Mal's suicide and the overall theme of regret and catharsis in the film. The musical climax of *Waiting for a train* as Mal leaps to her death can be considered an incident of what Michel Chion called empathetic music.[31] The musical underscoring of Mal's suicide echoes Cobb's emotions in the situation, not Mal's. The music's dramatic orchestration and volume as well as its tonality in minor illustrates the emotional perspective of Cobb and is thus empathetic towards him. By means of taking an empathetic stance to Cobb, the music is likely to instill empathetic emotions towards Cobb in the spectator. In terms of Cohen's definitions of different emotional reactions induced by film music, the music in this scene presumably instills both an acknowledgment of Cobb's emotion as well as subjective emotion in the spectator.[32] Although the spectator already knew that Mal was dead, the scene of her suicide still affects due to its drama and the spectator's knowledge of her death's consequences for Cobb.

By means of intercutting the scene of Cobb's confession on the fourth dream level with flashbacks of him and Mal in limbo and of Mal's suicide, the *Time*-motif and the *Waiting for a train*-motif are interlocked with Cobb's feeling of guilt and regret as well as the tragic course of his first inception. The scene clarifies why Mal recited the phrases about «waiting for a train» just before she committed suicide. The musical repetition serves to underline the interconnectedness of

31 See 1.4 A nonrepresentational art form and «added value»
32 See 1.11 Emotional functions

Mal's suicide, Cobb's first inception and his regret. Mal's suicide is the core of the story's diegetic motivation and Cobb's emotional turmoil. The main psychological topic of the film, as I discussed earlier in this chapter, is regret. It is referred to both in dialogues and Edith Piaf's *«Non, je ne regrette rien»*, which I will discuss in the next paragraph.

The causes and events of the narrative only reveal themselves to the spectator bit by bit throughout the film. The «regret-and-catharsis»-strand of the narrative, playing out between Cobb and Mal, shows up again and again in the course of the film, but it is disrupted by the other main strand of the narrative, the «action»-strand, the mission to perform an inception on Robert Fischer. The two main musical motifs are first connected with particular characters and portentous events. Hence the emotions attached to these characters and events become connected to the musical motifs as well. In the film's finale, these motifs are fused with Edith Piaf's *«Non, je ne regrette rien»* and are entwined with the «action»-strand of the narrative, lending it an emotional momentum and gravity.

3.10 Edith Piaf's *«Non, je ne regrette rien»*

The use of Edith Piaf's *«Non, je ne regrette rien»* in *Inception* (2010) is interesting since its function and narrative use in the film is divided between its symbolic meaning in the diegesis, its extra-diegetic connotations and its assigned function in the narrative and its narrative function in the diegesis. The song appears in the diegesis as a musical cue, that signals the person who is dreaming to wake up.

The song appears for the first time when the architect Nash is cued to wake up from the audition dream construct. A teenager times the onset of the musical cue with the countdown clock on the dream device.

Fig.3.10.1 Japanese teenager and Nash right before the onset of Piaf's song on headphones (00:12:54)

Fig.3.10.2 Onset of the song *«Non, je ne regrette rien»* (00:12:56)

Fig.3.10.3 Cut to Nash in dream state (00:13:02)

In this first appearance the use of the musical cue is clarified to the spectator by distinctly showing the music's initiation in reality, its subsequent manifestation in dream state and the reaction of the dreamer to it. As the music starts to play (*Fig.3.11.1-3*) A slow close-up to Nash's sleeping face is succeeded by the cut to a shot of Nash standing in the dream. Coinciding with this close-up and the subsequent cut, is a significant alteration in sound texture and music: the last bar, which is heard in the shot of *Fig.3-11-2* is stretched and distorted with reverb while the volume quickly increases.

The horns heard in this bar of *«Non, je ne regrette rien»* rise to a sneering stretch keeping the pitch but increasing its volume in a rapid crescendo. The very low-pitched horns which ring throughout the dream scene, are in fact the decelerated beat of the horns playing in the original song, as composer Hans Zimmer confirmed[33]. Also Edith Piaf's voice is decelerated in tempo but not in pitch, lingering and ringing in a strong reverb that invokes the auditive texture to sound like a distant acoustical halo. The decelerated voice of Piaf and the double beat can be heard throughout the scene.

33 nytimes.com, „Hans Zimmer extracts the secrets of the Inception score“, source: http://artsbeat.blogs.nytimes.com/2010/07/28/hans-zimmer-extracts-the-secrets-of-the-inception-score/ (last access 23/04/2012)

This first appearance of Edith Piaf's *«Non, je ne regrette rien»* in *Inception* serves not only as a detailed explanation of its function within the film's diegesis, a musical signal or cue to wake up from a dream, but also as an illustration of the passage of time in dream state. As depicted in the film, time is passing slower in dream state. A minute in reality translates into one hour in dream state. Later the song reenters in a scene where Ariadne wakes up from her first dream workshop with Cobb. While heavy sound effects are applied as Ariadne sees her dream surroundings blast, the double-beat horn fanfare enters: first as a distant snare of one note, which is hard to distinguish due to the prominent low-pitched sound effects with explosions sounding like bulbs of bass erupting (00:28:02). Then the double-beat fanfare of horns grows more distinct and louder in volume. The volume seems to jump up with a strong crescendo.

Fig.3.10.4 Ariadne yells at Cobb over sounds of explosion, Piaf's voice can be heard (00:28:16)

As Ariadne yells at Cobb, Piaf's voice can be heard as she holds a single note. This is presumably a decelerated version of her voice. Although the timbre of the voice is attributed more reverb, the pitch remains unchanged from the original. With the cut from Ariadne yelling at Cobb in the exploding dream to Ariadne waking up (00:28:18), the song enters and is heard as diegetic music by all characters present at the preparation headquarters. Piaf's voice can already be heard two seconds before the cut (00:28:16).

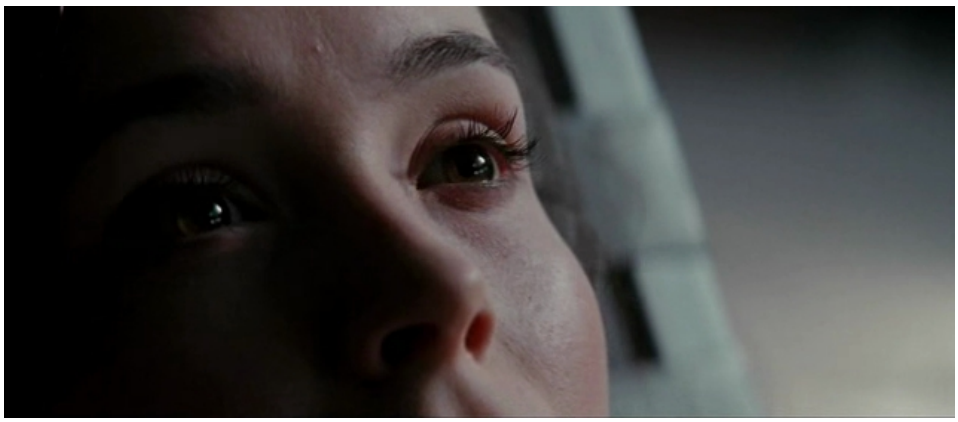

Fig.3.10.5 Shot of Ariadne as she wakes up, Piaf's song plays in the background (00:28:19) Piaf's song is playing diegetically, underscoring the ensuing conversation (00:28:29)until Arthur turns the music off and it seizes (00:28:42)

In the course of preparing the inception at the headquarters, the team discusses possibilities to synchronize the kick, which is needed to wake up from each dream level. Arthur suggests: «We could use the musical countdown to synchronize the different kicks.» (00:53:10) The subsequent shot shows Arthur and Ariadne asleep and Piaf's song playing. Piaf sings the line «ca m'est bien égal» with a decelerando of the brass section, which accompanies her. At the end of this line, Arthur wakes up, but Ariadne is still fast asleep. This scene illustrates the use of the musical countdown but it also implies that it doesn't always work for all dreamers. Right after the song's line is played, the underscoring extra-diegetic music sets in again and a sound advance is heard of Eames talking.

Piaf's song is heard a total of five times throughout the film. It is always deployed as diegetic music and serves as a tool, a «musical countdown» to signal the dreamers to wake up. During the inception undertaking the song is employed and heard on several dream levels. The lower the dream level the more decelerated the music is heard. The musical countdown is set by Yusuf on the first dream level. He plays the song on Arthur's headphones, since the second dream level is Arthur's dream. Arthur is shown in second dream level as he stops abruptly and listens to the music emanating from the first dream level. On the second dream level Piaf's voice is heard to some extent though it is mostly Arthur's reaction that indicates the presence of another aural element.

On the third dream level Eames hears Piaf's voice singing «rien de rien», again decelerated and single-pitched. Piaf's voice sounds like an echo in the mountainside, wafting in the air. Eames contacts Cobb via radio and Cobb confirms that he also hears music. This illustrates that the music is heard by all the dreamers present on that dream level. The song occurs for a fifth time on the second dream level, where Arthur puts the headphones on Eames and sets off the music (02:06:30).

The offset of the song is timed with the preexisting music and chimes in with the bar of plucking low-pitched strings (*Waiting for a train* track time 07:04 – 07:13). This is the only occasion where an incorporation of the Piaf-song into the preexisting score music on the soundtrack occurs.

Although Piaf's song appears in different textures and speeds, it is still identifiable as the same piece of music for the spectator. While it serves certain functions within the diegesis, Piaf's song bears further meaning outside of the diegesis, for instance cultural connotations such as «French» and «Paris» in particular. Although the song is never entirely played in the film ,only as the second piece of the end titles, the song and its lyrics are recognizable since they are widely known in the Western world. To use a song as popular and known as *«Non, je ne regrette rien»* is a means to incorporate external meaning, associations and connotations connected to the song, into the film. As pointed out earlier, the theme of regret seems quite prominent in the character of Cobb and his relation to his late wife Mal. The main line of Piaf's song *«Non, je ne regrette rien»* seems to contradict the film's emotional topic of regret but at the same time the song's text fits Cobb's wish to start anew and find his way back home to his children. In case of the Edith Piaf song, the associations might play in the wrong directions. Surely, the song is intended to connote «Paris», since the preparatory phase of the inception takes place in Paris. Also, flashbacks of Cobb and Mal in Paris are seen in the film. Mal has a French accent, which can be connected to the Piaf-song as well. The choice of the Piaf-song by director Christopher Nolan is understandable from this perspective, but on the other hand the song might also cause confusion amongst the spectators, since the actress who plays Mal, Marion Cotillard, also played Edith Piaf in the bio-pic *La vie en rose* in 2007, only three years prior to *Inception*'s release.[34] Although Nolan has not remarked on the issue, other than saying that it was only a concern in the beginning of the production, the associations spectators might have between Marion Cotillard, Edith Piaf and the song cannot be fully determined and thus this consideration is ambiguous and inconclusive.

The use of preexisting music in the film is interesting, since this music serves a particular function within the diegesis as well as having extra-diegetic connotations. Alongside other visual and aural elements, such as sound effects and slow-motion visuals, the music functions as a narrative device to illustrate the different speeds of the passage of time in the film. Thereby the music also fulfills a narrative function. The music's extra-diegetic associations and cultural connotations add a contextual quality to the film and its lyrics draw parallels to the film's psychological topics.

34 IMDb, “La vie en rose”, source: http://www.imdb.com/title/tt0450188/ (last access 25/05/2012)

3.11 *One Simple Idea* - Ariadne's introduction

The introduction of Ariadne is one of the sequences, which features a form of musical accentuation. The sequence is interesting because turning points in the action unfolding on screen are distinctly accentuated by the music and its changes of tonality. The start of the sequence can be marked to the instant when Cobb tells his father Miles, whom he visits at a college in Paris, that he needs an architect for his team. Cobb tells Miles: «I need an architect who is as good as I was.» Miles replies: «I got somebody better.» While we still see the shot of Miles at his table as he puts on his glasses, we hear a sound advance of Miles calling out for Ariadne (00:24:43). It is just before the sound advance that a new musical cue starts (00:24:41), an ostinato of notes played by an electric guitar accompanied by a double beat, which is texturally enriched later on by strings and electronic sound elements.

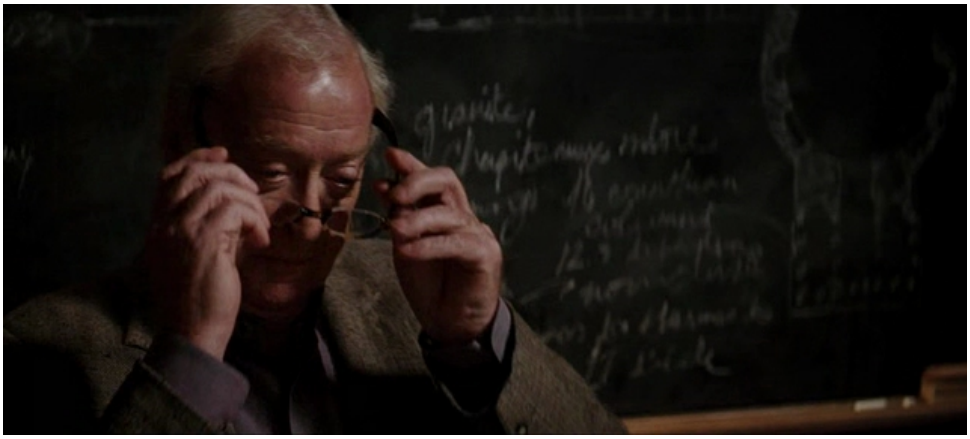

Fig.3.11.1 Sound advance: as we see Miles putting on his reading glasses, we hear him call out for Ariadne, the musical cue starts just before the sound advance (00:24:41)

Fig.3.11.2 Miles introduces Ariadne to Cobb (00:24:48)

The music continues throughout the introduction scene in the hall and throughout the scene of Cobb and Ariadne standing on the college roof, where Cobb challenges Ariadne to a test sketching mazes. Ariadne draws a maze on a sketching block twice but fails the test while her facial expression is

growing increasingly irritated. The music still features the guitar ostinato, the beat, strings and electronic sound elements, yet when the test is in progress an additional beat appears, which is lower in pitch and softer in timbre than the initial beat.

The quite literary turn of events is marked, when Ariadne receives the sketching block for a third time and turns it around to draw a circle-shaped maze on the cardboard back of the block. (00:25:33). The shot of Ariadne's hands turning the block coincide with a distinct shift in the tonality of the ostinato: a crescendo of low-pitched strings grows while Ariadne draws the round maze and the ostinato shifts to a lower key.

We see shots of Arthur preparing the headquarters for dream workshops. Another sound advance coincides with shots of Arthur as he sets up the place and opens up a suitcase containing a dream device. Cobb voice is heard as a voice-over: «They say we only use a fraction of our brain's true potential. That's when we are awake.» Also coinciding with the sound advance is another shift in the music's tonality and texture: the guitar ostinato shifts back to a higher key. Then the image cuts to a shot showing Cobb and Ariadne sitting in a cafe (00:26:11). High-pitched strings in low volume set in subsequently as Cobb explains the nature of dreaming and the concept of shared dreaming, dream architecture and so forth.

The changes of tonality in this sequence accentuates the action taking place. The first change of tonality marks Ariadne's turn to show her genius and to pass Cobb's test. The second change of tonality marks the transition between locations and, as it becomes obvious afterward, the change of consciousness: the shots of Arthur take place in reality whereas the conversation between Ariadne and Cobb takes place in dream state. Instead of using tonality to accentuate the action as in the maze test scene, the conversation scene in the cafe is interesting since it uses the lack of music to dramatic effect.

After telling Ariadne the concept and possibilities of shared dreams, Cobb draws attention to the fact that Ariadne doesn't know how they got to the cafe. Thereby he makes her realize that they are actually in dream state. The music fades out under the conversation (00:27:05). The fade-out starts as Cobb remarks «Well, dreams...they feel real while we're in them, right?!». The fade-out is completed and Cobb says «...it's only when we wake up that we realize something was actually strange.» His voice is the unobstructed center of the soundtrack only the slight ambient sound of the cafe remains. Cobb wonders: «You never really remember the beginning of a dream, do you? You always wind up right in the middle of what's going on...». Ariadne reacts unsuspecting to Cobb's remark, but the spectator is likely to have a hunch where Cobb is headed. His subsequent question to Ariadne, how they ended up in the cafe they sit in and further interrogation make Ariadne realize that Cobb and she are in fact dreaming.

The lack of music and the low ambient sound enhance the silence in the scene. The dramatic effect lies in the withdrawal of music after a continuous musical cue lasting for about two and a half minutes (00:24:42 – 00:27:05). This change on the soundtrack causes the spectator's aural attention to focus entirely on the conversation: The importance of what is being said is accentuated. This is one of several incidents in the film where the lack of music is used to accentuate the action on screen. Since the film is extensively underscored, the lack of musical underscoring poses a contrast to the film's overall sound scape

Regarding the film's manner of depicting the entrance of dream state, it is noteworthy that both the entrance into the first, second and third dream level is not underscored by music. Being in dream state one might think that a continuous musical underscoring would be used in order to underline the fact that the action takes place in dream state and not in reality. Music and other cinematic devices such as a blurry image are traditionally used in sequences of memory and dreaming, yet here the first bit of the dream sequences is not underscored. One of the longest sequences without underscoring in the entire film, is the beginning of the first dream level. As team members captures a cab and kidnap the inception target Robert Fischer in a rainy downtown environment, Fischer's subconsciousness security starts to shot and chase after the team, which involves car crashes, gun blasts and so forth. All this action is not underscored by music as opposed to other action sequences of the film like the chase through Mombasa.

This use of a lack of music is curious since it is as deliberate as the use of music. I assume that the lack of music at the beginning of the inception dream levels is employed to enhance the realistic appearance of the dreams for the spectator and accentuate the fact that the dream feels real for the partaking dreamers. In case of Ariadne's first dream workshop the lack of music is presumably used to focus the spectator's attention on Cobb's questions to Ariadne. As the spectator's attention is drawn to the conversation, Ariadne's attention is drawn to the fact that she is dreaming. First when Ariadne realizes she's in dream state and looks around, music fades back in, in form of high-pitched strings.

The notion about “unheard music” touched upon in the first chapter, comes to mind in relation to the employment of “silence” in the sequences mentioned above[35]. Not only does the notability of “silence” encourage reconsiderations about the notability of film music in general, the notability of silence also illustrates the interdependence of different sound track elements. A film with little scoring is likely to accentuate the little music it features, by virtue of the contrast between the predominant diegetic sound and the music. In turn, the extensiveness of the *Inception* -score

35 See 1.7 Unheard music, *suture* and *spectacle*

leads to an accentuation of the few incidents of “silence” in the film. In conclusion, both music and silence take effect in correspondence with each other, since their respective ratios in the soundtrack are likely to determine their notability. Hence the effective employment of “silence” cited above is achieved due to the ratios of *Inception*'s sound track elements and their interdependence.

3.12 *Radical Notion* - Ariadne's second dream workshop

A musical cue that is quite distinct in its dramatic build-up throughout the sequence of Ariadne's second dream workshop. The sequence starts as Cobb and Ariadne return to the dream surroundings of the Parisian cafe They walk down the street and Ariadne starts to explore her capabilities of designing and constructing the dreams architecture. The first minutes of the sequence lack any kind of score. The soundtrack consists of the dialogue between Cobb and Ariadne as well as the ambient sound of the street. Ariadne stops and says: «My question is what happens when you start messing with the physics of it all...». She looks up and music fades in on the soundtrack, first as a single tone, then, as one half of the quarter starts to rise and «fold», high-pitched strings set in.

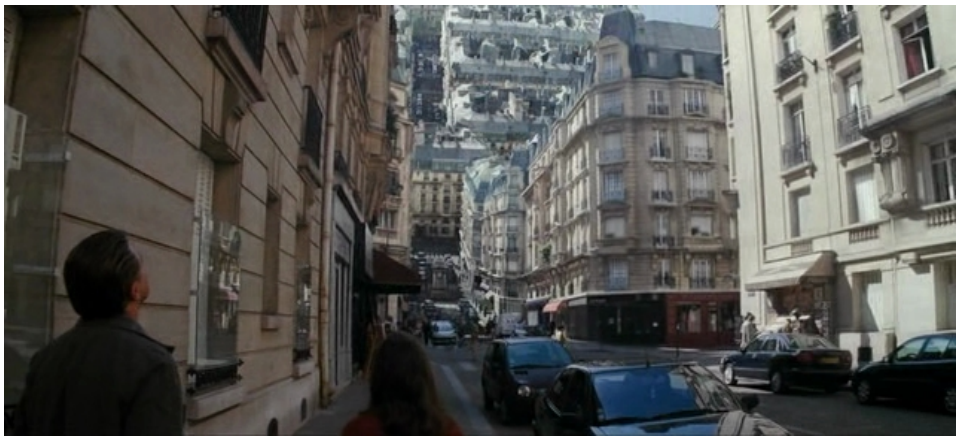

Fig.3.12.1 Cobb and Ariadne watch as the Parisian quarter folds on top of itself (00:30:04)

As the quarter rises and Ariadne and Cobb watch, the music increases in volume and brasses add to the crescendo (00:29:58). The orchestra plays eight chords. The chords are arranged in couples with distinct pauses between each couple. These pauses seem to serve to accentuate the volume and range of each couple. The orchestration is wide in range and heavy on low-pitched brasses and strings. The first chord of each couple is dynamically increasing (crescendo) while the second chord sustains the volume of the previous chord with smaller crescendo and broadening range of orchestration. Besides the dynamics of the music, the use of low pitch and large orchestration facilitates the heavy timbre of the music and adds to the force of the scene's sound scape The music illustrates the profoundness of Ariadne's imagination and the visual impression of the scene. The

scene strongly relies on the spectacle of the visual animation and the «folding» of the Parisian quarter has no extensive motivation in the plot other than showcasing Ariadne's imaginative capabilities. The function of music in this scene can be considered in terms of broadening the sense of spectacle and emphasizing the scene's «larger-than-life/reality»-effect. As mentioned in the theoretical chapter, this particular employment of music encourages the spectator to view such a scene from the outside, as an onlooker of a spectacle.[36] The music grows in volume and distinction as the quarter folds and the visual spectacle is augmented as such by the music.

In the subsequent scenes of Ariadne and Cobb walking down the street and «up» the street in fact, electronic sounds, high-pitched strings and brasses are added. The onset of repetitive double chords orchestrated with very low-pitched brass coincides with a shot of passing pedestrians staring right at Ariadne, in this case at the camera. The camera takes Ariadne's point of view, thus the pedestrians stare straight into the camera. The point-of-view shots heighten the sense of subjectivity for the spectator. Characters looking straight into the camera is largely regarded as breaking a major rule of film, fiction film in particular. The phenomenon is usually referred to as «breaking the fourth wall», since it draws awareness to the fact that the camera is noticed by the characters on screen and the spectator is made aware of the voyeuristic act of watching the action unfold. Breaking the fourth wall has often been used by avant-garde filmmakers to add a self-reflective aspect to film.

In this case though breaking the fourth wall is merely an agent of visual focalisation: visually the scene shows Ariadne's viewpoint in order to make the spectator experience the scene from her perspective. Ariadne is also the focal point of the musical elements in the scene.

Fig.3.12.2 A bypassing couple looks right at Ariadne/the camera as the second chord occurs (00:30:59)

The emotional focalisation is exercised by the scoring: a low-pitched double chord hits two times as bypassing pedestrians stare at Ariadne/the camera. The presumably hand-held camera moves from a

36 Larsen, p. 201

woman going by on Ariadne's left to a passing couple on her right. The camera movement imitates Ariadne's look in a typical point-of-view manner. The first chord occurs when Ariadne looks at the single woman, the second chord occurs when Ariadne looks at the couple.

The low pitch, muffled timbre and the dynamic of each chord growing louder as it plays, adds a sense of danger to the shots, which partly matches Ariadne's emotional bewilderment and insecurity as to why she is being stared at. The music can be considered to be partly a focalisation of Ariadne's feelings and partly an advance warning to the spectator. Ariadne doesn't seem to feel immediately threatened by the people passing but the musical accentuation of the visual suggests the threat the starring pedestrians in fact pose for her. Ariadne immediately asks, why the pedestrians look at her and Cobb answers that they sense the foreign nature of the dreamer and *«attack like white blood cells fighting an infection»*. The music continues throughout the scene with the previous elements of high-pitched strings, electronic sounds and the low-pitched brass double chords. In the subsequent scenes the volume of the music is lowered since it largely serves as dialogue underscoring.

Later on in the workshop sequence, Ariadne «pulls» up a pedestrian bridge over a street. In addition to aurally dominant sound effects of Ariadne's instant «construction», the music rises in volume and pitch, particularly brasses and strings. Both the rising of the quarter and the rising of the pedestrian bridge are reflected in the music's dynamics. The higher the architecture rises, the higher the volume of the music. When Ariadne starts pulling a large mirror into a pedestrian archway, the music changes. In addition to the preexisting musical elements a layer of electronic strings is added. The strings have a distinct electronic timbre and play an ostinato of a descending phrase (00:31:44) that blends in with the other musical elements and augments the density of the music's texture. As Ariadne pulls another large mirror into the archway so the two mirrors face each other, another musical strand, a set of low-pitched strings with authentic timbre, is added. These strings play an ostinato of a descending phrase and grow in volume (00:32:11).

Fig.3.12.3 Ariadne pulls another large mirror into the alleyway to create a visual illusion (00:32:08)

Again the music gains textural density, liveliness and builds up dramatically in both volume and musical strands. Ariadne stands before one of the mirrors and holds her hand up against it. The dramatic build-up in the music is enhanced by a syncopating strand of strings and lasts right until the mirrors break with a loud crash. When the crash seizes, only a dissonant chord of high-pitched strings is heard in low volume. Ariadne starts walking down the alleyway she has created through the optical trick of the two facing mirrors. As Cobb follows her, electronic sounds reminiscent of very soft and muffled plucked strings set in with an ostinato (00:32:30). Cobb stops as he realizes that Ariadne created a preexisting bridge, on which he used to walk with his late wife Mal. A flashback (00:32:36 – 00:32:42) with shots of him and Mal standing and laughing on the bridge coincides with the onset of low-pitched strings following a slower tempo than the preexisting music and a singular tone, dissonant to the preexisting tonality lingers throughout the flashback and the subsequent shots of Cobb following Ariadne.

While Ariadne answers to the alarmed Cobb that the bridge is originally on her way to college, the music begins to build up again dramatically. In addition to the preexisting strand of strings a double beat in low pitch and low-pitched strings set in. The ringing singular tone from the flashback lingers over the music with varying volume. When Cobb pulls Ariadne towards him unkindly the low-pitched strings seize and a low-pitched electronic sound takes over the rhythm and tones. Bypassing pedestrians gather around Cobb and Ariadne and stare. A man attacks Ariadne and both Cobb and Ariadne are violently held down by the pedestrians, while Cobb and Ariadne scream and fight back. The low-pitched strand of electronic sounds gain volume. When Cobb sees Mal appearing from the crowd as she heads towards Ariadne, strings are added to the electronic sounds and gain both volume and pitch to dramatic effect. A stinger of large cymbals and a blow of low-pitched brass hits when the camera moves to the large knife in Mal's hand as she heads towards Ariadne.

Fig.3.12.4 Shot of Mal heading towards Ariadne (on the left), (00:33:19)

*Fig.3.12.5 S*hot of a knife in Mal's hand (Ariadne's perspective) accompanied by a stinger (00:33:23)

A second stinger of cymbals and brass as before but with more metallic timbre hits when Mal stabs Ariadne (00:33:26). The image cuts to Ariadne waking up in reality with a jolt. The music seizes with a reverberant sound of the stinger.

Throughout the sequence of Ariadne's second dream workshop there are several musical functions at work. The music is particularly versatile in this sequence. It appears as aural augmentation of visual effects (the folding quarter) and character focalization and subjectivity (point-of-view shots of staring pedestrians), as dialogue underscoring, as an agent of continuity and as a dramatic auditive climax in form of stingers. On a formal level the music provides a sense of continuity throughout the sequence, which takes several minor jumps in space and time. On a narrative level, the music enables the focalisation of Ariadne's insecurity towards the staring pedestrians and alert the spectator to later events, namely the pedestrians attacking Ariadne on the archway. Between phases of mere continuity underscoring the music also augments segments of the sequence by providing a dramatic build-up. The first dramatic build-up evolves up to the point when the mirrors crash the sequences final dramatic build-up develops to its climax as Ariadne is stabbed by Mal. Synaesthetic equivalences are likely to be drawn in the scene of folding the quarter, when the rise of the music's dynamics coincides with the rising houses and streets. The spectator is likely to «match» the visual impression of the scene with the aural impression of the scene, both of them rising in their respective realms (volume and space). In the context of this scene, the analogy the spectator is prone to construe between the structural relations in two different materials, is the rising in the music's volume and the rising of buildings as well as the rising camera movement in the image.

3.13 Finale fourfold

A general formal function of music is to support the diegesis via creating an auditive counterpart, a universe of sound as Peter Larsen calls it, emphasizing and sustaining the course of images and action. One of music's formal functions is to indicate continuity or discontinuity – sometimes both simultaneously. In terms of continuity music is oftentimes deployed to usher the spectator from one scene to the next providing a perceptual overlap between to different scenes, possibly a change of time or location. To prevent a perceptual disruption in the illusion of the diegesis, music will suggest continuity. Yet music can mark the transition by an alteration in tonality, rhythm or another stylistic device. If a scene features musical underscoring, which fades or is abruptly cut off as the consequent scene begins, this can also serve as a means to suggerate a sense of discontinuity and change to the spectator.

The first formal use of music occurs right at the beginning of the film. While the emblems of Warner Bros., Legendary Pictures and Syncopy are shown, the spectator can hear non-diegetic music, the Time-motif starting in high-pitched piano notes, which are succeeded by the crescendo of a large brass section repeating one note in a two note beat pattern. With the last and loudest brass note the music ends and is immediately succeeded by the high volume sound of breaking waves, accompanying the first images of the film. The music ushers the spectator into the universe of the film marking the moment, at which the film begins with a musical and auditory (volume) climax.

Concerning music's formal function to add a sense of continuity, *Inception's* last forty minutes are of particular interest. While the image inter cuts between all four dream levels and the action taking place on them, the music continues throughout, except some short breaks, which accentuate certain moments to dramatic effect. Without the musical underscoring, the spectator might presumably lose track of what happens on which dream level. The music formally serves to suggest continuity, which is to say the simultaneity of all four dream levels. Portraying four different planes of action simultaneously naturally involves a high cutting frequency, which in turn implies a fragmentation of the film's visual character. While music is utilized to bind the fragmented visual expression, the finale sequence also includes scenes, which are not underscored by music at all. Shots of the falling van on the first dream level for instance, lacks musical underscoring to emphasize the stillness of being in mid air and to enhance the clash of water splashing into the inside of the van as the van hits the water.

The finale sequence is also interesting in respect to the inherent cinematic time paradox[37], which is literally compounded by the portrayed concept of time and the numerous levels of time in Inception. Though the film actually includes five levels of time[38], the final sequences inter cuts only

37 See 1.5 Time paradox and *matching*
38 See appendix *Fig. 3.3.1*

the four dream levels. Since music encourages the spectator's experience of fictive time, the extensive underscoring and the considerable high volume of music in this sequence, can be considered a vivid showcase of this employment of music. Here, the spectator has to engage into the concept of four levels of fictive time, evolving simultaneously and yet each one at a different pace – thus the application of high volume, dramatic arcs and heavy orchestration is used to keep the spectator engaged in the multilayer construct of fictive time.

C. Conclusion

In this musical analysis of *Inception*, I have tried to outline and showcase the employment of music in the film. By selecting certain motifs and scenes from the score and film, I have illustrated the formal, narrative and emotional functions of the score as well as the preexisting music featured in the film. To provide a basis for the analysis, I have analyzed the film minute by minute in terms of music and other elements of the soundtrack.[39] Furthermore I have given a short synopsis and segmentation of the film's narrative and outlined its constitution in terms of genre, characters and psychological topics. In order to give an overview of the entire score and the process of production, I have described the score in a short resume of all pieces and their application in the film. Additionally I have cited distinctive features of the score's instrumentation and considered comments of composer Hans Zimmer and director Christopher Nolan on the process of scoring *Inception*.

The two central motifs of the score were analyzed in respect to tonality, attachment to certain topics and characters in the narrative and in respect to the combination of both motifs at certain moments in the film. Furthermore I have analyzes the use of preexisting music in the film, Edith Piaf's song *"Non je ne regrette rien"*. The analysis also includes the study of two sequences in the film, which feature cues of particular interest. Finally I took a closer look on the employment of music in the film's dramatic finale on four different dream levels.

As a result of the analysis, it becomes clear that the employment of music in this film features conventional approaches such as the application of central motifs, see 3.8, 3.9, 3.10, as a means to lend structure and wholeness to the score itself as well as accumulating emotional and narrative information in the course of the film and evoke associations to certain events and characters. As I have shown, the application of music in this film includes techniques of tonal shifts to accentuate the action and various musical forms such as the ostinato to suggest continuity and business in the aural realm of the film.

Of particular interest was the analysis of preexisting music the score features, see paragraph 3.13. The French chanson by Edith Piaf works on various levels: within the diegesis the song serves the specific purpose of waking up the dreamer; exceeding its purpose within the diegesis are the song's cultural connotations serving a narrative function. Thus the song functions in the diegetic context and in the extra-diegetic context. The manner "Non je ne regette rien" is employed in *Inception* also serves a narrative function concerning the depiction of the passage of time. The music aids to clarify and illustrate the differences of the speed of time on different dream levels.

39 See appendix *Inception* - Time line and musical cues

An observation in the analysis is also the distinctive application of the lack of music in the film. In the film there are several scenes, as cited in 3.12, in which the silence and lack of musical underscoring becomes particularly notable. As a result of the extensive musical underscoring in *Inception,* the use of "silence" or at least lack of underscoring poses a notable contrast which is employed to dramatic effect.

In certain scenes, such as the one I discuss in paragraph 3.13, music functions as an agent to augment the visual spectacle of the scene, an effect I have discussed in the theoretical part of this thesis, see 1.6. Correlated to this form of musical accompaniment, is the sheer volume of the music in several scenes. It can be argued that the high volume and distinct brass and bass instrumentation elevates the notability of the score and figures into the larger-than-life-appearance of the visual and psychological concepts of the film.

In the sequence leading to the dramatic climax of the inception on four different dream levels, see 3.14, music seems to serve not only as a means of emotional and dramatic augmentation, it also appears to serve the formal function of unifying and structuring a sequence with particularly high cut frequencies and crucial turning points in several matters of the narrative. The inherent cinematic time paradox I fourfold in this sequence, so the music can also be said to function as a means to encourage the spectator's engagement required to ignore the paradoxical time, moreover time levels in the film. Not only does the music, featured in the film, contribute to the narrative by virtue of recurring motifs and preexisting music, it also aids to the structure and visual spectacle of the film by means of its extensiveness and, at times, its sheer volume. The complicated plot of the film with flashbacks, several time levels and complicated concepts about dreaming, is arguably consolidated by continued underscoring covering approximately 80 per cent of the film's total 148 minutes of running time. Considering the "underscored-not underscored" ratios of the entire film, the few sequences featuring no musical underscoring are augmented to dramatic and realistic effect, due to the contrast in aural appearance. In conclusion, it can be argued, that the music in *Inception* is highly functional and effective. Yet the employment of music in *Inception* also raises questions as to how many sound effects, how much volume and how much underscoring a film can room before appearing overloaded, excessively articulate and frankly "overscored".

The goal of this thesis was to take a closer look on different aspects of film scoring, such as the theoretical discourse on film music, the developments in film sound technologies, current production routines and practices as well as the employment of music in a Hollywood film of recent date. By considering the historical development in film theory, thought concepts on music and sound dating back to ancient Greece as well as different schools of thought on the subject of film

and sound/music throughout the past decades, I have outlined the basis of today's theoretical perspectives on film music. Of particular interest is the recent achievements of cognitive and neurological studies concerned with the perceptual process of seeing and hearing film. In addition, the cognitive studies conducted in terms of the correlation between music and emotion are interesting and insightful in respect to film music and the way music causes affective reactions in the spectator. While certain theories have proven to be erroneous or inconclusive at best, theoretical concepts such as the matching process, Chion's term of synchresis and thoughts on synaesthetical equivalences are proven right by virtue of recent insights in the neurological and cognitive studies that have only been presented within the past years. Although the scientific empirical evidence has yet to be found for a numerous concepts, theories and questions concerning the relation between music and emotion as well as music and film, the field of study seems to grapple the issues at hand with increasing expertise and interest. Having been a rather neglected field of study within film theory, film music seems to receive greater attention from different academic disciplines. It will be interesting to see in the future, if new cognition, gained in the neurological and cognitive studies, will facilitate new perspectives on established schools of thought in film theory, such as the hierarchical paradigm informing much of the theory on film music, and give rise to new approaches to the interesting intersection between two art forms, music and film.

As it has come forth in the illustration of technological developments, current production practices and working routines, some of the basic structures of scoring have prevailed throughout the last decades despite new technologies. A composer, who writes for live musicians is still dependent on music editors, music supervisors, orchestrators, arrangers, copyists and part extractors in order to see the project through – even more so, the increasing number of composers with limited orchestration and notation skills makes the work proficiency of orchestrators and arrangers necessary and irreplaceable.

The increasing possibilities of composing, mixing and recording technology makes the technical skills and literacy of the composer's staff paramount in the working process. The practice of mock-up scores has brought the possibility of achieving consensus between composer, director and producer at an early stage of the scoring process and decreases the chance of wasting time and money for all parties involved. Yet the electronic mock-ups often employed in the scoring practice, can be considered a mixed blessing, since the precise mock-up, as was the case in the scoring of *Inception,* “dictates” the live musicians how to play and thus the authentic instrument and real-life player is no longer the hallmark of scoring.

Leaving the score's broad spectrum of functionality aside, the vastness and volume of *Inception's* score is striking. Its intensity and distinct articulation, can arguably be regarded as a

development similar to other aesthetic changes in contemporary film, such as the ever increasing cutting frequency prevalent in many film genres today. While minimalist composers seem to gain more popularity and recognition, composers like Zimmer add a new definition of "minimalistic approach", by composing in a minimalistic manner, yet producing, orchestrating and mixing their scores in a maximum manner. Viewing film music in historical scope, the recurrence of the romantic idiom in the 1970s and 80s, notably represented by John Williams and other classically trained composers, seems to make room for the growing generation of composers such as Zimmer, who haven't enjoyed thorough classical musical training and sooner have a background in pop or jazz. In addition, the emergence of new composing and recording technologies has spawned notably faster composing practices. Not only do these developments increase the possible productivity of a film composer, it stands to reason that the changes the scoring industry is undergoing technologically, also alter the creative process to the extent of leaving less time for genuine musical creativity. In the past year of 2011, Hans Zimmer has scored five large feature films, two documentaries and one video game[40]. Though the rate of production is naturally also a matter of personal character, career and preferences, it is questionable what effect the speed, at which scores are churned out by many present day composers, has on the musical quality of film scores throughout. The developments in recent film scoring, particularly in Hollywood, are certainly not all as daunting, since there is a vast variety of film composer and there are presumably as much working styles in composing as there are composers. But the general tendency of the industry seems to suggest higher speed, higher productivity and less room for musical creativity, which unfortunately renders film scoring, once more, as a practice, whose nature seems much closer to craft than to a wholesome art form with an inherent integrity.

Concerning the scholarly discourse on film music, technological achievements have proven to be a blessing, since brain stem research and neurological experiments begin to contribute substantially to the understanding of perceptual processes such as watching (and hearing) a film. Thus neurological research gives us deeper insight into how film music works and affects us. Such cognitive approaches may facilitate a discourse on film music, which avails itself of empirical evidence and bases its reasoning on liable reviewable findings. In combination with other theoretical perspectives, the cognitive approach holds the possibility of creating a interdisciplinary discourse on film music, which benefits not only the subject itself, but which also contributes to a convergence of different fields of study broadening the spectrum of insight and knowledge.

40 Source (last access 28/4/2012) http://www.imdb.com/name/nm0001877/

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Media:

Film:

Inception ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Score in film ©2010 Warner-Olive Music, LLC

Featured preexisting music:

"Non, je ne regrette rien", written by Charles Dumont and Michel Vaucaire, performed by Edith Piaf, Courtesy of Emi Music France, under license from Emi Film & Television

"Aboun Salehoun", written by Youssef El Mejjad and Pat Jabbar, performed by Amira Saqati. Courtesy of Barraka el Farnatshi Productions

Score album:

"Inception -Music from the motion picture, Music composed by Hans Zimmer", ©2010 WaterTower Music.

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2.12 Orchestration

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3.11 Edith Piaf's *„Non, je ne regrette rien“* in *Inception*

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Fig. 2.2.1 Close-up of exhibition print.

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Fig. 3.3.1 Schematic illustration of dream levels

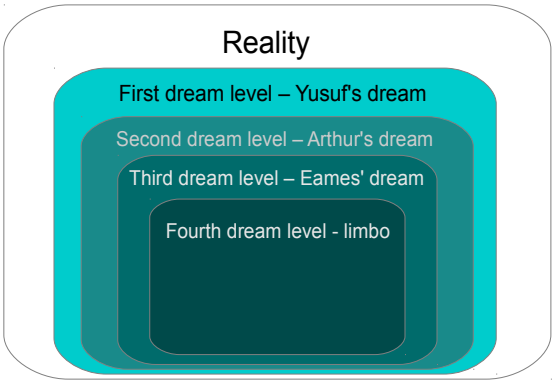

Fig. 3.8.1 Cobb and spinning top; totem. *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.8.1.1 Time, notation for piano – first eight bars. Generated with Logic.

Fig.3.8.1.2 Time, notation for piano – last eight bars. Generated with Logic.

Fig. 3.8.4.1 Spinning top totem at the early on and in the last shot. *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.9.1 Cobb and Mal on train tracks to exit limbo. *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.9.1 Waiting for a train – string motif. Generated with Logic.

Fig.3.9.2 Waiting for a train – ostinato – scale in Am. Generated with Logic.

Fig.3.9.3 Waiting for a train – guitar motif. Generated with Logic.

Fig.3.9.4 Waiting for a train – chords- played in lingering spherical electronic sounds. Generated with Logic.

Fig.3.9.5 Waiting for a train – climax. Generated with Logic.

Fig.3.10.1 Shot of teenager and Nash (00:12:54). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.10.2 Onset of the song *«Non, je ne regrette rien»* (00:12:56). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.10.3 Cut to Nash in dream state (00:13:02). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.10.4 Shot of Ariadne and Cobb (00:28:16). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.10.5 Shot of Ariadne as she wakes up, (00:28:19). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.11.1 Shot of Miles (00:24:41). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.11.2 Miles introduces Ariadne to Cobb (00:24:48). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.12.1 Cobb and Ariadne watch as the Parisian quarter folds on top of itself (00:30:04). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.12.2 Shot of bypassing couple (00:30:59). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.12.3 Shot of Cobb and Ariadne (00:32:08). *Inception* ©2010 Warner Bros.

Entertainment Inc. and Legendary Pictures

Fig.3.12.4 Shot of Mal heading towards Ariadne (on the left), (00:33:19). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Fig.3.12.5 Shot of a knife in Mal's hand (Ariadne's perspective) (00:33:23). *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Picture material on front page: *Inception* ©2010 Warner Bros. Entertainment Inc. and Legendary Pictures.

Appendix

i. Musical terminology

Music's constitution, its properties and basic architecture, is a very complex topic and I will try to outline some of the most relevant and major aspects of it in the following:

Tonality is a system to organize and structure sounds around one focal point, one single note, the «tonic», which is the center of a key. This note is the tonal anchor of the piece of music and will determine its harmonies, which are informed by the music's movement away and towards the tonal center. Tonality appears in different forms, depending on the cultural background of the piece at hand. Western tonality appears in various modi - an important distinction being the one between minor and major mode.

Melody - Since the middle of the eighteenth century tonal music has developed to favor of melody. Melody is constituted by a succession of notes, formed in a discernible manner. Though motifs in film music are often constituted as melodies, they need not be melodic. Melody is an effective means in musical language, often employed to give the piece at hand a memorable thread and a guideline assigned to certain thematic entities or characters in the diegesis.

Harmony - the constellation of notes played together determines their harmony. In tonal music, harmony is informed by the movements towards and away from the tonal center. The further notes or chords move away from the tonal center the more dissonant the notes sound, whereas the closer they move towards the tonal center the more consonant they appear. The harmonic movements are often referred to in terms of tension and relief, harmonic dissonance relating to the former, consonance relating to the latter. Dissonance is associated with discomfort and instability, while consonance is perceived as stable and orderly. Harmony is often not as recognizable as melody in music, but the harmonic dynamics of a piece of music guard significant power over the «feel» of the music.

The *texture* of sound can be described as the interrelation between different lines and layers of sounds (and/or music) present in a scene (or a piece of music). A general observation about the texture of sound can be made by determining its liveliness - whether the different strands of sound/music appear busy or rather calm. Another capacity of texture is the impression of density, according to how the lines of sound interact with one another, how they sound in terms of volume

and timbre and how many of them there are.[41]

> In music, a texture can be thickened by doubling a strand (as by adding an instrument), especially at intervals other than the octave or unison. Thickness is also influenced by spacing. When strands occur in approximately the same register, the sound will be thicker than is the strands are separated by register. (...) lower notes seem to have more «mass» than higher ones and so create a much denser aural impression.[42]

The texture of a piece/ a scene can be monophonic, meaning that only one layer or line of melody is heard. For instance, a monologue or just a single voice heard without any background sound, is an occurrence of monophonic texture. If several lines of melody occur in a piece of music and these lines move along the same rhythmic pattern, the texture is homophonic. When several musical lines move independently and equally within a piece, the texture is polyphonic. Musical formats such as the canon, where generic lines of song are repeated in a contrapuntal manner, are polyphonic. A frequent constellation of texture is the concept of melody and accompaniment, a heterogeneous formation of a musical line in the aural foreground of a piece and a rhythmical distinct accompaniment in the background. If a piece of music consists only of accompaniment, lacking any form of melody, the texture is called a-melodic. While monophonic texture is situating a melody in the foreground of the aural space, a-melodic texture is usually set in the background. A-melodic texture in film can be used to the benefit of establishing the mood and tempo of a scene, since the spectator will more likely focus on details of the scene such as setting and place[43]. If a dialogue takes place and we hear music underscoring the scene, we can categorize the texture of the scene as melody (dialogue) and accompaniment (underscoring music). The aural foreground is occupied by the dialogue, which usually stands higher in the aural hierarchy of sound, while the music playing in the aural background sets the mood of the scene and can enhance a certain perception of the scene's tempo. The texture of a scene can change throughout its course by changing the relation between foreground and background of a scene's sound scape

Tempo - One of the basic aspects of music is tempo. Tempo is Italian for «time». In relation to music tempo designates the speed of tact in a piece of music. Music's tempo is decisive to our ability to organize the sounds and the music we hear. Between 60 and 75 beats per minute is experienced as an average tempo. Beat rates under this range are perceived as slower, while beat

41 Buhler, James; Neumeyer, David; Deemer, Rob, *Hearing The Movies – Music and Sound in Film History* (Oxford: Oxford University Press, 2010), 47.
42 Ibid., 47.
43 Ibid., 52.

rates above 60 to 75 beats per minute are usually perceived as faster. The reason why we instinctively perceive some tempi as faster and some as slower is our own heart beat which usually lies at a tempo of 60 and 75 beats per minute. As the heart beat to the human body, the tempo is the pulse of music.[44] Tempo does not only occur in music, but it also appear in other sonic features of the film, e.g the pace of speech in dialogue or the pace of foot steps, heard on the soundtrack and in the visual since cutting rates transport a sense of visual tempo as well. Oftentimes a coherence between the cutting pace of a sequence and the music accompanying it.
In terms of musical tempo there are two terms used to indicate the tempo of a piece: *accelerando* and *ritardando*, the former referring to a gradual augmentation of tempo, the latter referring to slowing down the tempo. Tempo can be notated and structured into the form of meter, a periodical time interval, enclosing an organized group of beats (duple or triple meter). The repetition of a meter is referred to as a measure or bar.[45]

The *dynamics* in sound are defined as the range of volume in a piece of music. The physical force of sound, its perceivable loudness, is described as volume. While volume can be measured technically by its amplitude in decibel, it is hard to fathom how loud exactly we hear sound individually. In cinematic practice the range of dynamics is set between 0 and 105 decibel with 0 being the threshold of hearing.[46] In musical notation the volume at which to play certain segments of a piece are noted in Italian, ranging from *pianissimo* (pp) «very soft» to *fortissimo* (ff) very loud. How the volume played eventually shows on the technical amplitude of the piece recorded is determined not only by the initial volume of the orchestra but also by the sound engineer altering the recording dynamics by editing and by means of positioning the microphones. In musical terms the increase of volume is called *crescendo* and the decrease *diminuendo* or *decrescendo*.

Timbre can be defined as a sound's coloration. For instance the same note can be played by a piano, a trombone or a whole orchestra, with the timbre shifting significantly each time. Also the sound of a voice or a clock ticking possesses a particular timbre. A voice can be low-pitched, sonorous, high-pitched, clear, raspy, thin, shrill, throaty or have some other timbral assets that determine its sound. A door can be slammed shut with a low and thick thud, a high-pitched squeak or a rattling bang. Timbre is a potent device in both music and sound design. On a technical level the sound engineers working on the mix of a film's sound scape, its textures and hierarchical shifts in volume and so forth, can determine the timbre of a sound or music to a certain degree by means of distortion. A

44 Ibid.,36.
45 Ibid., 37.
46 Ibid., 39.

common timbral effect is the reverb on somebody's voice or instrument, or even someone's footsteps. Other aural alterations can be determined by the placement of microphones while recording. The timbre of an instrument will also change when the musician alters the volume at which he/she plays. The timbral quality of an instrument changes not only by alternating the force (volume) of playing but also with the pitch played. The timbre of a flute for instance in accordance to how high or low the pitch played is. This capacity evident in instruments, sounds and voices is called *tessitura.* [47] Individual timbral assets of instruments also influence the timbre in a larger ensemble. By deciding on the orchestration of a certain piece of music, the composer or arranger also decides on the timbre of a piece. Like the composer/arranger does within the musical realm, sound engineers will often take to layering the initial sound recorded with other sounds in order to achieve a particularly forceful result. This practice constitutes a form of *sweetening.*[48]

47 Ibid., 42.
48 Ibid., 43.

ii. Inception (2010) -
time line and musical cues

0:00:00	Credits (Warner Bros. Pictures, Legendary Pictures, Syncopy)	*Half Remembered Dream* (Time motif) piano chords with reverb, low-pitched horns join in with crescendo, playing double beat
0:00:40	Shots of waves, whitewater	The last note of the horns of *Half Remembered Dream* coincides with the first diegetic sound – music fades over to diegetic sound of water and breaking waves
0:00:55	Close-up shot of Cobb lying facedown in whitewater; raises his head	Low-pitched rich texture of strings enters; diegetic sound of sea and sound of childrens' laughter
00:00:58	Shot of boy and girl playing in the sand alternating with shots of Cobb gaining consciousness in the water	High-pitched notes with spherical texture; moderate horns in the background, descending notes with string quality, hard to define particular instrument, high pitched strings
00:01:12	Cobb raises hand; shot of children	High pitched strings blend into high-pitched scream of girl not fearful but in delight (moderate reverb suggesting «memory»)
00:01:16	Cobb lies back down, closes eyes	Descending notes play on – fade into low soft rumble of waves with rich bass
00:01:18	Rifle pokes Cobb in the back; guard discovers pistol in Cobb's belt, gives notice to other guard in Japanese, big Japanese mansion by the coast and beach in the background	high-pitched strings fade in (tension/danger) crescendo
00:01:34	Indoor shot of big guarded room, an old man by the table is told in Japanese (lowered voice) that Cobb was found asking for him by name, Cobb gets brought in, is fed, Saito talks «Some radical notion»-Cobb raises head	With shot to indoors low-pitched drum sound, almost gong-like, strings tremolos, horns clear sound of top spinning on the table, crescendo strings and horns wafting in and out --> Cobb's clear voice off-screen (flashback and sound advance)
00:02:46	FLASHBACK: Saito eating, explanation of extraction, Cobb talking	Very low-pitched, subtle drums in the background, as Cobb says «your defense is never down» (roll of drums, distorted noise) grows to steady background noise; noise of party guests as Saito leaves the room
00:04:13	Arthur: «He knows.»	Rolling rumbling sounds increase, glass lamps shiver increasingly (rumble reveals itself to be diegetic, not non-diegetic)
00:04:23	Close-up of Cobb's watch	Rumbling and massive solid sound of clock hand ticking and increasing in speed; accompanied by increasing volume of rumbling, swirling sound turned into
00:04:26	Explosion in crowded street, pedestrians running, riot scenes	Diegetic sound of explosion and street scene
00:04:30	Cobb asleep in chair	Light, high-pitched pumping sound of dream device, high string tremolo alternating with deep string tremolo abrupted by explosions, rich texture
00:04:50	Nash checks Arthur's state, checks	Low beat sets in, higher bass notes fade in, sound

	Cobb's watch, close-up on clock hand	of ticking clock decreasing speed,
00:05:05	Exploding car in the street	Sound of explosion – altered into «slow motion» - sound in lower speed and deeper tone level
00:05:07	Cut back to mansion, Cobb and Arthur walk outside, building begins to fall apart	High horns, ticking sound, like very low ticking of a clock, underscoring the conversation between Cobb and Arthur
00:05:26	Arthur: «What is she doing here?»	Bass in low pitch set in
00:05:30 – 00:06:56	Cobb tells Arthur, he will deal with her and turns to walk up to Mal, conversation with Mal that clarifies and explains their relationship, Cobb's climbs down building, Mal leaves chair, Cobb slips down	Low-pitched bass tones that form the melody of *Waiting For A Train*, accompanies Cobb's and Mal's conversation in higher notes, song continues through set changes as conversation continues, conversation underscoring
00:06:58	Cobb climbs back up towards window, breaks in, kills guards, breaks into vault	*One Simple Idea*;Ticking beat with soft timbre, guitar strings play melody, dissonant horns, strings in minor, high-pitched strings, diffuse base sounds
00:07:57	Saito: «Turn around!»	Sound of lights being turned on; one low bass key, soft timbre, low-pitched strings, distorted up tempo element (sounds like distorted laughter, wheel spinning), pulse beat (like heartbeat) in a medium tempo
00:08:22	Saito: «Now hand me the envelope, Mr. Cobb» [...]	Low-pitched and layered strings
00:08:34	Saito: «That you steal from me or that you're actually asleep?»; cut to Arthur, Mal shots Arthur in the knee	*Dream Collapsing* sets in as camera cuts to Arthur; clear guitar strings
00:09:06	Mal threatens to shot Arthur's second knee, Cobb leaps across table to shot Arthur; Arthur wakes up in first dream level, house falls apart, Cobb escapes under gunfire, cuts to Mal and Saito	*Dream Collapsing* continues, now with strong pulsing uptempo strings, deep rumbling diegetic sounds of building collapsing, gunshots and so forth
00:10:17	Cut to first dream level, Arthur tries to keep Saito asleep longer, tells Nash to wake up Cobb	High-pitched strings pause and beat continues in different texture but same tempo *Dream Collapsing* melody continues
00:10:27	Cut back to mansion collapsing	Back to first *Dream Collapsing* version
00:10:36	Cut back to first dream level, Nash tries to wake up Cobb without luck	*Dream Collapsing* version with strings and high tension now continues despite the alternating cuts between first dream level and second dream level
00:10:57	Cobb gets throws into bathtub to be woken up, picture slows down to very slow speed	Music is mimicing the visual deceleration of speed by decreasing tempo and falling into lower keys, sound of ticking from high tempo to very low tempo
00:11:06	Cobb hits the water	Distorted sound of water splashing low-pitched
00:11:11	Cobb watches water hit in the building he's standing in	Beat of windows being successively broken by flood of water, water splashing
00:11:24	Cobb dives up from water in the bath tub	Distorted low-pitched rotor sound as Cobb dives up

00:11:46	Cobb interrogates Saito	Diegetic sound of riots, horns and strings as conversation underscoring
00:12:30	Nash looks out the window explosion hits, cut to sleeping face of Nash in a train	Rotor sound explosion sound – «hits» and «shakes» head of Nash sleeping
00:12:38	Arthur and Nash asleep in train, dreaming on the dream device Japanese boy looks at his watch, close-up on clock hand	Long drawn low-pitched synth sounds, distorted to metallic texture, high tempo ticking of watch, lingering sounds with layering
00:12:56	Japanese boy pushes PLAY; on Nash's headphones music starts playing,	In high-pitched tremble Edith Piaf's «Non je ne regrette rien» begins to play
00:13:02	cut to Nash in first dream level	Edith Piaf's *«Non, je ne regrette rien»* distorted – one note of horns is drawn out to extreme reverb and fades out
00:13:07	Shots in first dream level	Pulsing low-pitched beat as conversation underscoring; Edith Piaf's *«Non, je ne regrette rien»* lingers in the background for a few notes
00:13:32	Saito on the floor, Cobb threatens him	Sound of rioters coming closer, music fades out almost completely, some very slight and distant hints of Piaf's voice?
00:14:05	Saito «I'm still dreaming.»; cut to zeroing alarm on dream device, Arthur wakes up,in reality	Sound of Edith Piaf's *«Non, je ne regrette rien»* on player, alarm clock beeping
00:14:16	cuts back and forth between first dream level and reality	in first dream level diegetic sound of rioters and horns, distorted voices,
00:14:44	Nash wakes up, argument with Arthur and Cobb	Music changes into diegetic sound and distant drum beat
00:15:12	Cobb plans to get off the train in Kyoto and says «I don't like trains. Every man for himself.»	Distant dark drumbeat, --> cue for high-pitched faster beat over low-pitched drums, crescendo of low-pitched horns
00:15:14	Shot of bullet train approaching Kyoto	Diegetic train sound and low-pitched horns crescendo, drums
00:15:29	Saito awakens alone in his seat, young guy looks at him briefly, Saito looks outside the window	Single string note appears in cluster-like sound texture, music fades out towards the end of the shot
00:15:39	Shot of city at night, bird perspective	Shot starts with very low-pitched drum beat, rich bass, sound cluster of big city sirens
00:15:54	Cobb in hotel room, turns spinning top, raises his gun	*Waiting For A Train* lingering high-pitched sound fades in as top spins, fades to lower volume as it falls (evidence that Cobb's not dreaming any longer)
00:16:22	Phone conversation with kids	High-pitched sound grows louder, low-pitched strings enter as boy says he is OK, distant horns,
00:17:17 -00:17:38	James asks about his mum; cut to Mal looking into the camera, wind blowing in her hair (flashback/memory)	*Waiting For A Train* Soft low-pitched drumbeat sets in, strings in minor set in
00:17:48	Knock on the door, Arthur tells Cobb: «Our ride's on the roof.»	Light beat, distant horns very low, distorted guitar chords, conversation underscoring

00:17:16	They leave; Cobb: »By now they know we failed. Time we disappear.»	Crescendo of music as they turn to leave and cue «By now they know we failed», high tempo low-pitched strings set in, pulsing rhythm
00:18:32	On the roof, they discover Saito to be sitting in the helicopter, the beaten-up Nash next him, shot of Cobb and Arthur looking shocked	Punctuation with low bass drum sound, soft texture, high-pitched strings (suspense), low-pitched string tremoli,
00:18:55	Nash gets dragged out of helicopter by guards, perspective from helicopter taking off down to Nash getting dragged away	Low-pitched strings in minor climbing gaining volume and texture, diegetic sound of helicopter taking off
00:19:10	Wide angle shot of helicopter flying over the city	Off-screen conversation, flute notes set in over low-pitched bass strings, soft-textured pulse-like drums , low-pitched horns,
00:19:23	When asked what he wants from them Saito answers: «Inception.» [...]	Cue to change in music, higher tempo of drums in conversation underscoring as Arthur explains the problem with inception
00:20:03	Cobb: «Then I choose to leave.»	Pulsing medium-pitched strings set in, strengthening the beat, fade-in of horns climbing in volume and scale
00:20:19	Saito as Cobb and Arthur leave helicopter: «How would you like to go home? To America.»	Music fades out for brief moment. Marking the crucial element of it in the narrative
00:20:26	Cobb answers, conversation Saito and Cobb, agreement to try Inception	Low-pitched bass strings set in, bass tremolos, thick texture – essentially two chords
00:21:35 – 00:23:21	Helicopter takes off with Saito, conversation Arthur and Cobb, going to Paris, conversation Cobb and Miles	Only diegetic sound
00:23:23	Cobb tells father-in-law how he believes he can return home	High-pitched horns with distorted texture set in, single note
00:24:06	Cobb: «Mal won't let me.»	*Waiting For A Train,* ostinato as in conversation with kids turns towards Mal, single notes played sparsely throughout the conversation as high-pitched horns linger in the background
00:24:43	Father: «I got somebody better - Ariadne?» (off-screen voice), cut to hall where Cobb and father meet Ariadne as she leaves class, Cobb with Ariadne on roof, maze test, Ariadne continues to fail with mazes	Sound advance Beat sets back in, cue to *One Simple Idea,* high-pitched strings, chirping sound.
00:25:34	Ariadne turn block around and tries a differently shaped maze (circle) – same as in the credits; Cobb can't solve her round maze; shots of Arthur finding an industrial hall, assembling furniture and gear for dream session	Change of harmonies in music as Ariadne tries something different and seems to be getting ambitious with the idea of the maze; music continues through scene with Arthur in the industrial hall

00:26:11	Arthur opens case with dream device, Cobb's voice off-screen; Cobb with Ariadne in cafe	Music changes back to original harmony
00:26:33	Cobb explains cycle of creating a dream	High-pitched guitar notes set in, low-pitched strings set in, music calms down
00:27:08	Cobb:»..that something was actually strange. How did you get here.»	PROMINENT LACK OF MUSIC
00:28:29	Cobb: «How did we end up here?», Ariadne looks around	High-pitched strings one note fade in, dissonant, crescendo
00:27:40	Cobb: «Stay calm.», shot of coffee shaking in the cup	Sound of coffee cup shaking, low-pitched roll of bass, crescendo
00:27:43	Newsstand exploding, shots of buildings, fruit, chairs etc. exploding in slow motion	Sound reminiscent of bass exceeding speaker strength, explosion sounds in real time, music sets in crescendo strings and horns, bass bulbs
00:28:19	Ariadne want to ask why, wakes up in reality	Hard cut from high volume explosion to diegetic sound of Cobb talking to her in reality, Ariadne breathing heavily, Edith Piaf's *«Non, je ne regrette rien.»* playing in tremble, then seizes
00:29:06	Ariadne and Cobb re-enter dream	As she closes her eyes: sound of her exhaling, low-pitched roll of bass, as dream ensues diegetic sound
00:29:49-00:33:27	Ariadne: «Once you start messing with the physics of it all...»; Ariadne folds up Paris, creates bridge from her memory, Cobb's subconsciousness	*Radical Notion* enters in crescendo, mounts further to the sequences climax where Mal stabs Ariadne. As Ariadne wakes up, music seizes
00:33:55	Arthur explains totem to Ariadne, we hear his voice off-screen as we see Cobb place his top on a table and turns it	*Time*
00:34:19	Cobb exhales in relief when top topples, Ariadne complains and leaves, Arthur and Cobb talk about Eames, Arthur says Eames is in Mombasa	*Time*
00:35:02	Cobb: «We need a forger.»	Strings and horns seize
00:35:03	Shot of Mombasa from the air, shot of Eames at a gambling table	music enters abruptly – HARD CUT in video and audio, low-pitched slow tempo synth chords, light high tempo percussion, high-pitched synth melody on top of bass synth sounds; diegetic sounds of gambling table
00:35:14	Camera swings up and show Cobb standing behind Eames, he greets him with remarking Eames' handling of chips	Music drops to low-pitched bass level to accentuate Cobb's sudden appearance
00:35:38	Eames agrees to get a drink with Cobb, cashes in chips	Additional layers of sounds are applied to sound track
00:35:40	Shot of Eames and Cobb sitting by window, Cobb: «Inception.»	High-pitched rhythmic synth sounds remain indicating slight suspense and high activity

		dark horns, slow notes, bass impacts, high-pitched horn in long drawn notes
00:36:42	Eames:» You have to start at the absolute basis.»-»The relationship with the father.»	Only high-pitched horns linger, accentuating the importance of Eames' statement
00:36:56	Eames: «Once you lost your tail.»	High-pitched strings fade in gently, almost lost in the diegetic sound of conversation and ambiance at cafe
00:37:14	Eames starts towards Cobb's tail: «Freddy – Freddy Simmons!»	Build-up of high activity drums with soft texture, high tempo
00:37:19	Cobb jumps from balcony, cue of *Mombasa* as he hits the ground	*Mombasa*
00:37:18 – 00:39:20	Chase sequence	*Mombasa* High activity and suspense portrayed in the soundtrack blending with gunshots and other diegetic sound – scene in the cafe – as the suspense – the music seems to be pending – when Cobb is discovered , music gets back to its full-blown character
00:39:20-00:39:30	Cobb gets picked up by Saito, picks up Eames	Music lowers tempo, fades into strings, then seizes
00:39:33	Cut to Arthur as Ariadne returns	Only diegetic sound
00:39:50-	Training sequence with Arthur and Ariadne	Variations of melody of *One Simple Idea*
00:40:18	Infinite staircase – as effect ans gap in the staircase is revealed visually, dropping bass sound can be heard	Dropping bass-sound mimicing drop of the camera
00:40:19	Training sequence continues	Dropping bass sound is used to fade in low-pitched strings in the tempo of *One Simple Idea,* continued with higher pitched strings, conversation underscoring
00:41:09	Arthur tells Ariadne Mal is dead	High-pitched strings of *Waiting For A Train*
00:41:25	Meeting with Yusuf	Beat continues, low-pitched strings
00:42:50	Yusuf shows them dreamers in the cellar	Music lingers and almost fades
00:43:44	Cobb's dream; shots of Mal, train tracks	Dissonant sounds, piano chords, distant high-pitched horns
00:44:23	Cobb at sink, Saito «Are you fine?»	Dissonant high-pitched ringing sounds, strings and horns fade in
00:44:35	Conversation Cobb and Saito	Horns, beat reenters
00:44:55		Guitar strings enter
00:45:33	Eames shows picture of Browning	Shift in music, more bass-sound, rumble of drums as Eames mentions that *references* are his speciality
00:45:48	In Browning's office	Crescendo horns as distant beat continues, accentuating his power, heightened tempo
00:46:14	Browning opens doors to room where Fischer senior lies in his sickbed, junior stands at window, senior accidently throws down picture	*528491* enters; crescendo of horns and strings, accentuating the entrance into the «realm of power»

00:46:43	Fischer junior picks up broken frame with picture of him and his dad – picture is crucial for narrative towards the climax, close-up shot of frame picture, conversation between Browning and junior stresses importance of picture and reveals senior's neglect of junior, bitter comment by junior,	*528491* continues throughout the scene
00:47:12	Junior calls Browning «Uncle Perry»	
00:47:17	Shot of Browning with worried look, Eames' voice off-screen «The vultures are circling...»	Use of sound advance (Hearing The Movies, p.94)
00:47:24	Shot of Eames elaborating on relationship between Fischer and Browning	Sound-match of voice and visual; *One Simple Idea* enters with the shift of location
00:47:24-00:47:44	Eames trains for impersonating Browning – montage of Eames elaborating and shots of Eames training	*One Simple Idea* continues
00:47:58	Cut from Eames to establishing shot Paris at nightfall; Ariadne prepares totem	*One Simple Idea* continues, bass bulb at cut to Paris-shot, percussion enters, volume increases, low-pitched strings
00:48:44	Cobb mentions that the totem-thing was Mal's idea	*Waiting For A Train, h*igh-pitched strings play melody
00:48:59	Ariadne explains set of mazes to Cobb	Soft texture beat sets in; simple melody plays in some soft synth (like bells or xylophone)
00:49:15	Cobb says: «Only the dreamer should know the layout.»	High-pitched strings play one high note (suspense, tension)
00:49:30	Ariadne confronts Cobb with Mal's sabotaging effects in his mind, Cobb tells Ariadne why he can't go home	Lower strings enter, music becomes more prominent, increasing volume --> variation of the *Time* motif in high-pitched piano synth
00:50:07 – 00:51:12	Cut to conference with the entire team	Bass bulb at cut to conference; low-pitched bass-sound; heightened tempo with high-pitched synth sounds playing variation of *One Simple Idea* motif (high-pitched guitar strings
00:50:30	Cobb shows newspaper clippings	*One Simple Idea* changes tonality to higher register
00:51:14	Cut to montage joined dream where the team creates the plan how to planting the idea on several levels in Fischer's mind	Bass bulb; Tonality of motif jumps up to higher register again; higher volume, increasing the anticipation/tension towards the venture
00:51:17	Cut from shot of Ariadne and Yusuf sleeping to the team standing on a big city crossing	Very low-pitched bass-sounds, some with metallic texture occur and blend into rhythm guitar strings more prominent; the bass-sounds cause an impression of heavy construction
00:51:31	Cut to Yusuf trying out several dream levels, sedated Arthur, cut to	Strings enter, melody line

	conversation between Arthur and Yusuf; cut back to sedated Arthur Ariadne looking as Yusuf tests on Cobb	montage --> low-pitched horns
00:51:58 00:52:06	Sound advance of off-screen voice (Yusuf) as we see shot of Ariadne, then Yusuf in the laboratory, then Eames and Ariadne dreaming, then Cobb and Yusuf talk as team listens (scene where conversation takes place)	Sound advance; horns, dissonant sounds of horns and high-pitched synth sounds, whistle-like sound effect
00:52:28	Ariadne: «Who would want to be stuck in a dream for 10 years?»	High-pitched strings enter, motif in minor
00:52:45	Eames kicks chair of Arthur demonstrating a «kick» to Ariadne, Cobb explains	Drop to low-pitched variation of the *One Simple Idea* motif
00:52:59 - 00:53:14	Yusuf explains inner ear function, tipping, kicking shots of Arthur	High-pitched synth tone enters and is drawn over several shots *One Simple Idea* motif in yet a lower register
00:53:13	Arthur suggests the musical countdown as a kick	
00:53:14	Cut to Ariadne and Arthur dreaming	Edith Piaf's *«Non, je ne regrette rien»* enters with cut, high reverb, high tremble, last measures played
00:53:21	Arthur wakes up, looks over to Ariadne	As *«Non, je ne regrette rien»* seizes, *One Simple Idea* motif enters with high register
00:53:24- 00:53:28	Shots of Ariadne explaining maze to Arthur, off-screen voice Eames and Cobb	Sound advance
00:53:29	Shots of Eames, Cobb and Saito, conversation	Bass-sound enters, drops and drops again in register
00:53:38 – 00:54:13	Shot of Saito saying: «Sydney-Los Angeles – one of the longest flights in the world...», Shots of Fischer entering a plane, shots of workers on the ground looking suspicious	Montage of shots alternating between conversation and Fischer by the plane; conversation between Saito and Eames+ Cobb underscoring continuing towards the end of the conversation scene the music fades out, only slight high-pitched strings lingering
00:54:14	Shot of Ariadne in the preparation hall at night time, approaching Cobb dreaming	Strings fade out; diegetic sounds of dream device and church bells, traffic
00:54:40	Ariadne attaches herself to dream device	Diegetic sound fades out into soft textured swoosh
00:54:41	In an old-fashioned elevator Ariadne reaches floor with hotel room as elevator descends	Diegetic sound of elevator moving, music fades in, one note in minor atmospheric gloomy sound texture, breathe or hissing texture/layer fades
00:55:00	Elevator decends further floor where Ariadne sees Mal and Cobb	Hissing texture continues as high-pitched strings enter, *Half-Remembered Dream* motif enters in

	sitting by the window in a house; Mal «you know how to find me.» Ariadne observes conversation between Mal and Cobb from elevator	soft but high-pitched strings
00:55:27	Mal suddently looks at Ariadne (straight into the camera)	Stinger – high volume orchestra, large cymbals
00:55:29	Cobb looks where Mal is looking, shot of Ariadne shifting in the elevator	With stinger *We Built Our Own World* enters with low volume, diegetic sound dominant
00:55:52	Cobb: «These are my dreams.»;he and Ariadne in the elevator, going up to 12; shot of «dream floor» from the elevator, beach, Cobb looks at his kids and wife at the beach; back in the elevator, moving down	Strings fade in, crescendo *We Built Our On World*
00:56:35	Ariadne realizes that those are not dreams but memories	Minor chord of *We Built Our On World*
00:56:45	Cobb mentions regret;	
00:56:51	Ariadne tries to push the basement-button «What's down there that you regret?» Cobb stops her Cobb explains «one thing you need to understand about me», they stop at floor of Cobb's last memory of his kids	Music «pauses» in low-pitched bass-sound
00:56:58	They enter the floor, Cobb explains the situation back then	Distant piano chords and high-pitched strings
00:57:28	Cobb turns to man who says «Right now or never, Cobb.» as his memory including man handing him a flight ticket unfolds we hear Cobb's voice off-screen, then on-screen as he takes flight ticket he describes his feeling	Sound advance/flashback in this scene the disappearing line between dream and memory becomes apparent as Cobb finds himself in the memory, acting in the memory and at the same time explaining his feelings he had back then to Ariadne
00:58:07	Ariadne backs away, Cobb describes his notions and feelings	Motif of *Waiting For A Train* sets in
00:58:18	Ariadne runs to elevator and pushes the basement-button	Diegetic sound of next floor, with big cargo train passing
00:58:39	Ariadne reaches basement and enters burglered hotel room	No music, only diegetic sound, thick sound texture of low noise that is hard to define, police sirens in the distance, big city ambient sound enters through the open windows
00:58:53	Ariadne steps on wineglass	Sound of breaking glass; ringing sound of glass is oddly distorted and drawn to a sharp high-pitched sound, stinger-effect for the shot of Mal sitting on the sofa, noticing Ariadne because of the breaking glass
00:59:02	Mal asks Ariadne what she is doing	High-pitched strings/metallic sounds fade in,

	there	tension, volume increasing as Mal approaches Ariadne, blending with sirens in the background
00:59:16	Ariadne: «I'm just trying to understand.»	Strings become clearer, Paradox motif fades in
00:59:47	Mal talking about waiting for a train: «But you don't know for sure.»	Dissonant string chord is played
00:59:52	Mal takes broken wineglass «How can it not matter to you where the train is taking you...» Cobb enters and explains to Ariadne that this is where Mal and him used to meet at their anniversary	Low-pitched bass-sound fades in, indicating danger and tension, strings continue with bass-sound underscoring conversation --> the word «anniversary» marks the climax of the crescendo bass and strings
01:00:03	Mal starts towards Ariadne with broken wineglass	two stingers high volume horns
01:00:06	Cobb and Ariadne flee into elevator as Mal sprints towards the grate of the elevator, yelling and jolting the grate	Stinger of fast crescendo strings with high volume
01:00:08	Mal is furious; Cobb telling Mal he'd come back	Crescendo of low-pitched hissing under diegetic sound with bass
01:00:17	Cobb and Ariadne in elevator ascending, leaving desperate and furious Mal behind	Only diegetic sound
01:00:23	Screen fades to black	
01:00:24	Shot of Ariadne awakening, Cobb wakes up, Ariadne: « Do you really think that's going to contain her?»	Only diegetic sound, conversation, silent ambiance
01:00:46	Saito: « It's time.», (voice off-screen) Cobb looks up, Arthur and Saito enter, inform Ariadne and Cobb that Fischer senior has died in Sydney	Cue to simple beat of *One Simple Idea,*
01:01:10	Ariadne: «The team needs someone who understands what you're struggling with.»	High-pitched clear distant horns fade in over beat
01:01:20	Cobb turns to Saito: « Get us another seat on the plane.» and gathers papers by knocking them on the desk	--> loud sound effect giving cue to quick increase of music volume
01:01:21 -	Shots at the airport, they watch the coffin being loaded into the plane; Saito telling Cobb that he won't hace trouble getting through Immigration if he completes the job	Louder beat and low-pitched synth playing variation of melody *One Single Idea*
01:01:41	They board the plane	Guitar strings fade in playing *One Single Idea*
01:01:46	Shot of Arhtur and Ariadne settling in the cabin	Distorted horns

01:01:50	Fischer junior enters cabin	High-pitched distorted horns mark
01:01:52 -	Eames blocks Fischer's way in the aisle -->steals passport from Fischer junior	Tonality changes into lower register, high-pitched horns, undistorted, guitar strings grow more prominent
01:01:59	Eames hands passport to Cobb	
01: 02:12	Cobb pockets passport	High-pitched strings in minor enter, adding suspense
01:02:15	Shot of plane taking off	Diegetic sound covers music almost completely, high volume
01:02:19	Shot of Fischer, Cobb and Eames sitting behind each other	High diegetic sound of plane taking off, cabin ambiance
01:02:24	Cut to close-up of Cobb's hand handling a ampoule of sedative	Lowered volume of ambient diegetic sound full orchestra strings playing long notes in minor
01:02:31	Cobb taps on Fischer's shoulder handing him his passport, they both order water	Strings fade to low volume, guitar strings more prominent SHIFT TO HIGHER REGISTER
01:02:40	Fischer and Cobb interacting	High-pitched strings in the background, guitar strings,
01:03:05	Cobb: «To your father.»	Strings fade almost out as guitar strings become more prominent
01:03:20	Cobb takes out blanket from overhead locker to check if Fischer is sedated	SHIFT TO LOWER MINOR REGISTER, cuing the next phase of the plan
01:03:27	Stewardess closes the curtains and gets dream device	Music volume increases, strings set in, taking over motif of the guitar SHIFT TO LOWER REGISTER
01:03:36	Arthur puts down dream device in the middle of the aisle	SHIFT TO HIGHER REGISTER
01:03:38	Team extends cables of dream device and wire up	Full orchester horns and strings set in
01:04:00	Yusuf nodds to stewardess, cut to stewardess behind the dream device, reaching out and --> pushes the button	Increasing volume to higher dramatic effect, crescendo strings to one note (climax) hydraulic hissing sound effect followed by bass sound effect with descending note as she pushes button; cut to shot of Cobb exhaling, sinking his shoulders;
01:04:03	shot of hand falling off the arm rest.	Bass sound effect increases to wafting with sound effects, reminiscent of over- amplified sound, underscored by sound effect resembling the sound of a plane-take-off
01:04:07	Shot of Yusuf standing at a crossing with a suitcase as rain is purring down	PROMINENT LACK OF MUSIC, diegetic sound of traffic, cars honking, heavy rain falling
01:04:55	Arthur gets into hijacked cab, hears music playing, turns it off	Diegetic oriental music playing in the cab
01:05:28	Massive train hits car with Cobb as he picks up Ariadne from a street corner	Loud sound effect of metal hitting on metal

01:05:44	Conversation between Eames and Fischer is disrupted by gun-shots	High-pitched gun shots, swooshing of bullets, squealing tires, rain falling, conversation, yelling etc. little other external sounds
01:07:15	After escaping the gunfight with cab, Arthur asks Saito if he is ok, he lifts his hand from his chest to reveal he's been shot in the chest	Cue to massive bass-sound and soft-textured synths suggesting tension/danger
01:07:24	Team arrives at the cargo hall	High-pitched synths set in
01:07:36	They drag Fischer out of the car	Low-pitched rough-textured tremolo fades in
01:07:40	Cobb and Arthur take care of Saito, argument, Arthur explains subsecurity defends himself	Beat fades in and lingers in the background as argument unfolds
01:08:22	Eames intervenes and hurries to shoot Saito but is stopped by Cobb	Music fades to high-pitched soft-textured strings and horns in the background
01:08:32	Yusuf tells Eames that sedation is to heavy to be able to wake up by a kick,	Rumble of bass-sound to suggest danger and gravity of information Yusuf is giving, dropping bass-sounds follow to accentuate the demoralizing news Cobb gives his team; high-pitched strings
01:09:20	Eames makes sarcastic remark about situation, shot of worried panicky Cobb	High-pitched synth sound fade in
01:09:25	Cobb walks off; Ariadne looks lost; they take care of Saito	Low-pitched bass-sound with soft texture sets in
01:09:30	Arthur confronts Cobb and Yusuf	Two beats with thick bass texture fade in; horns still lingering, two beat-measure continues, grows to more distinct timbral/kettledrum texture, enriched by bass strings
01:09:55 – 01:10:30	Cobb: «There is a way out...» - «Let's go shake'em up.»	Strings in minor set in, melody in minor
01:10:30	Arthur and Cobb interrogate Fischer, ask him about safe combination	Beat sets in, slow melody in bass strings sets in over beat
01:11:19	Yusuf hands Eames picture of Fischer with wind wheel	Accentuation, higher pitched strings set in
01:11:37	Eames turns into Browning and screams	Only bass strings remain, fade to lower volume
01:11:47	Fischer gets nervous as «Browning»'s screams continue	Recurring tremolos of synth beats; low-pitched, some lingering high-pitched strings
01:12:05	«Browning» gets brought in and is chained next to Fischer, conversation Fischer and «Browning»	Music fades out
01:13:18	Cobb and Ariadne look after Saito	Bass sounds set in, high-pitched horns
01:13:30	Saito talks to Cobb «Filled with regret.» Saito says he'll come back and he will land with Cobb	More distinct bass strings set in, tremolos --> high-pitched strings in major suggesting «hope», back to lower sound effects
01:14:03 - 01:14:42	Cut back to Fischer and «Browning»	Light single notes strings, conversation underscoring, strings grow stronger, additional

		layers of horns and strings fade in
01:14:45	«Browning»: «He loved you, Robert.»; Fischer tells last words of his father	*528491* fades in and grows stronger
01:15:28	Cut to Ariadne confronting Cobb «When were you in limbo?»	High-pitched synth sounds; *Waiting For A Train* fades in
01:15:59 01:16:20	Cobb begins to tell about working with Mal and getting stuck in limbo with her; «When we wound up on the shore of our own subconsciousness cut to Cobb's memory: beach, whitewater, Mal	*Waiting For A Train* continues, slightly growing volume, Cobb's and Ariadne's voices, sound of rain in the background increases when Cobb and Ariadne talk in cargo hall
01:18:48	Cobb: « She came up with a plan on our anniversary.», shots of Cobb in the hotel, entering the room, open windows, finds Mal sitting on the ledge of the building on the other side of the street	*Waiting For A Train*
01:19:49	Mal: « Come out onto the ledge or I'll jump right now.»	*Waiting For A Train*
01:21:07	Mal jumps	*Waiting For A Train* 05:52
01:21:10	Cut back to Cobb and Ariadne in the cargo hall; flashback cuts to scene at Cobb's house when he saw his kids for the last time	
01:21:47	Ariadne tells Cobb what fuels Mal in his dreams	*Paradox* motif appears for a short moment
01:22:14	Shot of man on the roof, Fischer's security sniper	Roll of bass-sound
01:22:16	Cobb: «We have to move.»	High-pitched high tempo percussion fades in quickly, resembling *Mombasa*
01:22:37	Fischer: «528491.»	*Mombasa* 03:18
01:22:52 – 01:23:32	Fischer and «Browning» are led to van; Arthur takes first shot at sniper	Low volume bridge of *Mombasa* (01:41)
01:23:33	Arthur Eames shots at snipers	*Mombasa* (02:39)
01:24:02	Eames: «You mustn't be afraid to dream a little bigger, darling.» - shots -	*Mombasa* (03:18)
01:24:18 - 01:25:21	Team leaves cargo hall with a van, car chase, Yusuf pushes button	*Mombasa* --> last percussion beats of Mombasa to accentuate pushing the button
01:25:22	Second dream level, Eames as lady at bar to Fischer: «Am I boring you?»	High-pitched horns linger in the background
01:25:32	Fischer reacting, cut to Ariadne and Arthur sitting in the lobby; Eames as lady leaves; steals Fischer's	Synth beat sets in

	wallet; conversation between Fischer and Cobb aka «Mr. Charles»	
01:26:20	Arthur explains concept of Mr. Charles to Ariadne	Beat fades down – synth sounds fade in, more prominent
01:26:33		Beat sets back in
01:27:00	Shaking elevator as Eames and Saito speak; Eames has Fischers wallet and pulls out picture of Fischer with wind wheel; Saito: «Turbulence on the plane?»	As shaking sets in high-pitched strings fade in shortly
01:27:05 - 01:27:10	Cut to first dream level where van gets chased down	
01:27:11	Cut to shot of Fischer's glass, water shaking; conversation between Mr.Charles aka «Rodd Greene from marketing»; Saito in elevator coughing as Eames leaves on one floor	Glasses clanging, subtle high-pitched strings, low volume on beat high-pitched synths
01:28:01	Conversation between Mr. Charles and Fischer is disrupted by breaking glass, shot of Cobb's kids	Sound of breaking glass is distorted and ringing
01:28:12	People in the bar stop talking and turn to look at Mr. Charles	Ambient conversation seizes, ringing of breaking glass fades out, only subtle synth sound remains
01:28:25	Cut to Saito on hotel floor being followed by man, starts running, dumps wallet in laundry shaft	Crescendo of synth with horn texture
01:28:36 01:28:06	Cut to first dream level where car chase is continuing; shot of Cobb asleep in slow-motion, getting splashed with water through car window	Only diegetic sound «slow motion-noise» in lower frequency
01:28:43	Cut back to bar; Mr. Charles remarks extreme weather to Fischer, shot of water shivering in Fischer's glass; Ariadne to Arthur:»What's happening?»	High-pitched guitar strings with *One Simple Idea* motif starts
01:28:55	Arthur explains again	Guitar strings very prominent and distinct, no beat, roll of bass in the background
01:29:00	Shot of lobby while people passing by stare at Ariadne and Arthur; kiss	crescendo of bass strings
01:29:19	Cut to first dream level	Only diegetic sound
01:29:23 - 01:29:29	Slow-motion slide of the van	Sound effect: sound is also in slow motion on lower frequency, helicopter sound
01:29:30	Cut back to second dream level, shot of Fischer's glass with tilting water, shift in gravity	Little music, only slight high-pitched strings
01:29:43	Cobb: « You're in a dream.»	Distorted bass sound, strings set in, two beats with thick bass texture fade in, sound of rain hitting a window, high-pitched horns set in, strings grow

		with textural density and volume, growth to larger orchestration
01:30:23	Cobb: «Extractors try to pull you into a dream.»	Subtle but wide texture of strings and horns
01:30:38	Cobb takes Fischer out of there	Beat sets in with subtle variation *Radical Notion* strings repeating the same descending measure of notes
01:30:48	Cobb and Fischer start running, confronted in a mens room	Higher tempo with additional layer of percussion sets in
01:30:56	Cobb pulls away gun from second man entering the mens room, strikes down the first man entering Cobb strikes down second guy	Stinger of low-pitched sneering horns high-pitched strings two gun shots one shot – strings seize
01:30:58	Fischer: «Why...»	Diffuse sound in the background, mostly diegetic sound
01:31:05	Cobb gives Fischer gun	High tempo soft percussion beat sets in
01:31:12	Cobb: « I need you to work with me, Mr. Fischer.»	High-pitched strings fade in
01:31:21	Cobb sees Fischer as he points the gun to his temple	Bass-sound sets in, beat is slow with synths lingering after every beat
01:31:38	Cobb tries to talk Fischer out of it	Strings set it, percussion fades out, beat remains
01:31:51 01:31:56	Cut to Ariadne and Arthur entering a hotel room they enter room 491 Arthur: «This room should be exactly below room 528.»	 Clatter of percussion as they go through the door
01:32:00	Arthur gets explosives from save	Percussion beats with soft texture
01:32:11	Cut to Cobb and Fischer in the mens room	High-pitched horns set in different beat sets in which doubles the descending measure from earlier, motif of *Mombasa* appears in soft low-pitched synths
01:32:27 – 01:33:12	Fischer remembers circumstances from first dream level	Beat grows clearer – mimicing the process in Fischer's mind low-pitched strings set in and take over as beat fades out
01:33:13	Cobb: «We should try hotel room numbers.» Fischer remembers the first two cipher	Two beat-measure sets in, low-pitched strings continue
01:33:25	Cobb calls Arthur to tell him the first two numbers	Strings and beat continue
01:33:26	Arthur receives Cobb's annoucement «Fifth floor.» - «Yup.» installs explosives on the ceiling, explains to Ariadne	Synth beats grow clearer; *Mombasa* (0:27:0:30)
01:33:58	Cobb and Fischer arrive on the 5th floor in elevator	Guitar strings fade in and tune in to *Mombasa*
01:33:58 – 01:34:21	Fischer selects room 528	crescendo of music

01:34:23	Cobb and Arthur break into the room armed	Jump of volume level as they enter the room
01:34:40	Fischer: «A dream within a dream?» Cut to Saito walking in the hotel hall meeting real Browning	*Mombasa* motif fades out
01:34:43	Saito mistakes Browning for disguised Eames	High tempo synth beats set in, soft
01:34:50	Saito apologizes to Browning	Change of tonality
01:34:58	Eames suggests to Saito to follow Browning	Change in tonality
01:35:04	Arthur shushes the others in the hotel room as sounds at the door can be heard	High-pitched strings and lower pitched horns set in quick crescendo
01:35:10	Arthur throws entering Browning to the ground	Climax of dissonant horns
01:35:11	Cobb asks Fischer if he saw Browning being tortured	High-pitched strings linger, dissonant high-pitched whistling
01:35:21	Fischer becomes suspicious of Browning, Browning lowers his eyes	Low-pitched cello in minor sets in
01:35:30	Fischer confronts Browning	Low-pitched strings grow, thick bass texture
01:35:40	Fischer gets loud «I wouldn't throw away my inheritance. Why would I?»	Strings start playing *528491* motif in minor with various layers of high and low strings
01:36:16	Browning: «You can build a better company...»	high-pitched horns set in; Fischer's heavy breathing becomes prominent in the sound track
01:36:50	Ariadne asks question «Whose subconsciousness are we going into?» Cobb explains	Thick texture, full blown orchestration; low volume, long drawn notes of high-pitched horns, daunting
01:36:54	Shot of passed out Fischer	Music seizes
01:36:55	They wire up to dream device; Arthur: «He's gonna help us break into his own subconsciousness.»	Soft beat appears, low-pitched horns
01:36:59	Eames gets wired up	Second single beat sets in, clean metallic low-pitched texture, one beat, cluster of beats following
01:37:09	Cobb has flashback of curtains blowing in the wind (anniversary hotel room)	High-pitched strings set in, minor, climbing volume, beat lingers
01:37:24	Shot of curtains blowing open	Strings and sound of blowing curtains
01:37:26	Third dream level Cobb in snow camouflage aiming with a rifle	Strings seize; blowing of the wind low-pitched, high-pitched whistling like in a ventilation shaft fades in, rattle of fine textured percussion
01:37:34	Off-screen voice of Ariadne: «Cobb, Cobb.» as we see Cobb's look through the bulls eye	The sound texture of Ariadne voice is very clean and «dry» without any reverb.
01:37:37	Shot of Ariadne and Cobb in mountains; snowy landscape	
01:37:39	Shot of Cobb	Blowing sound, very low-pitched bass lingers

		high-pitched percussion rattles; his breathing is prominent on the sound track
01:37:47	Ariadne: «What's down there for you?», shot of Cobb	Metallic synth sound effect with high crescendo
01:37:48	Cut back to hotel room where Arthur watches over the others, shaking ground, cut to car chase in first dream level	Hard cut to beat in strings, sound effects from car chase and ruptures in second dream level
01:38:02	Arthur gets out of hotel room	Strings growing in volume
01:38:13	Arthur walks down the floor, guard arrives via elevator, Arthur turns right	Shift to higher tonality, one high-pitched note played by strings
01:38:30	Arthur hides from guard, pulls his gun	Beat in strings to higher tonality; high-pitched note up as well
01:38:31	Guards knocks gun out of Arthur's hand, other guard pulls gun	Big horns theme appears as in *Dream Is Collapsing* (0:34) and *Dream within a Dream*
01:38:38	Cut back to first dream level; accident with motor cycle	Big horns continue
01:38:49	Van hits motor cyclist, shot of team on van being thrown around, cut to Arthur being thrown around by shifting gravity as he fights a guard, cut to Yusuf	Sound effect of impact, squealing car tires -->very low-pitched bass sound effects fade in
01:38:52	Shot of rear of van as it slide while Yusuf is taking sharp swing to the right, shot turn into increasing slow-motion, slow-motion shot of Arthur and Saito being thrown to the left in the van	The increasing slow-motion effect is mimiced by the sound effect, a multilayered bass-sound
01:38:55	slow-motion shot of Arthur and Saito being thrown to the left in the van	Bass sound is taken over by massive horns in long-long measure
01:38:57	Cut back to second dream level, Arthur fights with guards on hotel floor, loosing gravity	Sound effects of metal being bent threatening to break
01:39:00 01:39:05	Guard looses grip, falls down the tilted hotel floor, hits elevator doors, Arthur fights, car locks van against side of the road	Slow pounding beat; high-pitched rattling percussion sound effect, horns, dramatic build-up of *Dream Within A Dream*
01:39:11	Yusuf drifts off the road with van, Yusuf screams	PROMINENT LACK OF MUSIC, music seizes for 3 seconds, only breaking glass and Yusuf's scream is heard
01:39:14	Van shoots off road, slow-motion; team shown inside of the van, slow-motion, floating, close-up of Arthur	Music sets back in at same dramatic level
01:39:18	Arthur running along hotel floor which turns, fighting scenes in	Massive horns and brass set in with a long-short-short measure

01:39:35	hotel with shifting gravity	strings set in
01:39:37	Cut to van falling in slow-motion, cuts back and forth between fight in hotel, Arthur in van in slow-motion and van crashing	Strings with high tempo set in, horns back to long-long
01:40:14	Van crashes into buffer; Arthur shots guard	Music climaxes with gun shot
01:40:20	Arthur gets up, throws away the gun	High-pitched strings linger
01:40:21	Cut to Yusuf in the crashed van, laughs, drives off	Sound of rain falling, wind-shield wiper
01:40:32	Cut back to Arthur in hotel, walks into staircase for fire escape	Dark metallic synth sounds, strings
01:40:39	Cut to third dream level, team skiing in the mountainside	*We Built Our Own World* motif appears
01:41:25	Scene of team splitting up	*We Built Our Own World* motif continues
01:41:26 01:41:45	Cut to first dreamlevel, van on the bridge which is beginning to open, alarm sounds, back tires of pursueing vehicle are torn off by bolts in the asphalt, Yusuf breaks hard	Beat sets in under motif, pulsating high tempo strings beat takes over dramatic build-up til music is cut out sound of rain, breaking sound, bridge alarm sounding
01:41:53	Shot of bridge parting	Beat sets back in, dissonant horns, strings
01:42:01	Cut to third dream level	Multilayered percussion and beats, dissonant horns ringing in the background
01:42:09	Eames fires off light rocket, alarm, guards get busy	Cue to dramatic build-up of *Dream Is Collapsing*
01:42:53	Yusuf is stuck and puts headphones on Arthur Arthur in second dream level, hears music	Edith Piaf's *«Non, je ne regrette rien»* sets in over *Dream Is Collapsing* after two measures Piaf seizes into big reverb, scene with Arthur in staircase, massive reverb of various bass and metallic sounds
01:43:08	Eames hears music in third dream level	Low-pitched strings set in, Piaf in large reverb is lingering over the mountainside
01:43:20		Distant horns
01:43:23	Cobb: «We move fast.» snowchase	Beat and strings of *Dream Is Collapsing* sets back in
01:44:01	Cobb calls for Eames on the radio Eames in snow chase on ski James-Bond-style	Higher tonality of *Dream Is Collapsing* sets in
01:44:26	Cobb argues with Ariadne	Lowered volume, conversation underscoring
01:44:36	Ariadne calls Saito, snow chase continues	Higher tonality, longer more dramatic notes
01:44:53	Cut to first dream level	
01:44:56	Cut to second dream level. Arthur in the staircase, followed by a gunman	
01:45:04	Arthur tricks gunman and holds him over abyss	Music lowers volume, descending sound effect mimics visual as camera swings from above to

	Arthur: «Paradox.» 01:45:11	below the stair step before the abyss, to illustrate the optical trick, music fades into massive horns and brass long-long measure as in *Dream Is Collapsing*
01:45:23	Yusuf drives van off the bridge	Music seizes, slow motion mimicing sound effects,
01:45:25 - 01:46:41	Cuts between three dream levels	Only diegetic sound, avalanche falling, conversation
01:46:42	Cobb: «When the van hits the water.» cut to slow-motion shot of team in van in free fall	Low-pitched strings, echoing sound effect of synth, soft slow beat
01:46:58	Shot of Arthur floating in hotel	High-pitched strings play unknown melody, music low in volume
01:47:36	Saito and Fischer blow off ventilation cover to get into the building	Explosion marks shift in music, horns long-long measure sets back in, dramatic build-up
01:48:34	Arthur floating in hotel floor, guard hides behind coffee trolley	Sudden shift in tact and tonality - WEIRD
01:49:05	Cut back to Saito and Fischer	Beat changes to higher tempo, strings dramatic build-up
01:49:39	Shot of Cobb and Ariadne taking down soldiers	Strings peak in register, seize, beat remains, more percussion, low-pitched horns
01:49:48	Cobb and Ariadne inside, sniper shooting	Strings set back in
01:50:05	Arthur assembling the team in mid space, cuts to Fischer and Saito, Cobb, Eames, back to Arthur	Dramatic build-up in tonality
01:50:33	Cut to snow hummer	Build-up starts from bottom but increases faster
01:50:41	Cut to Arthur	Same built-up starts from bottom and increase - flattens out
01:50:48	Cut to Fischer and Saito who got inside and have to be quiet	Musics builds up slower and less but horns and strings build up quicker
01:51:07 01:51:15	Cut to Eames, he throws grenade to snow hummer gunman on hummer takes grenade into his hands	Only strings no horns music cut off -->explosion, high tempo beat fades in after explosion
01:51:22	Cut to Arthur maneuvering his pack of humans to the elevator	High tempo low-pitched strings
01:51:32	Cut to Fischer as he carefully opens gate out of ventilation shaft	Shift to higher tonality, builds up, strings keep climbing
01:51:41	Fischer walks towards locked chamber	Dramatic build-up, increasing volume
01:51:58	Mal appears	Music fades out, whistling note or sound effect lingers
01:52:00	Shot of Mal from Cobb's perspective, she pulls a gun	Low-pitched pounding beat sets in
01:52:03	Cobb realizes it's Mal; Ariadne begs him to not let her ruin the	Whistling note grows in volume, various ringing sound effects fade in, ticking sound sets in,

	enterprise	
01:52:07	Cobb: «How do you know that?»	high-pitched horn with reverb sets in
01:52:10	Ariadne alarmed: «She is just a projection.»	Pounding beat grows louder, hissing sound effect fades in
01:52:13	Shot of Fischer and Mal walking towards the locked chamber, shot of injured Saito	Pounding beat and distorted high-pitched horns linger, two whistling sounds in different pitches
01:52:18	Mal shots Fischer	
01:52:21	Cobb shots Mal cut to Eames heading to the building, cut to Arthur maneuvering floating team to elevator	Massive horns set in, *Dream Is Collapsing* builds up in register
01:52:35	Shot of Arthur continues; cut to Eames checking on Saito, making his way to Fischer and Mal	Horns and strings tune in with up tempo beat-measure
01:52:56	Eames reaches Fischer and gets defibrillator, tries to help Fischer	Up tempo beat fades out; low-pitched strings and dry-textured low-pitched drum tremolo grows prominent,
01:53:07	Ariadne and Cobb arrive; Eames: «What happened?»	Strings slowly grow to higher pitch
01:53:14	Shot of dead Mal, shot of Cobb reacting	Music fades to low volume
01:53:22	Cobb: «It's all over.»	Music fades almost completely out; low-pitched strings in low volume and low tempo;
01:53:28	Cobb says he's sorry, takes off his backpack	theme of *528491* starts with low-pitched strings and continues
01:53:45	Ariadne: «There is still another way.»	Higher pitched horns grow in volume – (*528491* – (0:15)), various layers of dissonant horns
01:54:23	Eames agrees to Ariadne's proposal	High tempo strings set in *528491* (0:49) crescendo of strings, increasing tempo and register
01:54:53	Fourth dream level, Ariadne in the whitewater; coast, cliffs;Cobb wading towards her	Massive horns *528491* (2:02) three horn blows, low-pitched drum/bass sound reoccurs
01:55:12	Cobb helps up Ariadne	Diegetic sound of “house cliffs” crashing, sound of the sea shore
01:55:26	Cobb: «This is where she'll be.»	Strings and distorted horns set in crescendo of various sounds
01:55:41	Slow-motion shot of can falling, cut to Arthur in the elevator	High-pitched hissing fades in, bass-sound rolls as visual shifts to Arthur
01:55:52	Arthur getting elevator set with explosives	Low volume, high-pitched strings set in *528491*
01:56:04	Cut back to third dream level, guards approach, Eames tries to help Saito	Strings in staccato descending notes sets grows more prominent; diegetic gun fire
01:56:37	Eames handles defibrillator on Fischer	Sneering horns long-long-short-short-long-long set in, crescendo, music low in volume, gun fire more prominent, dramatic build-up
01:56:44	Cut to fourth dream level	Music fades out
01:56:51	Ariadne and Cobb walk down	Low-pitched strings fade in, distorted horns with

	avenue between skyscrapers of debris	high reverb as shots of destroyed city appear, theme of *Dream Within A Dream* slowly fades in (03:00 – onwards) without guitar
01:57:02	Shot of numerous large towers as camera swings up	Sound track mimics the «rising» buildings in the distance but crescendo of sneering low-pitched horns
01:57:13	Shot of Ariadne and Cobb walking in the street, first as close-up, then hand-held camera from the top of a building (suggesting Mal is watching?)	*Dream Within A Dream* without guitar strings
01:57:27	Cut to Arthur wiring up elevator, testing explosives	*Dream Within A Dream* grows louder guitar strings set in (03:25)
01:57:51	Cut back to fourth dream level Cobb and Ariadne, Cobb shows Ariadne different houses Mal and him lived in	Low volume on music
01:58:38	Cut to Eames taking down guards	Volume of music jumps up simultaneously with visual cut, gun fire
01:58:47	Cut to Arthur as he sets explosives live	Volume increases, strings mark beat, dramatic build-up
01:59:16	Cut to Cobb and Ariadne entering an elevator; Ariadne: «How are we gonna bring Fischer back?»	High tempo high-pitched strings set in *Dream Within A Dream (04:40)*
01:59:25	Cobb: «There is something you should know about me, about Inception.» ; cut to Eames fighting	Dramatic device to cut back to Eames; music increases volume as visual cuts back to Eames, increases dramatic underscoring for what Cobb is about to say
01:59:29 -01:59:39	Eames in trouble	
01:59:40	Cut back to Cobb and Ariadne as they exit elevator; Cobb:»An idea is like a virus, resiliant, highly contagious...» ; Cobb takes up his gun;	Single low-pitched drum beat as visual cuts to fouth dream level;music fades to lower volume, strings and beat are cut out, fades down to high-pitched strings, reverb
01:59:47	«..the smallest seed of an idea can grow, it can grow to define or destroy you.»	Change to different tonality
01:59:57	Shot of Mal from Cobb's and Ariadne's perspective; conversation ensues	Roll of drums at beginning of shot, *Old Souls* sets in
02:00:27	Mal: «No creeping doubts? Not feeling persecuted, Dom?...»	High-pitched strings set in *Time* motif in different tonality
02:00:40	Mal strokes Cobb's cheek	Piano notes set in; low in volume
02:00:48	Mal: «Choose. Choose to be here.Choose me.»	Increasing volume of strings, crescendo of music, indicating danger
02:00:52	Cut to Eames fighting, thrown down a jutty	Low-pitched strings pounding beat, increasing dramatic build-up
02:01:02	Cut to Arthur, gets prepared, looks after Saito worried, shot of Saito in	High-pitched strings take over pounding beat, increase in liveliness

	elevator and Saito in fourth dimension	
02:01:15	Cut to first dream level; van falling in slow-motion	Fast decrease of volume, beat fades out, soft roll of drums; high-pitched soft timbre synth sound remains,
02:01:17	Cut back to close-up of Cobb's face held by Mal's hands; conversation between Mal and Cobb	high-pitched synth sound
02:01:32	Mal: «Our children are here.»	Low volume piano notes fade in
02:01:39	Cut to Eames, gunning	high-pitched soft-textured synth sound , gun shots
02:01:45	Eames installs explosives	Low-pitched synths fade in
02:01:54	Cut back to Mal and Cobb	Low-pitched synths fade out
02:02:04	Mal calls children	Low volume on low-pitched synth sound, stinger-effect
02:02:14	Mal: « What if I am what's real?» - «What do you feel?»	Distorted high-pitched horns fade in reverb
02:02:26	Cobb: «Guilt.»	Low-pitched strings in minor fade in
02:02:43	Mal: « What truth?»	High-pitched strings play motif of *Waiting For A Train*
02:02:44	Cobb: «That the idea, that caused you to question reality, came from me.»	High-pitched strings in minor, increasing volume
02:02:53	Shot of Mal reacting «You planted the idea in my mind.»	Low-pitched drum beat
02:02:59	Ahot of Ariadne looking worried: «What is she talking about?»	Low volume on low-pitched horns
02:03:05	Cobb explains why he knows Inception works, conversation between Ariadne and Cobb	High-pitched stings in minor set in
02:03:13	Flashback shot of Mal and Cobb walking on the beach, off-screen voice of Cobb: «We were lost in here.»	Low-pitched horns, high-pitched strings
02:03:18	Shot of Mal in front of her childhood house, shot of Mal approaching doll's house with safe inside	*Waiting For A Train* theme (05:40)
02:03:28	Cobb: « She had locked away something, something deep inside.»	Low-pitched horns as Mal opens safe and off-screen voice of Cobb says «...deep inside...»
02:03:40	shot of Cobb searching for the totem (spinning top)	High-pitched strings of *Waiting For A Train* diegetic sound of safe opening; Cobb's off-screen voice
02:03:49	Cobb finds safe, opens it	Cobb's off-screen voice; diegetic sound of safe opening
02:03:57	Cobb: «And I planted an idea, a simple little idea that would change everything.»; shot of Cobb setting the top spinning; close-up of spinning top; top in safe	Cobb's off-screen voice; diegetic sound of safe opening; crescendo high-pitched strings in minor; *Waiting For A Train* (4:30); diegetic sound of spinning top, sound of closing safe

02:04:09	Shot of Mal and Cobb walking by the shore of a bay, skyline in the background; rails in the foreground; shot of Mal saying: «That death was the only escape.»	Low-pitched synth bass-sound; spinning sound fades out, *Waiting For A Train* strings
02:04:21	Close-up of Mal lying down on rails; they join hands as Cobb lays down with her	*Waiting For A Train* strings low-pitched horn/bass with metallic heavy texture
02:04:28	Cobb: «You're waiting for a train...»	*Waiting For A Train* strings
02:04:29	Shot of rail veneer shaking, shivering gravel; shot of Mal looking worried	*Waiting For A Train* strings crescendo, diegetic sound of rail veneer rattling
02:04:33	Cobb: «A train that will take you far away.»	Low-pitched rumbling bass-sound grows louder
02:04:36	Cobb: «You know where this train you hope will take you.» (Cobb raises his voice against increasing rattle and bass-sound); close-up of Mal's face; cuts between Mal, Cobb, joined hands and shivering rail veneer;	crescendo *Waiting For A Train* strings, increasing rattle and rumble
02:04:45	Cobb: «But it doesn't matter – now tell me why.» raises voice against the noise	Rattling grows stronger; very high-pitched strings indicate approaching danger
02:04:48	shot of Cobb and Mal as freight train heads towards them, Mal:»Because we'll be together.» Train hits.	Very high-pitched strings; train noise; swooshing sound effect quick crescendo
02:04:50	Cut to Mal lying on the floor of their house, holding hands with Cobb, red sunset light, Mal gets up	Low volume high-pitched strings linger; off-screen voice of Cobb
02:05:02	Shot back to Cobb in fourth dream level	Piano chords set in over high-pitched strings as in *Time* (03:36)
02:05:12	Flashback shot to Mal letting one shoe slip off the hotel ledge; cut back to Cobb in the fourth dream level	Low volume, high-pitched fragile strings
02:05:16	Mal jumps	Rumble of cymbals, more distinct percussion texture, crescendo full orchestration; *Waiting For A Train* (05:53) Off-screen voice of Cobb screaming
02:05:17	Shot of Cobb screaming	*Waiting For A Train*
02:05:19	Cut back to fourth dream level; Mal cries, conversation between Cobb and Mal	crescendo strings --> ticking beat sets in *Waiting For A Train* (05:59)
02:05:34	Cut to first dream level, van falling in slow-motion; third dream level, Saito, Eames, guards approaching	*Waiting For A Train* continues, diegetic sound on third dream level
02:06:13	Saito falls unconscious; shots of	Higher register *Waiting For A Train* (06:52)

	Eames.	
02:06:30	Cut to second dream level, Arthur sets off Edith Piaf *«Non, je ne regrette rien»* on Eames' headphones; shots of Arthur kneeling down in a corner of the elevator, explosives blinking	Edith Piaf *«Non, je ne regrette rien»* features in *Waiting For A Train* and is much stronger in volume
02:06:40	Cut to third dream level where Eames abruptly stops as he starts hearing the music with strong reverb; runs towards Fischer and turns on defibrillator	Edith Piaf *«Non, je ne regrette rien»* with strong reverb, strings and massive sneering horns set in diegetic sound of the defibrillator charging
02:06:51	Defibrillator shocks Fischer	Diegetic sound of defibrillator going off
02:06:53	Cut to fourth dream level, shot of Ariadne «feeling» the shock; shot of skyline with storm approaching; Ariadne: «We need to get Fischer.», Shot of Cobb desperately looking at Mal	Defibrillator going off manifests as lightning striking in the fourth dream level increasing volume of *Waiting For A Train*
02:06:56 – 02:07:19	Mal tries to convince Cobb to stay, Ariadne urges to leave; checks if Fischer is alive on the porch	Dramatic build-up in the music, increasing volume
02:07:20	Cut to first dream level, team asleep in the falling van, slow-motion	Dramatic build-up in the music, increasing volume
02:07:25	Cut to Arthur in the elevator, counting down	Dramatic build-up in the music, increasing volume, music levels in register
02:07:28	Cut to third dream level, Eames gives Fischer another hit with the defibrillator	music levels in register
02:07:30	Cut back to fourth dream level; Ariadne jolts up unconscious Fischer	music levels in register
02:07:33	Cobb joins hands with Mal	Ariadne's voice off-screen «He's here and it's time but you have to come now!”
02:07:36	Cobb: «Take Fischer with you.» ; Shot of Ariadne: «You can't stay here.»	*Waiting For A Train* (08:13)
02:07:42	Cobb: «I'm not. Saito is dead by now.»; Ariadne; Cobb says Mal doesn't exist; Ariadne checks if Fischer is all right, he is alive; shot of Cobb telling Mal she is just a projection	Music is taking a break from dramatic build-up as Cobb expresses hopelessness of the situation *Waiting For A Train* (08:19 – 08:42); diegetic sound of thunders growing louder turning point as Cobb says «I can't stay with her because she doesn't exist.»
02:08:28	Mal attacks Cobb with knife;Ariadne shots Mal, kicks Fischer off the balcony, shot of Fischer falling	*Waiting For A Train* (08:43); music burts back into dramatic build-up
02:08:39	Cut to rhird dream level; Fischer wakes up	*Waiting For A Train*

02:08:43	Ariadne aims at Cobb; he tells her no, shot of Ariadne; cut to third dream level where Eames tells Fischer to enter the locked chamber;	*Waiting For A Train*
02:08:50	Cut to first dream level; van falling in slow-motion	*Waiting For A Train*
02:08:53	Cut to second dream level, where Arthur counts down and ignites explosives; elevator shoots through shaft, team hits floor of elevator, Arthur is holding on	Explosion sound effect; *Waiting For A Train*
02:09:05	Cut to third dream level, Fischer approaches locked chamber	*Waiting For A Train*
02:09:11	As Fischer reaches for keypad	Music seizes; *Waiting For A Train* (09:25)
02:09:14	Fischer enters code and opens locked chamber	*528491* starts playing, diegetic sound of hydraulic doors opening
02:09:50	Fischer: « I know you were disappointed that I could't be you.»	*528491*
02:10:03	Fischer senior «No, no, no, I was disappointed that you tried.»	*528491* (0:49) «turn around» of music mimics the turn around in Fischer's mind – turn around/ moment of accomplishment in the narrative
02:10:07	Cut to second dream level, elevator heading to hit the wall	*528491*
02:10:37	Fischer senior gestures to enter the code on safe by his bed; cut to second dream level,; cut to first dream level., van very close to water	*528491* dramatic build-up in strings rising in register, music reflects climax in the Fischer-Fischer-narrative
02:10:58	Fischer junior opens safe to find testament and wind wheel, father dead, Fischer junior cries; cut to Eames pushing igniting the explosives	*528491*
02:11:17	Building in the mountains explodes	*528491* (02:03)
02:11:21	Cut to second dream level; elevator heads towards end of the shaft	
02:11:31	Cut to first dream level; van crashes into the water – in slow-motion	Massive bass-sound, along very low-pitched horns
02:11:34	Cut to third dream level;	
02:11:41	Building in the mountainside explodes	*Dream Is Collapsing* (01:34) fades in and takes over
02:11:42	Cut to fourth dream level; Cobb tells Ariadne to go	*Dream Is Collapsing*
02:11:52	Cut to third dream level; Fischer junior, building collapsing; Fischer junior falls	*Dream Is Collapsing*
02:11:56	Cut to second dream level; Fischer junior opens his eyes on elevator as	*Dream Is Collapsing*

	it crashes	
02:11:59	Cut to third dream level; shot of Eames falling	*Dream Is Collapsing*
02:12:00	Cut to second dream level; Eames opens his eyes on elevator	*Dream Is Collapsing*
02:12:02	Cut to third dream level; Ariadne in the debris	*Dream Is Collapsing*
02:12:05	Cut to fourth dream level; Ariadne: «Don't loose yourself! Find Saito and bring him back.»; Cobb: «I will.»	*Dream Is Collapsing*
02:12:11	Ariadne lets herself fall off the balcony	*Dream Is Collapsing*
02:12:15	Cut to third dream level; Ariadne gains consciousness; building falls apart	*Dream Is Collapsing*
02:12:23	Cut to second dream level; Ariadne gains consciousness; elevator hits	*Dream Is Collapsing* fades to low-pitched horns long-long
02:12:31	Cut to first dream level; as water splashes into the van in slow-motion, Ariaden opens her eyes	
02:12:34	The inside of the van; water hits in real time; shot of van hitting water in «faster» slow-motion than before	PROMINENT LACK OF MUSIC, diegetic sound hits like the water his the van; music has seizes
02:12:45	Cut to fourth dream level; shot of Mal; Cobb	PROMINENT LACK OF MUSIC
02:12:59	Shot of Cobb looking down on Mal; Mal: «Remember when you asked me to marry you?» -»Yes.» - «You said you dreamt that we grew old together.»	PROMINENT LACK OF MUSIC
02:12:58	Shot of Cobb looking down Cobb: «But we did.»	*Paradox* sets in with low volume high-pitched strings
02:13:04	shots of flash forward as Mal and Cobb walk down street as old people; close-up on old hands holding each other;shot of old hands joinded next to rail	*Paradox* Cobb's voice off-screen
02:13:12	Cut back to fourth dream level, Mal and Cobb; Cobb: «I miss you more than I can bear....	*Paradox*
02:13:22	Cobb: «I have to let you go.»	*Paradox* (0:25) horns set in
02:13:51	Cut to first dream level; van under water;	*Paradox*
02:14:04	Fischer gets out; helps «Browning» (Eames) to get out; Fischer and «Browning» walk to the shore, they sit down; «Browning»: «I'm sorry Robert.»	*Paradox* (01:06) cello sets in

02:14:18	Cut back to van under water: Ariadne shared oxygen with Arthur; Arthur tries to free Cobb; Yusuf gets out; Arthur can't get Cobb out	*Paradox*
02:14:47	Fischer junior and «Browning» by the shore, Fischer junior tells him what the will really meant – inception worked; 180-degrees-turn-shot; as «Browning»'s head is hid behind Fischer's is «changes» into Eames's head	*Paradox*
02:15:03	Arthur, Yusuf and Ariadne get out of the water; Arthur: «What happened?»; Ariadne tells him Cobb stayed to find Saito	*Paradox*
02:15:15	Shot of Cobb under water in the van	*Paradox;* low-pitched bass-sound
02:15:22	Cut to fourth dream level; breaking sea, whitewater	low-pitched bass-sound recurrs
02:15:25	Close-up shot of Cobb lying face-down in whitewater; raises his head; guard's rifle discovers gun in belt	Identical shots as in 0:00:55
02:15:33	Cobb gets dragged in to Saito's dinner room	string tremolo, horns Off-screen voice of Saito: «Have you come to kill me?»
02:15:37	Shot of Cobb with bloodshot eyes at dinner table	
02:15:41	Shot of Saito: «I'm waiting for someone.» Saito:»Cobb...impossible. We were young men together..I'm an old»	String tremolo low-pitched, low-pitched horns off-screen voice Cobb: «Someone from a half-remembered dream.» off-screen voice Saito: «...man...»
02:16:10	Cobb completes Saito's phrase: «...filled with regret.» Saito: «Waiting to die alone.»	String tremolo low-pitched, low-pitched horns
02:16:19	S hot of Cobb: «I come back to remind you of something,..something you once knew.»	String tremolo low-pitched, low-pitched horns string tremolo and spinning sound of sinner growing louder
02:16:35	Shot close-up of spinning top	String tremolo low-pitched, bass-sound, top sound effect Off-screen voice Cobb: «That this world is not real.» high-pitched strings set in
02:16:42	Shots of Cobb and Saito Saito: «To convince me to honor	*Paradox* sets in

	our arrangement.»	
02:16:50	Cobb: «To take a leap of faith, yes»; shot of Saito; shot back to Cobb: «Come back, so we can be young men together»	*Paradox* off-screen voice Cobb: «again.»
02:17:04	Shot of Saito	
02:17:08	Cobb: «Come back with me.»	
02:17:10	Shot of Saitos hand reaching out for the gun laying beside the spinning top	off-screen voice Cobb:»Come back.»
02:17:16	Shot of Cobb opening his eyes on the plane and gaining consciousness	*Paradox* blends over to *Time*
02:17:54	Shots of Fischer receiving immigration form; shot of Arthur looking over to Cobb, smirking, camera wonders on to Ariadne	Time growing to higher volume
02:18:09	Shot of Saito; reverse shot to Cobb, sot to Saito dialling number to fix immigration for Cobb; reverse shot to Cobb looking at Saito in disbelief	*Time*
02:18:27	A shot of immigration cue, office waves Cobb to his desk	Music tones down,
02:18:36	Shot of immigration officer	High-pitched strings hold high notes to indicate suspense of the moment
02:18:44	Shot of nervous Cobb	
02:18:47	Immigration officer looks up	Roll of bass-sound, crescendo low-pitched horns fade in
02:18:51	Shot of stamp hitting the passport	Guitar strings set in, dramatic punctuation in music
02:18:53	Immigration officer: «Welcome home, Mr. Cobb.»	*Time*
02:18:56	Cobb: «Thank you, Sir.»	Music grows in volume
02:18:59	Shot of immigration officer smiling, camera swings up to next counter where Ariadne gets checked, looks over and smiles at Cobb	Strings of *Time* grow louder,
02:19:01	Luggage belt scene	Guitar theme grows in volume; diegetic sound fades out
02:19: 30	Miles waving	
02:19:49	Shot of Cobb and Miles in the dinning room in his home	*Time* increasing volume
02:20:03	Cobb spins top on dinning table beside childrens' drawings	*Time* off-screen voice of Miles calls for James and Philippa
02:20:10	Shot of children playing on the lawn	*Time*
02:20:12	Shot back to Cobb	Music fades down to strings, no beat, low-pitched

		bass off-screen voice of Miles: «Look who's here.»
02:20:15	Shot of children on the lawn; Philippa looks up; James looks up smiling	Piano chords set in *Time* (03:37)
02:20:20	Shot back to Cobb: «Hey»	*Time* music fades to piano chords
02:20:22	Reverse shot of Miles smiling and children running to door, children get into Cobb's arms	*Time*
02:20:26	Miles enters house smiling	*Time*
02:20:28	Shot of Cobb with children hugging, camera slowly swings to top on table and zooms in on top as it threatens to tumble	*Time* diegetic sound of Cobb's and childrens' voices, spinning sound of top fades in and blends with high-pitched strings last second strings get «squeezed» into distorted high-pitched sound
02:20:53	Black screen	
02:20:55	«Inception»	*Dream is Collapsing* sets in slightly altered version
02:21:00	«written and directed by Christopher Nolan»...end credits	*Dream is Collapsing*
02:22:41	End credits	*We built our own world*
02:25:17	End credits	*One Simple Idea*
02:26:48	End credits	Edith Piaf's *«Non, je ne regrette rien»*
02:27:42	End credits	Deceleration of *«Non, je ne regrette rien»;* (brass)