

THE FILM SOUND ANALYSIS FRAMEWORK: A CONCEPTUAL TOOL TO INTERPRET THE CINEMATIC EXPERIENCE

 **ÁLVARO BARBOSA**

University of Saint Joseph,
Faculty of Creative Industries
abarbosa@usj.edu.mo

 **KRISTINE DIZON**

Universidade Católica Portuguesa,
Faculty of Human Sciences
kristine.j.dizon@gmail.com

ABSTRACT

Today, the importance of sound and music in film is well established and an integral part of professional workflows within the audio-visual production industry. However, Sound and Music Design in film has been explored creatively since the advent of Talkies in the 1920's. The most well-established practices for the use of sound in film always came from the inspiration of film directors, editors and composers, but in recent years the systematic use of Sound and Music in this media has become increasingly relevant in academic domains, as a subject of study and research. This article proposes a possible direction in addressing challenges presented by this growing academic field, by introducing a process for codifying and systematizing an initial grammar of Sound in Film, entitled the Film Sound Analysis Framework (FSAF). The FSAF is a tool for critical analysis of Sound and Music in Film, that is based on the relationship between Sound Semantics and Syntax from a Taxonomical and Applied perspective. Using the FSAF in longitudinal studies of film, allows for a systematic analysis by the observation of similar variables through the identification and assessment of patterns or trends, when using Sound to convey meaning and foster emotions.

Keywords: Sound and music design; Film studies; Analysis framework.

In recent years significant developments have occurred within the field of audio-visual studies, that parallel with on-going technological innovations. Michel Chion, one of the leading pioneers in the audio-visual studies field wrote the seminal book *Audio-Vision: Sound on Screen* (Chion, 1994), paving the way to understanding the relationship between hearing and seeing in this context. Chion suggests that three different listening modes exist: causal listening, semantic listening, and reduced listening.

Causal listening (Chion, 1994) involves identifying the source or origin of the sound equated with its cause. In this case a subject would listen to a sound in order to gather information about its cause. For example, the audience hears and sees a singer performing in a foreign language on stage. The singer would be identified as the source of the singing voice regardless of the audience's comprehension of the lyrics' meaning. On the other hand, with *semantic listening* the identification of the transmitted message is interpreted according to its code or language. The message transmitted can be codified in many forms, including language communication. In this case, the receiver will be able to interpret the message based on the subjects' familiarity with the semantic codes and corresponding meaning encapsulated in the message. In the previous example this would only occur if the singing was performed clearly and using a shared language with the audience. Finally, *reduced listening* is about the analytical and descriptive listening of sound that is disconnected from its cause. Chion gave the name reduced listening to the listening mode that focuses on the traits of the sound itself, independent of its cause and of its meaning (Chion, 1994, p. 29). In other words, reduced listening happens if the listener focuses only on the intrinsic features of a sound disconnected from its context. According to Chion these three modes are not mutually exclusive, since "one can listen to a single sound sequence employing both the causal and semantic modes at once" (Chion, 1994, p. 28).

Pierre Schaeffer introduced an earlier model of four organized listening modes listed in increasing order of complexity, namely *ouïr*, *écouter*, *entendre*, and *comprendre* (Schaeffer, 1967, p. 53). *Ouïr* (hearing in English) is about sound being passively perceived by the auditory system and is considered the crudest level of perception. An individual can hear passively without listening or understanding the sounds at hand. *Écouter* (listening in English) refers to an active listening experience when an individual can clearly identify the features of the sound source by listening in an 'utilitarian' mode (close to Chion's semantic listening). *Entendre* is a subjective listening mode and refers to what the listener chooses to hear. *Comprendre* (understanding in English) is the most complex level of listening, which refers to grasping the meaning and values of sound as one is capable of addressing and decode it. To some extent, Schaeffer's listening modes already include the ones described in the 90's by Chion that contributes more to understanding different levels of cognitive listening and interpretation.

An additional contribution to a possible theoretical framework of the listening experience was introduced by Pauline Oliveros, who described listening modalities in terms of the *voluntary* and *involuntary* nature of hearing. Oliveros suggests that voluntary listening creates a deeper appreciation of sound in a more meaningful way, through which humans connect and interact with the environment, technology and musical performance (Stewart, 2012). For example, if the audience is engaged with a film for an allotted period of time, throughout the course of the film, Oliveros suggests that the audience actively interacts with the construction of an understanding of the film through actively listening and seeing.

The theoretical concepts introduced by Schaeffer, Chion and Oliveros are instrumental for a theoretical study of sound perception and cognition. One can narrow down these modalities presented by the authors to higher level concepts of listening related with the *Meaning of Sound* (Chion's semantic and reduced listening; Schaeffer's *écouter*, *entendre* and *comprendre*; Oliveros' voluntary listening) or in terms of the *Structure of Sound* (Chion's causal listening; Schaeffer's *ouïr*, Oliveros' involuntary listening).

In addition to these theoretical concepts, Rick Altman approached the study of Film Sound from a historical perspective, defining it as "(...) to cause spectators to vibrate – quite literally – with the entire narrative space." (Altman, 1995, p. 207). If we take the point made by Altman and look at Film Sound as a sophisticated construct that contributes to create a credible and lifelike experience in the form of an audio-visual narrative, then we can also consider previous categorizations of sound as part of a sophisticated language used to design this narrative. Following this approach, we propose to analyse Film Sound following a metaphor of linguistics by considering the categories related with the *structure of sound* listening as part of the *syntax of film sound* and the categories related with the *meaning of sound* as part of the *semantics of film sound*. This categorization also follows the proposition introduced by Rick Altman in terms of a semantic/syntactic approach to film genre (Altman, 1984, pp. 6–18).

To provide an analysis framework, based on these categories, we propose to develop *taxonomies* for the syntax and semantics of Film Sound, in order to fully *understand* its structure and meaning. To complete the framework and make it as an actual tool to be used not only by scholars, but also by sound designers and practitioners, we propose to introduce an additional analysis dimension based the practical *application* of well know sound design *techniques* that can have a functional impact either at the semantic or syntactic level.

By intercepting these four analysis facets (syntax, semantics, taxonomy and application) in a matrix, we can design a classification space that becomes a conceptual instrument proposed in this article as the Film Sound Analysis Framework (FSAF). However, it is very important to note that, even though we propose these categories as a general classification system, these are not mutually exclusive. There are cases where the use of sound in film has a hybrid nature and it is entirely possible to find numerous examples that will belong to multiple categories simultaneously.

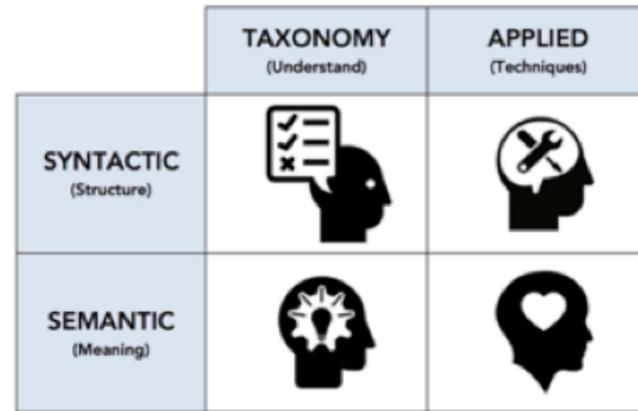


Figure 1: The Film Sound Analysis Framework Conceptual Model

2. THE FILM SOUND ANALYSIS FRAMEWORK

The Film Sound Analysis Framework integrates the main insights from these previous studies, but with the intention to create a common language in how the listening modes are seen as sound categories that are interpreted and applied in film. It is a tool to understand the relationship between sound, music, visuals and the narrative dimension in film.

The FSAF comprises a classification grid that allows for an analysis from the perspective of film's sonic structure versus the meaning it conveys (syntax analysis vs semantic analysis). This grid can also be seen from a conceptual taxonomical perspective leading to the understanding of underlying sound strategies used in the film versus a perspective based on the stricter application of well-established techniques and methods (taxonomic analysis vs applied analysis). The combination of these four analytical approaches provide a framework where one can compartmentalize and fit-in existing concepts from research in Film Sound Theory, as presented in figure 2.

	TAXONOMY (Understand)	APPLIED (Techniques)
SYNTACTIC (Structure)	<ul style="list-style-type: none"> ✓ Voice ✓ Background Sound ✓ Sound Effects ✓ Music 	<ul style="list-style-type: none"> ✓ Manipulation of Loudness ✓ The use of Silence ✓ Manipulation of Pitch ✓ Changes in Timbre ✓ Spatialization
SEMANTIC (Meaning)	<ul style="list-style-type: none"> ✓ Diegetic ✓ Non-Diegetic ✓ Meta-Diegetic ✓ Oneiric 	<ul style="list-style-type: none"> ✓ Sound Masking ✓ Interior Sound ✓ Overlapping & Anticipation ✓ Split Second ✓ Mickey Mousing ✓ Leitmotif

Figure 2: Film Sound Theory Concepts according to the FSAF

Defining a systematic classification of terms in the form of a taxonomy and formulating with clarity the existing applied techniques in this field allows for the establishment of a language that permits a much better communication between the different stakeholders in the process of film production, including musicians, directors, producers, sound-designers, sound engineers, production assistants, and visual creators. In addition, framing this analysis from the semantic and syntactic perspective, similarly to the approach followed by Rick Altman introducing genre studies in film

(Walker, 2015), opens up the prospect of not only communicating about the structural and procedural aspects of a production, but also to promote a discussion at the conceptual level, focusing on the actual meaning of sound in film.

Following this framework, we can interpret the sound and music in film based on the analysis of its: syntactic taxonomy, semantic taxonomy, applied syntax and applied semantics.

2.1 SYNTACTIC TAXONOMY ANALYSIS

The Syntactic Taxonomy Analysis provides a way to interpret film sound and music from the perspective of understanding its structure as it is normally laid out in a post-production project. This structure follows very closely the industry standard for the editing configuration of a film soundtrack (Angell, 2009), where sonic elements are typically clustered under the categories of voices, background sounds, sound effects, and music.

2.1.1 Voices

A substantial part of the dialogue heard in film may be created during the post-production phase. Under these conditions, even if the original take was recorded in the field, actors reproduce their performance in the studio, or use other actors to substitute their voice to deliver an adequate vocal performance. For example, there may be an occurrence in the post-production phase where dialogue cannot be clearly understood, and the actor would need to re-record it in the studio, replacing the inaudible original dialogue. In addition, voices often come up in the form of a narrator or representing the inner voice of a character while thinking or reminiscing on previous moments.

2.1.2 Background Sounds

Background sounds occur within the setting of the film but are not produced by the central elements in the action focal point. For example, general city sounds that occur simultaneously to a dialogue between the main characters of a scene are considered background sounds. Background sounds complement and define the visual settings of the scene and provide a powerful way to create a sense of immersion and contextualization. These sounds have a direct link with the cognitive heuristics of the audiences, which can be very useful when developing a narrative. For example, listening to the background sound of ambulance sirens, one can subconsciously identify the country where the scene is located. The concept of background sounds is very closely related with the theories of *soundscape*s, pioneered by Schafer (1977) and Truax (1984).

2.1.3 Sound Effects

Sound effects are the sounds created by sound designers to represent the acoustic output of elements in a scene that do not exist in reality, cannot be recorded (such as the sound of a dinosaur) or need to be enhanced,

exaggerated or transformed for dramatic purposes. Elisabeth Weiss describes the role of sound effects in creating “tension, atmosphere, and emotion” and that sound “can expand space, add depth, and locate us within the scene” (Weiss, 1995). These sound elements combined with visuals create a sense of reality for the audience during the cinematic experience. Many of the sounds heard in films are layered with combined sounds from different sources, that often begin organically and end up being processed digitally, to create the atmosphere of the scene. The team of professionals responsible for producing scratch mixes or temp tracks, includes the sound editor, Foley crew, recording mixers, music editor, and the film composer(s).

Weiss also describes the difficulties and the time constraints each of these department encounter to produce a quality film and how directors view sound in film. Nevertheless, she also states that, “most directors, however, do not use the expressive potential of the soundtrack and leave sonic decisions up to their staff” (Weiss, 1995).

2.1.4 Music

Music plays a crucial role in the film narrative because it is a primary vehicle to convey a wide range of emotions to the audience and it can be used to establish a mood or highlight a dramatic event (Gorbman, 1987). Beyond inducing emotions, music by itself is used for more straightforward functions, such as establishing the genre of the film even before the opening credits or provide a sense of place or time just by being consistent with the scene location, environment or historical time period. In a nutshell, music used in film directly contributes to the meaning of visual images presented to the audience.

Defining music from an emotional perspective is a difficult task. However even in ordinary subtitle track a number of adjectives are widely used to describe music in film, such as ominous, foreboding, tense, romantic, somber, suspenseful, eerie or pensive. This already suggests a need that emerges during the film production process, where composers and film directors have to communicate with one another about how music should be used in the narrative.

Composed film music is designed to accurately portray the dynamics of the story telling as it develops throughout the film, highlighting visual components, enhancing tension or deflecting attention, always leaving some room for audience to use their imagination while interpreting its meaning. However, in many cases film directors do not work with a film scoring composer to custom design the music to fit the narrative, but instead they edit and adapt pre-existing music to the film narrative. Another common practice that became very popular in the film industry is for directors to use pre-existing music as temporary tracks for the early edits of the movie, in order to provide a stylistic and temporal dynamics reference for the film scoring composer to create the music that will be included in the final cut of the movie.

2.2 SEMANTIC TAXONOMY ANALYSIS

The Semantic Taxonomy provides a conceptual insight into the use of sound in film. In this case the focus is not on the relationship of sound to its sources, but instead in what role it plays in representing reality, imagination, memory, or other abstract notions that are essential instruments to tell a story through an audiovisual media. This Taxonomy includes the concepts of diegetic sound, non-diegetic sound, meta-diegetic sound and oneiric sound.

2.2.1 Diegetic Sound

Diegetic sound, also sometimes referred to as objective sound, consists of the sounds that exist in a scene as a representation of the acoustic and sonic elements that exist in the fictional world represented as real life, as if the spectator was tangibly placed in the scene. In other words, these would be the sounds that would be perceived objectively if we were the characters of the scene.

Some examples include the sound of cars honking in a city, dogs barking, footsteps, doors closing, dialogue between people, music from a radio, etc. A diegetic sound is considered objective because it is a sound actively occurring at present moment in the scene. Technically diegetic sounds can be recorded or recreated in a studio environment. However, how the sound is produced does not change its role as diegetic. According to Michel Chion’s definition of Sonic Space on Screen (Chion, 1994), we can also consider that diegetic sound exists equally on-screen (visualized zone) or off-screen (one of the acousmatic zones).

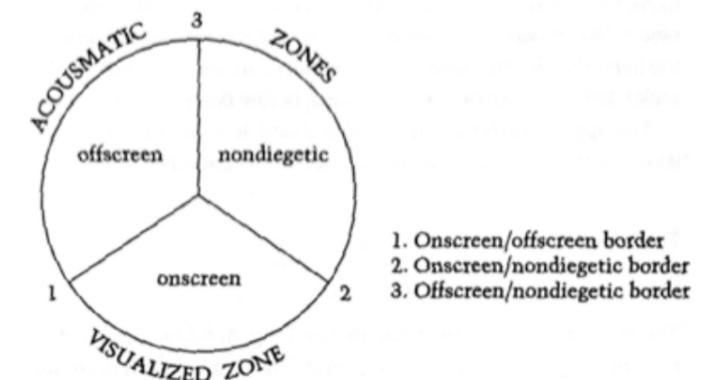


Figure 3: Michel Chion's Space on Screen

From Chion’s definition we can observe that there is an additional third dimension that leads to the notion of non-diegetic sound.

2.2.2 Non-Diegetic Sound

Non-diegetic sounds, also referred to as extra-diegetic sounds in (Gorbman, 1976), are any acoustic elements that are added to a scene for dramatization purposes, but are not part of the fictional world of the narrative. Examples of non-diegetic sound may include the use of the narrator’s voice, the music score or special sound effects. A very common narrative technique that utilize the distinction between Diegetic and Non-

Diegetic Sound is transitioning a sound from being at first perceived as Non-Diegetic, until at a certain moment it becomes the sound of a real element in the scene and therefore a Diegetic Sound.

This technique can be used for comical effects, as for example in the movie *High Anxiety* from 1977 by Mel Brooks, where at some point one of the characters (played by Mel Brooks himself) receives information from his driver that a possible death may be the result of a criminal plot, as we listen to a suspenseful music in the background. After a few seconds this music is revealed as being performed by an unlikely orchestra rehearsing on a bus driving next to the car where the characters are placed. This creates a comic effect emphasized by the absurdity of this event and diffusing the dramatic tension with humor.

The exact same technique is often used for dramatic effects, for example accentuating a moment in the storyline where characters are confronted with a “call to reality”, which can be subliminally emphasized, if in parallel is created a scenario where existing non-diegetic sounds or music only become perceived as being diegetic at that raveling point. The reverse can also be applied for different dramatization purposes, by transitioning from a diegetic to non-diegetic sounds.

2.2.3 Meta-Diegetic Sound



Figure 4: Transitioning from diegetic to non-diegetic in Mel Brooks' *High Anxiety* (1977).

One particular case of diegetic sound can occur if there is the need to present a subjective auditory scene from the point of view of a character. This means that a sound that the audience is actually listening to is a personal perception of the character, and therefore an altered representation of reality, according to the state of mind of the character, ranging for a minor over reaction to extreme imagination or even hallucination. This specific concept of sound design is called meta-diegetic and was introduced by Claudia Gorbman (1976). In her article “Teaching the Soundtrack”, Gorbman described meta-diegetic sound as a “sound apparently narrated or imagined by a character as secondary narrator”, or in other words, the representation of a subjective sonic perception. One of the earliest examples of this use the sound in film history, comes in a scene from Alfred Hitchcock’s *Blackmail* (1929). Meta-diegetic sound is used in a scene where the main character of the film is sitting at the dinner table listening to a family friend lady talking uninterruptedly. This same character has been subject to a knife point threat earlier, and by listening to this lady talking while having a knife in front of her, perceives the sound of the lady’s voice developing into a constant mumbling of the word knife. What we hear as an audience is not the diegetic sound produced by the lady’s speech, but instead the altered representation of this sound stream,

as perceived subjectively by the main character of the scene, and it consists of a meta-diegetic sound.

2.2.3 Oneiric Sound

A very common use of meta-diegetic sound is the representation of a dream like state from the perspective of a character. This happens when that character is subject to a shocking event and starts perceiving reality as if it is dream, very close to the perception state that one has when is about to faint. This use of sound is defined as oneiric sound from the ancient Greek *oneiros*, which means dream. This term was first adopted by Vlada Petric using oneiric cinema to describe films that deal with various kinds of altered states of consciousness (Milicevic, 1995).

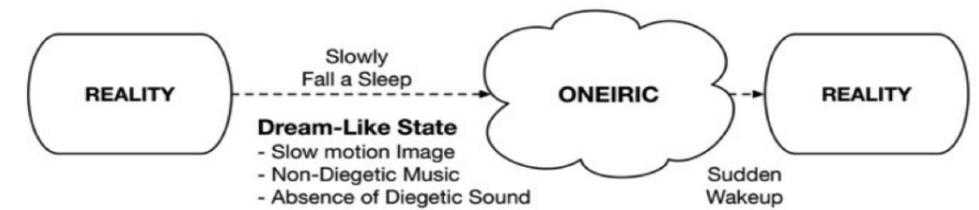


Figure 5: Transitioning to, and from, an oneiric moment.

A typical oneiric moment is triggered by an event in the narrative and slowly takes the character to a dream-like state. During this transition diegetic sounds fade away (or are reduced to a distant background) while typically pensive music becomes predominant for the duration of the oneiric moment, as represented on figure 5. Normally, to end the oneiric moment, reality is resumed abruptly by a quick transition from all non-diegetic sounds to a completely diegetic sonic discourse.

2.3 SYNTATIC APPLIED ANALYSIS

Syntactic Applied Analysis is focused on the traditional psychoacoustic structural parameter of sound and how it is applied as techniques to recreate the different aspects of the acoustic space, in order to give the audiences a plausible immersive sonic representation. The core structural parameters of sound to consider in this analysis are loudness, silence (a special case of loudness that is relevant to single out), pitch, timbre and spatialization. These primitives can be adjusted and manipulated in sound post-production to accomplish a variety of effects that better represent the audiences psychoacoustic experience.



Figure 6: Meta-Diegetic Discourse in Hitchcock’s *Blackmail* (1927)

2.3.1 Manipulation of loudness

Loudness refers to the amplitude of each individual sound and how it increases and decreases over time (sound envelope). During sound post-production, by manipulation the loudness of individual sounds, one can recreate depth of field by attributing higher loudness to sound sources closer to the camera and lower loudness to the sound sources further away. In more complex mixes sound focus can also be simulated by transforming the sound envelopes of individual sound sources in order to recreate a “Cocktail Party Effect” (Colin, 1953).

2.3.2 The use of silence

The use of silence is a particular case where loudness is zero or very low and it is worthwhile to single out, because it is very frequently used to convey suspense or apprehension, as a form of dramatic expression. Many film directors are in fact acknowledged by often preferring the use of very quiet sounds (silence as quietness in relation to context) or even absolute silence, instead of music or sound effects, maximizes dramatic tension. Alfred Hitchcock was one of the most renowned directors to frequently adopt this technique (Leitch, 2020).

2.3.3 Manipulation of pitch

Pitch is the perceived highness or lowness of a sound in psychoacoustic terms. A lower pitch corresponds to a lower tone and therefore, closer to the deep bass frequency range, while a high pitch is in the high frequency range with sharp and strident sounds. It is possible to manipulate the pitch of sounds preserving its tone qualities within a limited frequency range. This allows for transformations that can for example make footsteps sound deeper or sharper and consequently induce the idea of the character having higher or smaller body mass. More complex transformations can be done in the frequency domain manipulating the frequency partials and obtaining effects such as increasing voice hoarseness or muffling the sounds simulating different acoustic conditions like being behind a wall or inside a box, etc.

2.3.4 Changes in timbre

Timbre is a characteristic that distinguishes two sounds from one another by reflecting the acoustic properties of the sounds source. Two sounds with the same pitch are clearly distinguishable because of their timbre, for example a guitar or piano sound with the same musical note (same pitch) are clearly different due to its harmonic content resulting from resonances from the different physical shape and format of a piano and a guitar (different timbre). Changes in the timbre can also be transformed by artificially adding reverberation to the sound elements and therefore prompting the perception that a space has certain dimensions, geometry and materials. For example, in the *Citizen Kane* (1941), Orson Welles used added reverberation to create the perception of spaces being large halls with marble walls, when in reality these were made out of painted wood or plasterboards in a studio set.



Figure 7: Added reverberation on voice and footsteps to create the perception of a big Marble Hall in *Citizen Kane*

2.3.5 Spatialization

Spatialization of sound is about creating the perception to the audiences that a location of the sound sources is positioned in the correspondent physical space relative to the audience itself. With the advent of sound in cinema spatialization was not possible because there was no separation of sound events amongst the sound speakers. However, with stereo sound in the 1930's it became possible to have sounds being triggered along the left to right axis. The introduction of more independent sound speaker to increase the mapping of sound sources in the movie theater only occurred in the 1940's with the emergence of what we know today as surround sound. Surround sound was a first introduced to the public in 1940, when Walt Disney Studios developed the technology Fantasound for the premiere of *Fantasia*, where 54 speakers were used in a film theater to create a spatialization effect.

Further technological advancements include the birth of widescreen formats using multiple channels in the 1950's, Dolby Stereo in the 1970's, and wider dynamic contrasts in the 1980s. The Dolby Digital Surround Sound was introduced in 1992, introducing more channels. In 2012, Dolby Atmos became the most advanced 3D aural experience system currently used in high end film theaters. This allows audience members to experience film with sound literally surrounding them.

2.4 SEMANTIC APPLIED ANALYSIS

Semantic Applied Analysis refers to different established techniques used to convey specific meaning to certain moments within the film narrative. These techniques help facilitate the flow of the film narrative or establish cognitive links between key aspects of the story and their meaning (semantics). These classic semantic techniques are primarily the following: sound masking, overlapping, anticipation, interior sounds, split-second technique, mickey-mousing, and the leitmotif.

2.4.1 Sound masking

This technique is used to resolve issues of sound and music design in time-lapses. When creating a scene where time has to be condensed or expanded by video editing, the question remains of what to do with sound: should it be accelerated or set in slow motion together with the video, or maybe sliced according to the editing? These solutions would probably not work aesthetically, and introducing a layer of non-diegetic

sound (a sound mask) that is detached from the editing is normally the best solution.

A classic example of sound masking can be found in the *Leão da Estrela* (1947), directed by Arthur Duarte. At the beginning of the film a family needs to undertake a car journey from Lisbon to Porto. This trip by car takes about 3 hours by modern standards. However, instead of filming multiple hours of this travel, the editors take a sequence of edited moments from the trip so that it would be represented within a minute. The audiovisual solution for this scene was to fade out all diegetic sounds at the beginning of the journey and introducing a non-diegetic music as a sound mask that terminates at the end of the journey, at which point it fades out giving space for diegetic sound to fade in again. Sound masking can also be about the addition of natural or artificial sound, such as white noise or pink noise, into an environment to mask unwanted sound.

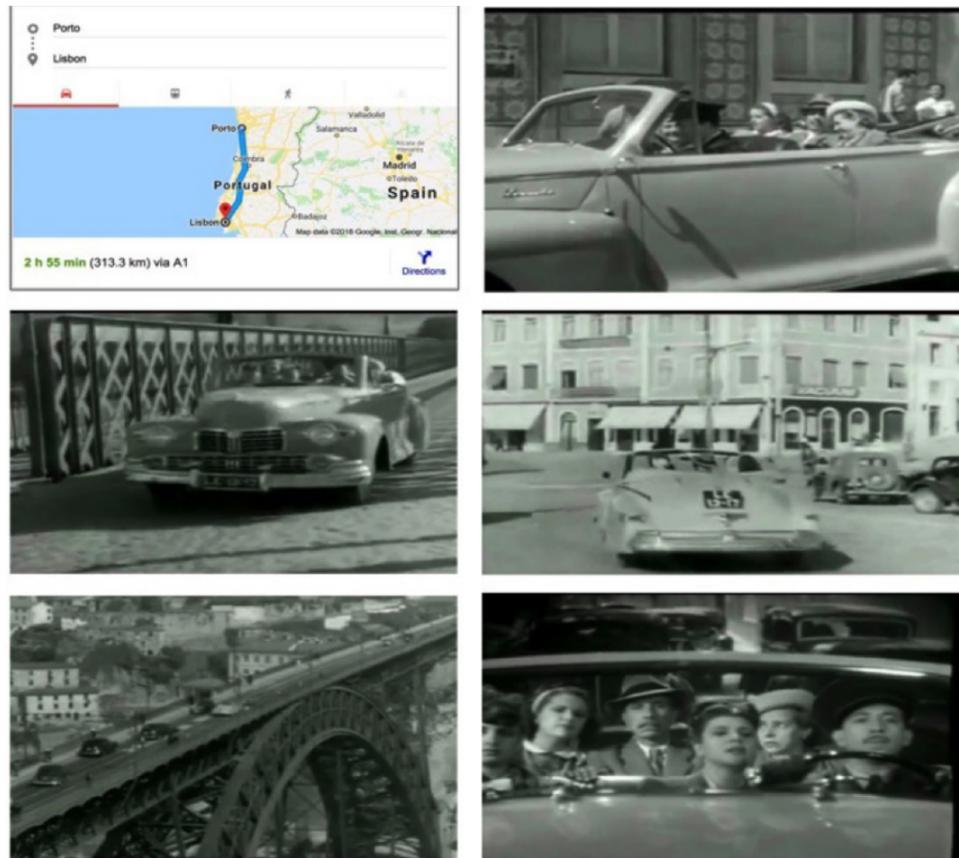


Figure 8: The use of Auditory Masking to condense a trip from Lisbon to Porto in a few seconds, from *Leão de Estrela* (1947)

2.4.2 Interior Sounds

Interior sounds refer to all the sounds that are introduced to represent the inner listening perspective of a character. According to Michel Chion (1994) we can consider two interior sound categories: objective interior sounds (respiration, heartbeats, etc.) and subjective interior sound (imaginary voices or sound). These types of sound can also be characterized from the perspective of the Syntactic Taxonomy Analysis as inner voices, or the Semantic Taxonomy Analysis as meta-diegetic sounds.

2.4.3 Overlapping and anticipation

The overlapping technique uses sound to create a connection in the transition between two scenes in a video editing cut. It consists on continuing the sound of a scene into the following scene spanning over the video cut and this way providing a smoother perceptual transition between the two scenes. In *Citizen Kane*, Orson Welles used this technique in various moments.

One example is the transition between a private piano recital, where the main character starts applauding and his claps overlap with the claps of the following scene, cutting to a public speech with an audience also clapping. The opposite to this technique is also used very often, where one can hear a sound of the upcoming scene before the visual cut creating a sense of anticipation.



Figure 9: The use of Overlapping in "Citizen Kane"

2.4.4 Split-second

The split-second technique is mainly used in action films, whenever there is a gunshot or an explosion. It is based on principles of cognitive perception that startle humans by causing an instant feeling of fear or alarm, when a loud sound occurs very suddenly. Knowing this, sound designers usually introduce a split second of silence between the moment a gun is shot, or an explosion is triggered, and the actual sound of the gunshot or explosion. This split second of silence creates the perception of a sudden sound by being preceded by silence, even if only for a second, and magnifies the dramatic effect of this event.

2.4.5 Mickey-mousing

The Mickey-mousing technique originated from the Walt Disney character Mickey Mouse and it is an expression coined after the original synchronization between gesture and music from *Fantasia* (1940), where each musical rhythmic advancement corresponds to clear meaningful gesture of the character. This technique is mostly used in animation, cartoons, and comedies, but can also be found in different genres. According to Jacqueline Edmondson (Edmondson 2013, p.199), this type of film technique "enable[s] the music to be seen to 'participate' in the action and for it to be quickly and formatively interpreted...and [to] also intensify the experience for the spectator."

2.4.5 Leitmotif

Leitmotif is one of the oldest dramaturgical techniques associated with music, adapted from live theater and opera to the film industry. It consists of associating a particular musical theme to a character, an object or an

event, and playing it whenever this character comes into scene, the object appears, or the event is reiterated.

The concept of leitmotif goes back 1853-54 when Richard Wagner composed the Opera, *Das Rheingold* (Grove, 1980, pp. 644-646), for which he composed several leitmotifs associated to specific characters, objects, or situations. In a cinematic plot, after a leitmotif is established it is usually recalled several times throughout the narrative, and the audience is able to perceive and anticipate the character, object or event, even if they may not be immediately visible or understandable. Iconic leitmotifs, such as the themes from James Bond or Darth Vader, became so popular that are now iconic symbols of contemporary culture.

3. APPLYING THE FSAF

The Film Sound Analysis Framework is an analytical tool that can be used to understand a film narrative, and also in comparative analysis of different films. One of the recent applications of the FSAF is to connect past and present film narratives. The example of the FSAF application, presented in this paper, addresses remakes of classical Portuguese films and the search for insights into how directors and screenplay writers interpret the original narratives.

From a pool of three classic Portuguese films from the 1930's and 1940's that have been remade in the present decade we focus on the case of *O Leão da Estrela* (1947) and its remake in 2015, to see how the Semantic Applied Analysis, specifically on the use of leitmotifs, can prove to be useful in the research process. Leitmotif is used several times in *O Leão da Estrela* (1947) associated primarily with characters and very noticeably with the mysterious character *Comandante*. The *Comandante* leitmotif serves as a musical representation of the character's enigmatic nature, which is characterized by the dark and minor tonality of the musical theme, and is heard several times throughout the film. The audience is able to recognize this leitmotif being associated with this character throughout the film, while it evolves as it is revealed the real purpose and role of the character in the plot. However, the 2015's remake uses leitmotifs for multiple characters in a different way from the original, reflecting changing cultural trends and audiences.

Depending if the scene is intended to be dramatic or comedic, the leitmotif is performed by using different instruments to express the mood of the character in the film. The choice of using leitmotifs in this way may reflect the nature of the film narrative in the remake, that does not dedicate so much focus into in-depth character development, and this in itself can provide clues and possible insights about how the two movies relate to the temporal socio-cultural and aesthetical context of 1947 and 2015 in Portugal.

4. CONCLUSIONS

The FSAF offers a method to analyze the different sound components in film and interpret its function. It is a possible conceptual instrument for critical analysis of sound and music in film, that bridges the distance between sound semantics, syntax, and taxonomical or applied perspectives. Using the FSAF in longitudinal studies of film, allows for a systematical analysis by the observation of similar variables, leading to the identification and assessment of patterns or trends, when using sound to convey meaning and foster emotions in the cinematic experience. Several research projects are using this experimental instrument applied in coordination with other analysis grids, spanning from the analysis of works from the same director to the same genre, or even remakes as presented in the example detailed in this article. In addition the FSAF can also be used by film sound practitioners as part of a systematic creative approach to design sound and music for film.

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