RHIZOMATIC SOUND DESIGN

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Abstract:

The exploration of this research is the effect of the sound design in a long take to reveal a powerful narrative structure. The research proposes a new term: *rhizomatic sound design*, which seeks to bind together the rhizome theory with the sound design practice. Analyzing the acoustic elements that configures the long take, the result of this research invites the team members of a film to apply the *rhizomatic sound design* concept in their own fields, to gain a deeper understanding of the cinematic language and acknowledge new ways to create the architecture of the narrative.

Keywords: Sound design, long take, rhizome, film, narrative, son of saul, true detective.

Statement:

The sound design of the long take in a film shapes the audiovisual form of the film, and elevates the perception of the pace and *mise-en-scène*, as well as, the *mindscape* of the characters inside the narrative.

> "In order to be free you simply have to be so,
> without asking permission of anybody."

Introduction

In the midst of exploring the possibilities of sound as a catalyst of ideas and emotions in the cinematic experience, this research examines the qualitative aspects of sound and how the construction of the soundtrack in a long take affects the narrative of a film (i.e. sound design, acousmatic sound, soundscape). Cinematic language has different mechanisms that can be employed to express the content and the form of a film, one of them is the *long take*, which in the process of conceptualization of a film demands an approach that will adopt on its internal structure a set of elements that are bundled as a single unity. In order to accomplish its aesthetic function and when aspiring to fulfill a compelling narrative (or non-narrative) structure it is vital that the long take is designed in true collaboration with sound. My interest on this research is to propose a closer understanding of the possibilities that can be discovered from the script reading, to the shooting moment and the final stages of post-production in order to broaden and deepen the visual perception, open new levels of significance and enhance the qualitative properties of the character in a film.

Binding the concept of the *long take* as a narrative device that collaborates closely with sound design, the present research aims to integrate various authors' conceptualizations of sound design in film with the *rhizome theory* proposed by Deleuze and Guattari. This fusion results in the synthesized concept of *rhizomatic sound design* wherein multiple elements create tension, emotional arcs and parallel narratives through sound.

In order to align the hypothetical elements with practical examples, three sequences of three different audiovisual stories ("Son of Saul", "Damnation" and "True detective") have been chosen to explore the use of *rhizomatic sound design*. The three sequences of the films are chosen by their use of the long take and are exposed by analyzing the character of the soundtrack within the scene and describing the sonic elements by graphical means, describing the diegetic and non-diegetic sounds, acousmatic sources, music and dialogues for each one of them. The selected sequences provide a variety of form, pace, tone and stylistic choices that can give the reader a comprehensive latitude of the possibilities that *rhizomatic sound design* can provide to a scene.

During the process of researching the concepts that encompass sound for film and the breakdown analysis, spontaneous interviews with experts in the field of sound post production for film and the academic ecosystem had brought a reflective insight into the artistic choice and use of the long take. The core elements that are considered to elaborate the proposed thesis include: the technical and artistic decisions, the visual impact that it has on the viewer, the internal structure, the subtext that is suggested through this storytelling device, as well as how a far-reaching sound design can be used as a powerful tool in a film.

The results of breaking down a scene and mapping the elements that are part of the soundtrack shapes an expanded overview, which in concrete terms delivers a broader understanding of how sound design is affecting directly the form of a long take and how it is planned and designed. The consequence of augmenting the comprehension of how a long take works (not only from a sound design perspective) delivers a fruitful dialogue and a more fulfilling creative process between the Director, Editor and Sound Designer of a film (optimistically

thinking, Directors of Photography, Colorists, Actors and all the authors of a film as well).

An important piece of the results of this research is the process itself, discovering the difficulties of connecting opposite visions and ideas – generating points of dialogue that can trigger new data that is capable of being associated to the filmmaking practice. In the future it can be a useful resource to peers associated to the field and/or to a person with an active interest in film. Before each chapter is explored, the reader can find references or slices of literature selected as part of the rhizomatic process in which this research has been carried out to inspire ideas beyond the main thread of this research.

> "You up there, Ignacio!
> Don't you hear something or see a light somewhere?
> I can't see a thing.
> We ought to be near now.
> Yes, but I can't hear a thing."
> -No dogs bark from El llano en llamas, Juan Rulfo

Chapter 1

The long take: perceptible continuity and stylization

Long take, one-shot sequence, *plano-secuencia*, *plan-séquence*, these are all terms that hint at a unified concept. According to Brian Henderson, a *long take* is "a single piece of unedited film, which may or may not constitute an entire sequence." The implications of such statement are broader than this simplified concept; according to Andre Bazin, the *long take* is an aesthetic choice and a storytelling device that implies analyzing and understanding the structure of the film language and the relationship of the mind of the spectator to the image – i.e., the "psychological modalities" of these relations are beyond the decision of cut or not to cut.

Considering that the *long take* has been effectively used by several directors through the ongoing history of film (e.g. Theo Angelopolous, Aleksandr Sukorov, Paul Thomas Anderson), it is necessary to mention some examples to understand the importance of its use. A remarkable example is Chantal Akerman, by putting the long take into service of the characters she steps out of the formalistic convention proposed by Orson Welles or others in the past, the effect of it can go beyond the emotional intention of a scene, from its apparent stillness to a profound space to come closer to the characters and the world around them.

Another name associated with the use of the *long take*, and which is closer to the intended topic of this research is Andrei Tarkovsky, who in his films sees "the journey as vital to the mood and meaning as destination." (Truppin, 1992, p.237). Tarkovsky incorporates the concepts that Welles and Renoir had used in the past and lifts it into a new category, in which time, mood and meaning are the carriers of the long take; it becomes an emotional journey, exploring possibilities beyond a pure formalistic or staging approach, he achieved this new level of understanding by incorporating the qualities that sound can bring as a driver of the film journey.

Departing from the aforementioned *psychological modalities*, we may also extract two interdependent factors that permeate the form and function of sound in films: space and time. By incorporating elements of space (e.g., size, distance and perspective; echo and reverberation; directionality; emotional space; movement) and time (e.g. temporal resolution; speed; subjective time), the result will be a perceptual narrative challenge in the planning and execution of a long take, not only referring to the picture, but from the sound perspective as well, to hoist up the narrative and the film experience itself.

Incorporating the motivation to accentuate a sequence by using a long take, "revealing a sound source may give a sense of coherence to our perception of the material world, but mystery, or the undeniable existence of a sound phenomenon for which there is no plausible explanation" (Truppin, 1992, p.237), it implies that the viewer needs to have "a

more active mental attitude on the part of the spectator and a more positive contribution on his part to the action in progress." (Bazin, 1967, p. 35)

Referring to the achievements of a list of films that have generated enough ground to explore the long take brings the present research to the contemporary panorama, "contemporary moving image practice often embraces long takes as a medium to reconstruct spaces for the possibility of wonder" (Koepnick, 2017, p.1). The long take as part of the construction of a film has reached borders beyond its "arthouse cinema" tag, it has spilled into different directions, for example VR narrative and TV series.

A common place to dimly classify the long take comes from the perception of how it has been presented to general audiences: "Much of what long takes have to offer today are either quiet, contemplative, often in fact emotionally flat and disengaging images" (Koepnick, 2017, p.1). The long take can therefore become an alienating experience, however Koepnick later adds, "they all tap into the durational to make us probe different attentional economies as much as to clear the ground for the promise of the wondrous, the experience of something that defies expectation but need not to be encountered with fear, restless action, or speechless defensiveness" (Koepnick, 2017, p.1). The language that makes a long take successful can be associated with the immediate decision of whether to cut or not to cut the action, isolating a simple principle to a narrow perspective. What makes a long take so rich is not only a thorough use of movement and suspension of movement, populated space and void, framing, loudness and silence, but also a deeper understanding of what is the purpose of the long take itself, what are the effects caused by it in the viewer's experience and what comes out of the character that drives these esthetic choices. Integration of these factors is the ultimate key to its success in within the structure of the film. Understanding time in the narrative structures goes beyond just being a measurement, but also being a layer that carries emotions. In the words of Lyotard, "narrative knowledge deserves to be examined with attention: its incidence over time. The narrative form obeys a rhythm, it is the synthesis of a meter that beats time in regular periods and of an accent that modifies the length or the amplitude of some of them." (Lyotard, 1984, p.21).

In order to grasp the use of sound as one of the main components for the planning and fabrication of a long take, it is necessary to consider the physical properties that sound requires to come into play, namely, the phenomenon of time, space and the human psychological circumstance. These three properties enable sound to come into existence as part of the human experience (this is related to Andrei Tarkovsky's idea of the underlying qualities of the long take). The physical qualities of sound can be put into use to explain how we can interpret sound in a film beyond its "mystical" or "esoteric" qualities, which are often mistaken as the pure fabric of the components of a film. To dissipate some of those ideas technology has come into place and is used consciously in service of filmmaking through understanding that "a very broad electromagnetic spectrum certainly exists in nature, but for whatever reason our eyes had narrowed down what is functional light for our visual perception. In comparison, the ears have an enormous range of perception with regard to frequency sensitivity…the eye does not abstract numbers from light…nor does it perceive mixtures of light in separate tones the ear hears separate notes creating a chord together. The ability to distinguish ratios allows the ear to hear whatever two notes are exactly an octave apart or not" (Sonnenschein, 2001, p.152)

One of the key factors to comprehend the potential of sound resides in music, which "helps us return to this oceanic feeling [according to the psychoanalytic theory of development] and at the same time diminishes our critical faculties, allowing us to be more susceptible to suggestion. In a kind of trance with music, our lowered threshold of belief is essential to watching films"

(Sonnenschein, 2001,p.105). By putting music into the service of the film as part of the construction of the soundtrack a unity can be designed to create the manipulative effect that can be interpreted as "mystical", but is in fact a product of a physical manipulation of sonic events that can trigger specific reactions, ideas or ultimately an emotional or intellectual response.

If a long take is a unified sequence of time in a film, and sound has properties that use time and especially rely on a psychological phenomenon, there is an opportunity to create a singular unit that behaves in accordance to the image but can proliferate more than a singular idea. When bracing the potential of designing a soundtrack that encompasses the possibilities of the long take with the accumulated energy of sound, we can look closer to directors who had something in common by interpolating the temporal resolution (or acuity) in their films: Andrei Tarkovsky and Béla Tarr, two authors who made films that are populated by long takes in a variety of forms. In this setting, acuity refers to "the ability to detect changes in sounds over time" (David Sonnenschein, 2001, p.89); both directors employed the use of sound sources that are revealed slowly and without giving a temporal resolution immediately to the viewer or to the character in the film. In this regard their films were brought into a different realm, liberating themselves from being faithful to the image and expanding it through the use of sound.

Even though the phenomenon of hearing is an intuitive circumstance, the way we interpret the content of a soundtrack in a film requires a deeper knowledge of music, an acquired catalog of sonic references and a range of empathic understanding for the intended emotions delivered by the performance of the actors. All these aspects accumulated in a long take creates a challenge, not only for the successful execution in the filmmaking process, but also for the viewer to be present and active during the experience (which is inferred as a probable reason to approach a film or a sequence through this form of cinematic language). The long take provides enough parameters to portray ideas that consume time and space in a different way than a "more conventional" construction; in the long take everything – including sound – is contained in a single package.

> "When a crescendo or crackling jackdaws
> swept into the elms and was silent,
> I knew the peregrine was flying"
> -The peregrine, J.A. Baker

Chapter 2

Rhizomatic sound design

Using as a starting point (not necessarily the root of these thoughts) what Deleuze and Guattari had proposed (1987, p.27): "The multiple *must be made,* not by always adding a higher dimension, but rather in the simplest of ways, by dint of sobriety, with the number of dimensions one already has available. A system of this kind could be called a rhizome. A rhizome as subterranean stem is absolutely different from roots and radicles. Bulbs and tubers are rhizomes. Plants with roots or radicles may be rhizomorphic in other respects altogether: the question is whether plant life in its specificity is not entirely *rhizomatic*. Even some animals are, in their pack form. Rats are rhizomes… The rhizome itself assumes very diverse forms, from ramified surface extension in all directions to concretion into bulbs and tubers."

Rhizome theory proposes several principles including, *connection* and *heterogeneity*, *multiplicity*, *asignifying rupture*, *cartography* and *delcalcomania*. Even though these characteristics can be applied to describe narrative structures and specifically the sound phenomenon, the crucial aspects of how these relations happen can frame and envelop the concerning topic of this research: sound design.

One of the main differences in which rhizome theory and films can seem to disagree is that the non-structure (or anti-structure) proposed in rhizome theory differs from a cinematic piece: films are tied up to a linearity in its own form, but even though it has a certain degree of hierarchy by using time as the main thread for the structure, an apparent linearity can behave in a *rhizomatic* way, instead of a rigid sound structure that grows stems out of a trunk (this is of course, excluding narratives that are meant to be read as linear or in a more classic and conventional reading, compared to other types of cinematic experiences). Approaching the process of sound design in the film from a *rhizomatic* perspective can shape the cinematic experience to produce content that can go deeper in the film by combining subplot layers, building the *storyworld*, developing parallel narratives, amplifying a characters point of view, and creating new meanings of significance.

Rhizome theory can describe the behavior of the sonic elements in the storytelling net of events of the soundtrack, even though, the concept of the rhizome has been applied to literature, linguistics, art, history and media by various authors (i.e. Alan Taylor, Stefan Wray), its applications to the specific field of sound for film is still an unexplored territory. Therefore, approaching rhizome theory from a sound design perspective can add value to the interpretation of how sound interacts and builds narrative, manipulates emotions and evokes ideas within the film.

Framing sound design within rhizome theory helps gain a refreshing angle on the inexhaustible quest for creating a compelling acoustic landscape or *soundscape* (even *mindscape* can be a proper term for it). Besides supporting the picture as a diegetic event, addressing sound design in rhizomatic terms can expand or elevate the cinematic experience for the audience and the character's story world.

Taking a step back (as when looking at a framed painting in an exhibition), the multiple uses of sound to create a soundscape that can engage the audience into the character's world, the visual landscape becomes of vital importance to build the necessary atmosphere, mood and tone of the film. The landscape as a graphic representation oscillates between its application as a practical tool (i.e. 3D maps, medical scans, satellite readings, set building) and means of human expression (i.e. painting, videogames and cinema), when put into practice in the construction of a film, it can become a powerful weapon to inspire ideas on the audience. Here, the role of the soundscape that is designed in combination with the landscape opens a wide range of possible applications of the landscape as a canvas to portray information that can be expressed through sound. This complex relation has been approached by Raymond Schaefer, encircling it by explaining, "we can isolate an acoustic environment as a field of study just as we can study the characteristics of a given landscape. However, it is less easy to formulate an exact impression of a soundscape than a landscape". Which is why giving rough examples of a soundscape can become too abstract, requiring a breakdown of the elements that take place on the acoustic timeline to have a deeper knowledge.

To formulate what is the relationship between the image, the immediate information given by the landscape in a shot (e.g., open field, living room, train station), the exposed ambience shaped by light in collaboration with the soundscape can effectively create the atmosphere portrayed by the acoustic experience, indicating the properties of the cinematic event as a *rhizomatic* cognitive process. This cognitive relation created by those elements is juxtaposed with the representation of the character and/or the story world (i.e. through its integration during the final stages of the mix of the film).

During the process of formulating a concrete method to express the effect of the soundscape in the cinematic experience, the *rhizome* theory is being applied to sound design as a storytelling device to narrate entry and exit points

of information that can expand or focus the sound elements, generating acoustic information that multiplies the possibilities and by connecting points that exude from the linearity of the soundtrack to create a spatial signature that can become non-linear in its narrative perception of the sequence. In the words of Deleuze and Guattari, by taking use of the "principles of connection and heterogeneity: any point of a rhizome can be connected to anything other, and must be. This is very different from the tree or root, which plots a point, fixes an order." (Deleuze and Guattari, 1987 ,p.7)

A resourceful example of the possibilities can be effortlessly found in Andrei Tarkovsky's films, in which a "spatial signature is also used (in Tarkovsky's films) in what I will call a system of parallel sound to convey a sense of heterogeneous worlds existing simultaneously, but not necessarily interacting" (Truppin, 1992, p.242). In this case, spatial signature is closely related to some of the properties of the *rhizomatic* theory and it contains enough elements to demonstrate the existing relationship between the rhizome and sound design, by implying that, entry and exit points of information that leave a trace in between can be considered as sound events that have a specific entry point and exit point in the soundtrack. Furthermore, these new iotas can expand into new information and/or multiply into different and/or new data that can be represented as an acoustic resource for a film to convey new meanings juxtaposed to the image.

Considering the deliberate choice of approaching the *long take* in a film as a sample that displays a tour de force in the playground of cinematic language, and of a "singular" timeline, opens a window of possibilities to breakdown the singular thread that is created from the beginning of the shot (entry point) until the end of it (exit point), revealing on its way several instances to explore sound (new entry and exit points) that can lead to a *rhizomatic* perspective.

> "Memory's images, once they are fixed in words, are erased," Polo said.
> "Perhaps I am afraid of losing Venice all at once,
> if I speak of it, or perhaps, speaking of other cities,
> I have already lost it, little by little."
> -Invisible Cities, Italo Calvino

Chapter 3

Written words become sounds, sounds become written words

One of the important (not necessarily essential) stages of creating a film is the script, which contains all the dramatic aspects and sufficient elements to make an interpretation of the text and convey it into images and sounds. Using the screenplay as the starting point for the esthetical and narrative choices for the sound design of a film is a common practice, even though the related issues that accompany the understanding of the story, the director's vision and the practicalities of the soundtrack are still quite vague as far as the sound literature is concerned, which tends to lean strongly on technical practices on set and during the post-production stage (i.e. Ric Viers's "The sound effects bible", Andy Farnell's "Designing sound", etc.).

The process of interpretation of the script to be executed on the film shoot, proceeding to be reinterpreted again when the film arrives to the editing room and later to the sound editorial decisions is obscure – interpreting words that come from text is a task that requires a deep understanding of language itself and a competent understanding of cinematic language. Even though a common experience is finding screenwriters and directors that cannot convey enough elements for the sound designer to interpret the script and ignite a creative process from this early stage, without realizing that a script can be simple yet strong, "there is no need for an excessively broad, let alone self-evolving, lexicon. Speech is an exchange of signals" (Lotman, 2013, p.54).

The filmmaking practice commonly shows that when it comes to interpreting a script the communication

between Director-Editor-Sound Designer is relegated to take place in the sound editing suite, after the film has a locked picture based mainly on the image, but what happens then with the written text, the screenplay that was so carefully weaved?

During a conversation with Sound Supervisor Larry Sider, he made a comment that left a strong impression: "In the old days, picture editors and sound editors were the same person, there was no separation!" On Larry Sider's insight we can find a key to improving this process, putting together these two members of the film team in conjunction with the director to *organically* develop the structure, pace, tone, mood and emotional arc of the film since the film exists only in written form all the way to its completion. Following Larry Sider's comment, David Sonnenschein mentions that (2001, p.2) "the written script should be the first "listening" you will have of your soundtrack…regardless of the difference between the writer's words and what has been shot, read the script." Considering those recommendations, the course of understanding text and the creative process that enhances it, is crucial to the downstream actions that follow the making of the soundtrack.

Relating the understanding of sound through a written form, Daniela Cascella in her own exploration of the interplay between text and sound (and vice versa) says (2012, p.33): "Gramsci's claim for a shift from knowing to understanding, to feeling, and back, from feeling to understanding, to knowing encompasses the expanding function of listening: from having a taste of something to embracing it – ultimately, to knowing it". The daring proposition here is that the procedure of reading-interpreting-listening should create an iterative reaction between the creators of the film, a live channel of communication that becomes an organic solution for the main thread that is the cornerstone of the film and its corresponding *rhizomatic* ideas.

During the process of dissecting the screenplay, scanning for things to listen to (e.g. explicit sounds, actions, environments, diegetic music cues, etc.) will correspond into expanding possible narratives that are (during this stage) also represented in graphic or text form (e.g. notes next to the script, scribbling on a notebook, etc.). Hence the consideration of practicing this interpretation from such an early stage is valuable in order to begin the creative process that can trigger concrete references and ideas.

Below we can find an extract from the opening sequence of "Son of Saul"; the opening sequence is a long take that starts in a grove field and ends in a dark hallway. During the construction of the sequence in the script a series of explicit sound elements are written (underlined in red) and others are suggested through actions or objects (underlined in blue). This brief identification of elements can be a resource to start a communication channel between the Director, Editor and Sound Designer for the use of sound on a long take:

I/E. GROVE / UNDRESSING ROOM / PASSAGE - MORNING IN A GROVE

Trees.

A gentle warm light shines on the face of a forty-year-old looking man, as he walks in what seems to be a grove.

His name is SAUL AUSLANDER. He wears a white shirt under his dark jacket, with a half-hidden number on it: B-7005. On the back of his jacket, a red X is painted. He wears a flat civilian hat. He walks with determination, at a regular pace, his lips tight. The trees around give some shelter from the sun, birds *sing* amidst the branches.

He stops for a while and glances around, at some older people around taking off their heavy winter coats, sitting on the grass. The *voices* of children, calling for water, can be heard. A YOUNG BOY stands on the side, carrying a water can.

Sounds of *branch cracking*, of *steps on the ground. Footsteps* of many more people. Pieces of *words* can be heard, in a

continuous *humming* of different voices and languages.

Behind Saul, children play. Someone comes to him and talks to him, he mumbles something, looks away and moves on.

Four other SONDERKOMMANDO PRISONERS pass Saul by. They all start instructing the civilians to get up and leave. The civilians are gathered in rows of 5, and pushed to the road.

Three SOLDIERS appear on the side, waiting.

This half of a page of the opening sequence already gives some of the sonic elements that are going to be used during the post production process, but not only that, it already creates an internal pace for the actions, the "invisible" editing of the *mise-en-scène* and the necessary acoustic cues for the performance of the actors and the performance of the Director of Photography, as well as how the set design elements should be revealed or placed in order to interact with the soundtrack. For example: "Behind Saul, children play", this suggests that we see the children playing, but children can be quiet or loud while they play, they can play roughly or peacefully, etc. This clues on the script not only affect the performance but also how the acousmatic phenomenon will create an acoustic image that relates to the viewer and how in a narrative structure the soundtrack can convey the necessary elements to suggest an emotion. The landscape, mood, palette of sounds and pace are already enveloped in the text, it creates a listening experience through reading.

The cinematic language employed in a film will come out of this interpretation; choosing a long take from the screenplay is a task that requires not only this first approximation but a thorough conversation with the Director and Editor, to collaborate and find the entry and exit points of information and the cues that will trigger any parallel action off-screen, to create the adequate space and time on the shot to understand the movement and pace of the action that can allow the character(s) to trigger and react to emotional stimulus, as well as diegetic and non-diegetic elements can be considered as part of the development of the production. Planning the whole thread of the long take requires incorporating even more than the *acousmatic* phenomenon formulated by Michel Chion, which becomes a philosophical and pragmatic tool to achieve this. Nevertheless, integrating the understanding of the acousmatic sound and how it is assembled from *rhizomatic sound* elements can enhance and improve an effective use of the long take is a task that requires a heterogenic, yet unified understanding of the script.

> "Our own era is one haunted by the shadow of futurity,
> precisely because there is no future."
> -Tentacles longer than night, Eugene Thacker

Chapter 4

Scene breakdown and soundtrack analysis

The moment of dissection of a piece of film releases a dark aura, an impending doom of shattering "magic", but also an opportunity to gain a new perspective on the elements that constitute the scene. This provokes an intense feeling of danger, the danger of revealing the secrets of the magician, of killing the emotional and/or intellectual experience that a film can provide to the audience. While such analysis can deglamorize the power of the film or in some cases, it can also contribute to a new level of appreciation and knowledge of the film – which is what the researcher has intended with this approach.

Venturing into the long take as a device that frames the action between a cut, as an entry point of information that builds a suspension of disbelief, in which the perception of time is manipulated (either to extend it, to be literal, slow it down or increase it), compressing the visible universe of the picture into a limited field of view and the extended

universe that unfolds off-screen into a single unit until the next cut arrives as exit point is a challenge.

The information contained in the long take creates a narrative thread that travels in a linear way (at least visually), planting enough cue points for new pieces of information to be taken into or spread out in a *rhizomatic* way. This gives a practical opportunity to explore the characteristics of the acoustic properties and narrative levels that sound can reveal.

Filmmaking is an expression narrated in present tense, proposing a narrative that implies a passage of time using the film language to cast light into certain topics (that can be obscure and sensitive) that can relate in our human experience; this represents another challenge in itself. Describing the selected long takes from these three films, that are different in style, mood, esthetics, pace, narrative structure and action, an analysis that involves a description of the visual and acoustic events during the sequence accompanied by a graphical representation of the possible emotional cues is used as a schematic way of presenting the role of the *rhizomaic sound design*.

The proposed analysis is based on the approach elaborated by Norman Hollyn in his book *Lean Forward Moment* (2008, p.25): "We need to create some sort of filmic *change* at that moment in the scene in order to help the audience *feel* our story arc. It is my belief that the most effective stories are told when the audience is affected viscerally, when they *feel* something rather than intellectually receive the information by being told it." Maintaining a certain distance from some of the views portrayed in his book, the present analysis is a distilled version that has been adapted for the specific examples of the soundtrack breakdown and to find the beats during the construction of a scene that is in this case focused solely on the acoustic elements of the sequence.

The graphic representation of the analysis portrays a timeline of the events that occur on the picture (accompanied by supporting still images), whereas a description of the perceived sound elements on-screen and off-screen will be detailing the events that unfold in the soundtrack, including: the sound effects that are used during the specific "lean forward moments" or "emotional beats"; when the music cues enter and exit; and when dialogues appear. The timeline encompasses a graphical trace of the dramatic content expressed in colors and the dynamic range of elements that take action in the soundtrack to give a better insight that can be sufficiently descriptive for the reader.

In order to achieve an effective understanding of the different approaches to the *rhizomatic sound* structure and the sound dramaturgy, this analysis presents a simplified abstract of the plotline of the film and of the selected sequence without any input from the *auteurs* involved in the filmmaking process of the aforementioned films. During the process of analysis of the sound events on each soundtrack, identifying the beats of each long take is an exercise that demands to consider the personal intuition and background of the researcher as part of the cultural and worldview framework that impregnates the experience of encountering and analyzing the films. The purpose of this simplified dissection of the soundtrack of the selected long takes is finding in words of Norman Hollyn who describes the "lean forward moments" as "learning how to understand your story so well that you can identify those moments of change. This will then give you the insight to determine how best to use the filmmaking tools to create them on screen."

Son of Saul (Hungary, 2015)

Director: László Nemes
Sound Designer & Re-Recording Mixer: Tamás Zányi
Final mixing-studio manager: András Kálmán
Technical specifications: 5.1 Dolby Digital Surround Mix
Runtime: 107 minutes

The film unfolds during World War II in 1944 in Auschwitz, an extermination camp, the main character Saul Ausländer is a Jewish Hungarian hostage that is forced by the Nazi captors to convey the extermination of the Jewish prisoners.

The film follows Saul in a close up almost throughout its entirety, in the selected sequence, which is the opening of the film, the character and his daily activities are introduced. The world that surrounds him, the atmosphere, the style and pace are also part of the construction and layering of the topics that are yet to be unfolded.

During the first step into the film, the orchestration of the soundtrack is proposed from the moment a text on a black screen appears, setting up the rules of the soundscape and pointing out how important it will be for the audience to follow the narrative closely through sound. The sequence is built upon a *choreography* between off-screen sounds and visual hints, inviting the audience to create relationships of what is perceived as an acousmatic event and what is shown on the image. An example of this is a constant growing exhalation of steam, which after some moments is revealed by showing a train cart that is idling and people are stepping out of it.

The sequence (and the whole film), strongly relies on what the sound is presenting, introducing and narrating regarding parallel actions to the image, the narrow aspect ratio and the amount of time spent on close ups of faces. In other words, the "headroom" for the landscape and the actions that take place during the film is narrated through sound most of the time. The opportunity to create a soundtrack that has a naturalistic approach and dives into impressionistic moments is part of what is presented during the opening sequence.

Timecode	58”	1’02”	1’11”	1’22”
Dialogue (On-Screen)				
Dialogue (Off-Screen)				
Sound Effects (On-Screen)			Shoveling	
Sound Effects (Off-Screen)	Forest birds, wind	Crow	Heavy breathing	Whistle
Music (Diegetic)				
Music (Non-Diegetic)				

Timecode	2’27”	2’42”	2’46”	3’02”
Dialogue (On-Screen)				
Dialogue (Off-Screen)	Shouting			
Sound Effects (On-Screen)				
Sound Effects (Off-Screen)	Body punching	Baby crying	Footsteps	Marching with b in unison
Music (Diegetic)				
Music (Non-Diegetic)				

Timecode	4’05”	4’34”	4’35”
Dialogue (On-Screen)			
Dialogue (Off-Screen)			
Sound Effects (On-Screen)	Footsteps	Door rattle	Door closing with long reverb
Sound Effects (Off-Screen)			
Music (Diegetic)			
Music (Non-Diegetic)	Pulsating bass and drone		

1’39”	1’46”	1’47”	1’51”	2’17”	2’24”
	-You have to remember the number				
		Shouts in German	Crowd		
			baby crying		
Footsteps					
Dog barking		Engine approaching		Steam, dog barking	Whistle

3’05”	3’23”	3’35”	3’43”	3’50”	3’55”
		Body hit			
Truck engine	Dog barking			Metal rattling	Exhaust drone, heavy objects rolling
Orchestra (FUTZ)					

True Detective, Season 1, Episode 4: "Who goes there" (U.S.A., 2014)

Director: Cary Joji Fukunaga
Supervising Sound Editor: Eliza Paley
Sound designer & Sound Editor: Mariusz Glabinski
Re-Recording Mixer: Martin Czembor
Technical specifications: 5.1 Dolby Digital Surround Mix
Runtime: 56 minutes

The TV series follows detectives Rust Cohle and Marty Hart during the investigation of a serial killer in Louisiana, U.S.A. The episodes are built in a non-linear narrative structure showing the case during 1995 and the present in 2012.

During this episode, a sequence unfolds in which Rust as an undercover police officer joins a motorcycle drug dealing gang. The gang is set up to use a captive from a rival gang to steal a stash of drugs and money from a cover house in a "projects" type of neighborhood in exchange of the prisoner. The selected sequence portrays the moment of arrival to the neighborhood, the robbery, the violence that bursts when things don't go as planned and the moment of escape while taking the main gang member under custody.

The function of the on-screen dialogues is to build tension and give cues of information to the viewer. The off-screen dialogues are presented in specific moments to represent chaos or disturbance that reach moments of total gibberish.

Diegetic music appears from a source inside the first house, it disappears as soon as the character of the child is secured in the bathroom. Non-diegetic music is present from the beginning of the long take (coming from the previous scene) and until the end of it (continuing for the next part of the sequence). The music is a deconstructed piece of what seems to be an experimental/abstract music genre that is composed of approximately seven layers comprised of pulsating low end beats, distorted pads, noise atmospheres and a "shaker" that can be heard almost through the whole six minutes of the duration of the long take. The use of sound effects is presented in a naturalistic approach, except for specific accents (e.g. on-screen gunshots, doors, ricochets). Natural atmospheres are completely discreet, to give space for music and the sound effects.

Timecode	50'04"	50'12"	50'20"	50'26"
Dialogue (On-Screen)	-Freeze motherfucker			
Dialogue (Off-Screen)				-Everybody down
Sound Effects (On-Screen)		Door hit		
Sound Effects (Off-Screen)				
Music (Diegetic)	Hip hop / Muffled coming from inside the house		Hip hop is not muffled anymore	
Music (Non-Diegetic)	Shaker			

Timecode	51'55"	51'58"	52'05"	52'11"
Dialogue (On-Screen)	-Ginger! They're gathering out there	-Ahh! C'mon Ginger! Easy, easy, motherfucker, easy	-C'mon Ginger, let's fucking go!	-Don't fucking fire, Do n...
Dialogue (Off-Screen)				
Sound Effects (On-Screen)	Window break			Punch
Sound Effects (Off-Screen)				
Music (Diegetic)				
Music (Non-Diegetic)				

Timecode	53'47"	54'	54'03"	54'17"
Dialogue (On-Screen)				-Hurry up! (Panting, grunting)
Dialogue (Off-Screen)		Crowd walla		
Sound Effects (On-Screen)	Punches		Punch	Police siren passby
Sound Effects (Off-Screen)	Gunshot Police siren	Helicopter		
Music (Diegetic)				
Music (Non-Diegetic)				

50'56" 51' 51'02" 51'08" 51'11" 51'19"

-Get in the tub, you lay down, don't you move

Door closing

-Get out of here!
-Shut your fucking mouth!

-No, no, no, Ginger, don't touch it

-It's in there.
-You open it motherfucker.

-Get your ass over there! Start moving! C'mon!
You motherfucker, get that shit over there!
C'mon hurry up!

Muffled beat

Texture 1

52'40" 52'47" 52'49" 52'54" 52'57" 53'03"

-Fucking moron

-What the fuck are you doing man?

Gunshot

Helicopter

Door opening

-Who else is in the house?
-Nobody
-Get in the bathroom, in the bathtub, lay down

Police siren

Shaker
Muffled beat

54'57" 55'04" 55'11" 55'16" 55'28" 55'42"

-Crowd walla

Gunshots

-Shit!

Gunshots
Dog barking

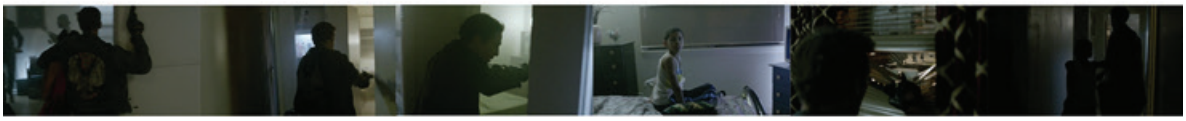
-Hey!

Jumping fence

Ricochet
Machinegun shots

Ricochets
Machinegun shots

Synth reduces tempo
Texture 4 pitches down



50'27" | 50'31" | 50'34" | 50'42" | 50'45" | 50'53"

-Ahh!

(Heavy breathing)

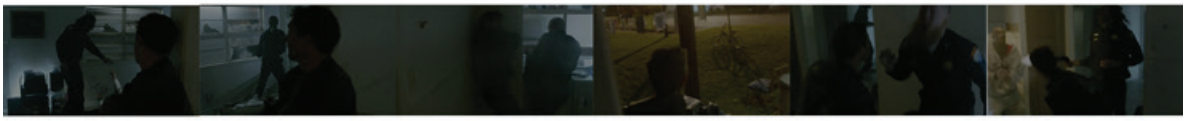
(Heavy breathing)

-Don't move

Walla shouting

Blinds

Punches, glass breaking



52'14" | 52'20" | 52'22" | 52'28" | 52'30" | 52'35"

-What the fuck are you doing?
-Ahh!

-Jamal!

Gunshot

Muffled gunshot

Body hits

Gunshot

Hi pitch ringing

Helicopter approaching

Low pitch chant
Ringing filter

Noise texture

Texture 1
Texture 3

54'29" | 54'32" | 54'37" | 54'43" | 54'51" | 54'53"

You motherfucker

-Put your weapon down!

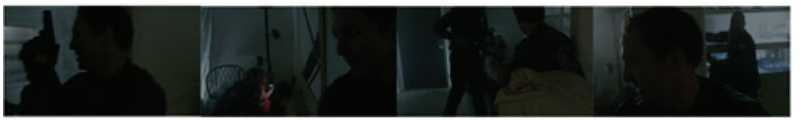
-Get on your knees!

-Small crowd

Police siren passby,
tire sereech

Deep gunshot

Deep gunshot



51'27" 51'31" 51'38" 51'46"

-Ok, thirty seconds, in and out, thirty seconds in and out

-Watch it, watch it

-Easy, easy, let's get it and get the fuck out of here

-It's Christmas time, we got this shit!
-Easy, easy, in and out, stay calm, let's get the fuck out of here

Texture 2

53'13" 53'20" 53'33" 53'40"

-Marty, ok, I need you to be in 18th and 19th street in ninety seconds, you got it? You got it?!

-Ninety seconds motherfucker! Hold it right there!

Door closing

Door opening

Body hit, punches

Texture4

Synth bass

55'47" 55'49" 55'54" 55'58"

-Go! Go! Go!

Fast car passby

Tire screech

Tire screech, car reverse

Car door opening

Synth reduces tempo
Texture 4 in unison with Low chant

Damnation (Hungary, 1988)

Director: Béla Tarr
Sound Designer: Péter Laczkovich
Sound Mixer: Támas Márkus
Technical specifications: Mono Sound Mix
Runtime: 120 minutes

The film follows Karrer, a man that is in love with a married woman from a local bar and they have an affair. When the woman breaks off their affair, Karrer is offered a smuggling job which he then offers to the woman's husband. This, in order to get rid of him, but things don't go as Karrer planned. Karrer ends in complete despair, resembling nothing more than a stray dog.

During the opening sequence of the film (which is shot in black and white and a narrow aspect ratio), the shot starts by steadily presenting a miasmatic landscape with what seem to be electrical towers and carts that move through floating cables, the camera slowly moves back revealing a window through which the landscape has been shown, the camera continues moving back and the shoulder of a person is shown, then the back of his head is revealed until we can see that the character is seating facing the window, in counter light and without moving, paralyzed.

The sound is a continuous soundscape without any specific events occurring to point out specific actions or focus in a concrete movement that is attached to the image. The approach to the soundtrack during the sequence resembles an atonal piece of concrete music, which gradually becomes a miasmatic atmosphere (just like the image), populated by industrial drone sounds so blurry in their quality that it is difficult to decipher what the sources are, rattling and metallic clanks are placed in distant layers.

The opportunity presented during the sequence gives enough room for the viewer to wonder around any detail that can spring out of the sound, forcing the attention in something that is not necessarily happening on the image but taking it to the ground of musicality, which navigates between diegetic and non-diegetic perception. The acoustic narrative which contains minimal sound elements behaves in style with the film.

	0'00"	2"	11"	24"
Timecode				
Dialogue (On-Screen)				
Dialogue (Off-Screen)				
Sound Effects (On-Screen)	Silence			
Sound Effects (Off-Screen)				
Music (Diegetic)				
Music (Non-Diegetic)				

	3'00"	3'22"	3'44"	4'09"
Timecode				
Dialogue (On-Screen)				
Dialogue (Off-Screen)				
Sound Effects (On-Screen)				
Sound Effects (Off-Screen)	Metal vibrating (or birds)	Metal rattling gets louder	Engine (or lawn mower)	
Music (Diegetic)				

35"	44"	47"	51"	1'35"	2'02"
	Industrial drone Machinery	Metal clanking	High pitch squeak	Metal clanking less reverberant Metal tread turning Sliding object	

Conclusion

To effectively convey the emotional intention of a scene or an entire film that has been constructed through the use of a long take, an attentive and deeper analysis is required of the possibilities that the film can benefit from besides the *mise-en-scéne*. Rising awareness of an effective use of sound to merge the landscape, characters, actions on-screen and the relation of these elements with the off-screen events and the non-diegetic events can be accomplished by paying a closer attention to the potential that *rhizomatic sound design* can bring to the filmmaking practice. The ultimate goal is to activate a creative process between the Director and the Sound Designer with regards to the planning of a long take in order to convey a powerful, challenging, touching and engaging film.

Many circles of filmmakers express their desire to involve the Editor and Sound Designer in the early stages of film development in order to create a film in an effective and original way. However, in reality where this desire dissipates in the midst of time and budget constraints, the challenge is to be able to find a common ground to kindle a channel of communication that can result in a fruitful understanding of the script of the film, and to at least develop a human relation that empowers the artistry of the Editor and Sound Designer and the integration of multiple visions into the film.

During the present thesis, the *rhizomatic sound design* concept is proposed in an early stage of development in turbulent, yet intriguing waters, that invite the researcher and the reader to explore further. The spectrum of possibilities that the rhizome theory applied to sound design proposes insists in a deeper and more careful research for the future of the creative processes and filmmaking. The rhizome theory can be broadened to other fields and components of the filmmaking process such as cinematography, editing, and screenwriting.

Analyzing the sonic elements and how they behave during the soundtrack of a film shed a light into an usually obscure piece of filmmaking, which is the seamless construction of a long take. The analysis shows that it requires planning that is beyond locking positions and building sets; it requires a genuine comprehension of the role that sound can play in its architecture. The execution of a long take that employs time, suspension, pace, movement and performance in a single unit can be potentiated and as how it has been proposed, should bring people together to look in detail and comprehend the script.

By exploring the possibilities offered by a *rhizomatic sound design* approach, a new achievement of knowledge has been reached on a personal level for the researcher. During this journey, the relentless search for points of connection between literature, music, paintings, poetry, everyday sounds and films has sparked other ways of thinking about the construction of a scene. Not precisely a systematic way, but a conscious exercise to spread out ideas and find connections that can potentiate the assembly of the soundtrack.

In a hopeful note, *rhizomatic sound design* can be explored deeply in the nearby future, touching other filmmakers, researchers and wonderers of knowledge. Spreading out of the timeline and the sound waves that oscillate in the theater and resonate in the audience's minds for a deeper human experience.

Film references

- Nemes, L. (Director). *Saul fia = Son of Saul* [Video file]. Sound: Tamàs Zányi (Sound Designer and Re-Recording Mixer), Andras Kalman (Final mixing-Studio manager)

- Tarr, B. (Director). (n.d.). *Damnation = Kárhozat* [Video file]. Sound: Peter Laczkovich (Sound Designer), Briggita Kajdácsi (Dialogue Editor) and Tamás Márkus (Re-Recording Mixer).

- Fukunaga, C. (Director). *True Detective: Season 1, Episode 4 "Who goes there"* [Video file]. Sound: Eliza Paley (Supervising Sound editor), Mariusz Glabinski (Sound effects editor) and Martin Czenvor (Re-Recording Mixer).

Bibliography

-Baker, J. A., Macfarlane, R., Cocker, M., & Fanshawe, J. (2017). *The peregrine*. London: William Collins.

-Truppin, A., Altman, R. (1992). *Sound Theory, sound practice*. AFI Film readers.

-Bazin, A. (1967). *What is Cinema*. University of California Press.

-Sonnenschein, D. (2003). *Sound Design: The Expressive Power of Music, Voice and Sound Effects in Cinema*. Michael Wiese Productions.

-Sider, L. (2003). *Soundscape.* Wallflower press.

-Tarkovski, A. (2013). *Esculpir el tiempo*. Universidad Nacional Autonoma de Mexico.

-Deleuze, G & Gautarri, F. (2005). *A thousand plateaus: Capitalism and Schizophrenia. and Félix Gautarri.* The University of Minessota Press.

-Thacker, E. (2011). *In the dust of this planet, The Horror of Philosophy Vol.1.* Zero books.

-Valkola, J. (2016). *Pictorialism in Cinema.* Cambridge Scholars Publishing.

-Calvino, I. (1978). *Invisible cities*. Harcourt Brace Jovanovich.

-Rulfo, J. (2014). *El llano en llamas*. México, D.F.: Editorial RM & Fundación Juan Rulfo.

-Koepnick, L. (2017). *The long take: Art cinema and the wondrous*. University of Minnesota Press.

-Lotman, J. (2013) *The unpredictable workings of culture*. Tallinn University Press

-Hollyn, N. (2009). *Lean forward moment*. New riders

-Cascella, D. (2012). *En Abime: Listening, Reading, Writing*. Zero books.

-Lyotard, J.F. (1984). *The postmodern condition*. Manchester Univeristy Press.

-Film comment, Vol. 7 No. 2, "The long take" by Brian Henderson. Film society of Lincoln Center. 1971. (n.d.) Retrieved December 14, 2017 from https://www.jstor.org/stable/43752806?seq=1#page_scan_tab_contents