A Live Cinema Performance: Playing a Linear Narrative Through Soundscapes

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Abstract. The aim of this article is to document part of the creative process of the live cinema work *Safara—Lucid Dream 2020*, an audiovisual show that represents the experience of a lucid dream and consists of a performer, in front of a film projection, manipulating the audiovisual elements using analogue and digital interfaces. It is an art and research project in development since 2020, and in this documented phase the author introduces soundscapes to complete the work in terms of sound and narrative, and we question whether it is possible to improvise in live sound samples while maintaining the continuity of the film's story. The research methodology is based on artistic practice, and we present a state- of-the-art study on the following concepts: sound art, soundscape, sound field recording and soundscape composition. The practical work was carried out with the financial support of government institutions and the technical and production support of a non-profit cultural association.

Keywords: Live cinema · Soundscapes · Audiovisual performance · Digital media art

1 Introduction

SSL2020[1] is an artistic and research production in development that began in February 2020 with the financial support of DGArtes[2]. The work has already been presented to the public online and in person, in live shows and at cultural or scientific events.

Conceptually, SSL2020 is a film with a performer positioned in front of the projection, simulating the idea of a lucid dream, i.e. a dream that can be manipulated by the dreamer, who is aware of his or her mental state (LaBerge & Rheingold, 1990). In SSL2020, the film represents the dream, and the performer represents the dreamer.

The main aim of the project is to present a live show in which the performer uses body movements and digital technologies to manipulate the audiovisual elements and the narrative of the film (Carvalho & Lund, 2015).

[1] Abbreviation of the work's name *Safara - Lucid Dream 2020.*

[2] DGArtes is the abbreviation of *Direção-Geral das Artes*, a department in the Ministry of Culture of the Portuguese Republic, whose mission is to coordinate and implement policies to support the arts in Portugal.

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It's a performance in the genre of 'live cinema' (Makela, 2008; Menotti, 2015), with features of digital media art, whose projection is a narrative film with structures that resemble those of cinema: structured in three acts, I [preparation], II [confrontation] and III [resolution], (Silva, 2021; Field, 2005).

The theme of the narrative is the village of Safara[3]: the dreamer/performer is in the present moment in a local house (Act I), in the second act she realises she is in a dream, and in the third act she travels to a past time.

Until 2022, the references to the acts in the narrative were only visual and accompanied by live electronic music played on the *Nodebeat* app[4]—but that year, as part of an artistic residency in the village, the project's author created a version that incorporated soundscapes into the work, resulting in two live performances.

As we worked, the following research questions arose: Is it possible to manipulate soundscapes in a live cinema show and still maintain the continuity of the story? How can we isolate each sound element related to the location and play it live? The first hypothesis is that it is possible to maintain the continuity of the story if we use the three-act structure for cinema—already used for the visual part of the work—isolating the sound elements by samples and grouping them according to the acts of the story.

To present our research, we begin this article with a state-of-the-art study of concepts and working methods in sound art (Sect. 2), describe the process of creating and presenting the practical work (Sect. 3), and conclude with the results of the research (Sect. 4). A research methodology based on artistic practice is used, that is, an original investigation undertaken to gain new knowledge, partly through practice, and the results of that practice (Candy & Edmonds, 2018).

2 Sound Art

Before the 20th century, it was common to think of 'sound art' only in terms of musical compositions, the ambient sounds that might exist at the time of the concerts would disturb this art (Rocha, 2021).

The paradigm shifted with authors such as John Cage (music composer, 1912–1992), who, through the study of Erick Satie (1866–1925), invested in a new way of thinking: the environment also becomes a sonic reality, and any intervention in that sound constitutes an intrusion into what Cage considered to be the true work of an artist (Carrilho, 2019).

It's interesting to note that John Cage used to open the doors of theatres during his concerts, encouraging the sounds of the street to 'pass through' his compositions (Schafer 2011, p.108 cited in Rocha, 2021, p.71). In cinemas, watching a film is more than a visual experience, it's a process that also stimulates auditory capacities (Chion & Gorbman, 2009), and since the silent film era, it's been possible to notice that sound references complement visual ones to understand the narrative (Marks, 1997; Kobel, 2009).

The composer and theorist Schafer (1998) explains two different types of music: absolute and programmatic. In absolute music, composers create ideal soundscapes of the

[3] In the region of Alentejo, Portugal.

[4] https://nodebeat.com/.

mind, detached from the external environment; its forms (sonatas, quartets, symphonies) are created to be performed behind 'closed doors'. The author points out that in this type of music there is a human detachment from reality itself: 'Indeed, this music seems to gain in importance in direct proportion to man's disenchantment with the external soundscape' (Schafer, 1998, p. 151).

Programmatic music, on the other hand, imitates the environment and, as the name suggests, can be described verbally in a concert programme. It is a style in which composers use resources that clearly represent the environment—this may be through the 'imitation' of natural sounds by instruments, or through narrative music that tells stories related to external universes (Schafer, 1998).

The same author compares this type (programmatic music) to Renaissance paintings, which also imitate and represent the environment as it is: 'the means of programmatic music transform the real space of the concert hall into a garden, a pasture, a forest or a battlefield' (Schafer, 1998, p. 152).

Based on these two paradigms, it is assumed that in SSL2020's work there will be two separate flows of audio, each resembling one of the species proposed by Schafer.

The electronic music played through the *Nodebeat* app on the mobile phone represents a kind of absolute music. In the sense that it is an ideal representation of the mind about the world and detached from the external environment (Schafer, 1998), no real sound elements are used in this part.

Conceptually, this part of the music is meant to represent the sound of a dream. The choice of tones, notes and electronic instruments had this aim. However, there is no such thing as a real dream sound in the world, it's just an idealisation of the human mind.

On the other hand, the part to be developed in this version (soundscapes) will represent a kind of programmatic music, because it uses resources that clearly represent the environment: the sounds of the village and the house.

The challenge for this version will be how to combine these two aspects, both in preparation and in the live performance. Although the definitions are conceptually clear—one represents the dream, the other the external environment—there must be a musicality that is pleasing to the ears of the audience and a dynamism in the interactivity of the performer.

The solutions to these challenges are explained in detail in the following texts.

2.1 Soundscapes

The term 'soundscapes' is a neologism created by Murray Schafer (1933–2021), an author already mentioned in the previous text, who devoted his professional career to the study of the acoustic environment (Schafer, 1998).

Although Schafer's studies began in the 1970s, it wasn't until the end of the 20th century that soundscapes began to be studied in a systematic way—initially it was an ecological approach and about their socio-cultural functions—but gradually it came to be seen as an artistic tool, both in the direct use of sounds and as a starting point for inspiring creation (Gomes, 2015).

Soundscapes have begun to be considered more relevant in the contemporary cultural scene, as they become true representations of the spaces in which they are observed and are able to tell stories about the place and its inhabitants (Rocha, 2021). Through

soundscapes and sound mapping it is possible, for example, to make known the different regional accents and the sounds that people hear in different parts of the place.

Based on these ideas, it is intended that the ambient sound part of the show will be a sonic representation of the space where the story of the film takes place: the village and the local house—just as the analogue photographs used had the same objective (visual representation). It was therefore decided that the choice of sounds to be recorded and used would be related to the content of the photographs. The elements/locations chosen for this purpose are as follows:

- Street in front of the house (people talking and car noises).
- Backyard (sounds of dogs, birds, roosters, and crickets).
- Kitchen (e.g. fridge).
- Bedroom (e.g. fan).
- Rural area where there are herds of goats and the shepherd.
- Fountain (sounds of water).
- Local café (conversations of people socialising).
- Central square (birds, cars, people, etc.)

The next step will be to determine how to carry out these captures, in technical, methodological, and logistical terms.

2.2 Sound Field Recording

Sound field recordings have existed since the beginning of the 20th century, an example being the work of the Hungarian composer Béla Bartók (1881–1945) (Nelson, 2012). Bartók used a phonograph to record the sounds of folk music from the interior of his country and was inspired to compose his own works. His work showed the world that folk music existed and was important, and that its study should be considered a discipline in its own right (ethnomusicology).

The composer was one of the first musicians to make sound field recordings, travelling into the countryside to collect music samples, record and transcribe folk songs—he would later rewrite these songs and make them recognisable with new harmonies (Nelson, 2012).

Bartók's work was aimed at results in the field of folk music, but the process of creation still inspires work in the digital age, especially the collection of sound samples for documentary purposes in live shows.

In SSL2020, the plan is to create a similar process: to record sounds in the designated places (with an electronic recorder), and only after the recordings have been made will there be an editing, selection and post-production phase—a method also inspired by cinema, in which the 'raw' images are first captured, to be edited and mixed later, with the aim of creating compositions that convey narratives.

2.3 Soundscape Compositions

Widespread access to new audio technologies has transformed the sound environment into an enormous and rich resource for composers and sound artists—and as a result,

countless compositions have emerged that make use of field recordings, but don't necessarily transform them into 'soundscape compositions' (Westerkamp, 1999).

According to Westerkamp (1999), the essence of soundscape composition is the artistic and sonic communication of meanings about place, time, environment, and auditory perception. A piece that uses ambient sounds only for abstract exploration cannot be considered a soundscape composition—because they must communicate about place, time, and situation. In this way, the precise reference to the environment is what distinguishes a soundscape composition from an abstract piece.

For Truax (2001), the 'instruments' in sound compositions are the previously recorded ambient sounds, and there are two ways of using them:

- Only unprocessed sounds are used, and the compositional work focuses on selection, editing, mixing, and organising (with the character of a narrative or documentation of the soundscape).
- Processing recorded environmental sounds, but for these works to be considered soundscape compositions, the relationship to the original source, place, time, situation, or context must be present in some way.

It is assumed that the result of this work will be in line with Westerkamp's (1999) and Truax's (2001) definitions of soundscape composition. The final sound should be a clear and crisp demonstration of the place in question and will show the narrative of the story in a documentary rather than abstract way.

3 Creative Process

This section reflects on the process of creating and presenting the new version of SSL2020. It documents the work carried out during the residency and reports on the experience of the two final performances. The process was developed by the author, with technical and production support from the cultural association Trugia[5].

The research methodology is based on artistic practice, as in addition to theoretical research and bibliographical reviews on relevant topics, a practical work (a new version of SSL2020) is being developed in parallel, which aims to answer the research questions proposed in the introduction (Skains, 2018).

Creative authors (whether students, amateurs, or professionals) can understand how creativity works and why they make the choices they do in their creative processes through observation and/or post-practice analytical texts (Skains, 2018). In the creative arts, including digital media arts, the focus is on the creative process and the works that are produced. The artefact plays an important role in the new understandings of practice that emerge—in this sense, practice, and research work together to generate new knowledge that can be shared and analysed (Candy & Edmonds, 2018).

3.1 Artist Residency (First Phase)

The residency took place from 1 to 15 September 2022 in Safara village. During these two weeks, two phases of work were carried out:

[5] https://linktr.ee/trugia.

- Sound Field Recordings.
- Soundscape Compositions.

In the first phase, the author lived in the village house to make sound field recordings. Using an electronic sound recorder (Zoom H5), she recorded the sounds, the elements, and locations of which were predetermined[6].

During this phase, the association's collaborators visited the site to visually report the event, as shown in Figs. 1 and 2.

Fig. 1. Sound field recording—street. Photographer: João Filipe Rosa.

A major inspiration for this creation was the work of Yosi Horikawa—and research into his work determined the genre of field recording to be used in the residency. This text presents a parallel between his genre and that of the work carried out in the SSL2020 residency.

Yosi Horikawa is a sound artist and musician who, according to the Spatial Sound Institute (2021), incorporates sound field recordings into his musical compositions. He has already released four albums: *Spaces* (2019), *Touch* (2010), *Wandering* (2012), *Vapor* (2013).

Horikawa uses previously recorded sounds to edit his music, transforming them into musical elements (e.g. nature sounds transformed into drums to create rhythm). The author mixes these samples with other instruments, such as electronic pianos and drums (Horikawa, 2018).

The musician began his musical practice as a child, and because he didn't have any musical instruments at his disposal, he recorded sounds of elements around him that

[6] Detailed in the subsection: Soundscapes (2.1).

Fig. 2. Sound field recording—rural area. Photographer: João Filipe Rosa.

were familiar to him: 'I looked for interesting sounds from my everyday life' (Horikawa, 2018, 2:13).

In his compositions we hear samples of bicycle bells, steam engines, kitchen utensils, goats, leather stools, pen scribbles on paper, brush scratches, beds, waterfalls, birds, and raindrops (The Wild City, 2019).

Horikawa (2018) aims to recreate the environment that surrounds us and is part of our background, so that when the listener stands in the centre of the concert hall, they become the protagonists, and each listener has their own individual experience. It's a process of layering memories: 'This isn't just another piece of music, it's a piece that has the things I've played and the air I've breathed. It's something that mixes all those things together. It's a style of music that people can marvel at' (Horikawa, 2018, 15:58). Yosi experiments with sound field recordings and uses soundscapes in his musical compositions—but according to the theories of Truax (2001) and Westerkamp (1999) mentioned earlier in this article[7], his works are not soundscape compositions.

Although the artist uses soundscapes as musical instruments and does not process the samples—i.e. it is clear what each sound means—his compositions have no direct relationship to their original sources: place, time, situation, or context.

If we listen to his song *Wandering* from the album *Vapor* (2013)[8], we can hear birds and water, but it could be from anywhere on planet Earth, there is no direct way of identifying anything else about it—there is no ethnological documentation factor like in Bartók's works (Nelson, 2012)[9].

[7] In Subsect. 2.3.

[8] https://yosihorikawa.bandcamp.com/album/vapor.

[9] Mentioned in Subsect. 2.2.

On the contrary, the intention with the result of the soundscape samples in SSL2020 will be precisely to document the place in question. For example, the relationship between the soundscapes and their original source (place, time, situation, or context) will be present: people's accents will be easily identifiable, as will the bird and animal sounds that are characteristic of the region, and the construction of the narrative that identifies the time.

The aim is also for the sounds to be as unprocessed as possible and not at all abstract. The compositional work will focus on selection, editing, mixing and organisation (with the character of a narrative or documentation of the soundscape). On the other hand, the organisation of the samples will explain the narrative—as the organisation of the images has already done—and will be divided into chapters: #1 Present, #2 Transition, #3 Past.

The following text documents the work involved in selecting, editing, and organising the samples, as well as the solution for integrating them into the performance project (inside the software *Isadora*[10]). It also describes the way in which the performer interacts with the audio tracks in the live show.

3.2 Artist Residency (Second Phase)

The performance is divided into three chapters, each corresponding to a temporal part of the film: #1 Present, #2 Transition, #3 Past. There are three 'slideshows' of analogue photographs, previously created in *iMovie*, which visually represent each part of the story.

The same design logic is followed for the sound, but instead of slideshows of photographs, there will be three audio tracks containing short sound samples. These samples will make similar references to the images—for example, a sound sample of water from the fountain with an image of the fountain—but they will not be synchronised live, i.e. the sound sample will never appear in the projection at the same time as the corresponding photograph, they will just be part of the same chapter.

With this system, there is live improvisation of audio and visual elements, but continuity in the story: each chapter represents a unique time in the narrative.

Following the reference length of the slideshows, the soundtracks have the following durations: Track 1 (15 min), Track 2 (10 min), Track 3 (15 min). They were composed using *Audacity* music creation software[11].

As shown in Fig. 3, short sound samples (maximum 2 min each) were isolated and mixed on each track through two audio channels (left and right). The aim is to transmit the live sound in stereo so that the spectator's experience is immersive, in the sense that they can imagine themselves at the scene of the action, with sounds coming from all corners of the room.

Track 1 contains sounds related to daytime, recorded in sunlight. This chapter is a set up in the narrative, i.e. the context of place, character, and time. It corresponds to the first act in the classical film structure (Silva, 2021; Field, 2005). In this first chapter there are no effects that could distort the samples, only a clear transmission of the sound field recordings (Westerkamp, 1999; Truax, 2001).

[10] https://troikatronix.com/.

[11] https://www.audacityteam.org/.

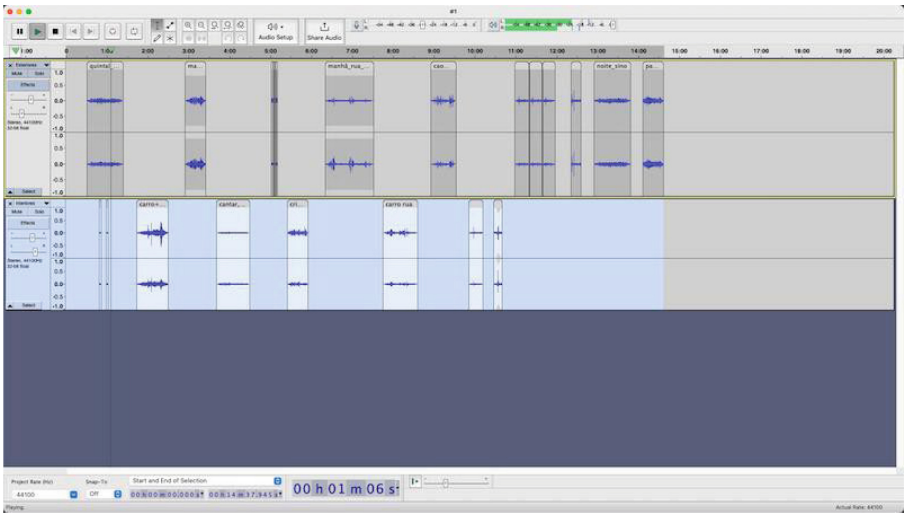

Fig. 3. Composing audio tracks with soundscapes. Creating Track 1, in *Audacity* software.

Conceptually, Chapter 2 represents the moment when the performer/dreamer/main character becomes aware that she is inside a dream, a lucid dream. The visuals here are more abstract than in the other chapters (they are analogue photographs transformed into spheres, animated). It's a moment of change, of transition, corresponding to the second act of cinema (Silva, 2021; Field, 2005).

In accordance with the concept, Track 2 also has a more abstract tone than the others—although without distortions or effects—but the sound samples chosen are more related to the house itself (sounds of the fridge, coffee machine, computer keyboard, person snoring and walking around the house). Although more abstract, it clearly conveys what each sound means (Westerkamp, 1999; Truax, 2001). It's an introspective moment, so the sounds used reflect the state of the dream.

Chapter 3 is the resolution of the narrative (Act 3), which represents the conclusion of the story (Silva, 2021; Field, 2005): the performer/dreamer/main character, having realised that she is in the dream that can be manipulated (Act 2), travels into the past.

Track 3 accompanies the black and white images of the house and village, and archive images of religious and cultural factors in the area (e.g. photographs of the local saint, photographs of men working on old railway tracks, and men travelling on boats to war). As it wasn't possible to record sounds related to the past, it was also used samples collected from an open-source online sound archive platform[12]. As with the previous tracks, there are no effects, the sounds are clear from their original source (Westerkamp, 1999; Truax, 2001).

In terms of interactivity, the three tracks were incorporated into the *Isadora* software project and placed in each corresponding 'scene'. A node link was created to play the file at the start of each scene, i.e. the track is activated when the computer's space bar is clicked (see Fig. 4).

[12] https://freesound.org/.

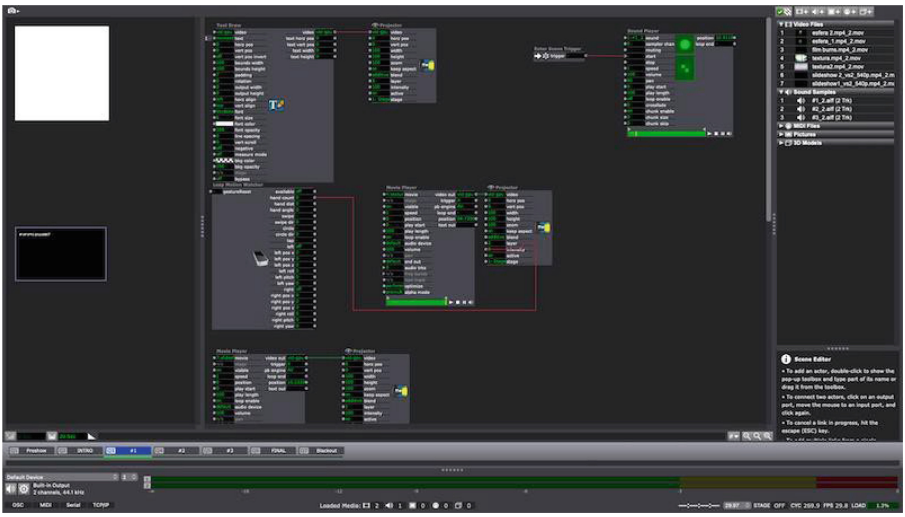

Fig. 4. SSL2020 node connections in *Isadora.* In the top right corner, you'll find the audio track link, below the scenes change bar.

3.3 Presentation

The two presentations took place in October 2022, in two towns in Alentejo[13], with the collaboration of Trugia's members, and audiovisual technicians employed in Camâra Municipal de Moura (see Fig. 5).

As you can see in the video of the first presentation[14], the soundscapes are perceptible and correspond to their original sources in a clear, non-abstract way (Westerkamp, 1999; Truax, 2001). This adds to the viewer's experience by immersing them in the place where the narrative unfolds.

One of the comments from the audience was that they couldn't tell if the sounds were coming from outside or inside the room—because the room was in the region where the story takes place (Alentejo), and it was possible to identify the sounds with the village portrayted.

This characteristic is related to John Cage's experiments, already mentioned in this article[15], when he opened the doors of concert halls to let in outside sounds and incorporate them into his compositions (Schafer 2011, p.108 cited in Rocha, 2021, p.71).

The sound elements were isolated by creating short samples (max. 2 min in length), and soundtracks of 10 to 15 min were created, each corresponding to an act of the story, as in the classical structure for cinema (Silva, 2021; Field, 2005).

[13] The first one took place at CineTeatro Caridade, in Moura town, and the second one at Torre do Relógio, in Amareleja town.

[14] https://youtu.be/8L_TKIgTi-O.

[15] Mentioned in the subsect: Sound Art (2).

Fig. 5. Presentation 2. Photographer: Vitor Domingos.

4 Conclusion

Since the beginning of the 20th century, the use of the acoustic environment has been considered an art form. This could be seen in the composition of programmatic music that imitated the environment. Today, these imitations of sonic reality can also be seen in cinema and contemporary art.

The term 'soundscapes' was coined by the theorist Schafer in the 1970s. Initially an approach to ecology and its socio-cultural functions, soundscapes have gradually come to be seen as an artistic tool because of their genuine ability to represent the spaces and places observed.

The methods and concepts associated with this art form were analysed: sound field recording and soundscape composition. Both were used in the process of creating SSL2020. The works of folk composer Béla Bartók and Yosi Horikawa also influenced the conceptualisation of the work.

Using an electronic sound recorder and *Audacity* editing software, the author isolated sound samples representative of the acoustic environment, grouped them by chapter and played them live using *Isadora* software.

To answer the initial questions, it is possible to manipulate soundscapes in a live cinema show and still maintain the continuity of the story. This is because the samples are grouped into three chapters, and within each chapter they appear in an improvised way, without continuity in their order. However, the chapters are continuous throughout the narrative: Track 1 (Act 1), Track 2 (Act 2), Track 3 (Act 3).

However, there is no noticeable manipulation of individual samples via digital interfaces. In this version, entire musical tracks are changed using the computer's space bar. For a next version of this show, the idea is to be able to manipulate and change the samples individually through the performer's body movements.

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