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Experimental sound editing as an enabler of acoustic and phonetic elements of perception in field recordings

Panteleimon Petmezas

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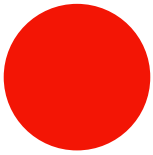

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by
Panteleimon Petmezas

Master in Multimedia – University of Porto

Supervisor: Daniel da Cruz Brandão
Co-supervisor: Heitor Manuel Pereira Pinto da Cunha e Alvelos

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Panteleimon Petmezas

Masterado em Multimédia-Univercity of Porto

Aprovado em provas públicas pelo Júri:

Presidente: Professor Doutor Bruno Sérgio Gonçalves Giesteira
Vogal Externo: Professor Doutor Pedro Alexandre Santos Carvalho de Almeida
Orientador: Professor Doutor Daniel da Cuz Brandão

Abstract

This project aims at finding hidden values on sound material recorded in a particular place through the creation of mechanical and random sound collages as a method to help in understanding a socio-cultural context that is rapidly changing. The sounds of the neighbourhood of Riobom, located in the eastern part of the city of Porto is the subject of study. This place has been the focus of sound recording sessions conducted by Radio Manobras in the scope of a funded project with an artistic, ethnographic and music composition approach.

This research study has two major purposes. Firstly, to deny the original semantic meaning of field recordings and interviews through a set of editing strategies, methods and technics that may potentially provide alternative impressions, such as the phonetic and rhythmic values of voices and other sound sources. Secondly, to understand how can the applied methodology potentially enrich an ethnographical project that has as purpose to understand the socio-cultural framework of a place.

In the state of the art, after a first comprehension about the history of sound ethnography, the concept of soundscape and the importance of mapping and sound archives, an analysis on the evolution of the different avant-garde approaches to sound material is presented. This analysis informed the empirical work and its methodology, which is explained and described step by step.

A set of patterns were noted in the analysis of the outcomes, pointing out a potential research path to follow in future work, which can explore the connection between artistic avant-garde approaches to sound and ethnographic research projects.

Keywords: Sound editing, Soundscape collages, Ethnography

Resumo

Este projeto visa encontrar valores ocultos no material de som gravado num determinado local através de um processo mecânico e aleatório de criação de colagens sonoras como método para ajudar a compreender um contexto sociocultural em transformação. Os sons do bairro de Riobom, localizado na parte leste da cidade do Porto, são objeto de estudo. Este lugar tem sido o foco de sessões de gravação de som realizadas pela Radio Manobras no âmbito de um projeto financiado com abordagem artística, etnográfica e de composição musical.

O estudo aqui apresentado tem dois principais propósitos. Em primeiro lugar, negar o significado semântico original das gravações de campo e entrevistas através de um conjunto de estratégias de edição, métodos e técnicas que potencialmente podem fornecer impressões alternativas, como os valores fonéticos e rítmicos de vozes e outras fontes sonoras. Em segundo lugar, para entender como a metodologia aplicada pode potencialmente enriquecer um projeto etnográfico que tem como finalidade compreender a estrutura sociocultural de um lugar.

No estado da arte, após uma primeira compreensão sobre a história da etnografia sonora, o conceito de paisagem sonora e a importância do mapeamento e arquivos de som, é apresentada uma análise da evolução das diferentes abordagens de vanguarda ao material sonoro. Esta análise informou o trabalho empírico e a sua metodologia, que é explicada e descrita passo a passo.

Na análise dos resultados foi observado um conjunto de padrões, apontando um potencial caminho de pesquisa para o trabalho futuro, que pode explorar a conexão entre as abordagens artísticas de vanguarda ao som e projetos de investigação etnográfica.

Palavras-chave: Edição sonora, Colagens de paisagens sonoras, Etnografia

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Chapter 1
Introduction

This project presents a very specific context to look into this aspect, which is the case of the Riobom neighbourhood, in the Fontainhas area, in the city of Porto. Exploring the soundscapes of that particular region through sound editing and sound collaging as a method that could extract new considerations that are hidden by the semantic meanings. Through this research and through the practical process, the possibilities of experimental approaches such as sound collages in a specific soundscape archive are analysed in order to understand if this approach could be a positive contribute in an ethnographical process.

This research project comes in the wake of the dramatically changes that occurred in the city of Porto during the last decade. These changes are not only structural alterations but also intellectual. Places, objects, buildings and social practices are just some examples from the things that have been affected and changed in many ways. Through those shifts, physical barriers and more important, socio-cultural barriers have been created in parts of the city and between the citizens.

Under those circumstances it is clear the necessity of ethnographical projects and researches that will rescue,safeguard and highlight parts of a culture that are in threat by those rapidly alterations. Moreover, through those studies it will be possible to understand the everyday life of people whose homes, homelands and social practices are being disrupted by the globalization, uneven development and the social inequality that has been spotted in a specific region. (Low, 2016).

To conclude, the current dissertation, connects key elements such as soundscapes and abstracted sound collages, with the purpose of exploring the potentials that this approach may have in ethnographic research projects.

1.1 Context, Framework, Motivation

1.1.1 Riobom

As it was mentioned before, this research will focus in sound recordings made in the neighbourhood of Riobom, which is located in the eastern part of the city of Porto (Figure 1) and more specific in the area of Fontainhas. However, there are no roads that lead to Riobom and there is not an easy way to reach that particular place. Walking through the neighbourhood alleys where you must enter from a gate and cross a train rails (Figure 2) are the only way to reach this community. Today, living in a moment where the city of Porto is changing continuously, those people are isolated and feeling forgotten by the rapid growth of the city.

Figure 1 Location of Riobom neighbourhood

Figure 2 Photo from the train rails of the neighbourhood

1.1.2 Rádio Manobras[1]

Rádio Manobras is an open, non-profit and independent community radio with an experimental, intuitive and committed approach that seeks to discover the plurality of the city of Porto and its citizens. A radio that is also a call for participation and exploration through different projects in the city and through different broadcasts. Furthermore, the radio programs consist mainly of sound archives from field recordings and electroacoustic compositions based on the sounds of the city, debates, conversations and testimonies of citizens on any kind of issues. However, significant part of the radio program is also focused on providing the community with access on broadcasting in order to highlight and support those who want and need it. Lastly, Rádio Manobras broadcasts around the clock all days of the week on the Internet and intermittently FM at 91.5 MHZ.

1.1.3 The Rádio Manobras' Rádio Vai e Vem project

Rádio Vai e Vem is an ongoing project developed by Rádio Manobras, with an ethnographical methodology focused on the community activation through different activities, aiming at documenting the sounds and the stories of the neighbourhood of Riobom and disseminating the results with an additional artistic approach. As part of the Rádio Manobras activities, this project seeks to create a community interest and a relationship that eliminates the cultural and physical boundaries between the Riobom neighbourhood and the rest of the city of Porto.

After a phase of sound collecting and documentation of the materials, the Rádio Vai e Vem project will have a phase of creation and subsequent presentation of the results. The project will be carried out through several activates such as presentation of the results to the public, creation of a concert and production of a sound album.

1 http://radiomanobras.pt (accessed, 27 January, 2017)

1.2 Project and Expected Results

At this point it is necessary to clarify the importance of the set of exploratory practical exercises that has been developed in order to identify the role of this research in the Riobom project. In fact, it is also important to state that this research has a practical basis.

A significant part of this research project will emerge from the collaboration with the already mentioned Rádio Vai e Vem project. Moreover, this research will focus in the sounds that will be collected by the members of Rádio Manobras and with the supplementary sounds that will be recorded through the practical process of this study. Through that collection of sounds a subjective form of soundscapes and sound collages will be created through an experimental and intuitive process. After the stage of editing and creating soundscape outputs from the sound archive, the final sound collage will be analysed as a way to understand the sociocultural context of this place and investigate the possibility of this approach in an ethnographical project as a complementary method.

As it was mentioned above this particular research has as expected results the followings:

- A set of experimental soundscapes and sound collages having the sounds of the neighbourhood of Riobom as raw material.

- Investigate the unsystematic approaches in the creating process as an exploratory way that could lead to new hidden findings.

- Understand the possibilities of experimental soundscape collages as an additionally methodology in an ethnographical research.

1.3 Problems, Objectives and Research Questions

Initially, at the first stage of this study, several exploratory exercises have been developed and will be describe in this section. Moreover, through those exercises it was possible to identify the difficulty of not understanding Portuguese was quickly noticed. Nevertheless, after an analysis on this issue, this language barrier was taken as an opportunity to explore a different approach, which would be focused on the phonetics and other sound values of the language when making the sound collages.

Those exploratory exercises were held in order to understand and explore the possibilities of what could be archived while being a part of the Rádio Vai e Vem project. Those exercises were focusing on four main tasks with four different approaches but always having sound as the main component. Those tasks had the following themes: Audio Documentary, Experimental Audio, Audio-visual narrative and Interactive audio-visual narrative. It is important to pinpoint that, in order to gain an experience with raw sound material, the sounds that were used on those tasks were from the sound archive of Rádio Manobras, and not from Riobom neighbourhood, as the Rádio Vai e Vem project had not started at that time.

Moreover, this research will be in correlation with the Rádio Manobras' project and that includes as main objectives the following:

- Explore and create soundscapes and sound collages with an abstract approach that has as purpose to reflect the identity of that region.

- Identify the evolutionary soundscape creating approaches that has been developed with the use of non-traditional sound editing methodologies.

- Understand the importance of soundscapes and the possibilities that different projects can provide through the use of soundscape sources.

Additionally, the research questions of this study are separate in two parts: the central question and the sub-questions:

Central Question:

- Can abstracted sound collages contribute in an ethnographical research project as a complementary method to extract new readings?

Sub-Questions:

- What are the principal concepts in the soundscape research field, what was its historical evolution and what have sound ethnographers, researchers and artists been exploring?

- Can the rejection of the original semantic meaning of sound material or interviews recorded through an ethnographic project and the subsequent use of avant-garde deconstructing sound editing strategies, reveal relevant meanings that had not been perceived until then?

Chapter 2
State of the Art

In this chapter, a survey of projects and researches that have a scientific or artistic relation with this research project are analysed and presented. Moreover, this survey is dived into two parts.

The first one, is focused on the sound ethnography and more importantly on the concept of soundscape and the different approaches upon soundscape archives that has been used through the years. The second part, is regarded with the evolution of important avant-garde movements and their approaches to the sound material that changed the way of composing and more important the way of perceiving sound.

Overall, this chapter has the function of providing a general understanding of the scientific area related to our research process and the related works. Being such a vast subject, with so many influences and different perspectives this particular chapter attempts to narrow the aspects that are more related to our purposes and interest.

2.1 Ethnography

Ethnography is recognized as a method that included written or visuals practises and is mainly produced by social scientists. Furthermore, ethnographic studies have been extended in different disciplines and fields but all of those have studies are aiming to understand people's actions, behaviours and knowledge in context. Nowadays, ethnographic researches and projects are trying to explore and describe society and culture by using different techniques that will lead to understand the context and the different topics around the world (Gooberman-Hill, R, 2015).

Ethnography can be defined as a particularly suitable tool that give us the ability to understand human societies and obtain cultural knowledge from particular sociocultural context. By positioning an ethnographic research or a project in a local environment, it helps us to understand certain groups of people and conceptualize particular spaces and places (E. Kallimopoulou, P. C. Poulos, K. Kornetis, S. Tsipidis, 2013). A research field such as ethnography that has remained a viable discipline at all in post-modern world, it has to do primarily with the redefinition and examination in-depth of its cultural role and its research methodologies that are under consideration for each different project and research.

Moreover, ethnography is recognized as the discipline that contains the principal source of data that is used for cultural anthropology. A source of information that reports, through direct observation, a community or social group's way of life such as: their values, belief and social practices. However, in contrast to many other fields of social research, the role of an ethnographical research is to examine the entire environment that they are being part of, and look very precise at their subjects of study and analyze the context in that specific location (Drever, J. L. 2002).

In ethnography, the methodology includes empirical data gathering through fieldwork that incorporates, observations, interviews, informal conversations, documentation and recordings. Those examples are just some of the materials that are included in the ethnographical finings through the field process (Fetterman, 2010). As a result, this kind of procedures can generate cultural meanings that is important for our cultural memory and our future. In the words of

David Fetterman, ethnography create meanings and stories that reflected from the real world:

> Ethnography is about telling a credible, rigorous, and authentic story. Ethnography gives voice to people in their own local context, typically relying on verbatim quotations and a "thick" description of events. The story is told through the eyes of local people as they pursue their daily lives in their own communities.
> (Fetterman, 2010)

2.1.1 Ethnography of Sound

Ethnography as it was mentioned before has extended in many disciplines and one of those is sound which is important to an ethnographical research since it has to include what people hear every day (Feld & Brenneis, 2004). This approach is also illustrated by Erlmann (2004) by saying that people are related to each other through the sense of hearing and he seeks to create cultural and historical context through the auditory perception. According to Feld, sound is an important tool that can be significantly useful in studies that are related with people and communities who are living in an intensely rich aural environment.

Additionally, through sound ethnography there is a clear way of collecting and convey material that is not possible to be written since the form of certain sounds might be too abstracted and difficult to be described in a form of text. Moreover, practices that are applied in ethnography in the methodological theories have many similarities with the practices and theories of soundscape. Both of this disciplines are part of an open-air-research instead of the common arm-chair-research and they focus mainly in the fieldwork and their findings that has as purpose to interpret their finding into condensed forms (Feld & Brenneis, 2004).

As result of the combination of ethnography and soundscape, the ethnography of sound creates an interaction between sound recordings, text, photographs that can lead to new understandings about a culture or a place.

2.2 Importance of Sound Field Recordings

The term of field recordings is related to audio recordings that are produced outside of recording studios and are applied in the natural and human-centered sounds. Those field recordings can be used as a method to describe a place and document the different activities and correspondingly characterize the environment of a certain place. These recordings can be recognized as a primary source of information to secure and preserve the acoustic memory of an environment. Such sounds, from a certain community can be a key tool that has valuable and significant meanings for the culture and the social life of the individuals and groups that are living in that society. Understanding their history, culture and behaviours are just some examples of the things that can be extracted (Landau and Fargion, 2012).

Through the process of soundscapes recordings, it is possible to create potential purposes that are referring to educational or recreational activities such as soundscape composition. Additionally,

by observing the captured soundscapes it is possible to extract a deeper understanding for the different patterns and behaviours that are included in those places. Soundscapes recordings can archive and maintain information that can give us the possibility to understand related past and present events, thus also speculate on future developments that might occur (Paulo A. M. Marques & Carlos B. de Araújo, 2014).

Sound field recordings have a connection with a place and more importantly they are offering an engagement between place and sound that can extract meanings. Adding to this view, sound reflects to our senses information that allow us to gather knowledge of topology, dimensionality and materiality about a community that lives in an intensely rich aural environment. For this reasons, sound recordings made today will become tomorrow's acoustic remains and possibly they can offer evidence of an ecosystem that may disappear in the future due to the lack of ability to protect it (Feld & Brenneis, 2004). However, the possibilities of sound in ethnographic research and documentation was explored by the need of finding new forms or styles that could enhance the outcomes. Furthermore, Steve Feld (2004) pinpoints that ethnography should include acoustemology which is referred to what it is, that people hear every day and what it means to live and feel as a person in this place through sound.

Lastly, those approaches about the importance of sound recordings in cultural contexts have spread in other field of studies such as ethnomusicology and more particularly in the concept of soundscape which will be explained next.

2.3 Soundscape

The term soundscape was firstly introduced by R. Murray Schafer in the 1970s in his research but the term was already described in the book *The Soundscape: Our Sonic Environment the Tuning of the World.* A research that for the first time was investigating the relationship between sounds, environments and cultures. In his research Schafer describe the soundscape as a sonic environment that combines the whole aural spectrum: from natural to human and mechanical sounds, from sound to noises and to music and from consciously to unconsciously sounds (Schafer, 1993).

However, through the years this initial approach about soundscapes as a socio-cultural context has led to a continuously increasing development of term since it evolves many sound-related fields (Valle, Lombardo, & Schirosa, 2010). Following this approach the term soundscapes can have three different central meanings related to three different areas of research as mentioned by Valle, Schirosa and Lombardo:

- **Ecology – Anthropology**

  A field that has similar view to the perspectives of Murray Schafer about what a soundscape is and what is the relation of sound with the cultural context and the society. This area is interested in documenting and creating archives with main content the sound as they try to define the socio-cultural and historical context.

• **Music - Sound design**

This musical area and approach of sound is particular relevant since many of environmental sounds are creating an acoustic scenery. However, many composers from the 60s and 70s started working by composing with sounds from field recordings. On the other hand, sound design started to explore media such as television, digital games and this also contributed to the dissemination of the term.

• **Architecture - Urban planning**

Sound and space with an architectural point of view is a new form of relation that has as purpose the awareness of citizens of their own sonic environment. Many architectural projects are focusing on the soundscapes of a region since it is related to the citizens and their life.

2.4 Soundscape Analysis

The first appearance of the term *soundscape* by Murray Schafer was a result from an extensive interest about the interaction of people and sound and the way that they perceive their environment consciously. However, following the idea of soundscape, many different social aspects were taken into account such as the structure of urban area, people living in those areas or architectural and social parameters that lead to a categorises or more specific to an analysis of our sonic environment.

2.4.1 Socio-cultural

The first analysis of soundscapes was presented in 1977 by Murray Schafer. In that analysis, he proposes sound as a socio-cultural function that can be divided into three parts:

• **Keynote sound:**

A sound that is heard by a society that is continuously or frequently repeated as a background sound against other sounds that are perceived. However, those keynote sounds are not consciously perceived but they help in the perception of other sound signals. One example of a keynote sound is the sea in a maritime community.

• **Signal:**

Sounds that are significant acoustic warning sounds such as: bells, whistles, horns or sirens. Those sound signals may often work as sounds that are attempting to send messages that needs to be transmitted. (e.g. ambulance sirens)

• **Soundmark:**

This particular term is derived from the term landmark that refers to a community sound which

is unique and is commonly recognized from the society. Soundmarks considered to make the acoustic life of the community to be exclusive and therefore should be protected.

Lastly, this analysis was characterized as the analysis that contextualized the relationship between sounds and environments that later on was commonly considered as acoustic ecology which was adapted by many researchers.

2.4.2 Soundscape Ecology

Soundscape ecology refers to the acoustic environment and is proposed as a term that combines two important field of study: landscape ecology and acoustic ecology. Both of those fields share many parallels that can be seen in the research of soundscape ecology that was firstly introduced as a term by Murray Schafer (1977) and Traux (1978) in the *Handbook for Acoustic Ecology*. A term of which focuses in the connection of sounds which are ecological properties of a certain landscape. Also, soundscape ecology refers to the soundscapes as the acoustical characteristics of an area that reflects the natural processes. The term "soundscape ecology" as it was defined by Truax (1978) is the "study of the effects of the acoustic environment on the physical responses or behaviour of those living in it". Additionally, this approach in soundscape ecology reveals the first scope of which it was created by Schafer and Traux. For them, soundscape ecology in correlation to acoustic studies was defined as the study of the relationships and interactions among humans and sounds in an environment (Wrightson, 2000).

The connection of acoustic ecology brings a lot benefits in the vocabulary of soundscape ecology of which can be a useful tool in the process of thinking about soundscapes. Examples of taxonomies such as those presented previously by Schafer, are basically important definitions that are also used in the soundscape ecology. Moreover, For Schafer and Truax, acoustic ecology was intended to provide several important human-based perspectives to the soundscape ecologists. Moreover, researchers in this particularly field tend to encourage people to take sound walks as they expect that this kind of approach could possibly increase the awareness of their acoustic surroundings (Pijanowski, Farina, Gage, Dumyahn, & Krause, 2011).

However, an important part of these researches on soundscape is focused in the anthropological component. Another important concern of this movement is the sustainability issues related to ecology. Having this in mind, it is important to note the significant changes that occurred through the industrial revolution. Those alterations, lead an increasing number of unique soundscapes to disappear or submerge into the cloud of anonymous noises from a contemporary city soundscape. This particular contrast between pre-industrial and post-industrial acoustic environment was expressed by Murray Schafer (1994) in the terms of Hi-Fi and Lo-Fi soundscape:

- **Hi-Fi Soundscape**

Schafer defines hi-fi soundscape as an environment where the sounds overlap less frequently and where there are more perspective — foreground and background type of sounds. A characteristic of this type of soundscape is that sound such as horns are very clear and they completely stand out from the background sounds. Another characteristic of this specific soundscape is related to the pre-industrial revolutions and more specific the acoustic horizon which implies that the

sound may extend for many miles. Therefore, the soundscape of this community is possible to be heard at a considerable distance and it might reinforce the sense of space and position, as well as maintain a relationship between persons and the community.

- **Lo-Fi Soundscape**

Lo-fi soundscape, in contrast to hi-fi, covers meaningful sounds by alternative sounds less important and that can lead an individual to the loss of aural space. Those impacts have as result, the loss of reflection of sound such as in our own movement or speech and even from the environment that can lead to isolation from his own space. Under those circumstances as Wrightson (2000) mention, important sounds are lost or merge and the sonic information transforms into an anti-information.

By analysing those both soundscapes, it is clear that the advantages of living in a hi-fi soundscape are highly recommended and suggested by the Acoustic Ecologist, since they provide a balanced sound environment in terms of level, spectra and rhythm. However, due to twenty-four-hour contemporary society, the rhythms of the daily routine are, in some localities, considerably eroded due to the lo-fi soundscape (Wrightson, 2000).

2.4.3 Sound objects

The concept of sound object was introduced by Murray Schafer. It theorizes sound as an individual part that has its own autonomy from the original source. Being stimulated by the recording technologies and the way that could be used in order to manipulate and recreate sounds without the presence of its cause or context.

Additionally, to this approach, Valle, Lombardo and Schirosa (2010), are proposing an essential supplementary classification for the sound objects of a soundscape that has three parts:

- **Atmospheres:**

An overall layer of sound, which cannot be analytically decomposed into single sound objects. This type of sound is characterized by quite states without similar sound events. This relation was proposed by Bohme (2000) as an aesthetic of the atmospheres.

- **Events:**

A single sound object that is well defined and is appearing as an isolated figure. (e.g. Sound Signal)

- **Sound subjects:**

A clear representation of the complex behaviour of a source in terms of sequence between different events. It is a description of the events and the different sequences that a sound source might have.

2.5 Soundscapes connected to Culture

Following Schafer's research on soundscapes, a wide range of intellectuals from different range of disciplines started to show an interest in exploring soundscapes in combination with culture. (E. Kallimopoulou, P. C. Poulos, K. Kornetis and S. Tsipidis, 2013). Specifically, soundscape in the cultural domain was referred in the definition that Emily Thompson gave to what soundscapes are at the book entitled *The Soundscapes of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900,1933:*

> Soundscapes as an auditory or aural landscape. Like a landscape, a soundscape is simultaneously a physical environment and a way of perceiving that environment; it is both a world and a culture constructed to make sense of that world.
> (Thompson, 2004)

Thompson connects soundscapes with the civilization that is constantly under construction and always undergoing changes in order to indicate the changes that sound has in our culture. Additionally, there is a significant connection between sound and culture that can extract sociocultural meanings for a society. This view can be reflected in the words of ethnomusicologist Veit Erlmann in his book Hearing Cultures:

> Hearing Culture suggests that it is possible to conceptualize new ways of knowing a culture and of gaining a deepened understanding of how the members of a society know each other. It is not only by accumulating a body of interrelated texts, signifiers, and symbols that we get a sense of the relationships and tensions making up a society. The ways in which people relate to each other through the sense of hearing also provide important insights into a wide range of issues confronting societies around the world as they grapple with the massive changes wrought by modernization, technologization, and globalization. (Erlmann, 2004)

Soundscape, and more specific its connection with culture, incorporates with many aspects such as a scientific and aesthetic way of listening that is featured in the relationship to their environment and to the social circumstances. Therefore, soundscape, like a landscape, has more to do with civilization than with nature and subsequently with culture that is constantly under construction and always undergoing changes. Additionally, soundscapes can provide not only a better understanding in our way of perceiving sounds but also means by which we can understand more generally and significantly the different changes and attributes that a culture or a place has (Thompson, E. A., 2004).

Through the years, the area of soundscape achieved many different forms with the efforts of artists, writers, musicians and architects, whose work is characterised with a widespread engagement with technologies and with the experimental process.

2.6 Creating with soundscapes

This section, will illustrate, four different approaches of using soundscape as a way to create, highlight or present, as well as a different survey of projects that demonstrate a scientific or artistic relation with the study. The criteria of selecting those projects were the characteristic that those projects have in terms of scientific and artistic approach and the relation with our study and more specific in the methodology of collecting soundscapes for a cultural purpose as well as the approaches that different projects had upon to their material in the creating process. By studying those examples, the different approaches that they took were possible to understand and analyse, not only in the sound content but also in the way they use materials to extract a final result.

2.6.1 Sound Composition

Schafer's research and motivation about world soundscapes that are changing and the relationships between the ear, human beings, sound environment and society lead to the creation of the World Soundscape Project in 1977 at the Simon Fraser University (Figure 3) in British Columbia, Canada. A collaboration with a team of researchers and composers aiming to create awareness of the sounds that are often ignored and promote the importance of the soundscape (Truax, 2002). However, the outcomes were significant not only in the sound studies but also in the way that we perceive soundscapes. *Word Soundscape Project* had the aim of re-present sound environments and lead to the introduction of the term *soundscape composition* by Barry Truax and also to different techniques that can be used in this kind of composition.

Figure 3 The World Soundscape Project group at Simon Fraser University, 1973, left to right: R. M. Schafer, Bruce Davis, Peter Huse, Barry Truax**,** Howard Broomfield

Subsequently, Truax and Westerkamp took a very precise approach about the core of a soundscape composition and they claimed that sound sources in the soundscape composition should always be rooted in the themes of sound, such as place, time, situation. For that reason, there are two approaches that characterize a soundscape composition (Gomez, 2015):

Using unprocessed sounds: That focuses on the selection, edition, mixing and organisation of the sounds. This approach can be seen as soundscape narrative or in a documentation.

Processed recorded environmental sounds: In works that are related with composition, the relation to their original source, place, time, situation or context must be presented in some way (Truax, 2001). According to Westerkamp: "A piece cannot be called a soundscape composition if it uses environmental sound as material for abstract sound explorations only, without any reference to the sonic environment" (Westerkamp, 1999).

In contrast to those approaches, Francisco Lopez states that sound sources from soundscapes cannot be removed from they own context: "A musical composition (no matter whether based on soundscapes or not) must be a free action in the sense of not having to refuse any extraction of elements from reality and also in the sense of having the full right to be self-referential." (Lopez, 1997)

Nowadays, with all the access to new audio technologies and the progress that has been made to this field, have as result an increasing interest in the soundscape composition by artists and researchers from different fields of studies. A clear connection between acousmatic music and soundscape composition can be comprehended from the common practices that they share. Primacy of listening and the ability to extract information at different points as well as the ability to recognize from a sound the shape of the space and time are the main practices that are being used (Traux B, 2008).

2.6.1.1 Sound Composition Related Works

Cities and Memory [2]

A sound project that aims to record the present reality of a place but also an imaginary version, an alternative counterpart of remixing the world. Looking at *Cities and Memory* it can be easily seen that it is a classic sound map but it has an artistic approach to its sound recordings. This project collects soundscapes from different parts of the world and attempts to map places through sound but also allowing those sounds to have an artistic approach. It gives people a chance to not only explore the actual soundscapes but also discover an alternative version of those sounds, by flipping into an imaginary sound world that occurs through the creation of soundscape compositions. Currently there are over 1,4000 sounds featured on the sound map from more than 55 countries (Figure 4).

2 http://www.citiesandmemory.com (accessed, 25 January 2017)

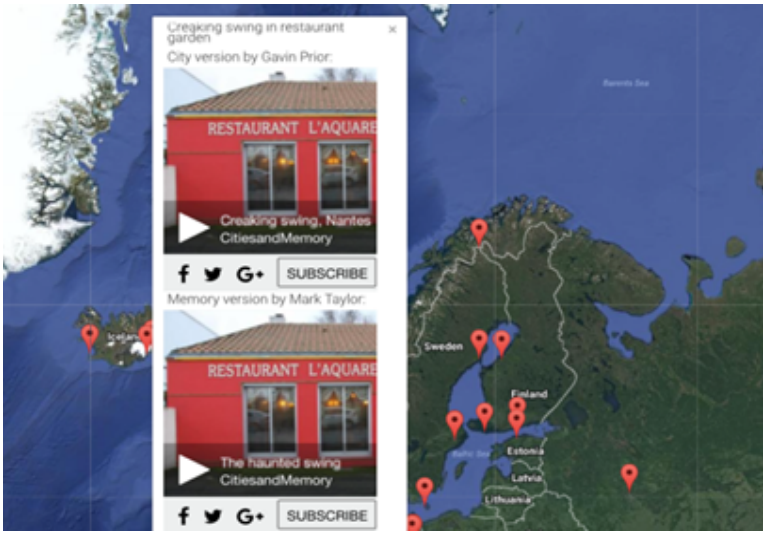

Figure 4 Cities and Memory: Interface with the two views of sound

Sonic Place Project[3]

Sonic Place is an ongoing augmented reality project that focus in the relationship between the cultural heritage, sonic identity and the sonic memories of specific places such as the city of Braga in Portugal. With the use of a mobile application (Figure 5,6) this project proposes sonic augmented reality experiences that illustrate the current and past soundscapes by hearing different sound compositions that includes recordings, interviews and real-time audio. This project was presented in Braga in 2016 in the 6th Semibreve Festival where more than 100 recordings were made as well as 20 music compositions were developed and more than 300 people experienced the application.

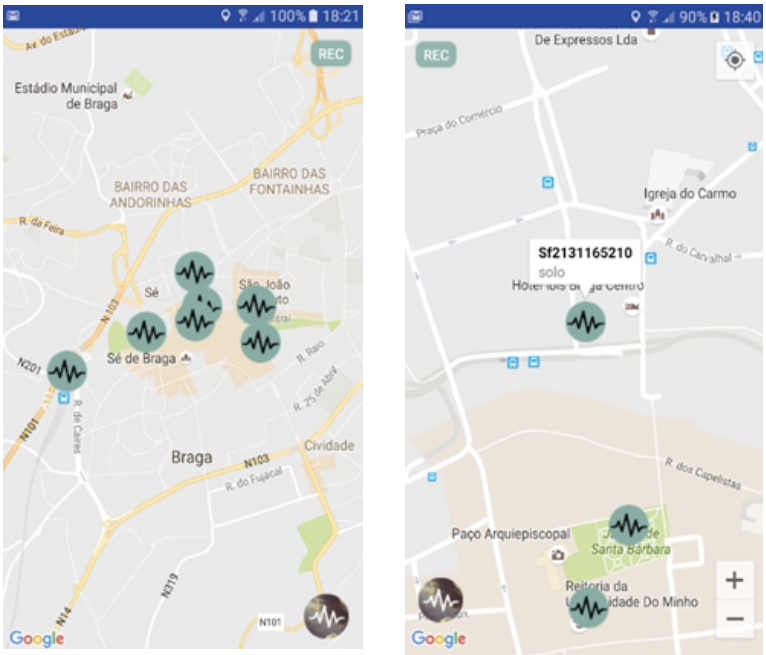

Figure 5,6 Sonic Place: Mobile application interface

3 http://www.sonicplaceproject.org/sonic-place

Listening closely[4]

Listening Closely is a sound art participatory based project that held in 2015 in the area of San Cipriano Picentino in Italy that aims to inquire the sonic environment of the area and focus in the sonic identity from everyday practices of citizens. A series of sound walks and field recordings are made in order to build a sound archive that contains sounds and memories collected by citizens. This sound archive was the main source material for the soundscape compositions that took part in a public interactive performance between the citizens and the composers (Figure 7).

Figure 7 Listening closely: Photo from the performance

2.6.2 Sound Walks

Sound walks it was firstly introduced by Murray Schafer (1993) when he was developing the *World Soundscape Project*. It was presented as a method that contains ear training exercises that helps us to identifying a soundscape and components of a soundscape in various locations (Adams, Bruce, Davies, Cain, Jennings, Carlyle, Cusack, Hume, Plack, 2008). A definition of sound walks can be recognized in the following proposal by Westerkamp:

> A sound walk is any excursion whose main purpose is listening to the environment. It is exposing our ears to every sound around us no matter where we are. We may be at home, we may be walking across a downtown street, through a park, along the beach; we may be sitting in a doctor's office, in a hotel lobby, in a bank; we may be shopping in a supermarket, a department store, or a Chinese grocery store; we may be standing at the airport, the train station, the bus-stop. Wherever we go we will give our ears priority. (Westerkamp, 1974 revised 2001)

Moreover, sound walks can be seen as a creative and research practice that involves listening of a particular place. It is highly connected with a strong relationship between the sound walkers

4 https://www.sonospace.org/portfolio/listening-closely/

and their surrounding sonic environment. Sound walks around the city neighbourhoods, the country side and other places with a sociocultural interest can be an effective way of making people aware of the sonic environment and also the social context of it. (Quinton, McGregor, 2014)

2.6.2.1 Sound Walks Related Works

SOUNDkitchen[5]

SOUNDkitchen is a sound walk project that is designed to encourage active listening to the sound environment and it is developed by a group of composers with a background in electroacoustic and experimental music. This particular sound walk project involves exercises that has as purpose to draw attention to the different sonic features of a particular location. Additionally, the aim of these sound walks that are held in different places of the world is to extend the walker's listening abilities through the different methods that are held in the walk. Examples of listening of audio tracks that present recordings from locations at different times of the day, night or year are just some of the common practices of this project. Nonetheless, an additional feature of this sound walk project is the idea of discovering hidden sounds from locations that are usually inaccessible such as under water or inside objects. (Figure 8,9)

Figure 8,9 SOUNDkitchen: Photos from the soundwalk in Sao Miguel Island

ISLAND NEX(US): ARQUIPÉLAGO[6]

ISLAND NEX(US): *Arquipélago* in an augmented reality sound walk project (Figure 9) that connects the local communities of São Miguel island with the sounds and stories of communities in the Asia Pacific region who are facing the true ramifications of climate change. By downloading the mobile application users are able to experience the sound walk on location anytime. Moreover, the phone will act as a sonic compass and the soundscapes play automatically when the user walks into an active location. Each specific route in the sound walk (Figure 10) has and his own connection with the similar approach region in the Asia Pacific.

5 http://soundkitchenuk.org/projects/soundwalks
6 http://www.hearingplaces.com/islandnexus.html

Figure 10 Island Nexus: Logo of the project

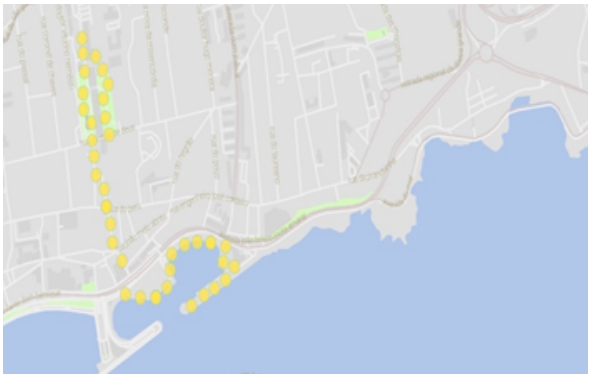
Figure 11 Island Nexus: Sound walk route path

2.6.3 Sound Archives

The first sound archive was introduced in 1899 in Vienna, Austria, by physiologist Sigmund Exner (Phonogrammarchiv – Akademie der Wissenschaften, 1899) and later on in 1900 in Berlin by Carl Stumpf Berlin Phonogrammarchiv (1900). However, the last part of twentieth century is characterized for the boom of sound archives not only as national archives but as local and regional sound archives in different parts of the world.

Many of those approaches on sound recording and collecting were mainly focused on the needs of academic researchers and institutions, but the role and potential of sound archives lead to new approaches and directions, with more focus on their exploration and dissemination. Sound archives were no longer dedicated and accessed by researchers as it was in the first stance. They were introduced to all people including the ones whose cultures are represented. Those changes occurred mainly due to the social development in combination with the improvement of the technological capabilities of the archives (Landau and Fargion, 2012).

Furthermore, most of the sound archives were developed with the aim of collecting, preserving and promoting cultural heritage. This method can be identified in the definition of an audio-visual archive, as it was proposed by Edmonson:

> An audiovisual archive is an organization or department of an organization which has a statutory or other mandate for providing access to a collection of audiovisual documents and the audiovisual heritage by collecting, managing, preserving and promoting. (Edmonson, 2004)

Nowadays, sound archives digitize and make their findings available online, aiming at achieving a wider dissemination of their data beyond the academic field and closer to the communities. Currently, most of the sound collections are focusing in the cultural heritage places with a socio-cultural interest and also to those communities who can be part in the archiving process through the collaborative archiving (Brinkhurst, 2012).

2.6.3.1 Sound Archives Related Works

Aspernessa[7]

A sound archive from the rural area of Pernes in the central region of Portugal that is presented through a website. The archive, features sounds from field recordings that contains oral, musical and environmental sounds along with their contextualization. This specific archive aims to present those sounds within the social and cultural context that is changing and collect them as part of the historical oral memory. Keeping this in mind the sounds are listed in the following categories: oral traditions, soundscapes, musical traditions and specials. By clicking in a sound, it is possible to read a small description related to the context of the sound (Figure 11).

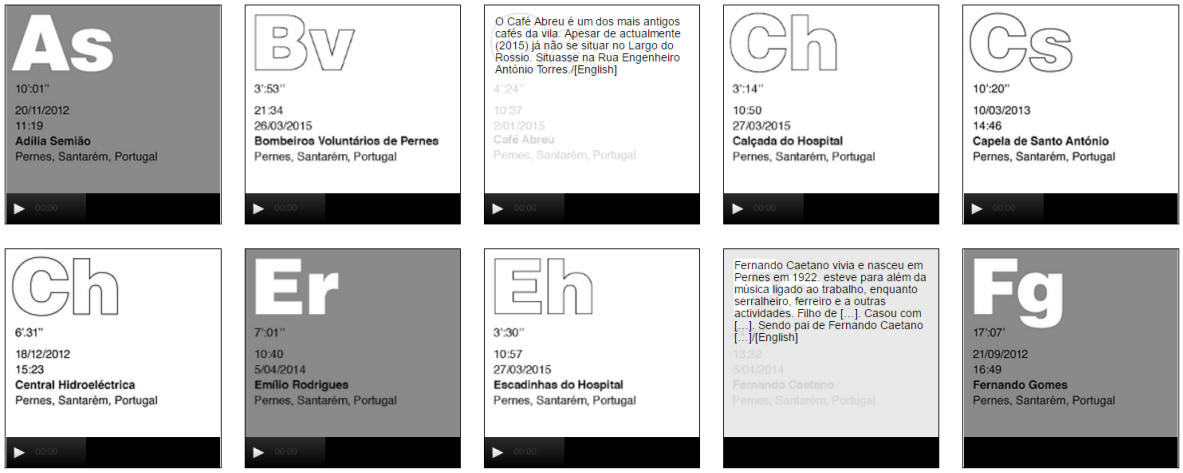

Figure 12 Aspernessa: Interface of sound archive

The Roaring Twenties [8]

The Roaring Twenties website is an interesting approach on how sound noises can bring up memories from a culture and the aural history of a region. This particular website offers to the users a sonic time machine where they can hear the noises of New York City in the late 1920s and explore the collection through different kinds of media and data that has been collected.

Noteworthy, is also the interesting approach of contextualizing all this historical sounds and present them in a way that could be related also with the documents and the history of those sounds. The exploration of the sounds and the historical content is presented into three different approaches:

- **Sound**

In this section, users explore the sounds through the organized categories of noises from the city. Moreover, by selecting the noises it is possible to see the documentation of the complaint that has been recorded in the Municipal archive (Figure 13).

7 http://www.aspernessa.com (accessed, 25 January, 2017)
8 http://www.vectorsdev.usc.edu/NYCsound/777b.html (accessed, 27 January, 2017)

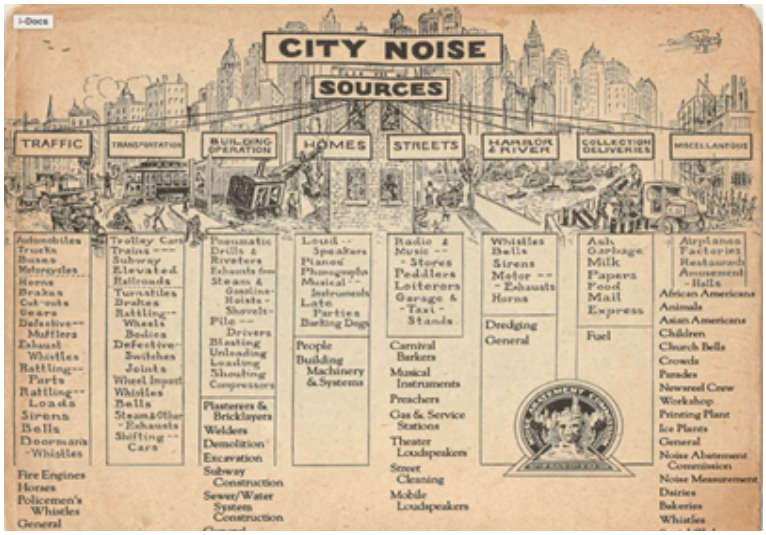

Figure 13: The Roaring Twenties: Sound interface

- **Space**

The Space is a section where users can explore the sound complaints by an interface similar to Google maps view but with an old map of New York City in the year of 1933 (Figure 14).

Figure 14: The Roaring Twenties: Space interface

- **Time**

It is a timeline version which organizes and presents the files and the sounds according to the date that the noise complaint has been recorded (Figure 15).

In conclusion, by reviewing and analysing this project it is clear that the creating an interactive way of presenting an archive of sounds and documents can be beneficial for the experience of the user not only for listening but also for understating the context and the sounds.

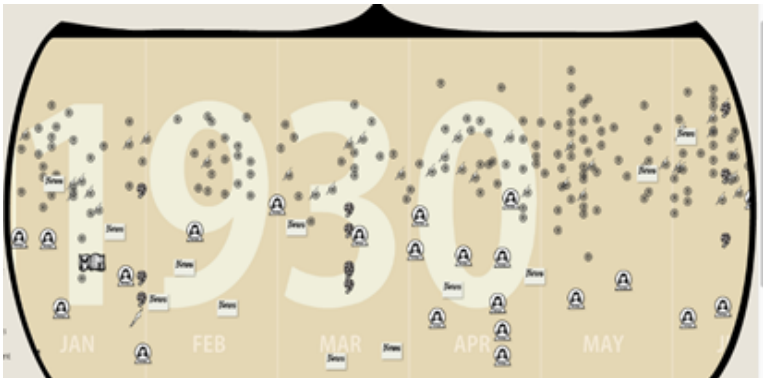

Figure 15: The Roaring Twenties: Timeline interface

Porto Sonoro[9]

Porto Sonoro is a project that started in 2012, which incorporates the sonic identity of the historical centre in the city of Porto through documentation and artistic re-interpretation. This project pursued to create an online catalogue that will list all kinds of records that can identify the historical centre of Porto. Soundscapes, sound marks, musical elements are part of the collection that is presented in the website in the following categories: voices, identities, characteristics, specificities, celebration, resonances and the imaginary sound walks (Figure 15). However, among those categories only the last one involve an artistic transformation from the original soundscape of the city. Lastly, the sounds are presented in two forms, as a sound map and as an archive through a list. (Figure 16)

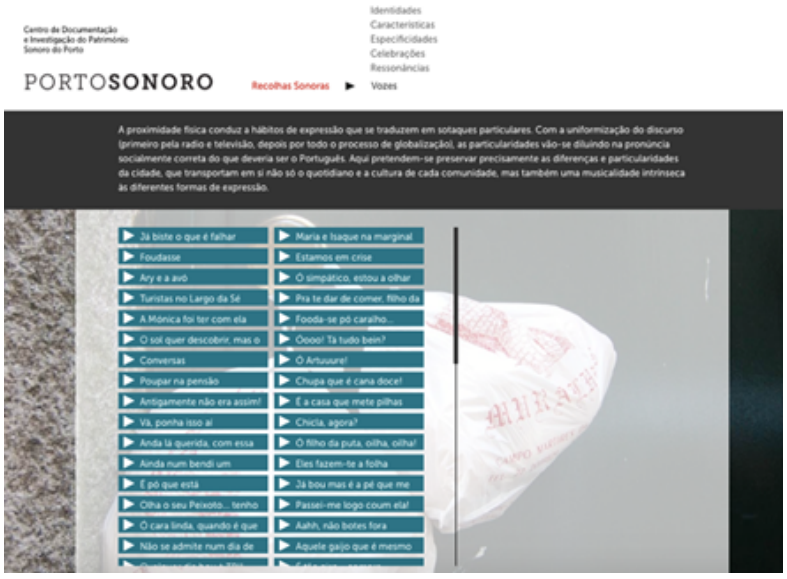

Figure 16: Portosonoro: Archive interface with sounds

9 http://www.portosonoro.pt (accessed, 27 January, 2017)

Figure 17 Portosonoro: Sound map interface

At this point, it is necessary to mention that *Porto Sonoro* is significantly relevant to this study because it is not only a project that presents a collection of sounds in a form of archive but also that has an artistic approach upon those sound sources. Additionally, the cultural scopes of the project itself are compatible with our project but in a more wide-ranging version and not in a specific location or a community of the city as it is in our project.

2.6.4 Sound Maps

The sound maps were introduced as an approach to visualize the collection of data that has been gathered from the soundscape recordings. They can be defined as a digital geographical map that use sounds as a method to represent the landmarks and the soundscapes of a specific location. This particular way of presenting the sonic environment provides the users with the ability to investigate the urban space through a dynamic digital environment that contains cultural, historical, geographical information and audiovisual material (E. Kallimopoulou, P. C. Poulos, K. Kornetis, S. Tsipidis, 2013).

Having as centre point the soundscape studies, sound maps are recognized as an interactive presentation of data that promotes soundscape awareness (Gomez, 2015). Due to the increase of technological developments and capabilities the result is a growing interest in the use of sound maps as a method to present the captured recorded soundscapes. The digital environment of a sound map is intended to act as a communication environment between users and the soundscapes by providing a different way to present sounds.

Sound maps have similar design approach and most of them are following the interface view that was introduced by Google Maps. The navigation through those maps is mainly through markers located in specific places and by clicking on them the user can listen to a specific sound. Nowadays, those kinds of maps are no longer just a way to present a specific geographical location. They also integrate other subjects such as ethnographic, historic, or educational forms (Gomez, 2015).

2.6.4.1 Sound Maps Related Work

Phonambient[10]

A project with a similar approach of Porto Sonoro since. Actually, it is an expansion of it, emphasising now the artistic exploration of the sound. It focusses on the documentation and in the artistic transformation of the contemporary sound heritage and more specific sounds that define a city or a region. However, in contrast to Porto Sonoro the scale of the recording locations in Phonambient project is much more wider and it includes 10 cities: Braga, Ponta Delgada, Guarda, Tondela, Ovar, Castelo Branco, Fundão, Santo Tirso, Abu Dhabi, and Porto (Figure 18).

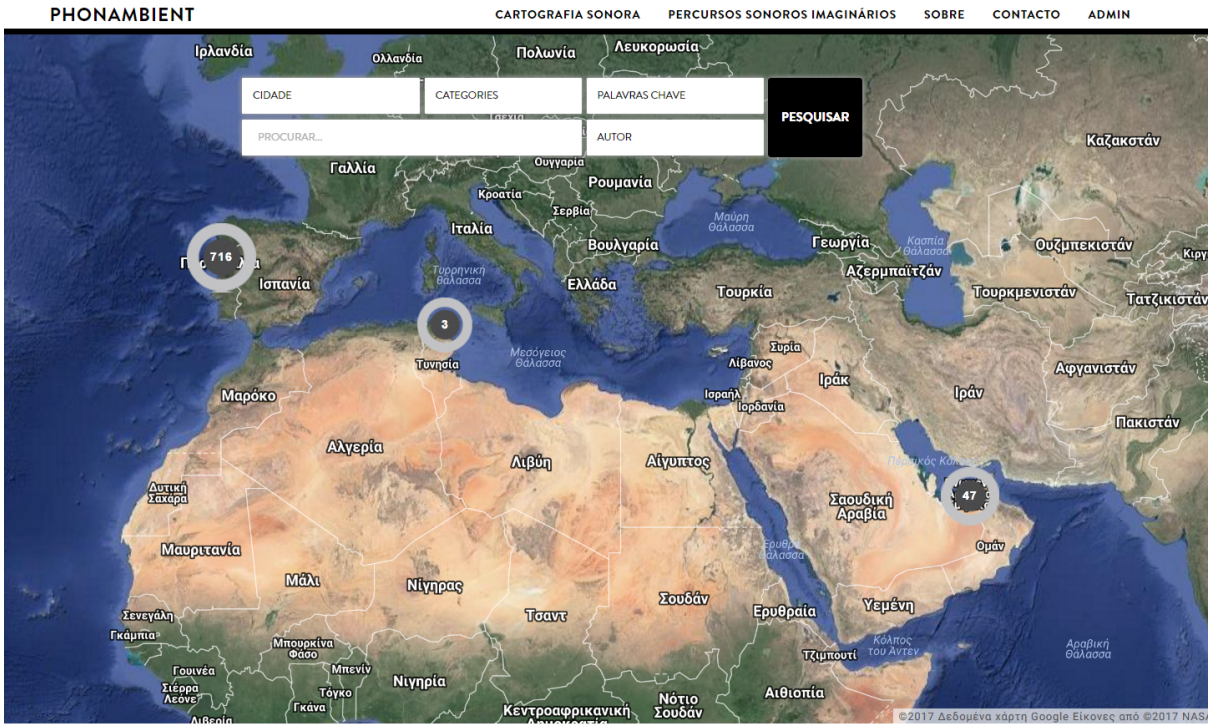

Figure 18 Phonambient: Sound map interface

Montreal Sound Map[11]

The Montreal Sound Map is a web-based soundscape project that has as a main goal to preserve the sounds that are disappearing form the city of Montreal (Figure 19). Additionally, according to their objective, *Montreal Sound Map* acts as a sonic time capsule that allows people to submit their own environmental sounds. Analysing their approach, this project is one of the first sound maps projects that have been presented and it is a reference that many other relevant projects have followed. The interface of the website allows the users to explore the categories of sounds that are following Schafer's classification.

10 http://www.phonambient.com (accessed, 26 January, 2017)
11 http://www.montrealsoundmap.com (accessed, 26 January, 2017)

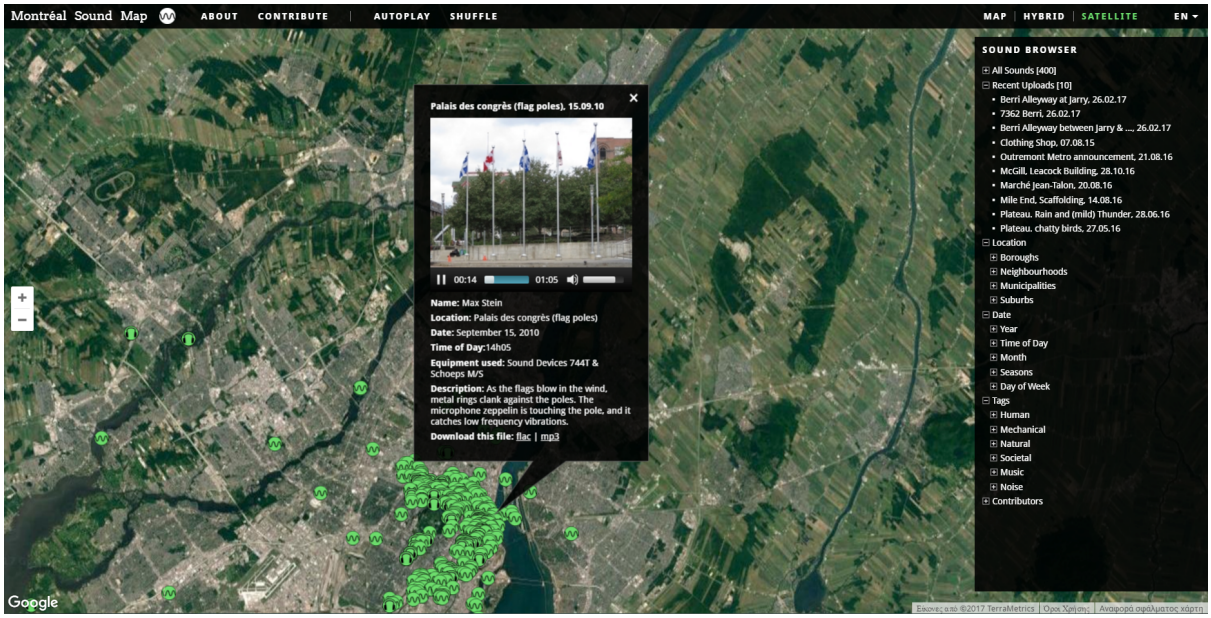

Figure 19 Montreal Sound Map: Interface view of the map

2.6.5 Sound Installations

In order to define the term sound installation, first it is necessary to mention its origins in art installations, which firstly appeared by Dan Flavin, an artist that used this term for his neon pieces at 1967. Moreover, in 1971 the artist and musician Max Neuhaus created the term *sound installation* for his sound creations that didn't followed the traditional musical time but the time of space. Despite this specific term has been little explored, there are several pioneer researchers that have contributes in the research of sound installations. Additionally, sound installations are defined as an expansion of an art installation in the sense that includes the sound component and the changes that occur through time in a specific place (Iturbide M. R., 2004). Following two proposed definitions about art installations and sound installations by the curator and sound artist Jose Iges, are presented:

> A work is an installation if it established a dialog with the surrounding space, and the installation in situ is the installation per se, although there are installations that could be adapted to different spaces (Iges, 1999).

> Sound sculptures and sound installations are intermedia works, and they behave like expansions of sculpture and installation (Iges, 1999).

Through sound installations it is possible to create connections between sound and places and consequently sound can enrich the experience of the installation and create a more tangible experience of space thus a deeper understanding (Iturbide M. R., 2004). Lastly, the importance of sound in installations can be seen from the ability that it can provide in the process of crossing through space and in the identification of the connections between different sounds, which can be seen in this following statement:

> We have a tendency to forget that space. We leap across it to establish our relationships and connections. We believe that we can slip as in a continuity from one sound to the next, from one thought to the next. In reality we fail down and we don't realize it! We live, but living means crossing through the world of relationships or representations. Yet, we never see ourselves in the act of crossing that world! And we never do anything but that! (Cage J & Charles D, 1981)

2.6.5.1 Sound installations Related Works

SHORES

Shores is a soundscape installation in a boat that took place in the Island of Sao. (Figure 20) The goal of this sound installation is to incite an active engagement in the co-creation of our sonic environment. The boat in this context works as a reference to the fishing community that is an important part of the culture heritage of Azores also as reference for the constant declining issues that the boat sailing and fishing experience. The boat it is placed in an urban public space and it invites people to experience a sound travel through Sao Miguel's shores vibrant ecosystems. Important part of this installation is the process of recordings that involved a co-creation through fishermen families and students in the process of sound mapping, field recordings and soundscape composition as well as the installation of the acoustic boat.

Figure 20 Shores: Phot from the sound installation

MESAS[12]

MESAS is a project that promotes the relationship between the everyday sounds that interact in our lives and more specific the sounds of furniture and the example of the table. Different uses and contexts determine the many variations of soundscapes that include the tables: from dinning, to coffee tables, kitchen, garden, meeting, bar, side or game tables. This project articulates the sounds and the conversation that happens around those certain tables from places such as a jewellery, a school, offices or the tailor. Part of this project was the creation of a set of sound installations associated with the places where those tables were recorded and used (Figure 21).

12 http://www.osso.pt/en/projects/mesas/ (accessed, 27 January, 2017)

Moreover, there is an interesting point of view about the sounds from objects such as the tables that reveals experiences and memories through the sounds that they make from our interaction with them depending on their use.

Figure 21 Mesas: Photo from the sound installation in Viseu

To conclude, the last section focused in concept of soundscape and the different approaches that have been used upon soundscape material. In a first search, we have identified numerous soundscape projects. However due to the impossibility to include them all in the thesis, it was decided to refer only those that have a close relationship with this study. Lastly, from this investigation, it was clear the significant number of projects that tend to increase with the theme of search and the method of editing those sounds to reveal hidden meanings or to present sounds that we tend to ignore. Therefore, the next sections are focusing in illustrating the evolutionary approaches that started to appear regarding sound and more particular in the use of non-traditional sound editing methodologies. Lastly, the following sections were developed regarding the chronological evolution in the use of sound editing methodologies from the appearance of avant-garde movements until the first examples of sound remix techniques.

2.7 Dadaism and Futurism

During the early years of 20th century, different art movements emerged that were primarily involved in the art of painting, sculpture, poetry, theatre, music and architecture and more particularly in the way we perceive art. Two of the most significant art movements that had an important role in the understanding of art through the rejection of the prevailing standards are the Futurism and the Dadaism. Both of those art movements, had as main ideology in their artistic expression the rejection of the logic and the semantic meaning, replacing them with irrationality and anarchy (Saylor Academy, "Dada", 2011).

These particular cultural movements had as purpose to breakdown the traditional aesthetics that ruled the art world and the consumerism and destroy older forms of culture in order to open

it to new paths for finding new values in art, by breaking everything and creating something new that should reflect the new contemporary world.

Those two movements used different techniques in there process of deconstructing and creating art. The most known for the Dadaists were the Collage, the Photomontage and the Assemblage. By using those techniques upon different materials such as tickets, maps, plastic wrappers, real photographs, and other different objects, the Dadaists tried to recreate a new value of art. However, Dadaism and Futurism were cultural movements that were not confined only to the visual and literary arts but had also significant impact in sound and music. By rejecting traditional standards, they introduced experimental sounds inspired by the contemporary world such sounds of machineries and other type of noises (Saylor Academy, "Futurism", 2011). Those art movements played an important role in the considerations of art and generally in the perception of socio-political contexts, as well as in the achievement of aesthetic changes.

Both of these art movements remained not as active movements as they were during that time, but as a way of practicing, as a way of processing information, decontextualizing it by following the idea of ‘why not?’. They later influenced many other individual artists, artist groups and movements.

2.8 Fluxus group

Following the approaches of Futurists and Dadaists in order to find inspiration, in the late 1950s a group of artists created the avant-garde art movement named Fluxus. They followed John Cage views about art and his believes about the conception of a piece, which was focus more in the creating process rather than the final product itself. This group of people was formed by international and multidisciplinary artists from different art fields.

Moreover, they became known for their different art generated forms that took part in their experimental labs that combined video, music and more particularly the use of everyday objects in the process of creating an important element. Their approach in music in their performances included different kinds of elements, noises or sounds of ambient and generally sounds that followed the Dadaism experimental approach (Higgins H., 2002). Key ideas of Fluxus art movement was to dismiss the art from the elitist world and find a way to bring art to the lower social classes. They were many times characterized as “anti-art” due to the revolutionary techniques and practices that they used in their process of art, in a moment where those who did not follow the traditional forms of art and the conventional standards were criticised.

Fluxus work significantly relied on the element of chance that had an important role in the final outcome. This use of randomness was influenced by the ideas of Dadaists that believed in the rejection of the traditional as mentioned before as well as the idea of deconstructing elements to produce non-semantic meanings.

Additionally, Fluxus was recognized as a community of people or as a collaborative laboratory that involved experiments by different artists. Some of the characteristics of this movement were, as explained by Ken Friedman (2002):

- **Experimentalism:**

This specific method was applied by Fluxus artists in their art. Moreover, it is referred to the different experiments that had as scope not only to try new approaches and techniques but also to evaluate the results. This specific method is not only applied in the process of the experiments but also in the research of those experiments as well as in which way they were conducted.

- **Intermedia:**

Intermedia is the appropriate term for the different art forms but also to the diverse tools that were used in the experiments. A combination of different media elements that are interacting together in the final result of their work. The contribution of Fluxus can be also identified through this term that was proposed by a Fluxus artist named Dick Higgins.

- **Specificity:**

Work of Futurist artists are characterised by the ambiguous view on the approach of looking for new meanings and also in investigation process. Specificity has to do more with the tendency of working in a specific subject that embodies all its own parts.

- **Chance:**

One important key aspect in the experimentation of Fluxus is the chance. The methods and the results that occurred through the work of Fluxus artists had as main element the chance. They had as reference the random chances that presented in the movement of Dada and in the work of John Cage.

- **Musicality:**

Musicality refers to the fact that many Fluxus works were designed as scores that could be interpreted by other artists than just the creators. These characteristics might be born from the fact that many Fluxus artists were composers. Furthermore, the aspect of musicality is linked to the experimentalism and the scientific methods used upon the different experiments that took place in the so called events of Futurists.

- **Implicativeness:**

Implicativeness it is linked to the idea that Fluxus work implied many more works and just one result. A view that is highly compatible with the experimentalism and the scientific methods that were used in the experiments.

Fluxus grew at a transition point in the worldviews and invented a constructive way of creating and transforming as a central method to find new ways of making. Through the different experimental processes Fluxus became known for the contributions to different artistic media and disciplines and they became known for the important role of moving from the restrict definition of what we call art to a broader one.

2.9 Musique Concrète

The term *musique concrète* proposed by Pierre Schaeffer in the beginning of 1940s indented to focus in the experimental technique of musical composition by suiting recorded sounds not in the traditional way of composing. The main principle of *musique concrète* is to focus in the combination of various natural sounds recorded and mixed with other different sounds, resulting in a sound montage. A significantly important part of this process is the modification of the sound by different techniques such as extending the sound and changing the speed, reverb, filters, loops that use echo and many other mechanical procedures. The absence of traditional composing rules and in contrast to this the use of random ingredients was the main anarchical aspect. This particular type of experimental acousmatic listening has an intentionally hidden approach of disconnecting sounds from its original source and transform it to something different. The sounds used in this type of composition were mostly human voices, natural environmental sounds or instruments and general sounds changed with the help of synthesizers (Holmes, T, 2012). The concept of making collages with sounds from everyday life to create music is associated with Pierre Schaffer. He credited the term *musique concrète* when he began his experiments in 1942 in Paris.

Moreover, significant importance in *musique concrète* is the American composer known as John Cage who was influenced by Futirism and Dadaism. He is known for being the first one to compose a sound piece that used the *musique concrète* concept in the style of composition and in the creation process. John Cage first approach in this style is the sound piece named Williams Mix released in 1952 that was built from a library of recorded sounds that were organized in six categories: country sounds, city sounds, electronic or synthetic sounds and wind-produced sounds. In this piece, the different sounds were placed in eight separate tracks of a recording tape so they could be overlapped. This technique, became later on commonly used by composers in their experimental creating process. It is clear that the introduction of tape recording technology had significant impact in the process of editing sound that later became a more commonplace and lead to new possibilities and capabilities that became possible through the technological advancements of the new recording technologies (Kevin, C. 1990).

2.10 Noise in Music

The art of noise is a new approach in music composition that was proposed by a member of the Futurism art movement named Luigi Russolo, in his manifesto entitled L'arte dei rumori that later became one of the most influential texts of musical aesthetics in the 20th century. This manifesto was demanding the creation of a new kind of music reflecting the evolution of contemporary music related with the modern industrialized society that started to spread. The main aspect of this proposal was the incorporation of noisy sounds of machines and urban life into a music piece. Through this, he wanted to produce noises in a musical content that would present the new modern industrialized world that changed fundamentals structures of the society (Christensen, 2009).

The idea of noise music was influenced by many different movements, such as the music approaches of Futurists and other avant-garde movements, and, most of all the new sound art and recorded sounds of *musique concrète*. However, *noise music* is a subjective and controversial style. It launched discussions regarding if those sounds could be or not considered as music. As it is mentioned by Murray Schafer there are four types of noise sounds: the unwanted noise, unmusical sound, any loud sound and a disturbance sound that can be heard in any signalling system such as telephone (Schafer, 1994).

By tracing noise music in the contemporary world, it is easy to find connections with futurists and other pre-war avant-garde movements, but the most noticeable influences and approaches were also from the electroacoustic music and its most influential figures, Karlheinz Stockhausen and John Cage. One example is Cage's *Imaginary Landscape No. 4* from 1951, where 12 radios play differently depending on what is being aired and how the performers adjust the radio tuners. Another example is the work of noise musician Merzbow that had over 300 releases since 1979 focusing in harsh noises that give the listener no chance to recognize a source of sound in the music (Christensen, 2009).

However, those approaches include the methods of using electroacoustic music in the composition and this has the inevitably result of forming a synthetic sound that is less true to life. Thereby, this approach is not exactly according to Russolo's idea of noise music that depicts from the real world. For Russolo noise music has to follow an exploratory approach that focuses in the findings that occur through the abstracted sound that man can create. A process that is digging deep into the meaning of sounds in a music piece and a way of pushing the musical sound to its limits (Russolo, 1913).

In conclusion, Russolo approach in music inspired and helped the introduction of noisy music and generally the sounds that contained dissonance, atonality, distortion, incidental composing, noisy aesthetics and many more. But the most important thing was the use of noises in music from sound that came from our everyday life and the use of sounds from the modern and industrial life as musical material.

2.11 Voices in Electroacoustic Music

The type of music that appeared in the last part of the 20th century that adopted new technologies such as the recording, editing and play back of sound had also a significant impact by incorporating the voice in the sound pieces but not in the way it was traditionally used, for singing. Those first approaches of applying human voices in a different context and manipulating it in a way that is not associated with the symbolic meaning of what the voice was saying, were from the pioneers of *musique concrète* and more specific from Pierre Schaeffer and Pierre Henry. Notable is the fact that in those first sound pieces of Schaeffer the main focus of voices was not so much in the creating of meanings through the speech. In contrast, he focuses in vocal sounds such as laughter, humming, breathing and general sounds that were highly connected with the people at that time. In conclusion, Schaeffer and Henry pieces can be characterized as the first approaches on expanding the use of voice in music outside of the traditional way of signing and presenting a new way of understanding and composing music

with voices (Bergsland, A. 2010). Additionally, an important sound composition using vocal sounds in the early years is the one made by Fillipo Marinetti leader of Futurists. He introduced the sound poetry with an artistic form in which the phonetics of human speech are playing the main role with an altered way that removes the traditional conventional semantic meaning. In creation of sound poetry, a significant role was played by the *musique concrète* movement and also the traditional Dadaism nonsense poetry that became the main material in this process (Kevin, C. 1990).

Moreover, as the new technologies and techniques started appearing and being used in the sound creation and manipulation by many new artists, an explicit interest in exploring the different ways that human voice and electroacoustic sound can be combined started to appear at the 1950s. One of the most acknowledged piece in the electroacoustic area is the *Gesang der Jünglinge*, created in 1956 by Stockhausen. He used vocal speech sounds that contained insights from phonetics combined with electronic sounds. Following this approach, several other artists continued the idea of connecting vocal sound and other kinds of sound in a synthetic or recorded way of exploration. One important tendency that occurred throughout this exploration was the creation of *hybrid sounds* which can be characterized for the different alterations that occurs in the meantime. Those sounds contained voices that it was hardly possible to recognize due to the metamorphoses that those vocal sounds had (Bergsland, A. 2010). In this transformation of sound there is a clear transition between vocal sounds and sounds that are defined as a non-vocal. An example of this approach is the one Jonathan Harvey named *Mortuos Plango Vivos Voco* from 1980 which is an eight-track tape where the emphasise in the metaphorical and the alterations of sound such as the sound of the bell from the Winchester Cathedral and the voice of Harvey's young son (Dirks P. L, 2007).

To conclude, this exploratory process of creating with voices and combine it with different sounds has been the interest of many composers and more particularly in the field of electroacoustic composing that explore the non-verbal and non-semantics meanings.

2.12 The Sampling Culture

Sampling in music is a result from the experimental music that musicians and artists used in the *musique concrète* movement and in the electroacoustic music. In the sampling music, different techniques such as montage and manipulation of sound are being applied. Sampling is the method of taking a portion of a sound recording and reusing and reapplying it in a different song or piece with an unusual form. Those early attempts, had as theme the use of unconventional sounds that included recordings from a large variety of sounds such as natural or mechanical that were mixed together with the combination of sound effects (Navas, E., 2012).

Sampling as an act is an essential part of the mechanical recording process where the copy, cut and paste are the main keys in the method of cut up. Notably, this action has many similarities with the sampling method applied on image or text. Keeping in mind the methods that are used in sampling, there is a perception that sampling can be conceived culturally as a meta-activity that leads to a final result that later is defined as a Remix. However, the most significant shift in the concept of sampling has been made in the 1970s and more particularly as element in music

rather than with photography or text. This result, is due to the importance of computer that took part in people's life that time but also due to other socio-cultural developments. This fact, had also as result, the new consideration of sampling as a vital part of music production that involves the early approach of sampling as a method of copying from a pre-existing recording and not by capturing from the real world.

A significant important related work in the subject of sampling and the new approaches to the sound composition is the example of the group named Art of Noises. A band that is recognized as an English avant-garde group that appeared in the 1983 and formed by engineer and producer Gary Langan and programmer J. Jeczalik, along with arranger Anne Dudley, producer Trevor Horn and a journalist named Paul Morley (Figure 22).

Figure 22: Dudley, Morley, Creme and Horn (from the fourth and final Art of Noise line-up in 1998–2000)

An important part of their music is the attitude of ignoring the rules of music and mixing stuff randomly without a prior purpose. Their music was mostly instrumental compositions where melodic sound collages was based on digital sampler technology that was at the early stages at that time. An important characteristic of the band was the innovative combination of electronic music and computer based composition with the ground-breaking use of sampling. Additionally, the music that they produced was inspired by the revolutionary turn in the music at the 20th century and they promoted the distinction between the art and its creators. An important note, is the fact that they were influenced by the art movement of Futurism and an example is that originally they were named as the Art of Noises, the English translation from an early 20th century manifesto *L'arte Dei Rumori* by Italian Futurist Luigi Russolo. However, it was Jeczalik who actually named the group as Art of Noise when he decided to drop the letter 's'. (History of The Art of Noise)

This approaches on sampling, which started to became known in the 1970s and 1980s started to produce new types of music such as hip-hop that contains rhythm breaks and different kinds of beats taken from other music pieces or sound recordings. Those methods of cutting, copying and pasting with the use of computer as a sampling machine changed the cultural point of view in music and soon sampling became the ultimate remixing tool (Navas, E., 2012).

2.13 Remix in Culture

Remix culture can be described as a creative activity that exchange information that made possible through the technologies from the late 1960s. Remix can be characterized as the practice of cut, copy and paste that introduced in the methods of sampling. Moreover, in connection with the previous chapter, sampling is a vital technique that played significant role in the first remixing attempts that mostly appeared in music. Notable, describing Remix in culture it is easier to define it as a part of music and specific as the act of reinterpretation of a pre-existing piece of sound. Additionally, in the first decade of the twenty-first century, the remix and actually the act of remixing as a method of taking samples from a pre-existing material and combine them to create a new form started being a fundamental part in art. Consequently, remix started to be a part of music and have a vital role in the new media that started to upsurge (Navas, E., 2012).

Progressively, the term of remixing became more and more wide-ranged and started to refer to any other field that reworked upon already existing material or cultural work. Moving from the 20th to 21st century, people started to espouse the term of *remix* to other media besides music, such as visual projects, literacy texts and in the process of creating art pieces.

Examples such as the case of Duchamp's art piece named Fountain (Figure 23) applies the conceptual strategy of recontectualyzing an ordinary urinal as a work of art by transferring the cultural sign from one sphere to another. Another example applied in different areas is also the example of the German Dadaist artist Hannah Höch. Her work reflects the remix through the collage of different kind of forms of media such as newspapers or magazine combined and mixed in an unstructured and often uncanny way (Figure 24). Summarising, the new advanced technological improvements and the establishment of sampling technology lead the practises of collage, montage and consequently of remix to become industrialized (Manovich, L., 2007).

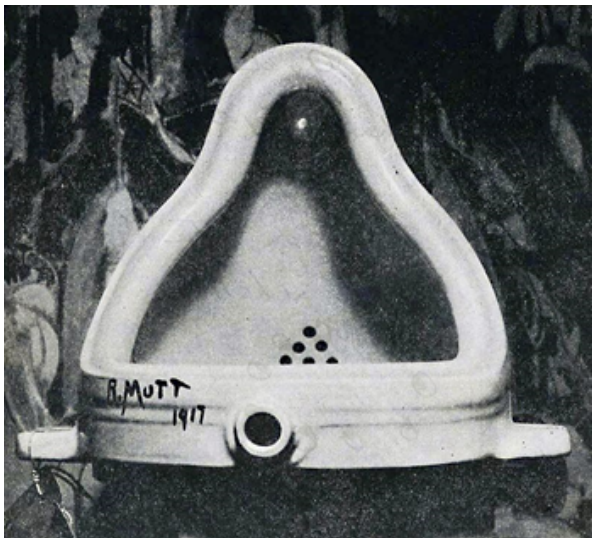

Figure 23: Duchamp's art pieces: Fountain

Figure 24: Hannah Höch, Cut with the Kitchen Knife through the Beer-Belly of the Weimar Republic, 1919,

A relevant approach to this form of culture that is produced through a remix and a mush-up is the approach of the 333[13] that reflects the contemporary sound industry. A project that involves random audio cut, paste and chops without prior listening from a set of sound compositions that has been submitted by several artists. As a result, a sound piece with the duration 3 minutes and 33 seconds is created with a mash-up of different music creation. As it stated in the project manifesto the reasons of this exploratory project is the huge music creation explosion that is undergoing everywhere in the last decade.

Moreover, two different workshop were held, firstly in the city of Porto at the Futureplaces and secondly in London at the Royal College of Art. Both of these workshops had their one purpose and goals. The first, focused in the sound editing and the second in the image editing for the covers of the 33 singles that were released (Figure 25,26). Lastly, this project is a noteworthy mention to this study for the techniques that it used and also for the aesthetically reasons of sound collages, as well as the belief on the potential innovation that can be emerge through a random sound collage as it stated in the manifesto of the project.

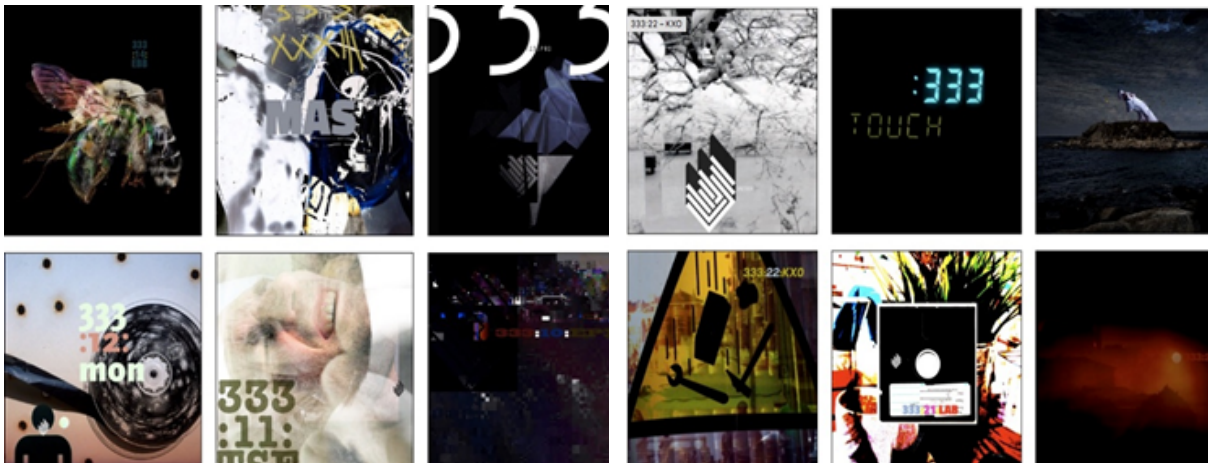

Figure 25,26: 333 alboum cover images

2.14 State of the Art Conclusions

The initial goal of this study was to understand the importance of soundscapes in socio-cultural context and identify the different experimental approaches to sound through the methods of used by the avant-garde movements. Moreover, an important part of this analysis is to work as a source of information for the empirical work and the methodology that will be used on it. The conclusions that are draw from this literature review are two:

Firstly, it illustrates that soundscapes can be an important tool that can show the different transformations not only structurally but also intellectually that are being held within a community and the social context of it. This indicates that soundscapes can be a method that extracts cultural meanings through ethnographical projects and that sound sources from a sociocultural context need to be highlighted and disseminated as part of our culture.

13 http://3-33.me

The second conclusion relies from the approaches that have been produced through diverse evolutionary methodologies and techniques in the use of sound and more specific in the use of environmental sound material, in the process of creating art. Through this analysis, it is clear that approaches to sound creation has been changed and developed into further experimental due to the contemporary structural changes of our society. Moreover, it is noticed that those experimental approaches that were investigated, reveal that experimental processes were used as a method upon sound as a way to identify and highlight hidden meanings and social practices in the source of sound.

Chapter 3
Methodology and Result Analysis

In this chapter, the process and the overall research standpoint that was used in this study will be described, as well as the different theories that have an important role in the exploratory way of creating sound collages and in the concept of the whole research. Additionally, the two main stages of soundscape recording process and soundscape editing that are part of the methodology will be presented in detail.

Different sciences have diverse methodologies and techniques and a specific combination of terminologies that through the essential factors can lead to the creation of knowledge and understandings. It is therefore clear that a project that investigates through an abstracted creative approach should have an appropriate set of procedures and methodologies. For that reason, four different approaches and methodologies in creative processes were important inspirations to the methodology that was chosen for this research project.

The concept of Serendipity, the Oblique Strategies, the theory of Derive and the Cut-Up methodology are analysed and explained as highly compatible procedures and techniques that use exploratory methods.

3.1 The concept of Serendipity

Serendipity has a significant role in the methodology that was used in this research and particularly in the process of creating sound collages from the soundscape archive that has been collected from the field. Moreover, serendipity has an important role across disciplinary areas of study as a method to connect, discover and create. Additionally, it has been used as a technique that is efficiently capable of retrieving hidden meanings and knowledge that are achieved through the paradoxical concept that serendipity contains. The use of serendipity has as characteristics the unpredictable and the incapability of controlling the results that are from an unconscious information seeking strategy (L. McCay-Peet, E. G. Toms, 2010). This approach, of creating random findings through an unconscious process supports the use of information as a way that breaks the normal thought process and comprehend the unexpected results. Consequently, this method has been used in the process of creating sound collages in this research project as a way to avoid the consciousness approach and remove the semantic meanings of the sound material. Additionally, this technique is applied for the purpose of revealing the hidden values through random discoveries (Foster, Ford, 2003).

3.2 Oblique strategies

The Oblique Strategies were created in 1996 by the musician Brian Eno and the painter Peter Schmidt. They were looking for a set of basic working principles that could work as a way of guidance in a creative process. Oblique strategies are a set of cards (Figure 27) each one containing a random single instruction or response that has as purpose to introduce another way of thinking that could lead in a non-consciousness result. Those cards can be used as a pack of random inspirations that can lead you into the creative process. Oblique Strategies is a method for dealing with moments of crisis during the creative process, and involves an explicit presence of chance. However, they are characterised as a useful creative tool and should be

treated mystically as it is marked by Brian Eno in order to reveal new perspectives and new approaches and find new set of patterns. This method relies in the important unpredictability and in the factor of chance as a fundamental element that can create new ideas and meanings (Elton, M., 1993). Likewise, this practice has many similarities and follows the approaches of Dadaists artists who certainly embrace the factor of chance in their working methods as an element that can lead to success.

This exploratory strategy is refereed in this research as a metaphor and more specific, the different cards in the decks can be considered as the sounds that were recorded and placed in the sound archive. The random process of choosing a card, that could lead you into completely different result from another card, is a connecting metaphor between the part of choosing a card from the deck and the methodology of this study in the process of creating sound collages that use the element of change and randomness. Nevertheless, the randomness applied in the sound creating process in this study is used as a technique that could possibly lead to new findings and new meanings as well as a method that proves that unpredictability and chances are potential elements to extract hidden meanings.

Figure 27: Oblique strategies card deck

3.3 Theory of Derive

The theory of Derive is a technique introduced by Guy Debord in 1956 and involved a rapid passage through wide-ranging ambiences. It involves one or more individuals during a certain period of time. During this exploratory time, individuals have to forget all their relations, their work and leisure activities and let themselves to explore the different sounds or attractions that may appear as they explore unknown paths of a city and its suburbs. Through this experience of an unplanned journey that occurs while they are exploring different parts of the city and passing from one distinct neighbourhood to another it is possible to explore and understand the different sociocultural contexts of a particular place. The *psychgeographical* effects that are defined in this theory by Debord may occur in the experience and thus they might lead to new understandings that were not possible before (McDonough, T, 2004).

The theory of Derive has many parallel features in correlation with this study. The exploratory approach is a common element that can be seen in the process of exploring the soundscape archive of the neighbourhood of Riobom with a mechanical approach that attempts to eradicate the consciences choices. Furthermore, in this study by exploring the approach of Derive, it is possible to create correlations between the soundscape archive and the city. Particularly, the random approaches that are relying in the chances in the editing process are linked with the exploratory random walks through the city without having a prior script as it is suggest in the theory of Derive.

Lastly, essential similar approach is the belief that through this kind of process that focus in the element of chance it is possible to lead in the discovery of hidden meanings and understandings that couldn't be done through a systematic observation and with a premeditated approach.

3.4 The Cut-Up Technique

This "Cut-UP" method was firstly proposed by Brion Gysin and used by his close friend William Burroughs in the 1960s. It is clear that this method has many similarities with the techniques of "cut and paste" that were used in the editing process of Dadaist and many other art movements and artists. Moreover, this method turn to have origins from the experiments that surrealists used in their practices in the painting process. The use of cut-up technique is not restricted to only one art field. New media, drawing, game theory or textual production are just some of the examples where we can see this method being applied. This technique is not characterised as an approach that relies in the creation of randomness but in contrast, it is defined as a process that through the randomness and the recombination can create new meanings that include the element of the unconsciousness selection

Additionally, when this method was introduced it meant to bring the collage used in painting, movies and photography, to writers. The first appearance of this method was in the summer of 1959 when Brion Gysin used newspaper articles and cut them into section and rearranged them randomly as a way of creating a coherent and meaningful prose that occurred through this method. Both of them, had the belief that by experimenting in a large period of time with cut-ups, the outcomes might refer to future possible events. This belief is mentioned as the result from cutting present sources that might lead to forthcoming incidents. Later on, through the continuous process of using the cut-up technique, William Burrough and Brion Gysin started to conduct experiments focused in tape recordings and more particular in the phonetics of the voices that they considered to have many potentials (Wadrip-Fruin, Montfort, 2003).

This technique of random choosing different types of pages and cutting them and pasting them in different places and creating a new combination, has possibilities to lead to a new meaning that is a result of a non-planning process. To conclude, the cut-up technique can be applied in many fields and similarly in processing of scientific data by mixing, cutting and pasting in different places multiple times as a strategy that could lead to new findings.

After this analysis on the processes, methodologies and techniques, the soundscape recording and the sound editing process will be presented and described step by step in the following sections.

3.5 Soundscape Recording Process

Although the soundscape archive from the neighbourhood of Riobom was provided by Rádio Manobras, it was identified as an important part of the research to conduct several soundscape recording sessions that could provide the possibility to understand more in depth the sociocultural context of that place and the people that are living there. The soundscape recording process has been done in two main steps:

Firstly, a pre-recording session was the first approached into the neighbourhood by adopting a process of observation and listening. Secondly, five recording sessions were conducted in the neighbourhood of Riobom.
Both of this steps will be described next in detail according to process and to the procedures that followed in this practical part of the study.

Observation and Listening

This first step, as it was mentioned before, was the observation of the neighbourhood by listening the soundscape from different points of view and creating a plan regarding the sounds that were found to be interesting and important to be recorded. This first stage can be characterised as an external observation of the soundscape and as a process that could be important for the sound recordings that will be done in several parts.

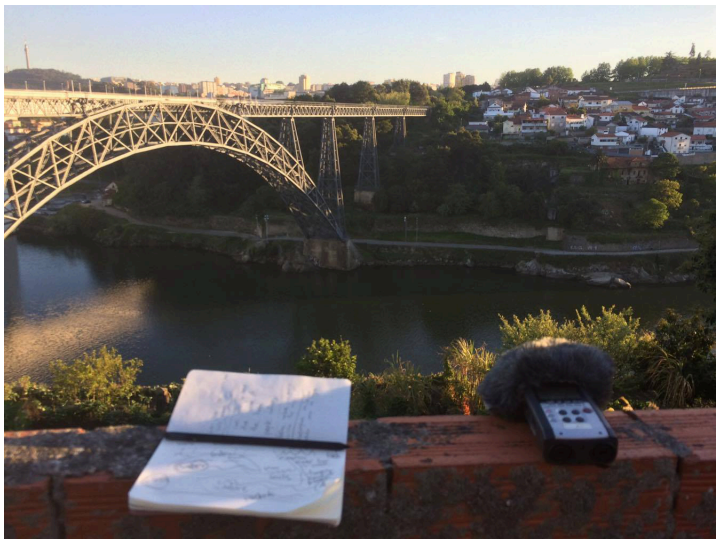

Figure 28: Photo from the first day, sketching and observing

Moreover, this first visit had also the goal to identify the *sound marks* of the neighbourhood and sounds that have significant role into the sonic identity of that place. Part of this first approach was the creation of a sound sketch map of the place with the sounds that are important in the soundscape.(Figure 28) This sketch works as a tool to identify the sounds and as a personal reference of what kind of sounds might be recorded through the visits in the neighbourhood. However, this approach didn't restrict the recording process or the set of sounds that were actually recorded, mainly due to the unexpected sounds that occurred during the recording sessions.

Recording Sessions

The second step was the sound recordings sessions that were held in different days and hours through five visits in the neighbourhood. (Figure 29,30) The purpose through those visits was to enrich the sound archive with sounds that were believed to be important and have a connection with this district. The soundscape of this neighbourhood was thus record in different days and hours and this gave the chance to meet some of the individuals that were living in that part of the city and record some of their talks and additionally their daily interactions within their environment. The equipmesnt used in this process was the following:

Field audio recorder
Shotgun microphone
Binaural Microphones/Earphones
Contact Microphone

Figure 29: Photo from the recording sessions

Figure 30: Photo from the recording sessions

After the completion of those five recording sessions, the recorded sounds were gathered and saved in a folder along with the sounds from Rádio Manobras own recordings. Thus, the subsequent stage of this process was the soundscape editing that will be describe in the following section.

3.6 Soundscape Editing Process

The soundscape editing stage includes the sound editing process that was used in the soundscape archive and the methodological procedures adopted in the process of mixing the sounds. Furthermore, this specific process of editing has been done in several steps that lead to the creation of a set of soundscape collages. On these steps, it is important to highlight the randomness approach that was used in selecting the soundscape recording material to be used in the process of sound editing, and also in the steps of cutting and pasting the samples.

The main process of editing includes four steps, in each one of these steps there is a sound editing process from the sounds that were mixed in the previous step. In this process, none of the sound collages were listened while the editing was going on. Moreover, the chosen parts were copied and pasted multiple times in different parts of the sound collage as a method to create an abstracted and repeated representation of this soundscape. In the editing process, sounds might overlap each other due to the cut-up technique and as result an abstracted sound collage is created.

The following process has as result the creation of a set of sound collages which has as an origin the equivalent soundscape archive and the same editing principles. Next, an image (Figure 31) illustrates the steps that will be presented in detail:

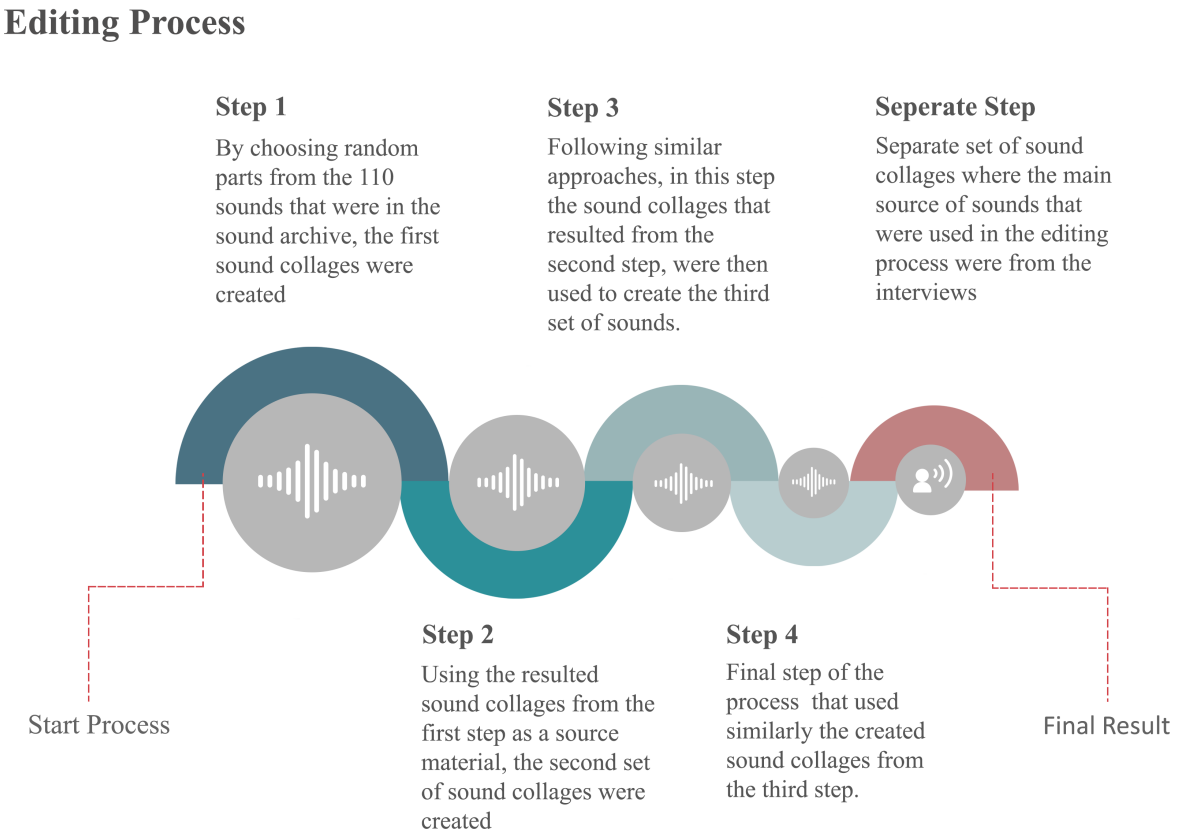

Figure 31: Sound editing process image that presents the steps

First Step:

This first step of the editing process started by choosing random parts from the 110 sounds that were in the sound archive including the sounds from the recording sessions that are part of this research and the sounds from Rádio Manobras. At this point, using the sound archive with the 110 sounds and by applying on them the cut-up method in random parts in the sounds a first selection of sound is created. After that point, the sound section that occurred through the random selection was placed in the timeline of the software. Next, by using the techniques of coping and pasting several patterns have been created. Through this first approach, a set of sound collages has been created which will be used in the next phase of the editing process.

This first sound collages are available in the follow link:
https://soundcloud.com/pantelis-petmezas/sets/sound-collages-vol1

Second Step

Afterwards, the same strategies that had been applied in the creation of the first set of sound collages were then also used in this new step. The first set, that includes a set of 12th sound collages will be used as the main sound sources for the editing process. Moreover, in this step, after importing the sounds into the editing software, similar approaches in the selection of sounds are made. However, the new element that is added in this step is the aspect of the sound wave signal in the selection process as a way to provide more clear aspects of sound.

The second step sound collages are available in the follow link:
https://soundcloud.com/pantelis-petmezas/sets/sound-collages/s-EjVhT

Third Step

Subsequently, after the second step and the creation of the second set of sound collages the editing process continues with the use of the next sound collages that has been created through the previous process. An important note here is that at this stage the complexity of sounds is starting to increase more and more and the sounds started to overlap each other by increasing the use of cut-up techniques. (Figure 32) Additionally, in this point several random sound effects such as reverb and delay are placed in several sounds.

The third step sound collages are available in the follow link:
https://soundcloud.com/pantelis-petmezas/sets/sound-collages-vol3/s-OTTit

Fourth Step:

This was the fourth step of the sound editing process which used the previous set of sound collages as a next source material. At this point, the previous created sound sources will be used as a sound material that will extract one main sound collage. Similar approaches to the sound sources are followed as well in this stage.

Fourth step sound collages are available in the following link:
https://soundcloud.com/pantelis-petmezas/1stcollagefrom3/s-IBIv0

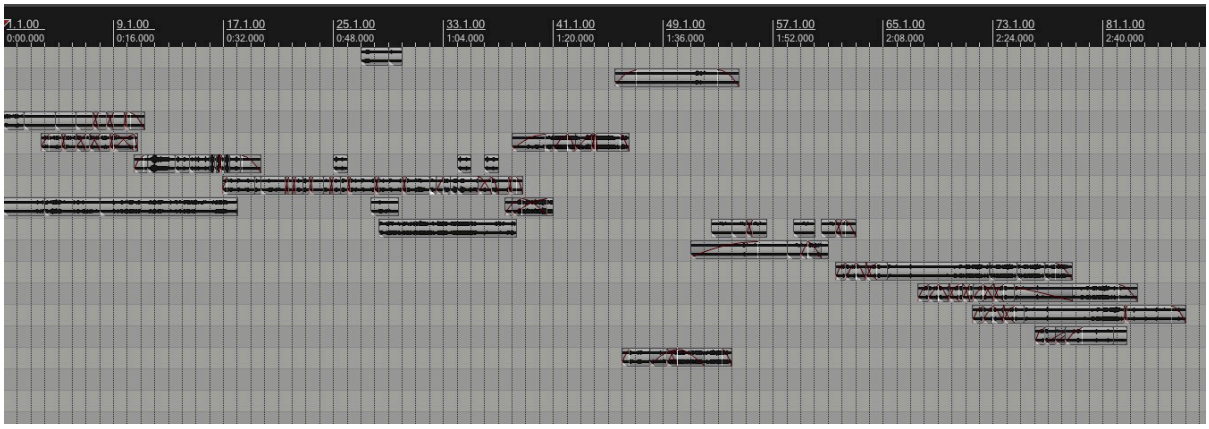

Figure 32: Software view in Reaper while editing

Voice sound editing process:

Lastly, the final step in the editing process of sound sources from the sound archive was focused in voices as sound editing material. For this reason, the set of sounds that were used as source material were from the interviews with Riobom inhabitants that were held by Rádio Manobras in the neighbourhood. This editing process was concentrated more in the phonetics and in the general sounds that has been recorded while interviewing different people. Noteworthy, is the fact that also in this process, the approaches and methods that were used were similar to the ones used in the previous sound editing procedures.

Voices sound collages are available in the following link:
https://soundcloud.com/pantelis-petmezas/sets/sound-collages-interviews/s-KUDtf

3.7 Result Analysis

This section is dedicated to the analysis of the sound collages that have been made through the editing process. The analysis presented here is grounded through hearing the different sound collages of this research project. Moreover, as a first stage of this analysis, each set of the created sound collages will be analysed separately from the other.

Analysis of the first set of sound collages:

The environmental element and the continuously changing sound ambient is a noticeable aspect in these sound collages. Climaxing at several points with machinery sounds and consequently transforming the environment into a more natural environment were sounds of birds and the sounds of the trees are emerged. However, in this approach sound collages are in a clear state and the sounds are not overlapping frequently and therefore the source and the identity of the sound is possible to be recognized.

Analysis of the second set of sound collages:

This second set of sound collages, has as a first characteristic the uniqueness of the environmental sounds and as a second characteristic the different sounds such as the voices of the people and their sounds from the interaction with their environment. Moreover, the overlap on the sounds in this set of collages can be heard as well as the repeated sounds such as the train breaks and horns, which creates an abstract environment that is repeated several times in the sound collages.

Analysis of the third set of sound collages:

In this set of collages, it was observed that different patterns of sounds started to overlap more frequently and in a more complex way than in the previous set of sounds. Voices, animals, and the train are just some examples that overlap in the majority of the sound duration. However, the sonic identity of each sound remains clear, except some moments where the ambient starts to involve different overlaps that create an abstracted repeated imaginary sound that is different from the original source. Additionally, there are parts in those sound collages where sound can give information regarding the environment, such as the footsteps on the ground that give the ability to identify the type of landscape.

Analysis of the fourth set of sound collages:

In the last step, the sound collages are identified with the characteristic of being more frequently overlapped from the previous collages. Several examples of sounds are not clear anymore, but it is still possible to recognise certain sounds such as the train that crosses from a distance. Sounds are mainly machinery but after an extended sound replication, a version of a supplementary natural ambient where you can identify the sound of water and the sea is presented.

Analysis of the set of sound collages with interviews:

This sound collages are focused in the sound sources of the interviews and have as main aspect the overlapping of voices and sounds that were originally covering the voices or acting as second elements that occurred on the background during the interviews. Voices, in this set of sounds are the main element and therefor there are several times where the usage of cut-ups extract a very interesting point, which is a mix of language. From this blending between the several voices and talks is possible to maintain some of its information but the complexity leads to confusing justifications about the context and the meaning. However, after this combination of voices the structure changes again to the initial form. Additionally, an important aspect is that those sound collages contain environmental sounds from the interactions of the individuals from their everyday works such as planting or cultivating the land.

The analysis of the sound collages resulted in considerations regarding the sounds individually, this particular sound archive and more specific the subject of study which is the Riobom neighbourhood. Moreover, those views will be described for each one of this cases:

Individual Sounds:

Natural ambient sounds are an important part of the sound collages, revealing the general landscape and the sonic source identity of this place. However, those ambient sounds are frequently appearing and disappearing in the collages and in those moments, sounds from urban machineries are appearing such as sounds of cars, airplanes and trains. This analysis exposes that the transformation of the soundscape is something that happens various times, from a natural ambient to a more aggressive urban soundscape. Next, sounds that are included in the category of animals such as the corks, birds and sounds that are referring to the cultivation of the land reveals that the landscape and more particular the individuals that are taking part in this sounds, are living in a suburb area of a city. This view, can also be seen through the collages that include several sounds that are referring to activates of people that are not common to be heard in an urban city, likewise, from harvest activates or from the animals.

Moreover, it is noticed that the element of train takes part in the majority of collages and is considered as an inevitable source of sound that will remain in all sound collages even through a process that relies on chance. The sound of the train that crosses from a near point or a far distance is an element that appears in many cases despite the random process that was used in all sound editing practices. However, having this in mind, it is possible to consider that the train and more specific the sounds of it, are the keynotes sounds in the community of Riobom. Through this observation it is also noticed that the repeated patterns such as the train horns or the train brakes might act as backgrounds sounds or under some circumstances as sounds that cover other sonic sources such as voices and the natural ambient.

Sounds similar to the voices that are presented in the sound collages are revealing several aspects from the hearing observation. Those sounds of voices are repeated several times due to the cut-up method and there are moments that the overlap creates an abstracted version of language that is not clear. By hearing those voices, it was possible to make connections to the Portuguese language but the native language was not clear something that implies a foreign dialect or a foreign language. Moreover, through this combination of voices it was noticed that they created a feeling of an abstracted collage of acoustic poetry.

Similarly, parts of random discussions can be unidentified in the collages that are from dissimilar parts of talks. Therefore, there are moments that a voice can be heard speaking about different types of plants and in the meantime, the names of several months were heard or another context of talk. Lastly, by hearing those voices it is possible to make relations with the general socio-cultural context of those people and understand the context, possible issues or he origin of those individuals.

Sound Archive:

By hearing those sound collages and observing the different sounds that are including in each collage it was also possible to make connections with the sound archive that those sounds sources are part. Notable, is the fact that through this process it is possible to have a clear and quick view regarding what type of sounds are included in such archive. Additionally, assumptions regarding what type of sound archive is and what is the purpose of it are possible to be made.

Riobom neighbourhood:

As result of this observation, there are several considerations regarding the Riobom neighbourhood that can be made. As it is mentioned previously in the section of individual sounds there are several sound sources that through the act of hearing allowed the possibility to make associations with numerous aspects and create deferent meanings depending on the individual that listens. However, through this observation it is believed that there are several connections and understandings that can be made about the Riobom neighbourhood. Topology, period of time, social context, architectural structure and social issues that might be part of this community are just some of the examples that could be linked with those sound collages and correspondently with this community.

Chapter 4
Conlustions and Future Work

This final chapter summarises the most significant considerations and conclusions of our research project.

Moreover, due to the experimental and exploratory nature of this study, there wasn't an intention to provide a yes-or-no answer regarding our initial research questions, to the soundscapes field recordings and to the possible contributions of an experimental sound collage process in an ethnographic project. Instead, through this empirical research project and the practical experimental process we hope to contribute and investigate the possibilities of a different approach in a sound archive as a method to extract meanings that are hidden.

4.1 Summary Conclusion

The Initial goal of this research was to investigate and explore the concept of soundscapes and the different experimental sound editing processes used upon sound field recordings. Furthermore, the scope of this investigation was to understand the potential use of those sound recordings, as a complementary way to discover hidden meanings in sound material recorded in the context of an ethnographic research project. In this study, a connection between soundscapes and the different experimental processes upon sound through the years is used.

The first conclusion to present is regarding the abstracted sound collages and the possibility of contributing in a further understanding of sound material from fieldwork. After the investigation in the conceptual and artistic exploratory approaches in sound, it is believed that experimental sound editing can be used as a tool that could possibly lead to a better understanding of the sound material. Furthermore, those experimental approaches may probably result in a further knowledge for the individuals, depending the sound sources and the concept that are included in the sound pieces. Through the study of different practical works, we identified several projects that are using experimental field recordings as a way to unveil new readings on sound material. The practical part of this research, likewise the theoretical investigation, point to the direction that abstracted sound collages may potentially extract information regarding to the context of the sound material. Adding to this point, through the result analysis of the sound collages that have been created, it is believed that a set of socio-cultural information is possible to be extracted by hearing abstracted sound collages with an ethnographical perspective. Several socio-cultural information is likely to be extracted and perceived, such as those that are presented in the following list. This list illustrates the different information that was perceived from the hearing process that took part in the analysis of sound collages from the practical part of this research. Consequently, this list represents the information that was illustrated in the result analysis as possible considerations that can be made for the neighbourhood of Riobom that this research investigates through the use of experimental sound editing.

- **Topology**

Information regarding the place and more specific the location of the sound can be extracted.

- **Chronology**

This specific aspect is referred to the time that those sound recordings took place.

• Social Issues / Individual Issues

Issues that disturb the social life of the individuals of an area that can be understood or assumed.

• Social Interests / Individual Interests

Interests and activities of the inhabitants in their everyday life.

• Individual / Regional Characteristics

Sounds can also extract information that is referred to the individual characteristics of a person or a place that deferens from another.

• Origins

Assumptions regarding the origins of the individuals can be made through the hearing of the voices or the environmental sounds.

• Landscape

Sound sources can give information for the type of the landscape such as the terrain or generally the nature.

• Environment Transformations

Knowledge of the environmental and the different sonic alternations that can be occurred through a period of type by human factors or natural.

Nevertheless, through the theoretical part of this research it was possible to identify and present the fundamental ways of using the soundscape and the different methods that sound ethnographers, researchers and artists use. Furthermore, through this investigation it was revealed the tendency to experiment with sound recording sources in a way that could lead to new findings by artists and researchers. There are several different methods that are used by different fields that are practising with sound, not only in the technical approach but also in the presentation of the sounds to the public such as the examples of *Sound Maps, Sound Walks, Soundscape Compositions, Sound Installations, and Sound Archives*. Therefore, the soundscape concept experienced an increasing number of interest by different artists and researchers that led to evolutionary methods that attempted to remove the traditionally way of perceiving sound and superseding it with an experimental approach that neglects the semantic meaning as a way to achieve a deeper knowledge and understanding. However, through this investigation it is also concluded that the use of soundscape in different researches and projects have many similarities in the scopes that examine and present a socio-cultural context.

The third conclusion is an outgrowth result from the first and the second. The rejection of the semantic meaning of sound in combination of the avant-garde strategies in deconstructing sound editing are possible to reveal meanings that were not possible to be perceived before. Moreover, the methodology that was used upon our sound archive has as purpose to remove the consciousness and the semantic meanings as a way to investigate the socio-cultural framework of the neighbourhood of Riobom. Through this method, it was possible to reject the semantic meaning of sound material and create an abstracted version of sound collages. Taking in account the previous conclusions as well as the theoretical and practical research of this study it is possible to acknowledge the possibilities that the techniques of avant-garde

movements in sound. Those avant-garde movements that include the act of neglecting the semantic meaning, can possibly help ethnographic projects and researches as supplementary tool in the understanding of unrevealed meanings.

Lastly, those specific conclusions, refer to a further analysis of this research and possible new contributions that might have similar approaches. During the process of this research, beside all the consequential documentation, it is believed that we have contributed to the soundscape sound collage with an additional approach of sound editing process where it can be defined as a tool and a technique in the process of understanding. A method that is inspired from the techniques and methods of Oblique Strategies, the Theory of Derive, the concept of Serendipity and the technique of Cut-Ups. Following, for that reasons this study maintains a close relationship with the techniques of the avant-garde movements, the soundscape field and the ethnographic projects and researches.

4.2 Limitations

Through this research, different challenges, situations and problems occurred but through the evaluating process they transformed into opportunities that were not acknowledged before. However, some of the limitations that appeared throughout the research will be discussed in detail further ahead.

The first limitation appeared through the experimental practical exercises that took place at the beginning of this research. Through these exercises, as it was mentioned before it was possible to identify the problem of not understanding the Portuguese language. However, through this limitation, many factors such as the practical issues and techniques applied to the experimental process were limited but not in a level that could affect the editing work stage. Notable is the fact that the language barrier was transformed from a limitation to a possible advantage and opportunity for methodologies and techniques to be applied in the practical part of this study.

When analysing the results, as the universe from which the sounds were recorded was only one, it is not yet possible to compare it and say that this approach could have similarly relevant outcomes when applying it to another archive of sound recordings from another place. However, this particular issue reveals the need of further work for those methods and techniques to be applied to other contexts and compare the subsequent results, as a way of verification.

Nevertheless, due to the area of research, it is difficult to point out what is the best and most secure path to follow. For that reason, this multidisciplinary research focused in the creation through mechanical mix as scientific and artistic exploratory approach that can lead to further developments and knowledge that were less likely to be reached through a semantic approach.

4.3 Future Possible Works

By analysing the new possibilities of this research, it is concluded that there are two different approaches that could contribute actively in forthcoming works and more specific approaches with a practical and theoretical perspective. Those future work approaches include the need to continue experiment with sound archives and discover the opportunities that sound collages could possibly bring to ethnographic projects. These considerations were identified through the observation and analysis of the sound collages created in this project and made clear the need of sharing this research with other researchers and apply it to other places to have an additional subject of comparison but also a new point towards new directions and perspectives.

4.3.1 Practical

The sound collages were a result of the sound editing process in which techniques such as the cut-ups and other practices were included. However, future work is related to the further implementation of new techniques that through an exploratory process can create more abstracted sound collages that could contribute to new artistic approaches and perspectives.

Moreover, there are several considerations regarding the use of those sound collages and methodologies used in this project to be applied in another context as a way to reveal new possibilities. Following those concerns there are three possible ways of presenting the results of this study, a sound installation, a collaborative workshop or a website. These possible future work fronts have as a scope the raise of public awareness on urban and cultural sounds that are changing and create an interest regarding to the sonic identity of a particular place, which may be revealed through sound collages and field recordings.

Sound installation

An installation with sounds from the sound collages as a method to understand and present sonic identity of the Riobom neighbourhood. This type of installation will emphasise the type of sounds that we tend to ignore. Moreover, through this kind of installation it is possible to draw the attention to cultural sounds which are disappearing or evolving through the new contemporary changes.

An example of a future sound installation that could be possible done is the following:

Using the field recordings that were collected through this study and through the project of Radio Manobras as a source material to create a combination of compiled sounds which can be recognised as “sound pools”. The scope of this interactive installation is to present the different sonic zones as small sound pools that can be explored and mixed through walking. Visitors will be invited to create their own paths, have a new experience and dive into the different sounds. The main goal is to create a listening experience that will generate connections between sound and the Riobom neighbourhood or an imaginary place that they will form through the different flows of their walk in the installation.

Workshop

A collaborative workshop where it will be possible to explore a different part of the city and apply the same methodologies and techniques used in this research project. Moreover, this type of workshops could have as scope, educational purposes such as to promote the hearing culture as well as to create additional sound archives for certain locations in the city, or even to contribute in an already existing sound archive. Also, this kind of exploratory workshop could have an artistic creation section in order to explore different techniques in sound collaging and sound composition.

Website

The website of this project will work as a communication tool that will make available this research to the public and it will allow to gather opinions and new ideas from different people about this particular research and practical process. However, an important scope of this practical future work is to feature and present the research conclusions and the process that took part in the study. The created sound collages will be an important element in the website since they will be presented and available to be heard. Lastly, the website could also work as a communication tool to present to the public new possible future works that might occur.

4.3.2 Theoretical

As it was previously described it is difficult to draw a final conclusion regarding the aesthetic approaches and the different exploratory creations from a hearing process by focusing only in a single sound archive. For that reason, it is important to state that the future theoretical works that are related to the goals of this research, can be significantly important for additional conclusions as well as comparisons with the current research.

Furthermore, research in a completely new archive that refers to an alternative region in the country of Portugal or generally in the world could be a possible work front for comparing material that will lead to new understandings and confirmations of the applied methodology. By this comparison between different sound archives it will be possible to understand if this approach can contribute actively in understandings of a socio-cultural context and if it reveals hidden values on ethnographic sound material.

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