PHONAMBIENT PHONAMBIENT
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Abstract

Phonambient is a project of documentation and artistic transformation of contemporary sound heritage. It intends to record and preserve the sounds that define a city or region in a digital database (www.phonambient.com), including soundscapes, localised sources, acoustic phenomena, musical fragments, phonetics and phonology. Phonambient was conceived and developed by a large team led by Sonoscopy, an association of experimental music and sound art based in Porto, Portugal, thus contributing to the preservation of a sound memory that is intended to be critical and creative. The implementation of the project has been done systematically in several cities, respecting a logic of archiving field recordings and subsequent thinking and artistic transformation.

Keywords: Sound cartography, City, Memory, Sound heritage

1   Introduction

The gradual opening of musical composition to Noise begins modestly at the end of the romantic period, going towards several directions with the advent of dodecafonism, futurism, dadaism, microtonalism, concrete music and electronic music (Cope, 1989; Whittall, 1999). These significant changes come with the acceptance of new elements and raw materials that goes beyond the utilisation of melodic and harmonic lines based on musical notes with well-defined durations and spectral contents. The influence of Cage turns out to be decisive for this paradigm shift (Nyman, 2007), enhancing the need for new forms of hearing, memory and musical creation (Cage, 2004). Later Murray Schafer introduces the concept of Soundscape, making room for a new line of thinking called musical ecology; first in the project World Soundscape during the 1970 and, more recently, World Forum for Acoustic Ecology, during the 1990s (López, 2008). The concepts developed for Schafer, which include a specific taxonomy is based on the sociocultural functions of sound (Schafer, 1997), are contrasted with a different perspective of Sound Object. This concept, conceived by Pierre Schaeffer, conceptualises sound as an entity independent of its source (Schaeffer, 2008; Chion, 1983). However, in both perspectives sound emerges as a primordial element in the construction of a memory that is made from a neutral record, and which is then freely rebuilt through various forms of artistic recreation. It will be interesting to note here that given the inherently abstract level of sound, reflection on a sound file is often a process where meanings are attributed according to the sociocultural context and the information stored by each throughout his or her life. In other words, it will be the memory that will affect the construction of future memories.

The elaboration of the Phonambient then starts from the assumption of the use of sonorous archives of the surrounding landscapes for the creation of musical works that explore new possibilities of expression and interaction between musicians and the public. It is based principally on the importance of listening and on how we can include the sounds that surround us as an inexhaustible source of musical raw materials and others. Consequently, a form of attentive listening allows us to rediscover our quotidian engagement, dominated by the visual information and sound frequently put in the background.

Phonoambient comes from the expansion of Porto Sonoro[1], a former project developed by the work team from Sonoscopia, and starts increasing the database, mainly linked to the historic centre of Porto, to a set of seven cities: Braga, Tondela, Fundão, Castelo Branco, Porto, Guarda and Abu Dhabi. As in Porto Sonoro, Phonoambient pretends to be a platform for universal access in which many resources are shared. Besides the registers of original field recordings, texts and audiovisual registres of the several artistic recreations are also available. The platform also shares the software developed by some people from the project: POLISphone[2], from Filipe Lopes; URB[3], from José Alberto Gomes (Gomes; Tudela, 2013); Manobrador[4], from George Sioros and b-Blocks[5], from Rui Dias. This software enables to combine and transform the field recordings in several ways, creating other artistic content that can be used by the musical, artistic and scientific community.

The project's implementation was carried out in different cities based on the establishment of local teams that operate on the supervision and technical and artistic coordination of Sonoscopy, which conveys theoretical and practical knowledge to a local community that has the responsibility of continuing the archive and consequent transformations that are performed in each city. This strategy allows that the sound heritage from each city is represented by its own inhabitants, preserving an identity that is not only stated by sound but also by the way the project carries on, changes and artistically developed. At an early stage, we aimed to provide to each local team the technical and artistical means for the implementation of Phonoambient in each city. During Lab Period, there was a sharing of resources such as web servers, field recording equipment, program codes and, techniques of sound recording, composition and sound design. These lab sessions allowed, then, to establish a local team in each city, formed by enthusiasts but not necessarily sound specialists. Therefore, the local team developed a technical and artistic autonomy, elaborating many works in different arrangements such as concert, sound installation, video or performance. In the last stage of this Phonambient's procedure, it was performed a public presentation at "Casa da Música", Porto, with many participants from all cities and many forms of artistic expression based on the sound recorded in each city.
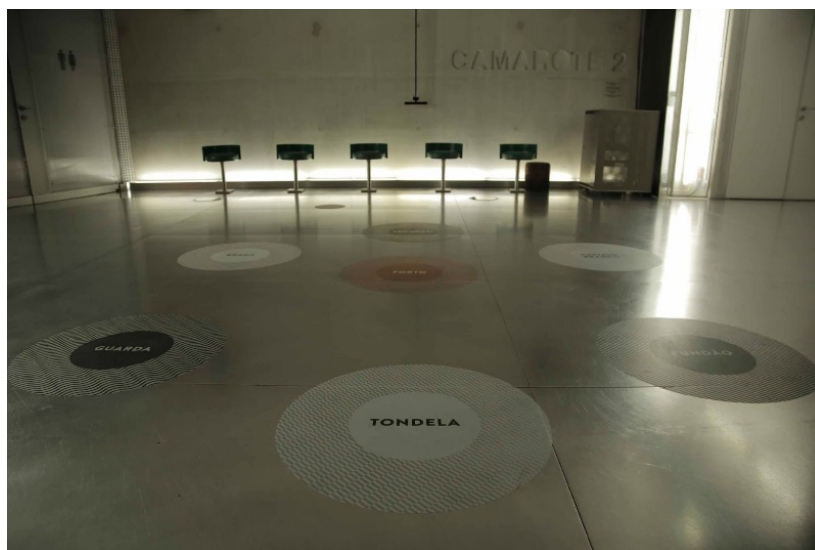

Fig. 1: Presentation of Phonoambient at Casa da Música, Porto. Source: Project's archive.

2   Website

The website www.phonoambient.com is the central spot of all project, gathering a considerable quantity of information related to the documentation and artistic recreation of the soundscapes. Precisely, 987 field recordings, 21 electroacoustic compositions and artistic transformations, 1 academic article and 4 applications can be accessed, all from 68 direct collaborators. As some contents migrated from the former platform, Porto Sonoro, the archive was formed from 2011 and nowadays.
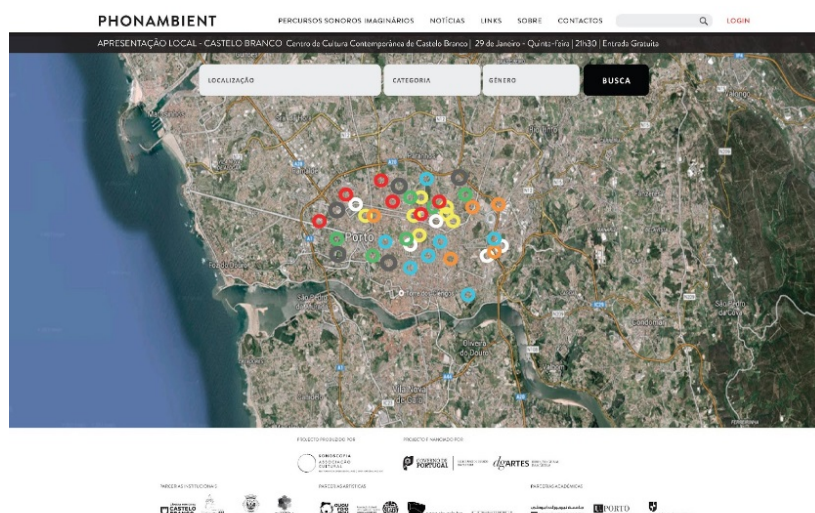

Fig. 2: Website home page. Source: Project Archive. Available in: <www.phonoambient.com> [Accessed in 25 may 2018].

The site's starting page represents a conventional sound map, as SOund Cartography, and the locals of recording are highlighted where they were captured. The map utilizes the Google Maps technology, which is fundamental to visualization and also to access some functionalities for information's search and storage in back office. The sounds can be heard by clicking each of the circles, and basic information about the recording, such as time, date, author, technical equipment, and a brief informative summary is also provided. Each sound is archived on a dedicated server with a 24 bit / 48 kHz resolution. Although it represents an increase in server space, the file is not dependent on hosting services such as Soundcloud or Bandcamp, where there is often compression and loss of signal resolution. Sounds can be filtered by the home search engine, accessing specific cities, authors, and categories.

Each recording is organized into six different categories. Despite the many efforts made since the birth of electroacoustic music to organize sounds according to universal criteria (Schaeffer, 2008; Schafer, 1977), a personal taxonomy was used.

The main reasons are the easy use of a wider number of users, which would certainly be ruled out by using a more complex and sophisticated classification system. The six categories are entitled Voices, Specificities, Celebrations, Resonances, Identities and Characteristics. A brief description of these categories is given in table 1.

Category	Description	Examples
Voices	Small vocal fragments highlighting accents and local expressions.	Ordinary expressions; strong accent.
Identities	Contextualised local histories.	Trivial and/or peculiar histories
Characteristics	Soundscapes	Vehicles, street ambient sound.
Specificities	Soundmarks	Fountain; church bells.
Celebrations	Social events	Catholic mass; football.
Ressonances	Particular acoustic manifestations	Acoustic of a church, tunnel.

Table 1: Phonambient category of sound.

As a complement to the Sonographic Cartography section, another section called Imaginary Sound Paths appears, which corresponds to the transformation of the file into creative and scientific artifacts. In this section, there is a division into four distinct categories: Music, Audiovisuals, Texts and Software. This section is thus a distinguishing feature of other sound maps, as it highlights the importance of the creative approach to sound heritage archives.

3   Implementations

As mentioned earlier, in its first phase Phonambient was implemented in seven distinct cities through the articulation of a specialized Sonoscopy team with local teams with strong links to these cities. In the final part of this phase a presentation was made in each city, in order to symbolically return some of the sound heritage to its inhabitants. In these performances, the formats ranged from laptop-centric concerts to concerts combining electro-acoustic sources, sound installations, or acousmatic compositions. These presentations were made in cultural spaces of great importance in a diversified but yet not always had a prior knowledge of the possibilities of artistic recreation from field recordings that often focused on sounds that traditionally are not associated with musical creation. each city, thus reaching an audience with access to a cultural offer.

Given that the artistic nucleus, that is at the genesis of Phonambient, has a strong connection to the city of Porto, a final presentation of the first phase of the project in this city was chosen.The presentation took place in Casa da Música, one of the most emblematic spaces of this city, and it was intended to summarize the whole project, closing a first phase and opening up possibilities for the future. For this presentation, some musical works were demanded which were presented together with three sound installations, three concerts, a performance and a lecture. This multiple presentation format is representative of the entire conceptual basis of Phonambient, where new forms of artistic expression are based on the use of soundscapes for compositional purposes.

The first sound installation served as an information platform for the public. Some computers scattered through the educational service space of this institution were available to explore the various functionalities of the site. In addition, a ten-minute video provided a visual complement to the entire project, with images related to the capture locations of the archive.

The second installation was an interactive system that allowed the public to hear the sounds of each city according to their position in space. On the floor were identified the names of each city, so it is intuitive to explore the associated sounds. This installation used a system based on the Kinect motion sensor titled Sonorium[6], developed by Tiago Ângelo for Digitópia[7]. The third sound installation was designed by Filipe Lopes, and used a Robotic Gamelan and a Disklavier[8] to complement the electroacoustic part.

Fig. 3: Memories of Fundão, by Filipe Lopes. Source: Project Archive.

The concerts took place in different Casa da Música's rooms. The first, interpreted by Gustavo Costa and José Alberto Gomes, was based entirely on the electronic manipulation of sound collections, the room being almost in the dark in order to emphasize the content rather than the performative side, which was limited here to the use of two laptops.

The second concert consisted of an improvisation of a group of 12 musicians who came from various cities where the project was implemented, and where each musician could choose their most appropriate instrumental form of performance. The third concert was acousmatic, with pieces by João Mascarenhas (stereo) and Carlos Guedes (four channels). There was also room for a performance by Christina Ertl-Shirley, Gretchen Blegen and Mélodie Fenez, based on sound poetry and the translation of electrical conductivity of plants into musical parameters.

4 Development

After the end of Phonambient's first phase, there was a two-year hiatus. During this period, a substantial part of the information was edited and cataloged on the website.
In 2016, the Phonambient was resumed with a presentation in the city of Ovar, which respected the methodology and artistic approach that had been established in the conception of the project. The presentation consisted of an electronic broadcast of six channels scattered at an intersection of three city streets, which was complemented by some instruments and sound sources such as Soundboxes, a hydrophone system and a set of plants that was used in conjunction with the Makey Makey controller to activate some of the city sounds that had been recorded. In the final part of this performance, some bandages were distributed to the public to cover their eyes and block access to the visual information that normally accompanies sound production.

More recently, Phonambient was implemented in Vila de Rei and Sardoal, maintaining the methodology of archiving and artistic transformation of field recordings, culminating in two public presentations of two new electroacoustic works.

5 Conclusion

It is important to mention the variety of performative options that have been addressed by different Phonambient members. From a common principle, the file and sound documentation of each city, each team opted for different creative formats, from sound installation, concert, video projection, lecture or composition. Field recordings may be particularly difficult in performative terms, since they generally require a reproduction system that can be highly limiting in terms of expressiveness (Cascone, 2003; Joaquim; Barbosa, 2013). In view of some of these possible limitations, several solutions included playing files through a computer's normal keyboard, midi controllers, multi-channel spatialization formats, amplified by resonators, through graphic interfaces or by including visual content. The original recordings were also processed and transformed by different processes, such as analog modulations operated by pedals and effects units, combinations and digital processing through software such as Max MSP, Kenaxis, Metasynth, Logic Audio or Ableton Live. In many cases, the field recordings were complemented with other instrumental sources or played in acoustic spaces that caused a change in the original perception of the sound.

The presentation formats thus represent new performative possibilities and new forms of listening that are not based exclusively on the typical concert format. Although in some cases presentations have taken place in traditional auditoriums and stages, tactics have been used in almost all cases to find new solutions, such as multichannel diffusion, symbolic translations for the auditory domain (the sonification of plants), visual complement with interactive installations, and non-linear audio narratives. The variety of these manifestations is thus representative of how different memories interfere in the construction of different meanings and identities. The potentiality of sound abstraction related to its original cause also allows a freedom interpretive degree that enables different positions to the same stimulus.

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1 Porto Sonoro was a project to document the sound identity of the historical center of Porto. It was developed by Sonoscopia for the Manobras Festival in Porto during the years 2011 and 2012. Available at: <www.portosonoro.pt> Accessed on May 25. 2018.

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2 POLISphone is a versatile sound map designed by Filipe Lopes with a flexible interface that is designed to be used with a similar approach to playing traditional acoustic instruments. Available at: <www.filipelopes.net> Accessed on May 25. 2018.

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3 URB is an automatic digital sound analysis and storage system designed by José Alberto Gomes and Diogo Tudela, complementing conventional sound maps by adding precise measurement data such as frequency, amplitude, irregularity and various statistical parameter.

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4 Manobrador is software developed by George Sioros and Gustavo Costa that allows you to combine and transform various sound sources from field recordings.

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5 B-Blocks is a set of objects programmed in Max MSP that allow, through a modular system, to combine and modify several audiovisual files.

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6 Sonorium is an application for sound mapping in space that uses a Kinect to detect the positioning of objects in a three-dimensional grid.

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7 Digitópia is a platform for collective music creation around digital music. It is housed inside the educational service of Casa da Música, in Porto.

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8 Disklavier is an automatic piano developed by the Yamaha company. The piano keys are activated by a MIDI sequence that plays a set of electromagnetic solenoids.

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