SONOL∞GIA

INTERNATIONAL CONFERENCE ON SOUND STUDIES

2019 | I/O

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SONOL∞GIA

2019 | I/O

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Proceedings of the International Conference on Sound Studies

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Sonologia 2019 – I/O is the second edition of the International Conference on Sound Studies organized by **NuSom – Research Center on Sonology** (University of São Paulo). The conference was organized by a team of 9 researches: Fernando Iazzetta, Miguel Antar, Valéria Bonafé, Yonara Dantas, Davi Donato, Flora Holderbaum, Marina Mapurunga, Igor Reyner e Henrique Souza Lima. It was held from 9th to 12th April 2019 at the Sesc São Paulo's Centro de Pesquisa e Formação and the Ibirapuera Park Planetarium. The 2019 edition continued the work initiated in 2016 at the Sonologia - Out of Phase conference, which aim was to discuss the field of sound studies towards a perspective situated in the global south, promoting issues concerning representation, articulating debates between works from Latin America and abroad, and provoking critical reflections on the epistemological possibilities of this research field.

Our challenge was to further develop the critical platform set by the first edition of the conference, in order to include more actors in the conversation, as well as to broaden the themes under discussion. Our Call for Papers outlined a series of topics focusing on issues affecting subjectivity in the context of the capitalo-anthropo-cene, and invited participants to relate in a flexible and inclusive manner with three languages that permeated the event – English, Spanish and Portuguese. Gladly, we managed to create an intercultural and transdisciplinary environment bringing together presentations from different academic backgrounds, including anthropology, sociology, literature, architecture, urbanism, philosophy, sound art, acoustic ecology, performance, gender, race and music studies. Furthermore, we tried to bring this trilingual aspect of the CFP to the proceedings, offering to publish also Portuguese or Spanish versions of the papers.

Another curatorial criterion from the beginning was to facilitate exchanges between different ways of producing and presenting research. We scheduled a joint articulation between an academic program that included paper sessions, round tables and keynotes speakers; and an artistic program that included performances and a soundwalk. These proceedings are dedicated to present and document the academic production, featuring the papers (or extended abstracts when the full paper was not submitted) that were presented throughout the 13 paper sessions during the four days of the conference.

We had the pleasure of having Mara Mills, Susan Campos-Fonseca and Ximena Alarcón as keynote speakers, and two round tables composed by Brazilian researchers with significant activity in the local academic and political context. We would like to thank all of them for making such provocative and stimulating interventions. We would also like to thank all participants for their critical insights, as well as the incredible team of volunteers, without whom the event would not be possible. From the very beginning of this process, we had the help and support from the organizers of the 2016 edition of Sonologia, and for that we would like express our gratitude to Lilian Campesato and Rui Chaves. Finally, we are especially grateful for the support given by Sesc São Paulo's Centro de Pesquisa e Formação, NAVE at the Ibirapuera Park Planetarium, CNPq (National Council for Sci-entific and Technological Development, proc. #403678/2018-8) and FAPESP (São Paulo Research Foundation, proc. #2018/24572-7). Our intention is to continue this work in the coming years, so keep your ears tuned for future editions of Sonologia. The editorial team wishes you a pleasant reading!

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Fernando Iazzetta
Davi Donato
Henrique Souza Lima
Valéria Bonafé

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Speed Listening by Blind Readers and the History of Audio Time Compression

Mara Mills

Talking Books for blind readers spurred the commercialization of mainstream audiobooks after World War II, but the two formats soon diverged in terms of reading strategies. This talk will discuss the cultural imperative for aural speed reading that drove early time-stretching innovations in the magnetic tape era, allowing playback rate to be changed without affecting pitch. The talk is excerpted from a book-in-progress that I am co-authoring with Jonathan Sterne. Tentatively titled Tuning Time: Histories of Sound and Speed, it traces the practice of accelerated and decelerated sound reproduction from blind phonograph users in the 1930s to Auto-Tune, Ableton Live, Audible books, and YouTube videos today.

Mara Mills is an Associate Professor of Media, Culture, and Communication at New York University who works at the intersection of disability studies and media studies. Her book On the Phone: Hearing Loss and Communication Engineering (forthcoming from Duke University Press) argues the significance of phonetics and deaf education to the emergence of "communication engineering" in early twentieth-century telephony. This concept and set of practices later gave rise to information theory, digital coding, and cybernetics - along with new electroacoustic tools and a revised understanding of human speech and hearing. Mills is currently working on the history of optical character recognition and, with Jonathan Sterne, she is co-authoring a book titled Tuning Time: Histories of Sound and Speed. With John Tresch, she co-edited a special issue of the journal Grey Room on the "Audio/Visual."

Mills is a founding editor of the journal Catalyst: Feminism, Theory, Technoscience and a recent member of the executive council (2016-2018) of the Society for the History of Technology. With Faye Ginsburg, she co-founded and co-directs the NYU Center for Disability Studies. Her work has been awarded fellowships from the National Science Foundation, the Mellon Foundation, the American Council of Learned Societies, the DAAD, the Alexander von Humboldt Foundation, and the IEEE. She received B.A. degrees in Biology and Literature from the University of California, Santa Cruz and an M.A. in Biology/Ph.D. in History of Science from Harvard University.

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1 Videos with the full presentations can be accessed from the Conference website: http://www2.eca.usp.br/sonologia/2019/

Technofeminist Decolonial Sound Studies?

Susan Campos-Fonseca

In the first part of the presentation, I will carry out a commentary on sound studies in the Anthropocene. We live in post-humanist cities that are deemed "creative", "smart", "sustainable", etc. We design our lives over layers and more layers of accumulated rubbish, obsessed with neoliberal engineering of "science" and "innovation", and focused on the technological production and consumption. We experience a *scientification* of life. Authors such as Rosi Braidotti, Debra Benita Shaw or Donna Haraway agree upon the Anthropocene in order to think about this *geo-biopolitical* condition in "the processes of creatures called *Homo sapiens*". Humanisms and cities as anthropocentric and phallogocentric projects prompt this presentation, which is guided by an inquiry into the epistemic aural turn, the studies on audiovisual geo-biopolitics, and the possibility of thinking about the sound studies through a decolonial, technofeminist perspective, starting from propositions by female Latin-American researchers and artists. The second part of this meditation will introduce this possibility in dialogue with the phenomenon that Mayra Estévez Trujillo call the "colonial regime of sonority", because, and I cite Elizabeth Grosz, "Music is the result of the movements of territorialization, deterritorialization, reterritorialization of vibratory force in its articulation of (the division of difference between) the body and the Earth." Accordingly, sound studies as a transdisciplinary field, centered on the emergence of the concept of "sound" in the Western modernity and on its technological consequences, oblige us to think about the Anthopocene, the geological era built by the remainders of our species of *hominids* on the Earth.

Susan Campos-Fonseca holds a Ph.D. in music from the Universidad Autónoma de Madrid (UAM), Spain. Master in Spanish and Latin American Philosophy from the Universidad Autónoma de Madrid (UAM), and graduated in Conducting by the Universidad de Costa Rica (UCR). She is a composer and musicologist whose research focuses on philosophy of culture and technology, feminism, decolonial studies, electronic art and sound studies.

Campos-Fonseca has received the 2002 University Council Award from Universidad de Costa Rica (UCR), the 2004 WASBE conductor scholarship (UK), the 2005 Carolina Foundation Scholarship (Spain), the 2007 "100 Latinos" Award (Spain), the Corda Foundation Award 2009 (New York, USA), the 2012 Casa de las Americas Musicology Award (Cuba), and the 2013, 2014 UCR Distinguished Scholar "Universitaria destacada" (Costa Rica).

She serves on the advisory boards of Boletín de Música (Cuba), and has been a guest editor forTrans: Revista Transcultural de Música (Spain) and Ideas Sónicas (México). Her books

include Herencias cervantinas en la música vocal iberoamericana. Poiésis de un imaginario cultural (for which she received the 2012 Casa de las Americas Musicology Award) and the co-edited volume Estudos de género, corpo e música: abordagens metodológica, ANPPOM-Serie Pesquisa em Musica no Brasil, Vol. 3. She currently coordinates a project on arts, sciences and technologies at UCR, where she is professor of Music History and Transdisciplinary Research.

Intimal: A Space for Relational Listening to Flow in-between Fragments of Memory, Migration and Conflict

Ximena Alarcón

When in migration, we experience a radical change in our spatial and temporal embodied multisensorial experience (Ahmed, 2000). This influences the perception of ourselves and others, while issues of gender, class, and cultural stigma emerge subtly and directly heard in voices, languages and in the surrounding acoustic environment; in tandem, we keep memories of our native land in our sonic and embodied memories, which mirror or defy the experience in the host land. During seven years I have explored the sonic inbetweeness, with migrants from all over the world, through Deep Listening practice (Oliveros, 2005) and improvisatory sonic telematic performance, with spoken word and other sounds, opening spaces for the expression and connection between migrants and narratives of migration (Alarcón 2014; 2015; 2016; 2017). Deep Listening involves listening meditations, dream awareness and energy body movement, helping us to dissolve borders created by the fixity of cultural identities and judgmental statements. The technological mediation strengthens migration metaphors, expanding our perception of time and space, and the possibility of stablishing dialogues with unknown people. The research work becomes an artistic strategy to join fragments of memories of place, dissolve mental and cultural barriers, allowing feelings such as loss, to be expressed, and to generate empathy. In this talk, I will describe the development of INTIMAL, a physical virtual "embodied" system for relational listening that integrates body movements, spoken word and voice, memories of place, and oral archives. Informed by the listening experiences of nine Colombian migrant women in London, Oslo and Barcelona, in the context of Colombia's post-conflict, I have integrated methods of Embodied Music Cognition (Jensenius, 2018) to observe the full embodied expression of their "migratory journeys" and the responses of oral archives with testimonies of other Colombian women

about experiences in the conflict. The system supports relational listening (English, 2015), as a process to flow between fragments of memories of migration and conflict, in co-located and telematic performances, nourishing at once their sensing of place, and sensing of presence, as acoustic and vibrational practice (Eidsheim, 2015). Women's emerging narratives open avenues to expand their embodied acoustic spaces in the daily life, improving their agency while actively intervening the Insider/Outsider perspective.

Ximena Alarcón is a sound artist researcher interested in listening to interstices: dreams, underground public transport, and the migratory context. Her research focuses on the creation of sonic telematic performances using Deep Listening , telematic improvisation, and interfaces for relational listening. In 2007, she received a PhD in Music, Technology and Innovation from DMU, and in 2012, a Deep Listening Certificate from the Deep Listening Institute. She has been awarded with postdoctoral fellowships such as the Leverhulme Trust Early Career Fellowship 2007-2009 (IOCT- DMU) which led her to develop *Sounding Underground;* and a CRiSAP-UAL fellowship 2011-2017, where she developed telematic performances exploring the in-between sonic space in the context of migration. She is now a Marie Skłodowska Curie Fellow 2017-2019 at RITMO Centre for Interdisciplinary Studies in Rhythm, Time and Motion, Department of Musicology, at the University of Oslo, developing her project INTIMAL: a novel physical-virtual "embodied system" for relational listening, integrating: body, memory, migration and telematics. http://ximenaalarcon.net

Round Table I

Sound Studies in Brazil

Lílian Campesato, José Cláudio S. Castanheira and
Virgínia Osório Flores

Lílian Campesato is an artist, researcher and curator. She holds a PhD from USP, and is active primarily in the following areas: sound studies, experimental music, sound arts and feminisms. Her writing discusses noise, experimentalism, and counter-hegemonic discourses. Her sound works explore the voice and performance. Researcher at NuSom-USP, and activist from the network Sonora: musics and feminisms.

José Cláudio S. Castanheira holds a PhD in Communications from the Universidade Federal Fluminense, with a doctoral internship at McGill University - Canada. He is a professor in the Cinema program at the Universidade Federal de Santa Catarina (UFSC) and leader of the research group GEIST/UFSC (Grupo de Estudos em Imagens, Sons e Tecnologias) - CNPq. He is a researcher in the areas of digital culture, music, sound studies and cinema.

Virgínia Osório Flores is a professor and researcher at the Cinema and Audiovisual program at UNILA. Bachelor in Industrial Design from PUC-RJ, master in Music from UFRJ, and PhD in Multimedia from Unicamp. For more than 30 years she has worked with cinema, being sound editor in more than 50 films. In 2013, Editora Annablume published her book "O Cinema, uma arte sonora".

Round Table II

Violence, militarization, and sonic cultures

Carlos Palombini, Adriana Facina and Vincenzo Cambria

Carlos Palombini is professor of musicology at the Universidade Federal de Minas Gerais, permanent member of the graduate program in music at the Universidade Federal do Estado do Rio de Janeiro, and a fellow of research productivity from CNPq.

Adriana Facina is bachelor in History from UFF, master in Social History of Culture from PUC-RJ, PhD in Social Anthropology from UFRJ, with post-doctorate from the same institution. Researcher from the CNPq, she is a professor at the Museu Nacional-UFRJ. Recently she researches trajectories of artists with survival experiences.

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2 Videos with the full presentations can be accessed from the Conference website: http://www2.eca.usp.br/sonologia/2019/

Vincenzo Cambria holds a PhD in Ethnomusicology from the Wesleyan University (EUA), master in Musicology from UFRJ, and bachelor in Art, Music and Spectacle from the University of Bologna (Italy). Recently he has been working in the development of collaborative and participatory methodologies of research, approaching subjects like favelas, violence, and urban ethnomusicology.

Closing Session

Sound Studies in Perspective

Fernando Iazzetta

As a final activity of the conference, we invite all participants to reflect on the current stage of Sound Studies.

| Session #1

Sonic battles: territorial disputes of Congo Capixaba

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Abstract: This article aims at thinking over the territorial disputes negotiated in the sonic campaigns during the festivals of "Congo Capixaba". We would like to understand the convergence of the cognitive and somatic dimensions of sounds, from the analysis of the communicative, social and cultural processes generated in sonorous experiences possible during the parties in question. For accomplishing this, we examine the dynamics of sound colonization in situations of conflicts suggested from the tripartite model of Daughtry (2015) - Auditory Regimes, Sonic Campaigns and Acoustic Territories. We argue that the acoustic parameters (intensity, frequency and spatiality) and the spatial and symbolic transit of those events converge in the enunciation and territorialization of their ancestral traditions in the contemporary scenario.

Keywords: sonic battles, territory, Congo

1. SOUND EXPERIENCE AT POPULAR FESTIVALS

The popular festivals spread on the national and international scene in the 1990s (GARAT, 2005), becoming strategic instruments for the political, cultural and economic promotion of the cities that carry them out. This process valued certain cultural practices to the detriment of others, hierarchizing the public space and how social groups coexist in it.

Sonorities – songs and noises – are one of the forms of expression of these groups in the urban space, among others. We take sound as a social relation, a vibration of a body that resonates within another, as a means to carry out actions, media for the production of meaning, mediation between subjects, cultures, technologies and the spaces they occupy.

The socio-communicative function of sonorities is approached by several works that deal with issues as diverse as the ideological and perceptual structures of places (FELD, 1984; SCHAFER, 2001; SAMUELS et al., 2010),

cultural circuits conformed by musical practices in the city (STRAW, 1991; HERSHMANN, 2007; JANOTTI JR and SÁ, 2013), the relations between places and identities (CONNELL and GIBSON, 2003), affects, aesthetics and performances in public spaces (HERSHMANN and OLIVEIRA, 2016), the ways how people claim the urban (SAKAKEENY, 2006), or make it a place for political demonstrations (BIRDSALL, 2012; RADOVAC, 2014). In these dynamics, the sound produced during the most diverse social practices locates the social actors in the territory, as they use acoustic vibrations to communicate and at the same time take possession - in a momentary or lasting way - of the places they inhabit. Therefore, the sounds of the city are taken as object of analysis since they mediate dynamics that reverberate in the field of social practices.

Sonorities are at the same time "text", which communicate feelings and perceptions of reality, and force exerted on bodies, especially in hypersensorial contexts, of excessively intense, severe, acute, rapid, slow, marked or cadenced acoustic materiality. In these conditions, their haptic aspects are privileged in relation to the senses they convey (DAUGHTRY, 2014). This finding highlights the immersive aspect of hearing that not only constitutes the symbolic aspects linked to place, but also immerses (HELMREICH, 2007) the subjects in spaces they help to build, giving them a sense of "place", "social- organic" space (AUGÉ, 2005). Thus, some "sonorous texts" as communicative forms only exist insofar as the force of bodily dynamics emerges from the interaction of individuals in the public space, marking territories, recreating identities, and affirming the political character of their disputes.

Thus, this work proposes the convergence of the cognitive and somatic dimensions of sounds, from the analysis of the communicative processes generated in sound experiences of the Congo Capixaba (Banda de Congo Amores da Lua and Banda de Congo Mestre Alcides).

The Congo is considered a manifestation of popular religiosity (POEL, 2013) expressed, among others, through dances, songs, processions, parades and performances that allude to the religious practices performed since Brazil colony by the slaves. In Espírito Santo, the history of the wreck of a slave ship is a founding myth of the festivals of Congo. The survivors, crying out to St. Benedict for their lives, clung to the ship's mast and made their way to the beach. Since then the groups of Congo have performed a procession singing, dancing and guiding a mast, which is stuck in some symbolic place for the community, to honor St. Benedict.

In the context of the Congo festivals, the performance of the groups involved constitute as sonic techniques (MARRA, 2016) - protocols for the use

of acoustic parameters (intensity, frequency and spatiality) to carry out certain actions - that enable their spatial and symbolic transit. We are therefore interested in knowing the territorialization of their ancestral traditions in the contemporary scenario.

Understanding the communicative processes that derive from these (re-) territorialization dynamics is fundamental in a context in which Afro-Brazilian religious practices not only face prejudice stemming from structural racism (GOMES, PEREIRA, 2008; SANTOS, 2006; SOUZA, 2006; MOURA, 1983), but also suffer attacks from other religions, especially certain Neo-pentecostal strands (SILVA, 2007), outlining a scenario where the "holy war" occurs, a religious dispute waged between traditional groups in Congo, devotees of black saints and popular religiosity, and religious groups that evangelize, teach, preach and conquer territories for the sovereignty of their own religion. This war happens, among others, through sonic battles[1], auditory performances that echo the struggle for space, recognition, and permanence of ancestral traditions.

2. THE SOCIAL AFFIRMATION OF THE *CONGO FESTIVALS*

In the state of Espírito Santo, Brazil, the popular religious manifestation of *Congo* is present on most of its coast, although today most of the groups cluster in the metropolis. Currently 67 *Congo* groups have been mapped. Since the 1980's, the *Congo*[2] had been considered an icon of regional culture, and reached the status of Intangible Heritage in the state in 2014.

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1 Some contemporary accounts on the attacks afro-brazilian religions faced can be reached at: "Por que as religiões de matriz africana são o principal alvo de intolerância no Brasil?" (BBC Brasil, available at: http://www.bbc.com/portuguese/noticias/2016/01/160120_intolerancia_religioes_africanas_jp_rm, last access in 11/02/2018); "Levantamentos mostram perseguição contra religiões de matriz africana no Brasil" (O Globo, available at: https://oglobo.globo.com/sociedade/levantamentos-mostram-perseguicao-contra-religioes-de-matriz-africana-no-brasil-13550800, last access in 11/02/2018); "Tráfico evangelizado' é acusado de liderar ataques a terreiros no Rio" (Folha de São Paulo, available at: http://www1.folha.uol.com.br/cotidiano/2017/10/1922713-trafico-evangelizado-e-acusado-de-liderar-ataques-a-terreiros-no-rio.shtml , last access in 11/02/2018) e "Entidade repudia ataque com veneno a crianças que tocavam maracatu" (Diário de Pernambuco, available at: http://www.diariodepernambuco.com.br/app/noticia/viver/2017/11/14/internas_viver,730803/entidade-repudia-ataque-com-veneno-a-criancas-que-tocavam-maracatu.shtml, last access in 11/02/2018).

2 Although the entry "Congo" also refers to "Congado", today we consider the particularities of each group (Brotherhood, Kingdom or Band) mainly in what refers to the ritual performed by them. These elements are perceptible when we move from one region to another of the country. They differ in the way they perform festivals, calendars, clothing, props, banners, dances, songs and instruments (such as "Casaca", a sort of rattle in Espírito Santo and Patangomes, shakers that are tied to the ankles, in Minas Gerais, São Paulo and other regions).

The parade is present at the festivals in general. Some communities, located on the coast, conduct it in the streets and close it on the beach. This is the case of the *Congo do Mestre Alcides*, from Barra do Jucu, in the state of Espírito Santo. The neighborhood, belonging to the city of Vila Velha, was one of the first communities formed in the State, part of the old and extensive Araçatiba farm, built by the Jesuits. On this farm was born the *Congo da Barra*, now divided into three: *Mestre Honório, Tambor de Jacarenema* and *Mestre Alcides*.

Although the founding myth of the *Congo* groups is related to the sea or the river, many of them have developed geographically beyond the waters. The group of *Congo Amores da Lua*, is an example of festival created in the urban context of a capital. *Amores da Lua* was born in the Santa Martha neighborhood, north of Vitória, between two of the city's main routes: Maruípe Avenue and Serafim Derenze Road. The region, now urbanized, is the result of the occupation of a large farm previouly owned by the government of the State of Espírito Santo.

In 1958, when the Catholic Church began to be built with the image of Santa Martha, the group *Amores da Lua* had existed for 10 years in the neighborhood, affirming the devotion of the local community for St. Benedict and reinforcing the popular religiosity. Today, the *Congo Amores da Lua* festival takes place at Santa Martha and also on the large adjacent avenues of the neighborhood.

Although the exact origin of the *Congo* manifestations in the state of Espírito Santo is unknown, it is known, however, that they were forbidden to exist for some time. In São José do Queimado, there is a record of the festivals of *Congo* in 1854. That same year a law was issued which forbade "drumming, dances and gatherings of slaves" (MACEDO, 2015: 49).

The existence of these groups lives, even today (and mainly), through a process of appropriation of the public space and confrontation with other social groups, whether due to religious, political, and/or family aspects. Ricardo Sales, the master of *Congo Amores da Lua*, reports the process of renewal of the group in the community: "when my father's family met this 'priest of another non-Roman Catholic religion'… this person was only persuading my grandfather, who was already an old person, to terminate the *Congo* tradition in our community" (SALES, 2017: 7), which actually happened for a year.

Shutting up the *Congo Amores da Lua* was the strategy to gain time and finally stop the activities of the group. The silent voice, in this sense, is the voice of the songs, the instruments, the ancestors, but also the voice of the

protests, that elicit the role of the sonorities in the disputes for territory, through their "repertoires of action", the sets of operations employed by certain groups in their contentious acts against others (TILLY, 1993).

In the Barra do Jucu neighborhood sonic battles were also fought aimed at silencing the *Congo*. Seu Alcides, founder of *Congo da Barra*, moved to Barra do Jucu in 1965 and with the help of some of its residents, created the *Congo*, which faced police and religious persecution:

> Already retired, the Master went through many financial difficulties. [...] Alcides, when looking for a job in an evangelical church that had settled in Barra [do Jucu], received a demand: "They would employ him if Alcides left the group of *Congo*. And the leader sold all the instruments. " (MACEDO, 2015: 113).

A "Holy war" becomes evident when negotiation (or imposition) strategies, as described, are established, but also when there are direct attacks among the parties. In 2013, Ricardo Sales conducted a parade with *Amores da Lua* in Santa Martha, against his grandfather's determination. At the end of all the rituals of the festival, the patriarch, accompanied by the "priest of another religion", as Ricardo calls him, went to his grandson's house and broke the boat, a sacred object of rituals, used in the parade. A new boat was built and Ricardo, accompanied by the group *Amores da Lua* that recognized him as a Master, passed in front of his grandfather's house door, bringing the festival, which has not stopped since then, although it daily faces sonic battles which are fought in "its" space.

3. TERRITORIALITIES AND SONORITIES IN THE "HOLY WAR"

As Doreen Massey (2004: 17) reminds us, "space is not a surface": it is created from the uses that subjects make of elements - buildings, urban furniture, geographic accidents, other subjects - that are present and disposed there. Thus, the occupation of the streets, squares, fields, etc., is what produces meaning and functionality around a place which are shared by those who live, frequent or transit there. Martin Daughtry (2014) points out that sounds occupy space, since they have size, weight and directionality. Its size is equivalent to the area in which it is possible to hear it - and in this sense, acoustic vibrations are usually much larger than their sources. A percussive set of traditional music composed of several drums and other instruments, such as the ones used in *Congo*, or a powerful sound system, is accessible to our hearing a few hundred meters away, even if this distance does not allow

us see the source of these emissions. Its weight corresponds to the tactile sensations that the sonorous vibrations produce on the listening bodies. While the voice of a single person may not make a noticeable impact on the skin, a crowd singing the same song, or very loud and bassy sonorities, like the drums used in the festivals in question, have the ability to accomplish such a feat. Finally, directionality refers to the direction in which the sound moves. Acoustic vibrations can be very directional, targeting directly a listener who listens clearly. They also turn towards their own source, what gives all sounds a certain omnidirectionality. Buildings and geographic features on places where sound propagates also interfere in these dynamics through effects such as reflection, reverberation and sound absorption.

Such a sonic impact on bodies is often irresistible: although listening can be trained to make the body react or resist such seductions, we are necessarily at all times under the action of a vibrational field that constantly forces our bodies to move in sympathy, as Daughtry recalls. In the same sense, Tim Ingold (2007) states that we do not listen to the sounds, but we listen in them, since these are not the object, but the means of the auditory perception: sonorities are media. Therefore, the immersive aspect of this sense takes forward, which not only highlights the importance of listening in the attribution of meanings to places, but above all shows how semiosis involves a tuning in the somatic level of the individuals to the resonances, reverberations and echoes that vibrate in individual or collective space (HELMREICH, 2007). It is in this sense that Daughtry states that "sound colonizes acoustic territories, including the resounding territory of the body" (DAUGHTRY, 2014: 33).

Daughtry (2015) offers a tripartite model based on three concepts to understand such dynamics of sonic colonization in situations of warfare, such as the Iraq War, in his study of the relationship between sonorities and violence in this context. *Auditory regimes* relate to the listening protocols that are learned by people who experience a daily life in an environment "that is already shaped by and coursing with power" (DAUGHTRY, 2015: 123). The dynamics of sound colonization can be thought of in the territories of the *Congo* festivals. For the Santa Martha community, for example, an auditory regime was already in place, allowing the territory to be identified as the place of the *Amores da Lua*. *Congo* music establishes temporalities that mark the festive seasons of the neighborhood. Those who live in that place learn by listening to the drums over time, when it is time of the party and their preparations. The parade also attribute to certain points of its path a symbolic dimension that allows us to "listen to a hierarchy" of importance

of the spaces of the neighborhood to the community, delimiting, through the rituals and the sounds (intensity, frequency and spatiality), the markers of the territory.

Therefore, *Congo* is one of the fundamental components for the constitution of rhythms - "... regulated time, governed by rational laws, but in contact with what is least rational in the human being: the lived, the carnal, the body" (LEFEBVRE, 2013:18) - of the place.

Lefebvre argues that social changes happen through transformations in their rhythms. According to Ricardo Sales, Master of *Congo Amores da Lua*, this is what the "priest of non-Catholic religion" aims to accomplish by infiltrating the group and allying with its older members: convincing them to no longer perform the celebrations. This event would change the local sound, opening space for the constitution of a new auditory regime that, perhaps, would allow the entrance and consolidation of this "other Church". In this sense, we draw a counterpoint between the transversality of the community organization of the *Congo* that uses public audibility when performing the festivals in the space of the street or inside non-sound insulated closed spaces, allowing their sonorities to be heard through the neighborhood; and the hierarchical structure of a Christian church, whose cults generally take place in the temples, in a private way, therefore. This transit from the public to the private demands the learning and incorporation of different ways of listening that refer to the distinct ways of distributing power relations within place.

Sonic Campaigns designate the set of actions that are carried out in the use of sounds in order to achieve a certain objective and that are "implemented with the help of technologies and training. They involve struggle and even conflict, and as such they necessarily involve the exercise of power" (DAUGHTRY, 2015: 124). They are, therefore, sonic techniques in which the dynamics undertaken by power relations become explicit. We observed Sonic Campaigns in the case of the *Congo Amores da Lua*, in several instances. In the first place, we highlight the vibratory characteristics of a good part of the sonorities used by Afro-Brazilian religious practices: they are loud, bassy, use counter-metric rhythms and consequently intrusive, dominating both of space and of the body itself. Thus, they have a great potential to take over wherever they take place, making it difficult to listen to other sounds. In contrast, the "other religion" priest's performance along the elders of *Congo* operates on other parameters. A private and intimate sound to seduce those who were previously considered "festival owners" – the fact that the elders are references and local leaderships doesn't mean that

they have the ability to determine on their own the paths the community should follow, opposing what happens in institutions with highly hierarchical structures, such as the Church - aims at changing the acoustic regime in a surreptitious way, in a strategy that depends on his "mojo" and oratory and that is related to gossip and intrigue. Therefore, we perceive the use of low-volume sonorities to quench a much louder one, so that new sounds – perhaps as noisy as the previous ones - may emerge.

Silencing here has an ambiguous character, functioning as a practice for both sonic campaigns, the one of the "non-Catholic priest" and that of the *Congo*. For the former it can mean victory and ideal conditions for the implementation of their sonority. For the second, it is a moment of re-articulation and reorganization of the community, for preparing a later parade, as it finally happened in the *Amores da Lua*, what consequently, established its existence. The breaking of the ship by the elder master, accompanied by the priest, is a counterattack movement whose sonic dimension amplifies the impact of the symbolic gesture in that context of "holy war", since this destruction also produces sound, and therefore is part of the sonic battle waged between the community and the "priest of another religion". In the same way, the construction of another ship and the passage of the parade in front of the former master's house set the dynamics of the sonic campaigns that engaged the community in the battle for the assertion of the *Congo*, demonstrating how the lived experiences within the festival of *Congo* are important in the social articulation.

Finally, the term *Acoustic Territories* points to "the ways in which our understanding of the places in which we live and move is structured in part by reverberating sounds and acts of listening" (DAUGHTRY, 2015: 126). Thus, this notion delineates the ways in which sonorities have the capacity to insert or withdraw individuals and their bodies into the geographic externality in which they are located and the biological internality that regulates their lives, as well as transporting them to distinct symbolic places according to the way that the same sound can refer to different locations, according to the situation. To the author, the acoustic territories are bound, therefore, to the borders constituted by the sound and its listening. They also refer to the absorbent or reflective features of structures present in environments in constant transformation that mediate, modify or encapsule the sounds in a certain time-space.

Although the possibilities delineated by such a conception of acoustic territories seem to have a great power for the understanding of a series of

processes that relate sound and space, it seems to us that the author leaves in the background an important aspect about the discussion around the phenomena of territoriality and that is of great importance for the issues that we intend to develop in this research. Another definition of acoustic territory, such as that of Brandon Labelle (2010: XXV), which focuses on "movements between and among different forces", or that of sonic territory (OBICCI, 2008), which deals with the construction of limits and the attribution of qualities also do not emphasize such a problem. These are the social disputes around the ownership of place and which usually use music and sound not only to delimit spatial limits but also to expand them, or to express a resilience and local permanence of peripheral groups against actions aimed at silencing or taming them. Daughtry assumes that a territory is a conquered space, "a place whose identity is maintained by force or threat of force" (2015: 125). However, rather than dominated, territory is also a " lived-space-time " (HAESBAERT, 2006: 2), appropriated and disputed by several co-present and conflicting social dynamics (HAESBAERT, LIMONAD, 2007: 42-43). We emphasize this aspect when we speak about the relations between territorialities and sonorities.

The acoustic territory of Santa Marta neighborhood is conformed, disputed and retaken by the sound of the *Congo Amores da Lua*, through the dynamics presented so far - which contrast the public and the private, the street and the temple, loud and soft sonorities and the establishment of symbolic markers in place. In that context of "holy war", the boundaries delimited historically by sonic battles are maintained, since the community demonstrates the power necessary to reaffirm its practices, not only religious, but above all sonorous, against the silence imposed to them.

Territorial dynamics are therefore intrinsically violent because they imply the occupation of space by social agents against the resistance of other subjects. After all, through the construction of sound borders, one learns how to listen to the place in its vibrational particularities and strategies of action not only to conquer space, but also to maintain it, or to take it from possible adversaries who aim to usurp it. In these processes, the sound in its material properties proves to be an efficient tool for the accomplishment of such objectives. Although the notion of acoustic territories proposed by Daughtry does not privilege the disputes over the possession of space, we believe that his tripartite model offers a better systematized model of analysis of the dynamics of conflict than other research on the relations between sound and violence (CUISICK, 2006; GOODMAN, 2010), which also provide astute insights.

4. THE CONSTRUCTION OF THE ACOUSTIC TERRITORY THROUGH THE PARADE

The parade is one of the most important rituals in the *Congo* festivals. In a general way, it is the moment when devotees – musicians, dancers, masters and audiences – praise their ancestors and the saints of devotion. Taking into account this basic function of the parade, we can understand it from its narrative, in which its script, time, place and characters reveal how it exists and is perceived in a contemporary scenario. As audience, who first accompanied the procession of the *Congo* band *Mestre Alcides*, on December 17, 2017, at Barra do Jucu, we perceived the festival as follows: ahead of the parade, there were flags and their holders, followed by men carrying the mast with the flag of São Benedito (a ritual called "Puxada de Mastro" - "Lifting the Mast") and finally the band and the dancers. As the parade went, more people joined the festival, forming a crowd behind and around the band. They all went up to the beach, where the mast with the flag was stuck in the sand ("Fincada do Mastro"). It was late afternoon, still sunny, and the beach was full of sunbathers. Many approached, others continued in the sand watching the party.

It is worth mentioning that the group usually makes three stops until their final destination (FIG.1). One at Kléber Galveas Atelier, another at Nossa Senhora da Glória Church and the last one at Cais da Barra. This last stop, which lasted approximately 30 minutes, attracted a lot of attention because it is a place of access to the Jucu River (whose waters refer to the founding myth of the *Congo*) and at the same time it is a cross between Antônio Santos Leão street and Ana Penha Barcelos Avenue, which leads to the beach, what forms a wide area that favors the gathering of people, making it a favorable place for musical performance and its appreciation. Even though we were close to Mestre Alcides band, it was not possible to clearly understand the lyrics. But their vibrations and repetition were clear enough to accentuate the cadence and provide the public's participation, which elaborated for themselves the meaning of the party.

Fig 1: Map of the parade of the Congo Mestre Alcides. Fonte: Macedo, 2015, p. 80.

The sticking of São Benedito mast at Praia do Barrão is the highlight of the festival, as far as the marking of the territory by the Congo is concerned. Setting the mast on land is signaling a social, geographical, temporal, cultural borderer and a place of collective experiences. Accompanied by fireworks, the *Congo* band positioned itself around the mast, closing the circle. Its center was gradually occupied by the audience, so that they could touch the mast and make their wishes. The band positioned itself to close the parade, towards its place of origin.

5. TECHNOLOGICALLY MEDIATED TRANSITS OF THE ACOUSTIC TERRITORY

For the groups of *Congo*, the ritual meaning of a family party is different from the one conveyed by a public festival. It requires the groups to be in constant negotiation and affirmation of their practice within the territory, which is related, directly or indirectly, to the reception of an audience avid for celebration, among them those who want to play, sing and dance, even if they are not part of the group. For example, Ricardo Sales announces the group's presentations on social networks, as well as inviting those who have affinity and respect for the *Congo* to join the band *Amores da Lua*, expanding the group beyond family boundaries.

Fig 2: Public invitation for joining the *Congo Amores de Lua.* Fonte: Facebook, 2017.

It is undeniable, for any group, the need to deal with the increasing number of spectators, adapting the ritual of Congo to them, as we can see in the report of Beatriz dos Santos Rêgo, a member of the *Mestre Honório* band, from Barra do Jucu:

> [...] street festival is meant for showing to the people our devotion, and why we are doing so: St. Benedict. But our religious party is done before. So we do not want to mix them. This part of putting the saint around, staying ... circles here, circles there, I think this is not cool, it does not fit (MACEDO, 2015: 77).

Inara Macedo (2015: 79) points that, in the parade, with the growing number of followers, the control of the group on the progress of the festival, diminishes. In addition, she notes that drinking at those events has taken on another meaning. If it was used before to cheer the players and make offerings to the saints, today alcohol is consumed indiscriminately and in an exaggerated fashion.

The way how the festivals developed in the urban scene is due to the traditional means of transmission, that is, orality, but also by sound recording of traditional music. In the case of the Congo festivals, the recording serves as safeguarding the tradition, and of course, spreading it. With the appearance of these records, the groups become, little by little more known. Alongside them, other artistic groups developed in the contemporary context emerge to supply the cultural industry's demands. For them, the technical structures of the transmission offer possibilities to renew the traditional music, creating, for example, other arrangements from the songs used in the rituals. The use of these structures can, as in some cases do, popularize a song that is originally specific to a ritual and / or community. In this case, copyright issues are extremely problematic, since the songs are considered to be in the public domain. Therefore, conflicts are constant between traditional groups and artists.

According to accounts by Inara Macedo (2015), the 1980's were important to the *Congo da Barra do Jucu*, due to the mediation of the party by cultural agents and the participation of journalists and university students. On one of these occasions, in 1988, the famous samba musician Martinho da Vila opened space for the *Congo* to perform at the 3rd International Meeting of Black Arts, as well as the State University of Rio de Janeiro and in the concert house Circo Voador. At the end of the presentations, some of the people of the *Congo* were invited by the musician to take part in his album "O Canto das Lavadeiras". Payment was proposed to them for the work done.

In this sudden invitation, Seu Honório and Seu Alcides, the first masters, were not included, and so the invitation was denied. Not without trouble, since within the group there were several conflicts, in addition to the fact that the *Congo* songs, with or without the support of the group, were recorded by Martinho da Vila, who attributed his own titles to the music, besides adding verses to the songs originals. The "Madalena do Jucú" is an example of *Congo* music appropriated by the artist.

From 1988 to 2000, the *Congo da Barra do Jucu* (which had already been divided into two bands) served as a reference for other artists, among them the bands Casaca and Maninal, both from Vitória, Espírito Santo. The "translations" (BRAVIN, in: MACEDO, 2015) earned international awards for the mentioned groups. While the traditional groups saw their manifestations spread to other distant territories, the glories reached by the musical ensembles that appropriated their rhythms did not necessarily reverberate into profit for the local communities.

6. CONCLUSION

The transits passed by the groups of *Congo* in this context of intense dispute over their own acoustic territory within urban space – which we characterize in this article as a kind of "holy war", which occurs through sonic battles – are ambiguous and contradictory. They renew these Afro-Brazilian religious practices by bringing in new participants and the possibility of expanding their acoustic territory to not necessarily geographically contiguous spaces. However, they also offer the risk of bringing unwanted people and practices into the realm of the ritual.

Another challenge to be faced in the movements of deterritorialization and reterritorialization of these manifestations of popular culture is the cultural expropriation of their repertoires of public nature. How could part of the profits earned by large cultural producers or renowned artists who circulate those community symbolic content in large scale through phonographic, audiovisual or internet goods be reverted to the community that holds such practices? We also emphasize that such opportunities for economic exploitation of religious musicality can cause intrigue and envy within the bands themselves and among different communities.

The dynamics presented here show that "divide and conquer" sonic campaigns are also used not only within the Congos' own acoustic territory, but also among different groups, in order to establish auditory regimes that refer to the different meanings of what the festive practice should be for each of the agents concerned. The risks of these internal disputes are the weakening of their borders, which allows an external group to enter and implement a new auditory regime, or even the spontaneous implosion of the acoustic territory in question.

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Citizen Impulse Responses: Protest Spaces as Echo Chambers

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Abstract: Echo chambers are both spaces where sounds reflect until they lose their sharp edges and ways for citizens to lose perspective until only one viewpoint is expressed and reflected back. Echo chambers and their recreated equivalencies have been used in music for decades. In our social and mass media, echo chambers have only recently made the headlines, particularly leading up to and following the 2016 U.S. presidential election. These cultural and physical echo chambers can be captured and studied, but what about the echo chambers found in the soundscapes of urban streets? And how do the echo chambers of politics, democracy, media, and the streets of the U.S. capital connect? At least in part, they connect through the process and creation of the Citizen Impulse Response Library. Typically, impulse response files are recorded in quiet spaces in a solitary and methodical fashion. This library is a collection of impulse response files created from recordings at protests in Washington, D.C. The impulse responses are created from the vocalizations and actions of diverse and heterogenous protestors. This conceptual yet tangible product grew from the history of spatial sonic effects and echo chambers, urban, and democratic soundscapes.

Keywords: echo chambers, impulse response, spatialization, protest soundscape, politics and sound

1. INTRODUCTION

The sound of a space is not just the sounds created in a space, but the coloring and reflections of those sounds by that space. The tonality of a space is dependent upon the reflectiveness and absorptive abilities of the materials, the angles and the distance between reflective surfaces. Cities are not built with absorptive materials in mind. The materials in an urban center need to endure yet sparkle. Absorptive materials are intended to do neither.

Echo chambers are both spaces where sounds reflect until they lose their sharp edges and ways for citizens to lose perspective until only one viewpoint is expressed and reflected back. In music and recording, echo chambers and their recreated equivalencies have been used for decades. In our lives, political or otherwise, echo chambers have only more recently

made the headlines. Echo chambers in mass media and culture can be captured and studied, but what about the echo chambers found in the soundscapes of urban streets? And how do the echo chambers of politics, democracy, media, and the streets of the U.S. capital connect? There is a tangled history of echo chambers and spatialization through urban, music, and recorded histories.

As an artist, I have been creating, experimenting with and researching a conceptual yet usable impulse response library from the 2016 American presidential election and the resulting protests in Washington D.C.. These impulse responses can reflect the physical, public, and political movements that went into its creation, and I will share the process of building a citizen impulse response library. The history of spatial sonic effects and echo chambers, urban, and democratic soundscapes are the building blocks from which the library has been created.

In order for sounds to be heard, they require an input and output, a transducing of energy. This project is not just the soundscape of capital city streets during protest marches, but the compilation of the reflections of these soundscapes, reflections of the movements through outdoor public spaces, reflections of the echo chambers, reflections of ourselves. And through this lens of echo chambers, examines how our culture and news reflect on us.

2. SPATIAL EFFECTS

The interaction of sound and space have changed over time. For most of history, the sound of a space has been intertwined with that space in the sound. It was through the introduction of echo chambers that the concept of separating space and sound was first born.

2.1 Reverberations

Reverb is a time-based modulator that for much of history has required three things: sound, space, and time. Both reverb and echo, as time-based effects, change the length of the original sound, and they utilize time as part of their modulation. When these effects are added digitally or in a real space in real time, the listener experiences a shift in time, the sound of the past mixed with the sound of the present. (Blesser, 2009: 16)

Reverb consists of three parts: early reflections, the original sound, and the later arriving reflections. The early reflections are the first sonic element of

reverb to be heard, arriving after having traveled to and from some of the closest non-absorptive materials in a space. We hear early reflections within approximately 100ms of the original sound, dependent on the size of the room. These early reflections combine with the original sound and later arriving diffused sound waves to create the overall sound in that space at that time. Reverb is interactive and enveloping. (Blesser, 2009: 62) Not only can it give us a sense of place, but it can give us a sense of what is in the space as well. (Välimäki, 2012: 1421)

Reverb is measured in the amount of time it takes for the reverberated sound to decay 60 dB, otherwise known as RT60. This is the time for the late reverberation signals to have fully decayed, through its process of diffusion and filtering. If the space is large, that will result in longer RT60 time and delay between the direct sound and the first early reflection.

The concept of spatial acoustics has existed for thousands of years. Vitruvius was one of the first spatial architects, who created guidelines incorporating sound and architecture of forums and theaters. It was not until the late nineteenth century when Wallace Sabine brought science and sound together to create methods of measuring, controlling, and deadening reverberant spaces.

Spatial acoustics are not just about science, they are about the experience of sound in a place. Early reflections help give the listener a sense of the size of the space while the late reflections can tend to reduce the size as it is perceived as noise. (Blesser, 2009: 61) Jonathan Sterne calls this the "detachable echo," when sound and space could be separated from one another. (Sterne, 2015: 111) By the middle of the twentieth century, the sound of the space became usable creatively, and in doing so, the place and space in recording began losing its uniqueness.

2.2 Recording and spatialization

At the turn of the twentieth century, with few microphone inputs and even fewer tracks, the sound of the recording space, and everything that occurred within it, was part of the recording. The recording was a live event in a live space. As the ability to record with closer and better microphones became the new recording reality, artists were able to record in studios that were reverberant and live. (Doyle, 2004: 33) Fast forward a few more years, and reverbance was an option to choose to include. The recording engineer and music producer gained control over the sound of the artist and the space.

Reverb or echo chambers were used in radio broadcast as early as the 1920s. Recorded music did not start using artificial reverb with reflective rooms until the 1940s. These chambers began as existing spaces: bathrooms, attics, or stairways where sound was sent to, played back in, and recorded. Specialized echo chambers were built at commercial and label recording studios starting in the 1940s and 50s.

Portability was the next frontier for spatialization, starting with plate reverb in 1957. Sound was sent from the control room to the plate reverb, a heavy wooden box containing a large metal plate. The sound would bounce off and around the metal plate in its enclosure, to be picked up by a microphone that would transduce and return the reverberant sound to the studio. Plate reverb added even more control of sound and space, with the ability to change the reverberation time with the turn of a knob.

Plate reverb was portable, in theory, however a unit weighed hundreds of pounds and needed to be in a fairly quiet space with no extreme temperatures. While plate reverb was being made available at the commercial level, spring reverb was finding its way into studios and homes via Hammond organs starting in the 1930s. Spring reverb was also to be found in guitar amplifiers in the 1960s, and stand-alone devices for recording studio and home hi-fi use.

Echo or delay effects, using magnetic tape, were used in music production starting in the 1940s. These spatial effects gave a sense of space, but not of realistic habitable spaces. During the 1940s and 50s, they helped to change the linearity and types of spaces in certain musical recordings. (Doyle, 2004: 38)

Reverb is fickle. What might appear to be one space, could actually be multiple acoustic spaces. (Blesser, 2009: 250) A single sound may not always create the same resulting sound in a space, even given the exact same circumstances. A reflection, one of perhaps millions, that takes even just one second to arrive after the initial sound, has traveled over 1100 feet. This travel changes the sound based on minute differences in humidity and temperature. The reflections happen in a space that even if the listener has not been to, inherently understands some of its sonic properties.

The ability to create and modify space in recordings was happening simultaneously with architects and scientists creating and modifying physical spaces. As long reverb times became interpreted as noise, architects lowered their recommended reverb times from 3 seconds in 1923 to 1.5 seconds in 1930. (Blesser, 2009: 108)

Metal was the preferred medium for creating reverberation, one in a line of successors to hold or sample the audio for multiple seconds while not adding noise or filtering the sound excessively. (Blesser, 2009: 123) Other mediums included air, tape, film, electronics. Newer and better spring and plate reverbs were being released throughout the second half of the twentieth century. This artificial reverb that both represented and constructed a space was a sign of things to come. (Sterne, 2015: 113)

The 1970s and 1980s brought with it the ability to digitally create and modify sonic space. What began as DSP (Digital Signal Processing) algorithms in the 1980s were followed by ICs (Integrated Circuits) in the 1990s. This created two paths for digital reverb development: modeling and simulation of existing spaces or the creation of virtual spaces. (Blesser, 2009: 117) Reverb became available as a rack-mounted unit in the studio, sitting alongside a compressor or equalizer. Then reverb transformed even further, becoming available as a virtual effect, including digitized simulations of the artificial versions of itself.

Convolution reverb is the latest in the long line of reverb iterations, beginning in 1999. It recreates the spatialization of a space using impulse response files. These files have been recorded in the space, having encoded the spatial reaction to that click, loud transient, or set of frequencies. Typically, impulse response files are created at the quietest moments, when there are no sounds, movement, or people. Convolution reverb is used to add a sense of space in general for music and for post-production sound for film, to give a sense of a particular space.

Convolution reverb has the ability to recreate any space. In reality, that is not quite the case. It is difficult to capture an entire space in one recording, as there are many variables. Convolution reverb can also be used to combine other files, not strictly reverberant. Any two files can be convolved, from white noise to cymbals, to create spaces that are not spaces. (Deruty, 2010)

Scientists, producers and engineers were pushing the boundaries on the reflective properties of spaces and its effect on what we hear. Digital and figurative echo chambers were becoming part of our everyday lives.

3. ECHO CHAMBERS IN THE UNITED STATES

The Cambridge Dictionary defines an echo chamber, in part, as "a situation in which people only hear opinions of one type, or opinions that are similar

to their own." (Cambridge, n.d.) People in echo chambers only encounter news and opinions that they agree with, believing it is the only side of the issue. (Dubois, 2018: 729)

According to Google Trends, the use of the word "echo chamber" jumped in popularity in online searches in the United States starting in September 2015, with a jump in November 2016 and peaking in August 2017. (Google, n.d.)

Even before the 2016 U.S. election was underway, many U.S. citizens were choosing only to use those information sources that echo their same point of view. Throughout 2014, the nonpartisan Pew Research Center closely examined political polarization in the United States. Researchers examined sources of news, based on political leanings. (Mitchell, 2014) They found that people who lean consistently to the left utilize a variety of news sources, including the New York Times (10%), NPR (13%), CNN (15%), and MSNBC (12%) and trusted 28 of the 36 listed news sources. Almost half of conservatives (47%) primarily received their news from Fox News and trusted 12 of the 36 listed news sources. (Mitchell, 2014) This media environment, or as James N. Cohen has termed it 'echo-system' is, like reverb, all-encompassing. (Cohen, 2018: 147)

Echo chambers censor or underrepresent "competing views by enforcing social homogeneity". (Bastos, 2018: 2) Media diversity is crucial to minimize the effects of political echo chambers. Examining the root of the term can also be helpful in remedying the problem. Echoes are the reflection of a single sound source that is repeated, returned, and renewed. (Vallee, 2017: 99) The original sound is created and gone, while an independent but tethered abstraction returns one or multiple times. (Vallee, 2017: 99)

Echo chambers or factual news vacuums are dangerous to democracy, as citizens become agitated due to false information. In order for democracy to be heard literally and figuratively, journalists need to be able to cover events, locally, regionally, nationally and globally. Between 1990 and 2017, the workforce of daily and weekly U.S. newspapers were more than cut in half, while Internet publishing jobs more than doubled. (Shafer, 2017) In a democracy compromise is necessary, which requires talking and listening to people with different ideas and backgrounds.

While there are still uncertainties over how influential Russia and other propagandists were in creating and spreading false information through social media, it is known that there were entities who successfully helped create

and enforce digital echo chambers or filter bubbles. This came to light in February 2018 when thirteen Russians and three companies were indicted by the U.S. Justice Department in a "sophisticated network designed to subvert the 2016 election and to support the Trump campaign." (Apuzzo, 2018) It was also revealed that the private company Cambridge Analytica surreptitiously collected a third of the U.S. electorate's Facebook user data, to manipulate the 2016 election through echo chambers. (Martinez, 2018)

There are many ways to interpret what led to and the outcomes of the 2016 U.S. presidential election. The citizens of the United States, through its established yet flawed democratic system, elected an unqualified, xenophobic, misogynist, narcissistic, uncreative, uncaring reality television personality to lead the country.

The shock of this election led to many feeling shocked, disappointed, scared, and angry. Most channeled their frustrations into protest through social media, to their elected officials' offices and phones lines, and most visibly and audibly, onto the streets. This was especially true for women, people of color, and LGBTQIA.

After the election, many pundits stated that the election results were only surprising to urban dwellers, as they were living in their own echo chambers, in their own realities. (Shafer, 2018) The implication was that those living in cities, who cast ballots for Hillary Clinton, the winner of the popular vote, were not listening to the rest of the country.

It is the soundscapes of the streets of these cities that changed almost immediately after the 2016 election, as protestors gathered in public spaces to voice their concerns. City streets in the United States became physical echo chambers, with government, public, and commercial buildings reverberating the sounds of a diverse concerned citizenry.

4. "THIS IS WHAT DEMOCRACY SOUNDS LIKE"

While American cities have hosted many protests, the 2016 election results brought people from across the country onto the streets. Many public spaces in U.S. cities are commercialized, designed more for consumption and congregation than for democratic assembly and discussion. (Chun, 2014: 657) Despite this, citizens rediscovered their collective voices. The resonance, through street and public spaces, reflected throughout the unique spatial acoustics for urban and democratic soundscapes.

4.1 Sonic reflections in city streets

For the space to be heard, a sound has to activate it. In doing so, the activation modifies the sound. (Blesser, 2009: 15) The space responding to sound is what Blesser and Salter term 'aural architecture'. It is dynamic, reactive, and enveloping. (Blesser, 2009: 16) Cities offer public and walkable spaces and architecture for visual and sonic reflection.

It is important for cities to have public places to talk and discuss politics, meet, and gather with visibility and symbolic importance. City sidewalks are where one steps out and into the public, shadowing the public square. (LaBelle, 2010: 91) Sidewalks are the space that is in between inside and out, private and public, where "the meeting of city policy and private use" can be experienced. (LaBelle, 2010: 108) Community cohesion can be enhanced through shared experiences, including in public spaces, conversational "third places" and in informal social spaces that have been labeled "fourth places." (Aelbrecht, 2016: 134) Quentin Stevens, in examining urban spatial experiences, divides public spaces into paths, intersections, boundaries, props, and thresholds. (Stevens, 2006: 807) These are thresholds, edge spaces, paths, and nodes, places that are publicly accessible but possibly privately owned, where people walk, watch, and wait. (Aelbrecht, 2016: 134-135) Jane Jacobs noted that streets and sidewalks are "the main public places of a city, are its most vital organs." (Jacobs, 1993: 37)

These public and in-between places, city sidewalks and streets, are the primary sound sources. What happens to these sounds depends on the structure and spatial architecture of the city. On city streets with low buildings, where the height to width ratio is low and the visible sky to entire surface is large, sound energy dissipates and scatters into the sky, not remaining in the street for long. (Onaga, 2007: 319) But sound lingers and reverberates in streets with high buildings. The width of the street also plays a part in the reflections. In narrow streets, the number of sound waves reflected towards the ground will be higher than those reflected towards the sky which increases the number of total reflections. (Can, 2015: 86-87) Diffuse reflections with low frequencies remain in the street but high frequency reflections, which are also reflected in more directions, dissipate and are absorbed into the air. (Picaut, 2005: 167) A sound source in the middle of the street, as opposed to an intersection, is also creating back-diffusion, where the sound, particularly high frequencies, have emanated from all sides of the sound source, including behind the sound source, to return with longer arrival times to the listener (Picaut, 2005: 171).

Most modern cities are constructed from glass and steel. Mirrors and glass are geometrically reflective surfaces that reflect light and sound. They also project sound at higher levels with longer reverberations and decay times than other building materials. (Manabe, 2015: 244) Main and side urban streets have long reverb times, even longer than what is acceptable for interior spaces. Reverb on city streets average one to three seconds with an early decay time of about the same. (Kang, 2001: 292)

More textured and irregular materials like concrete help with diffusion. Absorptive materials, in and around buildings, like trees, spaces between buildings, open windows that can act as sound energy sinks, can help lower reflection energy and reduce urban sound pressure levels. (Kang, 2001: 287) These softer materials, of air, trees and people absorb more sound, particularly in the higher frequencies. (Manabe, 2015: 244)

4.2 The sounds of protests

People join protests for many reasons. They want others to know about a problem, to inform. They want to express their feelings or dismay. They want their politicians to listen, to change, to learn. They want to disrupt public space or interfere with the established order. (LaBelle, 2010: 115) They might want to be with others who believe in the same goals, to be part of a community. Participation in a democratic action, working together on a common goal can bring joy. (Pait, 2017: 235) It is not just the act of protesting, but the sounds that "can, and must, be summoned to generate, harness, and leverage emotional energy toward collection actions" (Presley, 2018: 310)

Unlike photographs and video, political and protest soundscapes tend to be temporal and in the moment, technically capturable on video and audio with a vibrancy that digital and physical media have trouble capturing. No matter the outcome of the protest, it can be these sonic moments, where voices are echoing, resonating, amplifying and becoming one that are the most memorable in sensory, if not physical, memory.

Cities with narrow streets and reflective buildings can create echo chambers. These reverberant and sonically alive spots can excite, energize and build the sense of solidarity among protestors. (Manabe, 2015: 241) Others have written about protests and events seeking energy from a space of acoustic resonance. Matt Sakakeeny writes of a New Orleans funeral parade detouring to play under a bridge to "orient individuals as a collective occupying a shared space." (Sakakeeny, 2010: 3) Noriko Manabe has written of

favored sonic conditions for anti-nuclear protests in Shibuya, Japan. During one protest, a protest march were temporarily halted by the police in a very narrow road with tall glass and steel buildings on both sides.The echo and reverb created an "impressive cacophony" that energized the protestors vocally and sonically. (Manabe, 2015: 253) During many of the protests that I have attended in Washington D.C. since the 2016 election, any time the route takes protestors past the privately and controversially owned Trump International Hotel, protestors yell "SHAME" in a way that upon reflections and various timings echoes and grows in resonance. This space of resonance can focus the sound and energize, make the crowd seem and feel more powerful.

5. CITIZEN IMPULSE RESPONSE

Before and after the 2016 American presidential election, the metal, concrete, and glass of government and privately-owned buildings lining the streets of Washington D.C. and other cities have created reflective surfaces for amplified politician's speeches and the call-outs of collective citizenry in protest. The sounds are political, from their content and context to their localization. What we might typically think of as noise in the recording of a political space contains the sounds of action and reaction by citizenry and the physical reflections of the politics in that space. This noise can be isolated and examined with noise cancellation software, doing the exact opposite of what the software is supposed to do. The echo chamber of that moment in time is contained in what is typically disregarded, the noise.

Convolution reverb digitally recreates a space by using a recording from that space, an impulse response (IR) file. Most impulse response libraries, collections of these IR files, are of silent unoccupied interior private spaces: concert halls and echo chambers. They are also typically recorded by white straight men. The input is generally a digitally created file, a sweep of frequencies, crescendoing from low to high. The output is a digitally recreated sanitized interior space. How different would an impulse response library be that has been created from spaces and speeches, activism and reactions, filled with tens and hundreds of thousands of people of all genders, sexuality, races, and ethnicities not standing quietly but yelling their concerns in exterior public spaces? The frequency sweep here, is not digitally created, but human made, ranging from the low beat of drums carried by protesters through the frequency range of human speech. The Citizen Impulse Response Library grew from these sounds and places.

5.1 Washington D.C. Protest Soundscape

The sounds of commerce, traffic, and commuting overtake the urban sound-scape much of the time. It is these sounds that reverberate and are filtered through the materials and people on and surrounding the city streets. After the 2016 presidential election, the sounds of protestors became ever more present, particularly in the capital city, Washington D.C.

Washington D.C., founded in 1791, did not have marches or protests un-til 1894. This first march involved a ragtag group of 10,000 diverse unem-ployed men and women who made their way across the United States fol-lowing a populist, Jacob Coxey, and his message of mass infrastructure employment. The protest broke the law at the time, banning protests on the Capitol building's lawn and grounds. (Grinspan, 2014) Despite his arrest, the march created opportunities for others to occupy the streets and sym-bolic spaces of the nation's capital, from suffragettes to the Ku Klux Klan to civil rights marches. (Parkinson, 2014: 157-158)

The Washington D.C. soundscape is like that of most other medium-sized cities. The spatial architecture of the streetscape differs, as buildings vary in age, height, and materials. Washington has many public buildings, made of marble, stone, glass, and steel, and protests down straight, wide streets reflect and carry the sound. The streetscape differs also in its 'deputiza-tion', where the hardened street elements help protect buildings from at-tack while adding more reflective surfaces. (Krieger, 2003: 66)

While Washington D.C. has a robust Metro subway system, car traffic re-mains a significant part of its soundscape. When traffic is shut down for protests, the localized city soundscape develops a very wide dynamic range. In between the chanting, exclamations and rhythmic instruments that are accompanying the rhythm of the chant, there can be almost absolute si-lence, just the shuffling of feet on the street with an occasional conversa-tion between protesters. While there is always some form of amplification, literally and figuratively, on the stage for organizers, politicians, and activ-ists, most of the marching is unamplified. This allows for chants to make their way down the line of protestors, where reflections and reverberations can at time throw the timing off.

Counting people at protests or demonstrations is difficult and typically the media and politicians get the numbers wrong. According to countlove.org, a website that counts the protests and demonstrations in the United States since January 20, 2017, there have been over 12,600 protests with over 10

million attendees in the United States alone. (CountLove, 2019) The individual themes of the protests vary, with concerns for civil rights (over 3400), gun control (over 2700), and immigration (over 2600) leading the way. (http://countlove.org)

The largest protests started with the Women's March on Washington in January 2017, the day after Trump's inauguration. Over four million women and men marched in and across the United States and around the world to be part of what is likely the largest single day demonstration in U.S. history, with at least 500,000 in Washington D.C. (Chenowith, 2017) In 2017, it is estimated that between 5.9 and 9 million people protested in the U.S., with 74% of the protests against Trump administration policy or issue viewpoint. (Crowd Counting Consortium, n.d.) Since the original Women's March, some of the most well attended protests/events in city streets, including Washington D.C. have been the second Women's March with at least 2 million protestors in January 2018, March for Our Lives for gun control with 2.5 to 4 million marchers and walkout participants in March 2018, and 2.5-4.5 million people in June 2018 in different LGBTQ pride events and Families Belong Together protests to stop family separation. (Crowd Counting Consortium)

5.2 Creative Process

The Citizen Impulse Response Library is as much conceptual as it is physical. The day after the 2016 U.S. presidential election, many of us were shocked with a feeling that remains to this day. While national politics does not affect every citizen immediately and directly, the dismay was felt deeply by many, including myself. I began to read and research, to try to find out how this could have happened, how a country with a supposedly fully democratic system could have elected an unqualified reality television personality into its lead role.

My research connected terms in audio recording with the 2016 election, starting with the term echo chamber. This is a fertile area of research - combining politics, science, sociology, psychology, communications, audio, and beyond. Living in Baltimore, Maryland less than an hour away from the nation's capital, I had an opportunity to reverse my complacency and attended and recorded as many marches and protests as I could. These ranged from smaller protests with hundreds of people to the Women's March in Washington that, despite claims of 500,000 attendees, seemed to be double that.

While researching, I collected the recordings from multiple protests, from the first Women's March in January 2017 through the third Women's March in January 2019 and many of the major protests in between. Overall, I attended and recorded ten protests in Washington D.C., with others in Baltimore and Kansas City, Missouri. I was attending these protests as a concerned citizen as well as an artist and scholar. Reflections of my voice are to be found in some of the impulse response files.

My first work with convolution reverb and non-traditional impulse response files involved using political speeches from one party as the impulse response file for a politician from the other political party, for example, Obama's last speech as president as the IR file for Trump's inauguration speech. This was intriguing and created interesting results from the melding and convolving of sounds. The word convolution originates from the Latin word convolvere which means "roll together." (OED, 2018) Convolution is a mathematical term, to combine, but it is also in our vocabulary as entwining. (OED, 2018)

The Citizen Impulse Response Library is the entwining or combining of different sounds in different spaces, diverse protestors with voices and emotions in the reflective spaces of government buildings. It is the sonic equivalence of a subject that Teresa Hoskyns writes about, the intertwining of the spaces of democracy and the democracy of space. (Hoskyns, 2014: 4) I wanted to make sure to capture the voices rolled together, to record a multitude while being cautious about privacy. The impulse response was recorded and edited in an entirely digital format, but what it was based on was live, at that moment. The convolution was in real time and very human and emotional. No recording or library, or convolution reverb can ever truly capture that.

I cropped out certain sections, looking for transients and rhythm and similar moments across marches. I experimented with using Izotope RX6 denoise software to listen to the "noise" versus the original signal. RX6 can also dereverb and just output the reverb. While ideally, this could have isolated the reflections, because there are so many layers in some of these recordings and the software is not infallible. The denoising and dereverbing process at times created very digital, choppy audio, that was not listenable.

In editing the files, I had to decide on beginnings and endings of the impulse responses. Unlike a traditional impulse response file, which uses a handclap, starter pistol, or sweep of frequencies, I had hours of recorded audio from close to a dozen protests. Some of the files ended up involving

handclaps, that transient sound that is at times used for more traditional IR recordings. The sound can be comforting and piercing, when part of a group, the "sound of membership in a crowd that safeguards one's identity." (Goodale, 2013: 219)

I experimented with and without fadeouts on the files. In a space, the late reflections fade out, as the sound and reflections dissipate and diffuse in the space. A traditional IR file would include this decay to silence.

To hear what the impulse response files sounded like applied to other audio, I experimented with applying impulse response files to other impulse response files, and to other sound files. I used Waves IR-1, that uses convolution reverb and can import any wav file as an IR file. One of the most effective sounds to apply the impulse responses to was a ticking clock.

6. CONCLUSION

Space and sound are intertwined, their past and their future. When we hear a spatialized sound, we learn and inherently know something about the originating sound and the space in which it is reflected. As we gained control over their interactions, we still found reasons to keep spatialization audible.

While physical echo chambers, of city streets and studios, blend sounds with versions and reflections of themselves, virtual echo chambers are homogenous and dangerous. It is these online echo chambers, where singular and similar opinions are the sole reflection, that has helped to create a strong, consistent, and resonant set of protests in cities in the United States and around the world.

The sounds of democracy in action, of diversity, of protests, of city streets, are reflected in and through the glass, steel, and marble buildings. It is possible to capture these sounds and convolve them with others, as one would with a traditional impulse response library.

Upon reflection, the convolving is already happening in real time during the protests. The melding of diverse actions and voices in protests in U.S. city streets is a physical convolution reverb, where government and commerce buildings provide the reflective surfaces, and each of us attributes to that impulse response.

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How Military Music Works

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Abstract. This paper analyzes the relationship between musical sounding practices and the efficacy of military force. It begins by describing the multiple functions that military music has served and proposing that military music can be productively thought of as a form of what Christopher Small famously called musicking. Drawing on the sociology of work and the history of emotions, it then looks at soldiers as a kind of worker and military music as an instrument to improve the efficiency of soldiers' labor. With examples taken from the U.S. Civil War and World War I, it argues that music helps soldiers form "emotional communities," which enable them to manage the complex emotions that come with soldiering, and this, in turn, enhances their physical performance as soldiers.

Keywords: military music, musicking, emotional management, emotional communities, U.S. Civil War, World War I

1. INTRODUCTION

In 2015, the United States government allocated $437 million for military music–an amount nearly three times the size of the entire budget of the National Endowment for the Arts, the federal agency responsible for promoting music and the arts nationally. Critics charged that the expenditure on military music far exceeded its value, especially when military budgets were increasingly strained and other public support for the arts was under sharp attack. On the other side, defenders claimed that the 6,000 soldier-musicians on active duty served an important military function, just as military musicians had for centuries (Philipps, 2016). Tellingly, this debate had a long history. At the turn of the nineteenth century, for instance, an official in the British War Office dismissed military music as mere "gingerbread," superfluous to the real stuff of waging war and securing peace (Farmer, 1912: 93). Others, however, adjudged music a military necessity. In 1927, for example, John Philip Sousa, America's "March King," a figure of towering cultural importance in the late nineteenth and early twentieth century, testified on this issue before Congress. "I do not believe that any nation that would go to war without a band would stand a chance of

winning," he said. "You want something to put pep in a man, to make him fight" (Philipps, 2016).

Taken together, the two sides of this debate raised a number of important questions: What kind of military asset *was* music? How essential was it? And how does its significance in the twenty-first century relate to the use of military music in the past? This paper suggests answers to these questions by analyzing the functions military music has served and the multi-faceted ways it has served them. More specifically, drawing on the sociology of labor and the history of emotions, it looks at soldiers as a kind of worker and military music as an instrument to improve the efficiency of soldiers' labor.

Its long history notwithstanding, military music has received little critical analysis. It is, you might say, a subject hiding in plain sight. To be sure, there are a goodly number of books on military music, but the historical literature tends to be antiquarian, often triumphalist, and the books themselves surprisingly thin.[1] Stepping into this void, this paper considers why music has had such military value and to what effect. Indeed, as J. Martin Daughtry has shown, "listening to war" reveals ways that the proximity of violence can shape the meanings people make of–and with–their sonic environment (Daughtry, 2015). Although sounds of war-making have changed over time, the importance of music for soldiering has been remarkably persistent. Careful attention to music in this context illuminates the relationship between sounding practices and the efficacy of military force.

2. THE VARIETIES OF MILITARY MUSIC

Historically speaking, the military is a musical institution. In fact, the connection between music and war-making appears in some of the oldest historical sources. Herodotus, the father of history-writing in the West, noted the use of music by the ancient Lydians to accompany troops into battle twenty-six centuries ago (Herodotus, 1890: 8). His successor Thucydides noted the Spartans' use of music as well in the Peloponnesian War, specifying that this "music of many flute-players" had "nothing to do with religion" but rather was used to make the soldiers advance in an even, orderly

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[1] The most widely cited English-language authority on military music, the British musicologist Henry George Farmer, is best remembered for two slender volumes from 1912 and 1950, clocking in at 150 and 71 pages, respectively. (Farmer, 1912; Farmer, 1950). The important work of Trevor Herbert on British military music represents perhaps the most prominent exception to this generalization. See Herbert, 2000; Herbert, 2004; Herbert, 2016; Herbert and Barlow, 2012; Herbert and Barlow, 2013.

manner (Thucydides, 1909: 2:280-81). Other sources suggest a still older timeline. Many illustrations in King Tutankhamun's tomb depict soldiers holding trumpets around the fourteenth century B.C., and according to archeologists, Joshua's alleged battle of Jericho, if it took place, occurred in the sixteenth or seventeenth century B.C. And in East Asia, ancient artwork shows that the Chinese used musical instruments in battle from at least the seventh century B.C. (Montagu et al., 2001).

If the military is a musical institution, it has utilized music not simply "to put pep in a man" but to constitute, sustain, and advance military activity. Over the centuries, military music has served five non-exclusive purposes: (1) music for signals and communication, to direct and regulate troop movements in camp, on the march, and in battle, (2) music to entertain and boost morale of troops and sometimes civilians, (3) music to lend ceremony to official rituals of all kinds, (4) music for recruitment, and (5) music to frighten or intimidate enemies. As such, the imprecise term "military music" encompasses music in different genres–from drum beats to marches to patriotic airs to popular songs–played or listened to in different contexts, for different military ends. This range reflects the fact that militaries are not monolithic entities; they are complex systems with multiple, sometimes competing priorities and agendas. Music has been used as a means of helping these systems run smoothly and reliably.[2]

The breadth of military music makes it difficult to formulate a general theory of it. We may overcome this obstacle, however, by thinking of music, as Christopher Small did, not simply as a concatenation of sounds, self-contained and discrete, but as a practice or action, which he famously called "musicking." Conceptualizing music as verb rather than a noun, he argued, foregrounds the connections and interrelationships between all actors involved in a musical performance–including composers and performers, audiences and dancers, as well as other sundry personnel, from ticket sellers and piano tuners to roadies and sound engineers–whose participation is contingent upon a complex of social, economic, and political conditions (Small, 1998). If we think in terms of *military musicking*, what matters most

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2   It should also be noted that the term "military music" signifies something different than "music in the military," a more capacious phrase that embraces *all* musical activity related to military life, including informal music that soldiers make or control themselves, apart from "official" music intended to advance military objectives. Informal music making often expresses discontent or criticism (McWhirter, 2012: 111-36; Pieslak, 2009), but ultimately, I would contend, it too functions as an important safety valve for the military, for it always exists within and in relation to military activity, blunting its potentially resistant or contestatory effect.

is not necessarily the performers, the instrumentation, the sounds, or the response by those within earshot, but the interconnectedness of all these factors and the context and the structure which unite them. In this way, the heterogeneity of musical sounds and sounding practices falling under the label "military music" can be reconciled by focusing on the relationships between the sounds, the diverse actors who make and hear them, and the circumstances in which they are made and heard.

Taken together, the diverse forms of military musicking combine *functional* and *affective* outcomes, producing both physical and cognitive or emotional responses, in order to shape certain kinds of military labor. The functionalist tendency is best represented by music for signals and communication, sometimes known as "field music." That is, the very sonic properties of music–especially its loudness–made music useful to military commanders for orchestrating when and where their troops moved. In China, the military philosopher Sun Tzu specified that drums and gongs, audible above the clamor of battle, were effective tools for directing troops–as well as intimidating enemies–as early as the fifth century B.C. (Sun, 1910: 64). Centuries later and on the other side of the globe, Niccolò Machiavelli and other military theorists of Renaissance Europe pushed these ideas further. Drawing on ancient classical texts, not only did they describe the utility of music for directing troops when visual signals were not available, they also differentiated the instrumentation for the infantry and artillery (generally trumpets, drums, and flutes) from that of the cavalry (trumpets only), with one trumpet having a distinct timbre from the other to prevent confusion in the heat of battle (Farmer, 1912: 16-19; Farmer, 1950: 14-17; Machiavelli, 1905: 126-27, 166).

From the Renaissance on, this functionalist use of music became a regular feature of European armies, especially after they began the practice of marching in step in the eighteenth century. As one witness remarked upon seeing a unit of the British army in drills in 1759, "The effects of the musick in regulating the step and making the men keep their order, is really very extraordinary" (Herbert and Barlow, 2013: 33) By the time of the American Revolution, Brigadier General William Heath was writing to George Washington that "good musick is not only ornamental to an army but so absolutely so essential [sic] that the manoever cannot be performed in a regular manner without it" (Camus, 1976: 59-60). Around the same time, Major General Friedrich Von Steuben, a Prussian nobleman recruited by Washington to whip the Continental army into shape, included detailed instructions for the use of field music in what became the country's

first military manual, *Regulations for the Order and Discipline of the Troops of the United States*, which remained the official military guide until 1821 (Von Steuben, 1794). The importance of music in combat declined with the rise of telegraphy and radio, but it remains in use for managing bodies and behavior in camp or on base, with calls such as "Reveille" marking the start of the day and "Taps" the end of it. Like the bells and whistles in factories and factory towns starting in the seventeenth century (Thompson, 1967), these calls were devised as a sonic technology to direct and discipline workers' bodies, a crude form of Muzak in the workplace. (Indeed, Muzak's founder headed the U.S. Signal Corps in World War I [Lanza, 2004]).

Although music for signals and communication always had an affective character too (as Machiavelli and others noted), this was secondary to its semiotic function, which, in theory, could have taken a different, non-aural form. The affective impact was of primary importance, however, for other kinds of military music. For example, in the United States, music was used as an aid for recruitment as far back as the Revolutionary War and remains in use today, in television commercials and online recruitment videos (Camus, 1976: 175; Newman, 2013). Using music as a force to harass and intimidate enemies also dates back many centuries. Recent American examples include army helicopters blasting music and other sounds at the Vietcong in Vietnam; the U.S. Southern Command bombarding Manuel Noriega with American pop and rock music when the U.S. invaded Panama in 1989-90; and American Humvees blaring hard rock and heavy metal at insurgents in Fallujah, Iraq, in 2004 (Friedman, n.d.; Volcler, 2013: 99-104; Pieslak, 2009: 84-85).

The most expansive uses of music for affective purposes have been for ceremony and for sustaining and uplifting morale. Music has invested military rituals with gravitas, from the arrival of visiting dignitaries to funeral services for fallen comrades. And music has, by turns, invigorated soldiers and raised their spirits in times of distress. The sound of trumpets, wrote Campbell Dalrymple in *A Military Essay* (1761), "pour[s] an acid into the blood, which rouses the spirits and elevates the soul above the fear of danger." A century later, a private in the Confederate Army in the U.S. Civil War concurred. After hearing several marching bands play, he later recalled: "The noise of the men was deafening. I felt at the time that I could whip a whole brigade of the enemy myself" (Camus, 1976: 73, 4). Numerous other sources attest to the continued importance of music for maintaining and boosting morale in the twentieth and twenty-first century.

In practice, the five varieties of "military music" have not existed in isolation from one another. Often they have overlapped. When American Humvees blasted music at insurgents in Iraq, the blaring tunes had the concomitant effect of psyching up U.S. soldiers. When "Taps" is played at a soldier's funeral, part of the emotional impact comes from the use of the same music functionally, in camp or on base, to mark the end of the day. And of course, when music is played specifically to boost soldiers' morale, it has an ostensibly affective intention, but its underlying purpose is functionalist: to condition or enhance the troops' physical performance. In other words, the varieties of military musicking bleed into one another, serving both affective and functionalist ends, all aiming to enhance the efficiency or effectiveness of military labor.

3. SOLDIERS AS WORKERS

To explain *how* the functional and affective uses of music are interconnected, I want to braid together three bodies of scholarship. First, in focusing on soldiers as workers, I am concerned with an aspect of labor history that has fallen through the cracks. With a few exceptions, labor historians have generally given little thought to soldiers, except, say, as strike-breakers (Freeman and Field, 2011: 3). Yet, as the labor historian Roger Horowitz has argued, soldiering *is* a kind of work and merits analysis as such (Horowitz, 1997). Second, I am interested in the relationship between music and work, from ancient agricultural work songs to worker-controlled radios in twenty-first-century manufacturing and service jobs. Scholars have approached this subject from a number of different perspectives–including music, social history, the history of technology, and sociology–and studied a variety of types of workplaces, including factories, offices, and retail environments. Taken together, these scholars raise productive questions for how we make sense of military music.[3] Third, I am inspired by, and in dialogue with, the recent scholarship on the significance of music and sound for twenty-first century military activity in Iraq and Afghanistan. This scholarship raises the bar for critical thinking about the meanings music and sound have for contemporary military personnel, going far beyond the small, generally inert body of historical scholarship on military music (Pieslak, 2009; Gilman, 2009; Daughtry, 2015; Cusick, 2008). Today's digital technologies set the use of music in the twenty-first century apart from earlier practices in some

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[3] On Muzak, see Lanza, 2004; Radano, 1989. On work songs generally, see Gioia, 2006. On factory work and service jobs, see Smith, 2001; Korczynski, 2014; Anguiano, 2018. On office work, see Thompson, 2002). On retail, see DeNora, 2000.

important respects, but in others, MP3s, iPods, computers, and the internet are merely extending longstanding musical traditions in the experience of military service.

If soldiers are workers, theirs is a peculiar kind of work. For combat personnel, it is work predicated on killing people and putting one's own life at risk–or at least preparing to do these things. For military support personnel, the work involves, at a minimum, being part of an operation that takes and risks lives. To do such emotionally demanding work, soldiers must perform a certain kind of what sociologist Arlie Hochschild called "emotional management," which she defined as the active shaping of one's feelings to conform to norms ("feeling rules") about the type and amount of emotion appropriate to experience and express in a particular professional situation. Hochschild and others who have followed her have explored emotional management primarily as an aspect of the labor of service workers, but I would argue that the concept is relevant to the work of military personnel as well. To be sure, soldiers' jobs are not socially performative in the same way as those of service workers, but their jobs require rigorous emotional management too. That is, in the course of their work, soldiers regularly experience a range of intense feelings, from courage to fear, rage to boredom, for which only a narrow span of outlets is available and acceptable, and the nature of their work depends on managing those emotions in such a manner that they are expressed only at appropriate times and in appropriate ways. Whereas service jobs often demand workers smile and be (or at least appear) affable, the job of soldiers likewise involves extreme emotional discipline (Hochschild, 1983; Wharton, 2009).[4] Emotional management, then, can entail *not feeling* as much as conditioning what is felt.

To produce workers capable of killing people, assisting in such killing, and putting their lives at risk, military training conditions soldiers to follow one absolute injunction: to obey orders. This degree of subjugation to authority is the ultimate dream of Taylorism (Kanigel, 2005)–total control over the laborer's volition and individuality–and it has profound implications, because destroying the humanity of another and sacrificing one's own humanity are the very enactment of dehumanization. The transformation of civilians into

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4 When a substantial misalignment exists between what workers feel and what they can express, they often try to change their feelings ("deep acting") or at least change those feelings that are publicly displayed ("surface acting"). Failure to square one's feelings with the world (what Hochschild calls "emotional dissonance") can lead to a kind of (self-)estrangement and disconnection from one's environment: "When we do not feel emotion, or disclaim an emotion, we lose touch with how we actually link inner to outer reality" (Hochschild, 1983: 90, 223).

soldiers thus requires not only physical conditioning and the acquisition of certain skills; it also necessitates stripping away, at least at the functional level, each soldier's personal identity. Of course, soldiers never lose their individuality completely, in that they, like other workers, retain some control over how well they perform their jobs. This control is sharply delimited, however, by the fact that a soldier who fails to follow orders is subject to serious punishment, including incarceration and execution (Horowitz, 1997: 80). Or, to put this in other terms, the work of a soldier depends essentially on a high degree of what Marx called alienation–psychic detachment from others, from oneself, from the object of one's labor, and from one's species–the effect of which is heightened by the denial of one's emotions. As Hochschild writes: "when we do not feel emotion, or disclaim an emotion, we lose touch with how we actually link inner to outer reality" (Hochschild, 1983: 223).

Achieving this alienation is no mean feat–and this is where music comes in. In short, music proves to be an ideal tool for bringing this alienation about because it can simultaneously reinforce social structure and provide a safety valve to it. Informed by the work of sociologist Marek Korczynski, I contend that music has a critical dual objective for the military. On the one hand, music is a social instrument and contributes to the production of the social (i.e., military) structure. On the other hand, musical experience is highly individualized and soldiers (can) use music to express resistance to, or distance from, that same structure, thereby mitigating the dehumanization inherent to soldiering (Korczynski, 2014). That is, not only can music enhance group cohesion and group morale, it can also assuage feelings of alienation.

Music can perform both functions because of the variety of forms that military music takes and because of the double reaction the music elicits, being at once physical and emotional. Borrowing a concept from the history of emotions, we can say that musicking helps soldiers form "emotional communities"–which Barbara Rosenwein defines as groups of people with common goals, values, or interests, who share a common constellation of emotions (Rosenwein, 2006: 24-26). That constellation of emotions, from courage to fear, rage to boredom, comes with the soldier's job. Binding people together and giving them an outlet for feelings of alienation, music therefore functions as a kind of catalyst for community formation. In turn, such communities enable the emotional management that makes the physical labor process possible. And because soldiers live together even when they are off-duty, the role of music may be that much more important in

the forging of their emotional community. On a social basis, music can bind people together; on an individual basis, it can help people manage emotions. Both contribute to music's value as a military asset.

4. MILITARY MUSIC IN PRACTICE

To flesh out these generalizations, let me offer some examples about the power of music from the U.S. Civil War, a conflict in which music appears to have been omnipresent and indispensable. Indeed, it is rare to encounter a volume of letters, a diary, or a memoir from the Civil War that does not make at least passing reference to music, or a military manual that does not offer some prescription about its deliberate use.[5]

In that war, the "field music" of drums, fifes, and bugles regulated and directed soldiers' bodies in camp, from reveille to taps, and in battle, where it signaled when to advance, retreat, etc. One soldier wrote in 1863: "The drum tells us when to get up, when to go to our rooms, when to commence undressing, and when to put out the lights; I am getting quite accustomed to it" (Sanston, 1863: 37). Another described the soldiers' conditioned response to music on the march: "Every motion kept time with the music[,] changing whenever the time changed" (Post, 1865: 212). Meanwhile, an even greater number of people–some officers, some soldiers, some support personnel like chaplains and doctors–attested to music's affective power–its effect on morale and esprit de corps when soldiers were on the march or in camp in the evening. Typical were the Rhode Island volunteer who remembered "the music of the bands enlivening and cheering our hearts" (Allen, 1887: 64), the northern chaplain who observed the music "reviving and keeping up the spirits of the men" (McWhirter, 2012: 127), and the Confederate soldier who recalled that "music…encouraged a cheer and a brisker step from the lagging and tired column" (McCarthy, 1882: 52). One Union officer wrote in his diary:

> What would an army be without music? Music puts us in good humor, braces our nerves, and makes us cheerful and contented,

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5 For example, there is a database called *The American Civil War: Letters and Diaries*, which contains nearly 3,000 references to music in documents from 2,009 different authors. The use of such sources is of course biased toward soldiers who were literate, but there is no reason to believe that the experience of illiterate soldiers would have been markedly different. Literacy rates appear to have been pretty high, in any case: perhaps 75-90% among white soldiers from the North. For military manuals, see Victor, 1862; Butterfield, 1863; Gilham, 1862; *The Soldier's Guide*, [1861]; *The Soldier's Companion*, [1861].

> whatever our surroundings may chance to be. It would be a dreary service indeed without music, and I don't believe the men could be kept together without it (Favill, 1909: 96).

Another Union officer put it this way:

> Music exerts a great and secret power over us.... I have seen many a practical verification of this in the gathering freshness and quickness with which jaded men went on their march when the music called and cheered them. Besides, we want the Star Spangled Banner, and its melody, as allies against the Rebel seductions (Dwight, 1891: 196).

What's crucial here is music's multiple effects. Concurrent with drum and bugle calls to direct soldiers' bodies, other music played by other musicians was used to maintain or elevate soldiers' spirits–to the satisfaction of both officers *and* soldiers (Favill, 1909: 96; Rauscher, 1892: 264)*.* From the perspective of officers, musicking enhanced morale, and therefore effective military labor. From the perspective of the soldiers, musicking helped make military life bearable. Over and over, soldiers' accounts demonstrate how the playing and singing of patriotic songs, popular songs, songs about army life, and songs about home could bring amusement, comfort, or even joy. In this way, musical experience was at once highly social and highly individualized. On the social basis, music could be a means of strengthening the group, regulating physical behavior, and downplaying individual identity, while at the same time, on an individual basis, it could be a balm for alienation and a reaffirmation of the human. It is the interconnectedness of these binaries–*enactment of/resistance to* military structure, *functional/affective* musical effects, *individual/social* experience–from which the critical (and paradoxical) power of military music has sprung.

In today's military lexicon, music can be understood as a "force multiplier"–a military asset that amplifies the potency of other military assets. And lest the Civil War seem an outlier, the product of an unusually musical time, ample evidence from the United States' involvement in World War I affirms music's importance as an instrument for maximizing military labor. No one in the Great War said music alone could win the war, but many said it made a substantial difference. In 1918 General John J. Pershing, commander of the American Expeditionary Force (AEF), asked the prominent conductor Walter Damrosch to establish a school in Chaumont, France, where American band leaders and musicians could learn from their better-trained

French counterparts. Pershing wrote in his memoirs, "I was very desirous of improving the music of the bands throughout the A.E.F., particularly on account of its beneficial effect upon morale" (Boyer and James, 1996: 200). The *New York Times* left no doubt as to the military stakes: "The whole thing is justified on the score of military efficiency. General Pershing recognizes the vital part of music in warfare;...French musicians are to teach the Americans for exactly the same reason that French artillery and aviation experts have been training American soldiers" ("Better Band Music to Inspire Troops," 1918).

In fact, the American Expeditionary Force had many fewer bands than were active in the Civil War, but militarized music also had another manifestation of equal importance in World War I, and that was organized group singing. In order to enhance the production of spirited, disciplined soldiers and sailors and to promote wholesome behavior among the troops when off-duty–that is to say, to dissuade them from behavior that might lead to venereal disease–military officials instituted singing programs at every army and navy training camp in the United States in 1917 (Chang, 2001: 19-21; Brandt, 1985: 52-95). According to the book *Keeping Our Fighters Fit for War and After*, co-written by one of the officials in charge of this program, Raymond Fosdick, the War and Navy Departments believed in the "distinct military value" of singing because it enhanced military "efficiency." Few military textbooks discussed singing explicitly, Fosdick noted, but such books did "talk a good deal about morale and esprit de corps, on both of which singing has an immense influence." On this point, the book quotes Major General Leonard Wood, who acknowledged civilians' skepticism but insisted unequivocally on music as a military necessity. "It sounds odd to the ordinary person when you tell him every soldier should be a singer, because the layman cannot reconcile singing with killing," he conceded. Yet from the military point of view, he maintained, music was unrivaled in its power to affect morale: "There isn't anything in the world, even letters from home, that will raise a soldier's spirits like a good, catchy marching-tune." Simply put, "it is just as essential that the soldiers should know how to sing as that they should carry rifles and learn to shoot them" (Allen and Fosdick, 1918: 68-70, 73).

Civilian musicians from around the country were recruited to run the music program at each camp. These so-called "song leaders" then took various measures to encourage vocal music-making among the fighters-in-training as they saw fit, exchanging ideas and experiences in a newsletter, *Music in the Camps*. Meanwhile, to standardize this tool, the military distributed

500,000 copies of a pocket-edition songbook titled *Songs of the Soldiers and Sailors* in order that military personnel from different camps would know the same songs (Brundage, 1919: 12; Allen and Fosdick, 1918: 74). By and large, commanding officers welcomed the song leaders, based on the belief that singing would enhance military morale and discipline. In some instances, song leaders led entire camps in group "sings," as they were called, involving thousands of singing troops all at once. In other cases, song leaders worked with smaller groups to encourage singing at the company, battalion, or regimental level (Chang, 2001; Gier, 2014). A common feature of this discourse was testimony from some high ranking officer on the importance of singing (or, sometimes, music generally) for the conditioning of soldiers. Typical was the conclusion of Major General Hugh L. Scott of Fort Dix in New Jersey, which read, in part, "Singing…marching songs, …the soldier's mind is thus stimulated, and instead of thinking of the weight of his equipment or his physical weariness he develops a dogged and cheerful determination" ("Singing Meets War Needs," 1918).

Accounts of the song leaders appeared frequently in the civilian press, often with an explanation of why singing was essential for soldiers *as fighters* and not just for recreation. "Doubters decrease," wrote the novelist and military music advocate Owen Wister in the *New York Times*, but some people still needed convincing. He went on:

> These song leaders of army and navy camp music were also at first sometimes confused with the organizers of camp recreation….More and more clearly it is becoming understood that both activities…have their places….One is for entertainment…, while the other is strictly a military measure, and its object to make the soldier a better fighter (Wister, 1918).

Or, as an anonymous writer in the *Chicago Tribune* put it: "Music is a necessary part of the soldier's equipment – not his entertainment. It is more essential than that, although his entertainment is important enough" ("Music an Essential for Soldiers, 1918).

5. CONCLUSION

In the twenty-first century, the U.S. military no longer has group sings, but musicking remains an important part of military life. Transistor radios and cassette tapes in the era of the Vietnam War gave soldiers unprecedented control over music they listened to for entertainment and morale, apart

from official forms of musicking. Today, MP3 players and computers put more music at soldiers' disposal than ever before, which they can (and do) finely calibrate to their emotional needs. For one thing, from hard rock to hip hop, country to classical, soldiers have widely varying tastes. For another, soldiers can fine-tune their musical use according to their different responsibilities and schedules; thanks to earbuds and headphones, one soldier can be listening to high-energy music to get psyched up for going out on patrol while another nearby might be using very different sounds to help relax after a long shift (Daughtry, 2012; Daughtry, 2014; Daughtry, 2015; Gilman, 2016; Pieslak, 2009). At the same time, however prevalent this bespoke listening experience has become, more formal varieties of military musicking also persist, from the parading of marching bands to the blowing of reveille to the arranging of concerts for boosting troop morale.

Putting these practices in historical perspective shows the deep interconnection between music and state violence and the complex ways musical performance has been embedded in millennia of war-making. In one sense, this is straightforward. Happier, less frightened, less bored soldiers can be counted on to perform better, and music helps produce and sustain such soldiers. Because of military music's multiple, overlapping forms, functions, contexts, and effects, however, its impact on the efficacy of military force resists easy summation. Yet this complexity comes into focus as we recognize how military music erases simple divisions between active and passive involvement with the music; somatic and cognitive responses to it; and submission or resistance to its power. Prised apart, these issues reveal how music works as a force multiplier–an instrument to maximize soldiers' labor. Taken together, they can illuminate music's influence on the formation and cohesion of soldiers' emotional communities and on their individuated emotional management and, in this way, help us understand the relationship between sound and soldiering.

ACKNOWLEDGMENTS

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| Session #2

Sonário do Sertão: sound experiences in northeast Brazil

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Abstract. This research investigates a collection of sounds recorded in Pernambuco and Bahia. These sounds are an epistemic path for studies in communication and the foundation of research are the culture of listening, soundscape and sonosphere. The objective is to inventory sounds from the region, based on the affective, cultural and social importance of the sound imagery. We opted for the poetic reason, which provided us the procedures to be able to decipher and perceive the sound universe, from the elements brought by daily life, memory, ritual and religious practices and music. From the field immersion and from the analysis of more than a thousand archives, it was possible to sketch a panel of this imaginary, located at a sound database and available for access, research and enjoyment. From the sounds captured during the journeys, we could classify them in Memories and Narratives, Festivities and Tradition, Daily life and Landscapes. In the course of this paper, we intend to demonstrate, with the theoretical argument and the experience, that the cultural, artistic and individual formation of the involved communities anchors in the production and listening of sounds, having these as their main alliance with the present world and also with the virtual and invisible world.

Keywords: imaginary, sound, sertão, collection, sonário, communication

1. INTRODUCTION

This research arises from an artistic project of collection of audio archives[1] It started in 2016 and is based on a field experience and the sound recording in Bodocó (PE), Várzea Nova (BA) and Várzea Queimada (BA), regions of the Brazilian semiarid[2].

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1 The artistic project combines memory, intangible heritage with recording and recording technologies. It has several workshops, art residencies and sound installations. At the end of 2018, he was awarded with the Rodrigo Melo Franco de Andrade Award, from IPHAN, which recognizes projects that encourage, value and disseminate Brazilian cultural heritage. One of the results of the project is the Sonário do Sertão site and can be accessed in ttp://sonariodosertao.com/

2 The semi-arid region includes the states of Alagoas, Bahia, Ceará, Minas Gerais, Paraíba, Pernambuco, Piauí, Rio Grande do Norte and Sergipe. Most of them in Brazilian northeast, according to data from IBGE of 1990.

The initial interest of the research is made of the word "Sonário", a neologism that was elaborated during the process of the artistic creation. It is a notion that will guide us and embraces both words: imaginary and inventory. In the first possibility of reading "Sonário", there is an exchange of its root from "imagin" to "son", stressing a change of perspective, not in a totalizing intention, but rather instigating to reflect how the perception of sounds can be part of the collective and individual imaginary. The second one approaches to the notion of inventory and leads us to reflect on the formation of a collection that composes a cultural framework, bringing us closer to the immaterial patrimony possible to be inventoried when we look for the sounds of the sertão.

The main objective of the research is to inventory this collection of sounds from specific places and periods to delineate and compose a score of the sertão sound imagery that embraces cultural expressions and ancestral traditions preserved by a group of individuals for future generations. In our sound inventory, the knowledge, forms of expression, celebrations, parties, myths, songs and customs are presented through sound waves. For us, the importance of delineating a collection that reflects the imaginary sounds of the sertão is given because we understand that the formation of human beings, as cultural and community beings, has one of its origins in the sound experience, and the sense of hearing is one of its main allies. The immersion of the individual in the sonorous community to which he is part shapes the culture, individuality and world perception. To help us reflect on this, we dialogue with Norval Baitello Jr. (2005), Murray Schafer (1991, 1997, 2006), Peter Sloterdjik (2016) and Steven Feld (2012). From Baitello Jr., we will understand the "Culture of Listening" as a proposal to enter and sharpen the auditory perception; Schafer coined the concept of "Soundscape" that guides us in identifying the environment in which we find ourselves; Peter Sloterdik enters the construction of the "Sonosphere Communities" that are responsible for our first reception of the world and development of the group; finally, Steven Feld creates the study called "Acustemology", which refers to acoustics as epistemology, as the sound structure is important for thinking social structures.
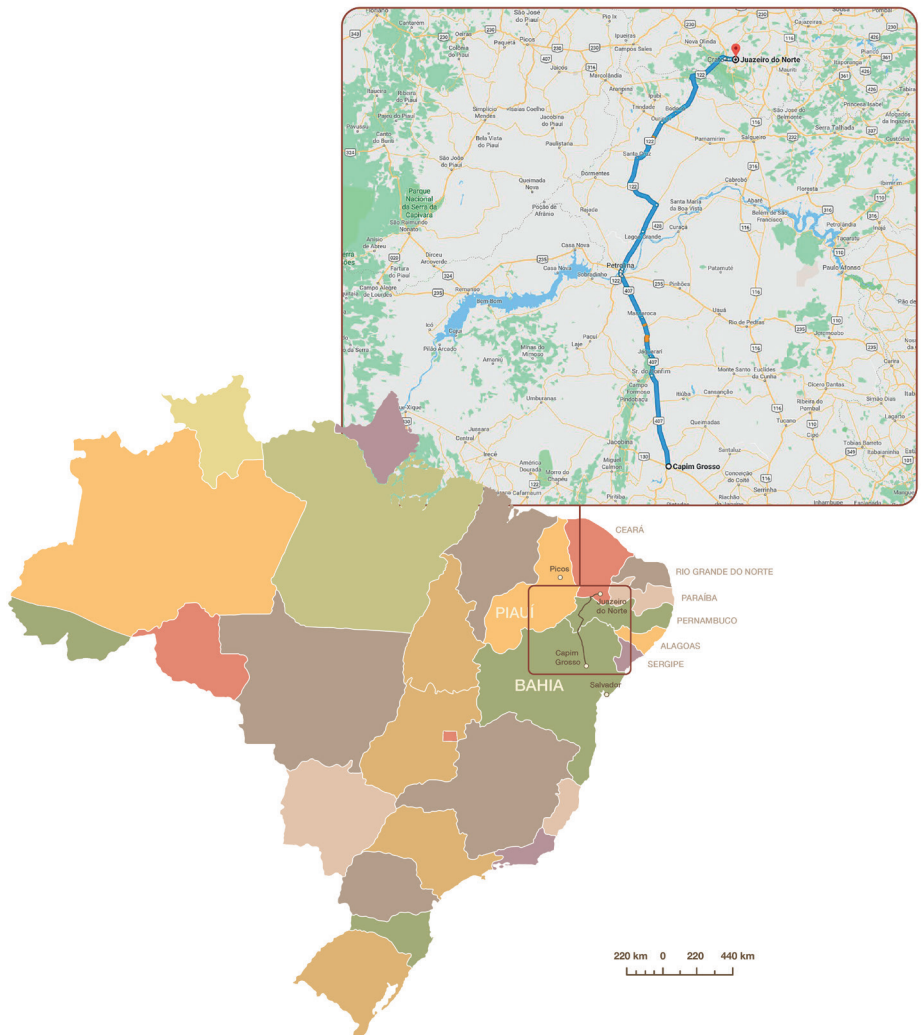
Fig 1: Map of the region where the research was carried out, including the state of Bahia and Pernambuco, in a route that is all in the Brazilian semi-arid Northeast.

Our intention with this research is to delineate the music or the score, and from it approach to the soundscape with all it sounds. This soundscape can be any "portion of the sound environment seen as a field of study" (SCHAFER, 1997: 366) and may refer to "real environments or abstract constructs" (SCHAFER, 1997: 366). We are interested in a notion of landscape

closer to experience. We believe that there is an active relationship with the experience, perception and conception of this soundscape. This would make of soundscape a portion of environment in direct relation with the experience of a community, that in this case we call the sonospheric community.

The listening and acoustic experiences are the main foundations of our research methodology, along with other methodological inspirations that were added to the process. We bet on intuition, as well as memory, both as fluid and intense as sound waves, to guide the research. We chose the path of "poetic reason" (CASTRO, 2014) that provided the procedures to decipher or perceive the sound universe of the "sertão", not discarding its magical reality, its myths, dreams and spirituality. The displacement of the body to the "sertão" is also a part of the methodological movement: this research would not make sense if there were no such displacement. Sounds are the encounter of the ear and body perception with the sound waves that only exist in a specific "space-time", either by the acoustics of the place, or by the cultural existence of these sounds. There is an adaptation that the ear performs, a training of the ear of one who leaves one region and goes to another. This ear can hear nothing at first and gradually become used to the tone, the sonorities, the acoustic events of the new place, what makes the research a corporeal, sensitive relationship. According to Schaeffer (1993), only frequent listening improves the ear, so we can't evaluate the first listening and say that it is scientific, it reflects the functioning of the hearing, which is psychoacoustic.

The inventory process, beside being crossed by experience, also went through a selection, clipping and cataloging. The research has a total of 1242 sound archives, recorded by the researcher and by other participants. From this, 646 archives were selected and cataloged to become the "Sonário do Sertão" collection. This catalog is formed by "Daily Life", "Memory and Narratives", "Festivals and Tradition" and "Landscape".

To read the next chapter, we suggest listening to the sounds found on the link bellow: https://soundcloud.com/sonario-trotoar/sets/os-sons-dos-grilos-chegavam-em

2. THE SOUNDS OF CRICKETS CAME TO US LIKE AN ARROW

The sounds of "sertão" surround us like the sea. The "sertanejos" and the "sertanejas"[3] that we find during the research reinforce and teach us that

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3 Word to reference people that live in "sertão".

the permanence in the sertão, the existence and the experience are only possible when we perceive and are surrounded of its sonorities.

First os all, we will understand a little of the "sertão" we are talking about. The etymology of the word "sertão" says that:

> the word was already used in Africa and even in Portugal. It had nothing to do with the notion of 'desert' (aridity, dryness, sterility) but rather with 'interior', far from the coast: therefore, the sertão may even be formed by forests, as long as they are removed from the sea . [...] The word was written more often with c (certam and certão) [...] than with s. [G. Barroso] will find the correct etymology in the Dictionary of the *Bunda Language of Angola*, by Frei Bernardo Maria de Carnecatim (1804), where the entry of the *mulceltão*, as well as its corrupt *certão*, is given as *locus mediterraneus*, that is, a place at the center or in the middle of the land. Moreover, in the original language it was synonymous with 'bush', meaning correctly used in Portuguese Africa, only then expanding to 'bush far from the coast'. The Portuguese took the word to their homeland and soon brought it to Brazil, where it had a long life, application and literary destiny. (BOLLE, 2004: 48)[4]

In Grande Sertão: Veredas (ROSA, 2006), the etymology loses its importance to the psychological dimension of the "sertão". Riobaldo, the protagonist and narrator, tells to his interlocutor that the "sertão is inside the people" (ROSA, 2006: 309). In the novel, Riobaldo traces various notions of "sertão" and all of them have territoriality and spirit notions, whose material definition can't be reached. We stay with the greatness of the presence that the "sertão" has in the people. The sertão of this research is at the interior of Bahia and Pernambuco, in the center of the northeast, far from the coast. In Pernambuco, at the city of Ouricuri, "sertão", we find the saying: "you are in the middle of the world, 600 KM separate us from all the capitals of the Northeast." It is not known for sure if this information is proved, but this is the feeling: to be in the middle. And this "sertão" is formed of feeling, location, vegetation, memories and sonorities. But how can we listen to a "sertão" that is inside and that does not leave us? Guimarães Rosa himself gives us an answer in "Buriti": "the 'sertão' is at night" (ROSA, 1965: 84), when perceiving the amount of sounds we can hear while everyone sleeps. There are also answers in Grande Sertão: Veredas (2006) about the "sertão" that sounds on celebration times, "sertão" with and without the rain, "sertão" of silence, emptiness and solitude: "in the 'sertão', even a simple burial is a

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4 Our translation.

party", and, finally, the "sertão' is the loneliness" (ROSA, 2006: 309). And this loneliness resonates too.

Sound is directly connected to space. It is a mechanical wave emitted by a source and it will have acoustic characteristics of the space through which it travels. This is how physics defines to us. Sound propagates predominantly omnidirectional[5], touching everything that lies ahead, and can even make those obstacles vibrate. So much it affects what touches, and also it is affected by the space, the obstacles, by the "color" of the acoustics of the places. Chion coined the term "sound territory", referring to the sound characteristic that marks a place, a particular space (CHION, 2011). Rather than containing the acoustic characteristics of space, we will see with Schafer that it is formed by the characteristics of natural geography, climate, experience and perception (SCHAFER, 1997). Schafer talks about the symphony of birds, typical of each locality. Riobaldo questions this in *Grande Sertão: Veredas*, would the birds be different according to the place or are we, that along the time, hear distinct?

> You did not hear, every night, the song of the "mãe-da-lua". You can not establish my sadness "quinhoã". Even the birds, depending on the places, are very different. Or are the times crossing us? (ROSA, 2006: 402).[6]

Soundscape is the term coined by Murray Schafer (2006) derived from the word Landscape: "I call soundscape to the acoustic environment and by that term I mean the total sound field, wherever we are"[7] (SCHAFER, 2006: 12). His research is important, among other reasons, to define the sound as a field of study. The soundscape, according to Schafer, is composed of all its elements sounds of natural, human, industrial or technological origins. Also, according to Schafer, "the most vital musical composition of our time is being performed on the world stage" (SCHAFER, 1991: 187). According to John Cage's definition that music is "the sounds around us, whether we are in or out of the concert hall" (Schaffer, 1991: 187), Schafer reflects that the world song is composed by the sonorities of the environment.

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5 There are several patterns of propagation of waves. The omnidirectional pattern refers to propagation in all directions; the unidirectional, one direction; The directionality depends on the length of the wave, the smaller the sound wave is, the higher the pattern in one direction. As the sounds are complex, the wave propagates to all sides.

6 Our translation.

7 Our translation.

In his book *The Tuning of the World* (1997), Schafer defines systems for analyzing the soundscape. It identifies the fundamental sounds, signals and sound marks[8], he also presents archetypal, magical or mysterious sounds, full of symbolism and inheritances, which are often rescued by memory, if they no longer exist around. From the sounds recorded, spoken and recalled by the field research, we will find in this paper sounds of night and dawn, work chants, such as "aboio", either in the fields or in the cattle; sounds of wounds, memories and narratives, remembered and sung by elders who carry in their voice the history of their places; sounds of festivals and traditions, Catholicism and "Candomblé". We will also find those archetypal sounds, like the song of the owl "rasga-mortalha" that is supposed to sing to announce the death of the one that hears it. These mysterious sounds connect and bring us closer to the invisible world that escapes this reality, communicating with other worlds while permeating everyday life in this gap between the visible, the concrete and the real.

The connection of the invisible with the visible realized by the sound, by the force of the word, of the music, of the drums is one of the greatest "in between" that the "sertão" brings to us, but we can also identify others. The "in between" art and daily affairs, mediated by sounds: the farmer harvests and plants words, the "sertaneja" is poet[9]. The separation between life, work and art does not exist. These are all mixed at daily and transcendental encounters. And we can say that one of the strongest elements that allows this mix is the sound. Sound permeates all stages of life and connects what we see to what we feel, what is visible when it sounds, what we cannot see and can imagine. Thus, it is possible to speak of the songs of works, inspirations, collective work transforming into a "samba" party that lasts until the next dawn.

Expanding the senses at this same path, Berendt (1997) suggests "to renounce the habitual pattern of visible and superficial behavior. What matters is listening to inaudible sounds, experiencing the invisibility of colors, the visibility of sounds, the audibility of colors" (BERENDT, 1997: 50). That

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8 "Fundamental sound is a musical term. It is the note that identifies the scale or tonality of a given composition" (SCHAFER, 1997: 26). In the case of the soundscape, it would be the sound created by geography or climate and is not necessarily consciously heard. "Signals are detached sounds, consciously heard. (...) need to be heard because they are acoustic resources "(SCHAFER, 1997: 26). Finally, a sound mark "refers to a sound of the community that is unique or possesses certain qualities that make it especially significant or noticed by the people of that place" (Schaffer, 1997: 27).

9 Poetry has an additional importance when mixing words with sonorities. Sometimes poetry doesn't need to make sense beyond the sense of sound. The verses, the songs and the stories in the "sertão" are poems.

means to transcend and to feel. Let these sounds, which guide us as spirits, be our connections and our disconnection with the visible world and the invisible. Norval Baitello (2005), in A era da Iconofagia, presents us the contemporary culture and society prioritizing visuality and visibility over the sonorous. We give more importance to what we see and what can be recorded visually, than to what is heard, spoken or recorded, if these are sounds. Alongside this importance, there is also the velocity of creating images. The speed of light, and the speed which several images are created, propagated and disappeared, allows an image to reach us more quickly (the sound travels from its source until it is perceived by some membrane in a slower way[10]) and discarded the next moment. We are thus bombarded with innumerable images that reach us in a time "shorter and much faster than the time of hearing, the flow of hearing" (BAITELLO JR, 2005: 101)[11]. This allows us to establish a temporality that, in its duration, makes us connect with the other, with the world around us, with what is spoken and what is heard. Thus, Baitello Junior refers to the "Culture of Listening" and we will perceive the soundscape of the "sertão" with this time to experience "a new development of human perception for deep relationships, for deep connections, for the senses and for feeling." (BAITELLO, 2005: 108)[12].

According to Berendt (1997), the possibility of living harmonic with nature, including its inaccuracies and uncertainties, opens a way for the search for this vibration, which follows the flow of nexus, listening and speaking time. The soundscape of "sertão" is seasonal because it sounds in agreement with the cycles of the corn and the bean culture, also varying in the period of the dry and the rains. It has its most intense sonority in the harvest period, when we hear all the houses "knocking on the grain", the threshing and preparation of the food to "explode" in commemoration of saints, with fires, prayers, songs and "forró"[13]. During the preparation of the land, people gather to chant, rhythmically, periodically. When the trees are full of fruits, birds come to dawn the "sertão", a season of parties in the trees, in the places, in the houses. These times are not accelerated, the bond with land just happens in this meanwhile, in the sounds that are made and are heard between a season and another, between day and night. The "Agriculture of Listening" respects this time and develops the connection.

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10 It is known that the speed of sound is approximately 340 m/s. Already the speed of light is almost 300 million m/s, which in our body perception is equivalent to the snapshot.

11 Our translation.

12 Our translation.

13 Rythm of music from the Northeast of Brazil.

This soundscape involves the inhabitants of "sertão" and it is from this that they interact with the world, in the world, being the world. Sloterdijk (2016), in his reflection of human beings as inhabitants of spheres, treats the sound sphere as an important mediation of the inner world: "it is the constitutive sound community that integrates humans into a non-objective mutual ring accessibility. Intimacy and publicity have in the hearing the organ that interconnects them" (SLOTERDIJK, 2016: 470)[14]. Hearing is the first sense we develop as human beings, still in the womb. The vision only is improved after a few months after born. "In the course of these investigations of human hearing and its evolution, it has been established, beyond any doubt, that children already listen remarkably well inside the uterus, thanks to the early development of the ear" (SLOTERDIJK, 2016: 454)[15]. As a listener, the child is already included in this space and in the present time. The fetus is immersed "in the delicious sound that becomes audible from the maternal voice, in its frequencies of greeting directed to the life that arrives" (SLOTERDIJK, 2016: 458)[16].

The term used by the author is important to understand this sonosphere: integrate. Having the hearing as the first sense to form us as members of a group, we already participate in this world. This importance continues in the course of growth and the belonging to a place. We are immersed in these sounds early, and however much we seem to move away from it, by the exacerbated mastery of visuality, we continue to be made up by sounds. These make us what we are. Each of us is the sonority that surrounds us.

Thus, in the "sertão", it is possible to perceive, listen and record what Sloterdijk calls the "acoustic dome that covers the whole group"[17] (SLOTERDIJK, 2016: 470), the dome being the "Sonário do Sertão", and the group, people from Várzea Nova (BA), Várzea Queimada (BA) and Bodocó (PE).

To listen to the next chapter, we suggest listening to the sounds found on the link bellow: https://soundcloud.com/sonario-trotoar/sets/experie-ncias-e-imagina-rios

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14 Our translation.

15 Our translation.

16 Our translation.

17 Our translation.

2.1 Sound Experiences

2.1.1 The wind – dialogues with the invisible

Sound is an invisible element that travels through the air without anyone seeing it and we only notice when it touches objects, the tympanum or the skin itself. Like sound, with its invisible waves, the wind is only perceived when it moves something and sounds: "The wind is an element that takes hold of the ears vigorously. The sensation is tactile as well as audible"[18] (SCHAFER, 1997: 43). "But, without objects that stand in its way, the wind makes no apparent movement" (Schaffer, 1997: 44) and continues: "Of all objects, the trees give the best indications, shaking the leaves, from here to here, while the wind strokes them"[19] (SCHAFER, 1997: 44).

The wind is a constant in the "sertão". Few buildings, low trees and a field that extends are the landscape propitious for the wind. If it does not come, in Bodocó (PE), it is only to whistle that it appears. Far away we listen a rattle, it's an animal that moved or the wind hit a bell on the threshold of a house. It is the wind that, when it changes course, brings the sounds. This soundscape is identified by Schafer as a favorable signal-noise ratio because "separated sounds can be clearly heard due to the low ambient noise"[20] (Schaffer, 1997: 71). This is how we can hear the rattle far away, as in the "sertão" of Guimarães Rosa: "Even, the space is so quiet, that there is the whispering of midnight at nine o'clock. I heard a noise" (ROSA, 2006: 98).

Various cultures throughout the world divinize the wind as the initial breath of life: the air moving from the lungs of one or more gods was the primordial sound that created humanity. "Whenever God revealed himself to human beings, He was heard (...). Ears are the access to the receiver"[21] (BERENDT, 1997: 21). Like the "Buriti Grande" of Guimarães Rosa, "where the winds are sown" and where life arises (ROSA, 1965).

Also blowing, the Kariri[22] used the "buzo", made of shell, to communicate

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18 Our translation.

19 Our translation.

20   Our translation.

21 Our translation.

22   Cariri or Kariri is the general name given to the ethnic groups that lived in the region of "Sertão do Cariri", which includes the interior of Ceará, Pernambuco, Paraíba, Alagoas, Sergipe and Bahia. It is currently an extinct linguistic family.

with Gods. The Pankararu[23], which inhabits a nearby region, until today in their rituals and ceremonies uses an instrument made of bamboo, also called "buzo", in their "toantes"[24]. In a conversation at the yard of Dona Cici and Seu Zé de Citonho, a group of people, among children and elderly people, talked about the past. They tell stories. Of a sudden, Dona Alaíde gave a shout of astonishment when they spoke of the "buzo": "If I found a way, I would make it easier for me to never hear that sound in the middle of the world". Everyone began to explain what the "buzo" was: an instrument made from ox horn and used to blow and communicate. It has a higher sound than that of the "berrante"[25], a familiar instrument of "sertanejo" to deal with the ox. It was used to call people to the funerals during the time of Dona Alaíde and reminded her of her mother's death, that's why her shock and reaction during the conversation. For Dona Cici, it was the way to call people from the fields to have lunch. Vani and his brothers also remembered that in their childhood his mother played the "buzo" to call them to come home when they were playing at the neighbors' house.

The same name and the same instrument with some changes and several meanings and uses. A series of affective, divine and everyday relationships with this magical sonic object. The sound of the "buzo" also refers to the sound that precedes sense, not vocalized in words, but with its enchantment marked by sound and sensation, rather than by the logical and rational sense (SLOTERDIJK, 2016). The "buzo" can be connected to a mantra, "primeval sound and symbol of the archetypal character of the word"[26] (BERENDT, 1997: 40), and which undergoes continuous transformations in the history. From communication to Gods into a warning sign. We can think of the similarity with mermaids' songs. The "mermaid effect" would be that song that approaches the mythological, the magical, the touching of each being and that moves and hypnotizes, even leading to death. In the case of Ulysses' odyssey, "there is a strange music in the world, against which we should be kept; for, as mythologies imply, these sounds do not lead the hearer to himself, to his own good, but to death far from his homeland"[27]

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23 The Pankararu are a Brazilian indigenous group that lives near the middle São Francisco river.

24 Music played by the Pankararu and also means 'what sounds good and rhymed'.

25 It is a horn made of horns of ox or other animals. It is a kind of horn used since ancient times by shepherds. In Brazil, the practice was inserted by cowboys to call the cattle in the field or in the transport through the committees.

26 Our translation.

27 Our translation.

(SLOTERDIJK, 2016: 439). This "force made music"[28] (SLOTERDIJK, 2016: 444) was what the mermaids sang, and became the source of sounds as warning signs, sirens (police, ambulances) and alarms. Those sounds are impossible to unnoticed and psychoactically triggers our body to alert, they take us away from the unconscious absorption of everyday sounds and brings us to mindfulness. Just like the sound of the " buzo".

In addition to the divine presence, the vocalization that "vibrates through the word, becoming perceptible through acoustic communication" (SPINOLA, 2016: 68) and in other sounds "of communication, independent of the word "(SPINOLA, 2016: 69) that we encounter with the invisible world. In "sertão", we will find religious songs besides the healing prayers, to communicated with the invisible world.

This is how sonorities travel their way back. We communicate by sending back to this mythical place the requests and thanks, through prayers and songs. Analyzing the power of words in Guimarães Rosa, Gabriela Reinaldo talks about the "voice of divinity, inaccessible to the planes of reason" (REINALDO, 2005: 128). This encounter with the invisible occurs through the sounds we hear at the Cariru[29] festivities, in the religious songs and prayers in the "sertão". In a constant and cyclic mantra, we rise to such a point until we reach silence again. This communication can be done in the intimate and solitary space of a particular prayer, but often it has in its collective space and on special dates its greater effectiveness, as it is in Cariru. It cand also depends on people who potentiate this encounter with the invisible, such as Xaxá, Dona Maria, Lena, Dona Bidu and Seu Joaquim, prayers from Bodocó (PE) and Várzea Queimada (BA).

Memory and oral history were told around the fire, so that the whole community could imagine ancient moments and enormous myths. Their greatness and symbolic efficacy are in the words used, but also in the mix of sound and meaning. The voice carries a materiality in its sonorous characteristics, intonation, accent and ability to narrate. All these elements influence the magic of its power and its effects go beyond communicating. In this conversation, meaning escapes us and therefore we come into contact with the real language, the pure phonetics, "flow of the heat of the viscera, warm breath of the voice, the will to say (...) when the word is no longer occupied to communicate the useful, but the essential"[30] (REINALDO, 2005:

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28 Our translation.

29 Name of the festivity to the saints Cosme and Damião, common at Bahia.

30 Our translation.

55). The group around Seu Joaquim, the elder of Várzea Queimada (BA), brings all these elements of the strength of his voice and also of his mythological memory, with a "cultural repertoire of invocations, greetings, songs, dances, food, legends, parabolas, cosmological symbols"[31] (SODRÉ, 2017: 95) and all the sonorous imagery of the "sertão". Seu Joaquim, Dona Alaíde, Dona Mira, Lena, Dona Joaninha, Dona Bidu think and live with sounds. Their speeches are composed of "piriripiriripiriripiriri" of Dona Alaíde; Lena softens the words and speaks slowly when tells us about the Cariru and Seu Joaquim says singing at the cassava work.

2.1.2 The birds, a daily and magic conversation

The wind and the blow in the "buzo" remind us of the prehistory of sounds. On the prehistory of human speech, there are several theories that locate the transition of the verticality of homo sapiens as the main influence (BAITELLO, 2005). From the release of the glottis with this new position, the articulation of the word began to be developed. It is also believed that the ancestry of the voice was the need for distance communication. In order to communicate in close proximity, the gestual had extreme effectiveness, but to overcome obstacles (trees, forests, rock formations, etc.), this ancestor of the human being used shouts to be able to communicate and alert others at a more pronounced distance. According to Baitello, there is a more poetic hypothesis which he prefers: "the ancestor of the man observes the birds and begins to imitate them"[32] (BAITELLO, 2005: 103). The relationship of human communities with birds has already been the object of research and analysis of several researchers. In the cultural tradition of the Kaluli[33] (FELD, 198), sound, more precisely that of birds, forms a cultural system in which one can, from the analysis of modes and codes of communication, understand the ethos and quality of life of that society. During the research, we made some approximations of the relations of the sertanejos with the sonorous universe and as they also tell us about their symbolic and cultural system.

Birds in the "sertão" never stop singing, they wake up earlier than other animals and are the last to sleep. They announce the day, announce rain, announce drought, announce arrivals. It is not known whether because of the proximity of the birds to the ancestry of human speech or the wonder caused by their singing, but they have become the communicators who most dialogue

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31 Our translation.

32 Our translation.

33 People from Bosavi, on the island of Papua New Guinea, Oceania.

with the "sertanejos" and "sertanejas". According to Schafer, "no sound of nature has been as affectively linked to human imagination as the vocalizations of birds"[34] (Schaffer, 1997: 53) and associates songbirds with the human experience of producing sounds: alert sounds, sounds of pleasure, delimitation of acoustic space. Perhaps the mermaid's song in mythology leads to its archetypal image, the primitive scene: mermaids in some representations were women in bird bodies who charmed, seduced, marveled, moved and even killed, all from the emission of vocalized sounds (SLOTERDJIK, 2016).

To relate to the birds, the houses of the "sertão" are surrounded by fruit trees. In this way, in the time of fruits, the residents are awakened with songs to cheer and delight their day. According to Schafer, choosing the sounds in surroundings is part of an empowerment of the soundscape (SCHAFER, 1997), he calls this planning "creating a sound garden" in his environment. The planting of fruit trees around the house is a common practice in the "sertão": the fruit attracts birds and allows people to hear their sounds, pleasantly the soundscape. In Sound and Sentiment (FELD, 1982), when analyzing the sound habits of the Kaluli, inhabitants of Papua New Guinea, Steven Feld states that birds demarcate the social space, so they are never hunted near the villages. The presence of the birds, the trees and their sounds is important to the Kaluli because they believe they are the spirits of their ancestors. In the "sertão" soundscape, it was also possible to identify many similarities to this practice and we perceive that the presence of bird sounds also functions as demarcation of social space, definition of daily actions and relation with the mythical world.

The relation with birds connects to the magical aspects of daily life. It was common for people from the "sertão" to associate bird songs to interpretations of the future. The sounds of birds near midnight deserve special attention. Rooster singing can only happen "high night", because singing "early night" is not a good sign, it means death or betrayal. Also hen cannot sing with the sound of a rooster, it also brings a bad presage. In Grande Sertão: Veredas, Riobaldo encounters an owl on his way: "I saw an owl - but a little owl; and the only omen is in the middle of the night, when it gives way to laughter"[35] (ROSA, 2006: 505). Thus, Riobaldo follows course, without being struck by the omen that could have meant this sonorous meeting if it happened at midnight. In Várzea Queimada (BA), there are sounds that make people change the way when they come across them: the "Rasga-mortalha" owl sings to those who

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34 Our translation.

35 Our translation.

are going to die and the howling of a dog in the middle of a road. One of the residents of Várzea Queimada (BA) and participants in this research, Jaiane Jesus, said that when she hears the howl the dog she changes her path and takes a longer turn to reach her destination. Everyone agreed that it was a blessing we could not record the owl, something bad could happen to our lives. Same luck did not have Riobaldo, listening to the howling of a dog at midnight, moments before the final battle with Hermógenes:

> Late at midnight. The moon was already very low, the hill and bush mixed. I looked around. Everyone sleeping. Only the bush dog, coming out from under the silences, and an ô-ô-ô of Urutau, very sad and very loud. Then I heard the whole howl of a dog. The companions all sleeping, awake only me, raised up at night. It weighed my heart. Did I desserve that wicked dog? Sad idea, that came to me. Why was it that only I had woken up, so before all of them? (ROSA, 2006: 560)[36].

In order to listen and perceive the warnings and the communication with the birds, attention to the silence as a state of mind is necessary, it is necessary to practice the "culture of listening", it is necessary the stillness that allows us to perceive the sounds around. This silence can be found in the backlands when Seu Zé de Citonho sits in the late afternoon under one tree and listens quietly to the song of the animals. From listening, one can go to the imaginary of the formation of a daily and magical sense, which organizes, in some way, the experiences. In the case of Seu Zé de Citonho, he waits patiently and with much patience for the birds to calm down. While they are distressed, he does not come out under the tree. These animals are part of the company; the presence and the care must be of all orders, not only feeding, but also to accompany them respecting and listening to their sounds, their signs and their warnings. But as much as we try to perceive and understand the signs of the birds,

> whatever the birds are communicating, their vocalizations are designed for their own benefit and not ours. Some men may discover their codes, but most will be content only to hear the extravagant and surprising symphony of their voices. Birds, like poems, need not mean, but to be. (Schaffer, 199: 56)[37]

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36 Our translation.

37 Our translation.

3. CONCLUSION

The encounter with the sounds of the "sertão" eas made from intuitions that were understood, evaluated and repositioned at every step, every sound and every connection that we were doing during the research. In this way, we arrive at a sound collection that allows the open, allows new interpretations and choices. We did some of them in an attempt to lead the reader to sound immersion.

The "sertão" that sounds in this paper is not homogeneous, despite its proximity and resemblance. In Bodocó (PE), the dawn was called by the Cardinal-Northeast birds. The scratched voice of Xaxa made us aware of all the religious ceremonies celebrated in front of the altars. And in the distance, the "buzo" was still heard in a sound echo of other times, but that reverberated in the memory of the "sertanejos" and "sertanejas" of Pernambuco. Várzea Nova (BA) presented its sambadores, together with the concern that many are dying, with the desire to record this immaterial patrimony. Mixed with the sound of the hoe, our ears listened to songs of work, with a small number of participants, wondering how it would sound when it was formed by one, two or three hundred men in the field singing. Seu Joaquim, in Várzea Queimada (BA), counted the sounds in his tales, with his old and strong voice. However, the wheel of the mechanized flour house, the death of singers and the preayers, the animals that are quieter, worry some of them. Dona Cici, from Sítio Bom Lugar, regrets that sounds end up being "scrambled" today because the "bugs are confused with so much change in our society, but before was much more accurate, both the reaction of the animals and the attention in them ". Also Dona Bidu, from Várzea Queimada, reported that, besides sounds that evoke healing, it was important to avoid some sounds to reach her age. Today people are all "crazy" because the times are changed. Then the chants of work are being emasculated by the motor of the cassava wheel, producing the same that was produced before with only three people. Be it mechanized or manual, the flour produced continues to feed everyone, including the saints at the festivity of Cariru. The soul is also nourished with prayers and songs. "Who has caboclo has singing and who has singing wants to dance," Dona Lena concludes even before the Cariru begins.

In the course of this research, we hope to have demonstrated, with the theoretical argument and the experience of listening to the sounds, that the cultural, artistic and individual formation of the communities is anchored in the production and listening of the sounds, having these as their main

alliance with the world and also with the virtual and invisible world. The imagery of these sonospheric communities can be called Sonário and this can be a guiding thread for other researches. We emphasize that the experience of capturing and meeting with the sounds made this project possible: immersion in the field and the realization of training and exchange workshops should be appreciated, as they have generated satisfactory results. Betting on intuition and memory are methodological foundations that, if unable to be measured quantitatively, are important for a research that depends on the sensitivity to create. Like a shiver or feeling the sound as a touch, as a massage, this sensitivity of intuition can take us to the depth that is the skin itself and that set us moving in the "sertão" soundscapes. The ethnographic encounter with these spaces and sounds brought not only a development of the academic formation of the research, but also a deep personal transformation, characterized mainly by the possibility of listening, learning and vibration together with the sounds.

We could not imagine the possible ramifications of the research. In the course of it, the objectives and the initial interests were expanded, sometimes discovering that in order to reach them, it was necessary to take other paths and thus to create new perspectives. The project for the formation of a collection and dissemination of the heritage provided the creation of a sound database, available virtually free of charge, for the use of academic researchers, cinematographers, musicians, teachers and general public. Since its launch, the site has already had more than three thousand access and we plan to start with its spanish and english version.

This research is not meant to close and end, but we can say that we have come to some conclusions, which have been exposed here. The sounds reverberate in space, and even though we are no longer able to hear them, they are still present in memory. We do not mean by this that it is an infinite search, but that it opens possibilities and that we can ot close doors, but open windows. And when all these sounds end, others will come, because silence only exists as a choice and a sentimental experience. A silence until the next sound draws us out like a siren song and leads us to another path, like the dog's howling at midnight, pushing us off for another sound trip.

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Sonário do Sertão: experiências sonoras no sertão nordestino

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Resumo: Esta pesquisa investiga um acervo de sons captados nos sertões de Pernambuco e da Bahia. Estes sons são um caminho epistêmico para os estudos na comunicação e os alicerces da pesquisa são as noções de cultura do ouvir, paisagem sonora e sonosfera. O objetivo é realizar um inventário de sons da região, a partir da importância afetiva, cultural e social do imaginário sonoro. Optamos pelo caminho da razão poética, que forneceu os procedimentos para decifrar e perceber o universo sonoro do sertão, a partir dos elementos trazidos pelo cotidiano, pela memória, nas práticas e evocações religiosas, ritualísticas e nas músicas. A partir da imersão em campo e da análise dos mais de mil arquivos foi possível esboçar um painel deste imaginário, que se encontra no banco de dados formado e disponível para o acesso, pesquisa e fruição. Dos sons captados durante as viagens pelo sertão, pudemos classificá-los em Memórias e Narrativas, Festas e Tradição, Cotidiano e Paisagens. No decorrer deste artigo, pretendemos demonstrar, com a argumentação teórica e a experiência trazida da coleta dos sons, que a formação cultural, artística e individual das comunidades envolvidas se ancora na produção e na escuta dos sons, tendo estes como sua principal aliança com o mundo presente e também com o mundo virtual e invisível.

Palavras-chave: imaginário, som, sertão, acervo, sonário, comunicação

1. INTRODUÇÃO

Esta pesquisa surge de um projeto artístico de formação de acervo de arquivos sonoros[1]. Sendo realizado desde 2016, é baseada em experiências de campo e coleta de sons, numa imersão auditiva, mas também na análise dos sons capturados em três meses de pesquisa em Bodocó (PE), Várzea Nova (BA) e Várzea Queimada (BA), regiões do semiárido[2] brasileiro.

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[1] O projeto artístico combina memória, patrimônio imaterial com tecnologias de registro e gravação. Possui várias etapas que incluem oficinas, residências artísticas e instalações sonoras. No final de 2018, ele foi agraciado com o Prêmio Rodrigo Melo Franco de Andrade do IPHAN que reconhece projetos que incentivam, valorizam e divulgam o patrimônio cultural brasileiro. Um dos resultados do projeto é o site Sonário do Sertão e pode ser acessado em http://sonariodosertao. com/

[2] A região do semiárido inclui os estados do Alagoas, Bahia, Ceará, Minas Gerais, Paraíba, Per-

O interesse inicial da pesquisa versa entorno da palavra "Sonário", um neologismo que foi elaborado durante o processo de criação artística. Ela se tornou uma noção que nos guiará e que abarca tanto a palavra imaginário, quanto inventário. Na primeira possibilidade de leitura de "Sonário" há numa troca de sua raiz de "imagin" para "son", tensionando uma mudança de perspectiva, não numa intenção totalizante, mas sim instigadora de refletir o quanto a percepção de sons pode fazer parte do imaginário coletivo e individual. A segunda se aproxima à noção de inventário e nos leva a refletir sobre a formação de um acervo que compõe um arcabouço cultural, nos aproximando ao patrimônio imaterial possível de ser inventariado quando nos debruçarmos pelos sons do sertão.

O principal objetivo da pesquisa é inventariar esse acervo de sons colhidos em locais e períodos específicos para delinear e compor uma partitura do imaginário sonoro do sertão, que abarca expressões culturais e tradições ancestrais preservadas por um grupo de indivíduos para gerações futuras. Nesse nosso inventário sonoro, os saberes, as formas de expressão, as celebrações e as festas, lendas, músicas e costumes, estão apresentadas através de ondas sonoras captadas. Para nós, a importância de delinear um acervo que reflete o imaginário sonoro do sertão se dá pois entendemos que a formação dos seres humanos, como seres culturais e comunitários, tem uma de suas origens na experiência sonora, sendo o sentido de audição um dos seus principais aliados. A imersão do indivíduo na comunidade sonora a qual ele faz parte é moldador da cultura, individualidade e percepção de mundo. Para nos ajudar a refletir sobre isso, dialogaremos com Norval Baitello Jr. (2005), Murray Schafer (1991, 1997, 2006), Peter Sloterdjik (2016) e Steven Feld (2012). De Baitello Jr. vamos entender a "Cultura do Ouvir" como proposta para adentrar no sertão e aguçar a percepção auditiva; Schafer cunha o conceito de "Paisagem Sonora" que nos guia na identificação do ambiente em que nos encontramos; Peter Sloterdik adentra na construção do indivíduo para vinculá-lo a "Comunidades Sonosféricas" que são as responsáveis pelo primeiro acolhimento no mundo e desenvolvimento do pertencimento a um grupo; finalmente, Steven Feld cria o estudo chamado "Acustemologia", que se refere à acústica como epistemologia, sendo nesta a estrutura sonora fundamental para pensar as estruturas sociais.
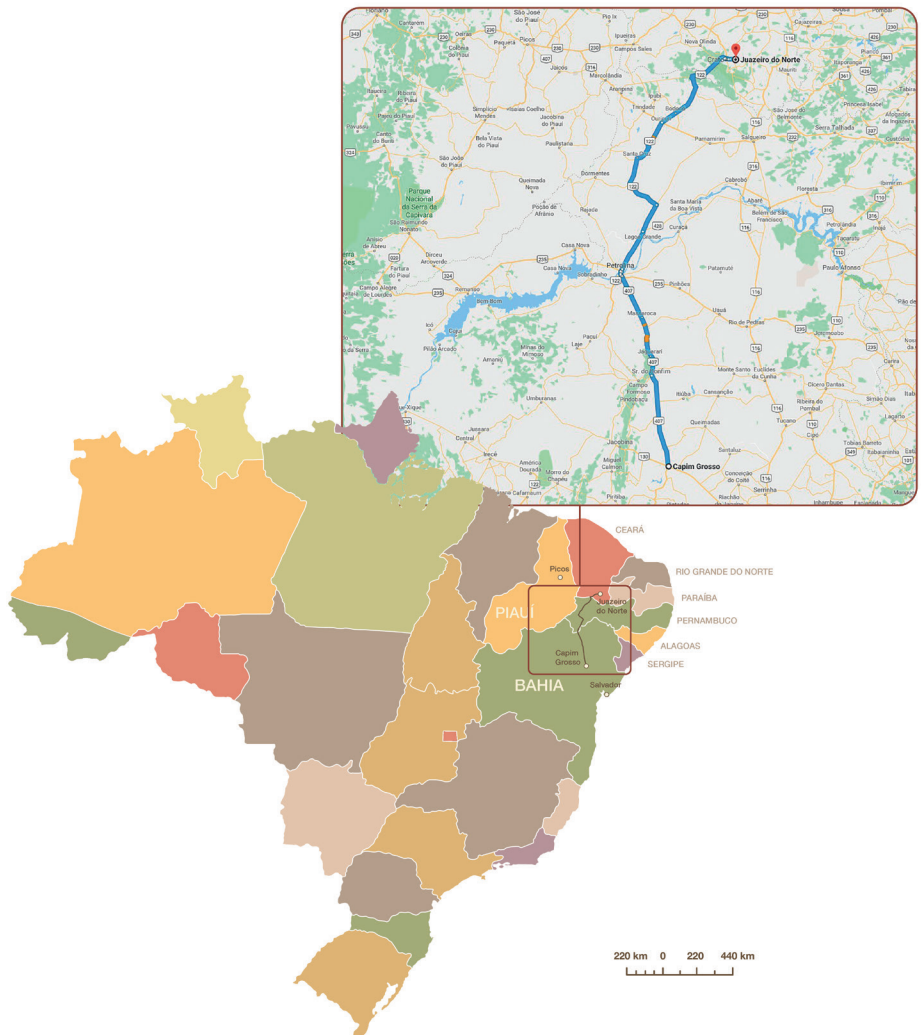
Fig 1: Mapa da região onde foi realizada a pesquisa, incluindo os estado da Bahia e Pernambuco, num trajeto que está todo no semiárido brasileiro nordestino.

Nossa intenção com a pesquisa do Sonário do Sertão é delinear a música ou a partitura musical, e poder, a partir dela, nos aproximar da paisagem sonora, atentos aos diversos sons que a compõe. Essa paisagem pode ser qualquer "porção do ambiente sonoro vista como um campo de estudos"

(SCHAFER, 1997: 366) e pode se referir a "ambientes reais ou a construções abstratas" (SCHAFER, 1997: 366). Nos interessa uma noção de paisagem mais próxima à experiência. Acreditamos que há, assim, uma relação ativa com a experiência, a percepção e a concepção dessa paisagem sonora. O que faria da paisagem sonora essa porção de ambiente em relação direta com a experiência de uma comunidade, que vamos neste caso chamar de comunidade sonosférica.

A presença no espaço e tempo, a vivência de escuta e a experiência acústica são os principais alicerces da metodologia da pesquisa, junto com outras inspirações metodológicas que se somaram ao processo. Apostar na intuição, assim como na memória, ambas tão fluidas e intensas como as ondas sonoras, foram norteadoras do processo. Optamos pelo caminho da razão poética (CASTRO, 2014) que forneceu os procedimentos para decifrar, ou perceber, o universo sonoro do sertão, não descartando sua realidade mágica, suas lendas, sonhos, espiritualidade, pensando assim criativamente a partir dos elementos sonoros trazidos pelo cotidiano, pela memória, nas práticas e evocações religiosas e ritualísticas, como também nas músicas. O deslocamento corporal no sertão faz parte do primeiro movimento metodológico: esta pesquisa não faria sentido se não houvesse esse deslocamento. Os sons são o encontro do ouvido e da percepção corporal com as ondas sonoras que só existem em um espaço-tempo específico, seja pela acústica do local, seja pela existência cultural desses sons. Existe uma adaptação que o ouvido realiza, um treinamento do ouvido de alguém que sai de uma determinada região e se dirige para outra, no caso, o sertão. Esse ouvido pode não escutar nada no início e ir aos poucos se acostumando com o tom, as sonoridades, os eventos acústicos, tornando assim a pesquisa uma relação corpórea, sensível. Segundo Schaeffer (1993), só a escuta frequente aprimora o ouvido e não podemos avaliar a primeira escuta e querer dizer que essa é científica, ela reflete o funcionamento do aparelho auditivo, que é psicoacústico.

O processo de inventário, além de ser atravessado pela experiência, passou por uma seleção, recorte e catalogação. A pesquisa se deparou com uma totalidade de 1242 registros sonoros, gravados pela pesquisadora e por participantes do projeto, sendo que destes, 646 foram selecionados e catalogados para formar o acervo do Sonário do Sertão. Essa catalogação é formada por "Cotidiano", "Memória e Narrativas", "Festas e Tradição" e "Paisagem".

Para escutar o próximo capítulo, sugerimos a audição dos sons que se encontram no link a seguir: https://soundcloud.com/sonario-trotoar/sets/os-sons-dos-grilos-chegavam-em

2. OS SONS DOS GRILOS CHEGAVAM EM NÓS FEITO UMA FLECHA

Os sons do sertão nos envolvem num mar todo. Os sertanejos e as sertanejas que encontramos durante a pesquisa reforçam e nos ensinam que a permanência no sertão, a existência nele e a vivência só são possíveis quando percebemos e nos envolvemos no seu mar de sonoridades.

Primeiramente, vamos entender um pouco do sertão de que falamos. A etimologia da palavra "sertão" diz que:

> a palavra já era usada na África e até mesmo em Portugal. [...] Nada tinha a ver com a noção de deserto (aridez, secura, esterilidade) mas sim com a de 'interior', de distante da costa: por isso, sertão pode até ser formado por florestas, contanto que sejam afastadas do mar. [...] O vocábulo se escrevia mais frequentemente com *c* (certam e certão) [...] do que com *s*. [G. Barroso] vai encontrar a etimologia correta no *Dicionário da Língua Bunda de Angola*, de frei Bernardo Maria de Carnecatim (1804), onde o verbete *muceltão*, bem como sua corruptela *certão*, é dado como *locus mediterraneus*, isto é, um lugar que fica no centro ou no meio das terras. Ainda mais, na língua original era sinônimo de 'mato', sentido corretamente usado na África Portuguesa, só depois ampliando-se para 'mato longe da costa'. Os portugueses levaram-na para sua pátria e logo trouxeram-na para o Brasil, onde teve longa vida, aplicação e destino literário. (BOLLE, 2004: 48)

Em *Grande Sertão: Veredas* (ROSA, 2006), a etimologia perde um pouco sua importância para a dimensão psicológica do sertão. Riobaldo, seu protagonista e narrador, conta para o interlocutor que o "sertão: é dentro da gente" (ROSA, 2006: 309). Ele traça várias noções de "sertão" e todas conferem ao mesmo uma territorialidade de espírito, cuja definição material não consegue alcançar a grandeza de presença que o sertão tem na gente. O sertão desta pesquisa é no interior da Bahia e Pernambuco, no centro do nordeste, longe da costa. Em Pernambuco, na cidade de Ouricuri, sertão, encontramos uma placa: "aqui é o meio do mundo, 600 KM te separam de todas as capitais do Nordeste". Não se sabe ao certo se essa informação é comprovada, porém esse é o sentimento: de estar no meio. E esse sertão se forma de sentimento, localização, vegetação, memórias e sonoridades. Mas como podemos então escutar um sertão que é dentro e que não sai da gente? O

próprio Guimarães Rosa nos dá uma resposta em "Buriti": "o sertão é de noite" (ROSA, 1965: 84), ao perceber a quantidade de sons que podemos escutar enquanto todos dormem. Também há respostas em *Grande Sertão: Veredas* (2006) sobre o sertão que soa em festa, sertão com e sem chuvas, sertão de silêncio, vazio e solidão: "no sertão, até enterro simples é festa" (ROSA, 2006: 58), e, por fim, o "sertão é o sozinho" (ROSA, 2006: 309). E esse sozinho também ressoa.

O som é diretamente ligado ao espaço. Ele é uma onda mecânica emitida por uma fonte sonora e terá características acústicas do espaço por onde ela percorre. Assim nos ensina a física. O som se propaga de forma predominantemente omnidirecional[3], tocando tudo que encontra pela frente, podendo até fazer vibrar seus obstáculos. Assim tanto afeta o que toca, quando é afetado pelo espaço, pelos obstáculos, pela "cor" da acústica dos locais. Chion cunhou o termo "som território", se referindo à característica sonora que marca um lugar, um espaço particular (CHION, 2011). Mais do que conter as características acústicas do espaço, veremos com Schafer que ele é formado pelas características da geografia natural, clima, experiência e percepção (SCHAFER, 1997). Schafer fala da sinfonia dos pássaros, própria de cada localidade. Riobaldo questiona isso em *Grande Sertão: Veredas*, seriam os pássaros diferentes de acordo com o lugar ou somos nós no passar do tempo que escutamos distinto:

> o senhor não escutou, em cada anoitecer, a lugúgem do canto da mãe-da-lua. O senhor não pode estabelecer em sua ideia a minha tristeza quinhoã. Até os pássaros, consoante os lugares, vão sendo muito diferentes. Ou são os tempos, travessia da gente? (ROSA, 2006: 402).

Paisagem sonora (soundscape) é o termo cunhado por Murray Schafer (2006) derivado da palavra landscape: "denomino soundscape (paisagem sonora) ao meio ambiente acústico e com este termo me refiro ao campo sonoro total, qualquer que seja o lugar aonde nos encontremos"[4](SCHAFER, 2006: 12). Sua pesquisa é importante, entre outras coisas, para definir o campo sonoro como um campo de estudos. A paisagem sonora, de acordo

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3 Existem vários padrões de propagação das ondas sonoras, o padrão omnidirecional se refere à propagação em todas as direções; unidirecional, uma só direção; A direcionalidade depende do tamanho da longitude da onda, quanto menor a onda sonora, sons agudos, maior o padrão numa direção só. Como a maioria dos sons são complexos, a onda se propaga para todos os lados.

4 Tradução nossa para "Denomino *soundscape* (paisaje sonoro) al entorno acústico, y con este término me refiro al campo sonoro total, cualquiera que sea el lugar donde nos encontremos" (SCHAFER, 2006: 12).

com Schafer, é composta por todos seus elementos: sons de origem natural, humana, industrial ou tecnológica. Também de acordo com Schafer, "a mais vital composição musical de nosso tempo está sendo executada no palco do mundo" (SCHAFER, 1991: 187). Ele parte da definição de John Cage de que música são "os sons à nossa volta, não importa se estamos dentro ou fora da sala de concerto" (SCHAFER, 1991: 187) para refletir sobre essa música do mundo, composta pelas sonoridades do ambiente.

Em seu livro A afinação do Mundo (1997), Schafer define sistemas para analisar a paisagem sonora. Ele identifica os sons fundamentais, os sinais e as marcas sonoras[5], como também nos apresenta os sons arquetípicos, mágicos ou misteriosos, cheios de simbolismo e heranças, que muitas vezes são resgatados pela memória, quando não existem mais ao redor. A partir dos sons gravados e cantados, falados e relembrados pela pesquisa de campo, encontraremos neste artigo sons da noite e do amanhecer, sons de trabalho, como os cantos de aboio, sejam eles na roça ou na lida com o gado; sons de causos, memórias e narrativas, contadas e cantadas por anciãs e anciãos que carregam, na sua voz, a história de seus lugares e na sua memória trazem as cantigas, as lembranças e as sonoridades sertanejas; sons das festas e tradições, da cultura sertaneja, do catolicismo e do candomblé. Encontraremos também esses sons arquetípicos, como o canto da coruja rasga-mortalha que, supõe-se, canta para anunciar a morte de quem a ouve. Estes se conectam a fenômenos misteriosos e nos aproximam do mundo invisível que escapa desta realidade, nos comunicando com outros mundos ao mesmo tempo que permeiam o cotidiano nesta fresta entre o visível, o concreto e o real.

A conexão do invisível com o visível realizado pelo som, pela força da palavra, da música, dos tambores é um dos maiores "entre" que o sertão nos traz, mas podemos falar de outros. O encontro entre arte e afazeres acontece no cotidiano, mediado pelos sons: o agricultor colhe e planta palavras, a sertaneja é poeta[6]. A separação entre vida, trabalho e arte não existe. Estas todas se confundem no encontro cotidiano e transcendental. E podemos dizer

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5 "Som fundamental é um termo musical. É a nota que identifica a escala ou tonalidade de uma determinada composição" (SCHAFER, 1997: 26). No caso da paisagem sonora, seria o som criados pela geografia ou clima e não são necessariamente ouvidos conscientemente. "Os sinais são sons destacados, ouvidos conscientemente. (...) precisam ser ouvidos porque são recursos acústicos" (SCHAFER, 1997: 26). Já marca sonora "se refere a um som da comunidade que seja único ou que possua determinadas qualidades que o tornem especialmente significativo ou notado pelo povo daquele lugar" (SCHAFER, 1997: 27).

6 A poesia tem uma importância a mais ao juntar palavras com sua sonoridade. Às vezes, a poesia não precisa fazer sentido além do sentido do som. Os versos, as canções e os causos no sertão são poesias.

que um dos elementos mais fortes que permite essa costura é o som. O som permeia todas as etapas da vida e conecta o que vemos com o que sentimos, o que é visível quando soa, com o que não se vê e se imagina. Assim é possível falar dos cantos de trabalhos, das inspirações sonoras da roda da casa de farinha para as cantigas, do trabalho coletivo se transformar em uma festa de samba que dura até o amanhecer seguinte.

Ampliando os sentidos neste mesmo caminho, Berendt (1997) sugere "renunciar ao padrão habitual de comportamento visível e superficial. O que importa é ouvir os sons inaudíveis, experimentar a invisibilidade das cores, a visibilidade dos sons, a audibilidade das cores" (BERENDT, 1997: 50). Ou seja, transcender e sentir. Deixar que esses sons, que nos guiam como espíritos, sejam nossos nexos e nossa desconexão com o mundo visível e com o invisível. Norval Baitello (2005), em A era da iconofagia, nos apresenta a cultura e a sociedade contemporâneas priorizando a visualidade e a visibilidade em detrimento do sonoro. Damos mais importância ao que se vê e ao que pode ser registrado de forma visual, do que ao que se escuta, se fala ou que se é gravado, caso esses sejam sons. Junto a essa importância, há também a velocidade do tempo de criação de uma imagem. A velocidade da luz, e a rapidez com que várias imagens se criam, se propagam e desaparecem, permite que uma imagem nos alcance com mais rapidez (o som percorre seu caminho desde a fonte sonora até ser percebido por alguma membrana auditiva ou corporal de maneira mais lenta[7]) e que seja descartada no momento seguinte. Somos assim bombardeados com inúmeras imagens que nos alcançam em um tempo "mais curto e muito mais veloz do que o tempo da audição, do fluxo do ouvir" (BAITELLO JUNIOR, 2005: 101). Este último permite que estabeleçamos uma temporalidade outra que, na sua duração, nos faz, ao escutar, também conectar com o outro, com o mundo ao nosso redor, com o que se fala e o que se escuta. Assim Baitello Junior se refere à "Cultura do Ouvir" e iremos perceber a paisagem sonora do sertão com esse tempo para vivenciar "um novo desenvolvimento da percepção humana para as relações profundas, para os nexos profundos, para os sentidos e para o sentir" (BAITELLO JUNIOR, 2005: 108).

Segundo Berendt (1997), a possibilidade de viver em uníssono com a natureza, incluindo suas imprecisões e incertezas, abre caminho para a busca dessa vibração harmônica, que segue o fluxo dos nexos, do tempo de escuta e de fala. A paisagem sonora do sertão é sazonal pois soa de acordo

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7 É sabido que a velocidade do som é de aproximadamente 340 m/s ao nível do mar. Já a velocidade da luz é quase 300 milhões m/s, o que na nossa percepção corporal é equivalente ao instantâneo.

com os ciclos da cultura do milho e do feijão, variando também no período da seca e das chuvas. Tem sua sonoridade mais intensa no período da colheita, em que escutamos em todas as casas o "bater nos grãos", a debulha e o preparo das comidas para "explodir" em festas de santos, com fogos, rezas, cantos e forró. Durante o preparo da terra, as pessoas se reúnem para bater enxada e cantar aboios, ritmadamente, periodicamente. Quando as árvores se enchem de frutas, acontece a visita de passarinhos para amanhecer o sertão, época de festas nas árvores, nos sítios, nas casas. Esses tempos não são acelerados, o vínculo com a terra justamente se dá nessa espera, nos sons que se fazem e se escutam entre uma seca e outra, entre um dia e sua noite. A "Agricultura do Ouvir" respeita esse tempo e nele desenvolve a conexão.

Essa paisagem sonora envolve os habitantes do sertão e é a partir dela que suas relações com o mundo, no mundo, sendo mundo, são baseadas e construídas. Sloterdijk (2016), em sua reflexão de seres humanos como habitantes de esferas, trata a esfera sonora de uma importância ímpar na partilha de um mundo interior: "trata-se da comunidade auditiva constitutiva que integra os humanos em um anel não objetivo de mútua acessibilidade. A intimidade e a publicidade têm na audição, o órgão que as interliga." (SLOTERDIJK, 2016: 470). A audição é o primeiro sentido que desenvolvemos enquanto seres humanos, ainda no ventre materno. A visão só começa a se aprimorar depois de alguns meses da criança nascida. "No curso dessas investigações sobre a audição humana e sua evolução, constou-se, além de qualquer dúvida, que as crianças já escutam notavelmente bem no interior do útero, graças ao desenvolvimento precoce do ouvido" (SLOTERDIJK, 2016: 454). Ao escutar, a criança já se inclui nesse espaço e no tempo presente. O feto está imerso "no delicioso som que se torna audível da voz materna, em suas frequências de saudação, se dirige à vida que chega" (SLOTERDIJK, 2016: 458).

O termo utilizado pelo autor é importante para entender essa sonosfera: integrar. Tendo a audição como primeiro sentido a nos formar como membros de um grupo, já participamos deste mundo. Essa importância segue no decorrer do crescimento e pertencimento a um local. Somos e estamos imersos nessas sonoridades precocemente e, por mais que pareça que nos afastamos dela, pelo domínio muitas vezes exacerbado da visualidade, continuamos sendo formados por sons. Estes nos tornam o que somos. Cada um de nós é a sonoridade que nos envolve.

Sendo assim, no sertão, é possível perceber, escutar e gravar o que Sloterdijk chama de "redoma acústica que cobre todo o grupo" (SLOTERDIJK, 2016: 470), sendo a redoma o Sonário do Sertão, e o grupo, as pessoas de Várzea Nova (BA), Várzea Queimada (BA) e Bodocó (PE).

Para escutar o próximo capítulo, sugerimos a audição dos sons que se encontram no link: https://soundcloud.com/sonario-trotoar/sets/experie-ncias-e-imagina-rios

2.1 EXPERIÊNCIAS SONORAS

2.1.1 O vento e os diálogos com o invisível

O som é um elemento invisível que viaja pelo ar sem que ninguém o veja e que só percebemos quando toca objetos, o tímpano ou a própria pele. Assim como o som, com suas ondas invisíveis, o vento só é percebido quando esbarra em algo que se move e assim se faz soar: "o vento é um elemento que se apodera dos ouvidos vigorosamente. A sensação é táctil, além de auditiva" (SCHAFER, 1997: 43). "Mas, sem objetos que se interponham no seu caminho, o vento não faz nenhum movimento aparente" (SCHAFER, 1997: 44), observa Schafer e continua: "de todos os objetos, são as árvores que dão as melhores indicações, sacudindo as folhas, de lá para cá, enquanto o vento as afaga" (SCHAFER, 1997: 44).

O vento é uma constante no sertão, as poucas construções, as árvores baixas e um campo plantado que se estende são a paisagem propícia para o correr do vento. Se ele não vem, em Bodocó (PE), é só assobiar que ele aparece. Lá longe, soou um chocalho, um bicho que se moveu ou o vento bateu em um sino dependurado na soleira de uma casa. É o vento que, quando muda de rumo, traz os sons. Esta paisagem sonora sertaneja é identificada por Schafer como uma paisagem com uma razão sinal/ruído favorável, pois "sons separados podem ser claramente ouvidos devido ao baixo nível de ruído ambiente" (SCHAFER, 1997: 71). É assim que podemos escutar o chocalho ao longe, como no sertão de Guimarães Rosa: "mesmo, o espaço é tão calado, que ali passa o sussurro de meia-noite às nove horas. Escutei um barulho" (ROSA, 2006: 98).

Várias culturas espalhadas pelo mundo divinizam o vento, como o sopro inicial da vida: o ar se movendo dos pulmões de um ou mais deuses foi o som primordial que gerou a humanidade. "Sempre que Deus se revelou aos seres humanos, Ele foi ouvido (...). Os ouvidos são o meio de

acesso ao receptor" (BERENDT, 1997: 21). Assim como o "Buriti Grande" de Guimarães Rosa, "onde os ventos se semeiam" e de onde surge a vida (ROSA, 1965).

Também assoprando, os indígenas Kariri[8] usavam o "buzo", que na época era feito de concha, para se comunicarem com os Deuses. A etnia Pankararu, que habita uma região próxima, até hoje nos seus rituais e cerimônias utilizam um instrumento feito de bambu, também chamado "buzo", nas toantes. Numa roda de conversa no terreiro de Dona Cici e Seu Zé de Citonho, um grupo de pessoas, entre crianças e pessoas de mais idade, conversavam sobre uma época passada, contavam causos, piadas e histórias de trancoso. De um supetão, Dona Alaíde deu um grito de espanto ao falarem do "buzo": "se eu achasse um meio de eu dá jeito pra eu nunca mais ouvir aquele toque no meio do mundo". Todos começaram a explicar o que é o "buzo": instrumento feito dos cornos do boi e usado para assoprar e se comunicar. Tem um som mais agudo que o do berrante, instrumento sertanejo mais conhecido para a lida com o boi. O "buzo" era usado para chamar as pessoas para os velórios na época da Dona Alaíde e a fazia lembrar da morte da mãe, por isto seu susto e reação durante a conversa. Já para Dona Cici, era a maneira de chamar as pessoas da roça e avisar que o almoço estava pronto. Vani e seus irmãos já lembravam que na infância sua mãe o tocava para que voltassem para casa quando estavam brincando na casa dos vizinhos.

O mesmo nome, o mesmo instrumento com poucas alterações, vários significados e usos. Uma série de relações afetivas, divinas e cotidianas com esse objeto sonoro mágico. O som do "buzo" faz referência também a unidade sonora que antecede o sentido, não vocalizado em palavras, mas com seu encanto marcado pelo som e pela sensação, mais do que pelo sentido lógico e racional (SLOTERDIJK, 2016). O "buzo" pode ser comparado com um mantra, "som primevo e símbolo de caráter arquétipo da palavra" (BERENDT, 1997: 40) e que, ao passar por transformações contínuas na linha do tempo e da história, foi tendo seu uso modificado. De canto aos deuses para um sinal de alerta. Podemos pensar na similaridade com os cantos das sereias. O "efeito sereia" seria esse canto que se aproxima com o mitológico, o mágico, o que toca cada ser e que o move e hipnotiza, mesmo que para a morte. No caso da odisseia de Ulisses, "há uma música estranha no mundo, contra a qual justamente os mais habéis devem se guardar;

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8 Cariri ou Kariri é o nome geral dado para as etnias que viviam na região do Sertão do Cariri, que engloba o interior do Ceará, Pernambuco, Paraíba, Alagoas, Sergipe e Bahia. Atualmente é uma família linguística extinta.

pois, como dão a entender as mitologias, esses sons não conduzem o ouvinte a si mesmo, para seu próprio bem, mas à morte longe de sua pátria" (SLOTERDIJK, 2016: 439). Essa "força maior tornada música" (SLOTERDIJK, 2016: 444) é o que cantavam as sereias, e, os poucos, o "efeito sereia" foi sendo absorvido e se tornou a origem de sons como sinais de alertas, sirenes (policiais, ambulâncias) e alarmes. Sons impossíveis de se passar despercebidos e que aciona psicoacusticamente nosso corpo para o estado de alerta, nos tira da absorção inconsciente dos sons cotidianos e nos leva a atenção plena. Assim como o som do "buzo".

Para além da presença divina no sopro e a reposta dada pelo buzo, o encontro com o mundo invisível tem na vocalização que "vibra pela palavra, tornando-se sensivelmente perceptível por meio da comunicação acústica" (SPINOLA, 2016: 68) e em outros sons que são "dispositivos de comunicação, independente da palavra" (SPINOLA, 2016: 69). No sertão, vamos encontrar as ladainhas, os cantos e toques nos tambores, além das rezas de cura.

Percebemos então como as sonoridades percorrem esse caminho de regresso aos céus. Nos comunicamos enviando de volta para esse lugar mítico os pedidos e os agradecimentos, por meio de preces, cantos e toques. Analisando a força das palavras em Guimarães Rosa, Gabriela Reinaldo chega à "voz da divindade, inacessível aos planos da razão" (REINALDO, 2005: 128). Podemos tomar emprestado o termo que ela emprega, a "glossolalia", que é essa linguagem que permite a comunicação com o divino, somando ao parentesco inegável da palavra "canto" com "encanto". Esse encontro com o invisível ocorre mediante as sonoridades que escutamos nas festas do Cariru, nas ladainhas e nas rezas no sertão. Em um mantra cíclico e constante, nos elevamos a tal ponto até chegar novamente ao silêncio. Essa comunicação pode ser feita no íntimo e solitário espaço de uma reza particular, mas muitas vezes tem, no espaço coletivo, e em datas especiais sua maior eficácia, como no Cariru. Outras vezes depende de pessoas que potencializam esse encontro com o invisível, como é o caso de Xaxá, Dona Maria e também de Lena, Dona Bidu e Seu Joaquim, rezadores de Bodocó (PE) e Várzea Queimada (BA).

A memória e a história oral contada na beira da fogueira, para que toda a roda pudesse imaginar momentos antigos e mitos enormes, têm sua grandeza e eficácia simbólica nas palavras usadas, no misto de som e sentido, no mesclar-se da voz do homem com o trovão. Essa voz carrega uma materialidade nas suas características sonoras, uma entonação, um sotaque,

uma cadência no contar. Todos esses elementos influenciam para a mágica de sua potência, seus efeitos vão além do comunicar. Nessa conversa, o sentido nos escapa e, portanto, entramos em contato com o real da língua, a pura fonética, "fluxo do calor das vísceras, sopro quente da voz, da vontade de dizer (...) quando a palavra já não se ocupa de comunicar o útil, mas o essencial" (REINALDO, 2005: 55). Essa roda em volta de Seu Joaquim, ancião de Várzea Queimada (BA), traz todos esses elementos da força de sua voz e também de sua memória mitológica, com um "repertório cultural de invocações, saudações, cantigas, danças, comidas, lendas, parábolas, símbolos cosmológicos" (SODRÉ, 2017: 95) e, acrescentamos, todo o imaginário sonoro do sertão. Seu Joaquim, Dona Alaíde, Dona Mira, Lena, Dona Joaninha, Dona Bidu pensam e vivem com sons. Suas falas são compostas por "piriripiriripiriripiriri" quando Dona Alaíde conta que, quando criança, conseguiu fugir correndo de uma queda no barreiro; Lena amacia as palavras e fala pausadamente que quando ela "vê tambor batendo lá distante, seus pés arrupeia, parece que tá pisando em algodão", nos conta que no Cariru "quem tem caboco tem canto e quem tem canto quer dançar"; e Seu Joaquim conta cantando que "acabou-se já, acabou-se já, a mandioca de relar acabou-se já".

2.1.2 Os pássaros, uma conversa cotidiana e mágica

O vento e o sopro no "buzo" nos remetem à pré-história dos sons. Já sobre a pré-história da fala humana, existem várias teorias que localizam a transição da verticalidade do homo sapiens como principal influência (BAITELLO JUNIOR, 2005). A partir da soltura da glote com essa nova posição, a articulação da palavra começou a ser desenvolvida. Também se acredita que a ancestralidade da voz foi a necessidade de comunicação à distância. Para se comunicar estando próximos, o gestual tinha uma eficácia extrema, porém para superar os obstáculos (árvores, florestas, formações rochosas etc), esse ancestral do ser humano se utilizou de gritos para poder se comunicar e alertar seus demais numa distância mais pronunciada. Segundo Baitello, existe uma outra hipótese pouco considerada, mas mais poética, e que ele prefere privilegiar: "o ancestral do homem observa os pássaros e começa a imitá-los." (BAITELLO JUNIOR, 2005: 103). A relação de comunidades humanas com pássaros já foi objeto de pesquisa e análise de diversos pesquisadores. Na tradição cultural dos Kaluli[9] (FELD, 198), o som, mais precisamente o dos pássaros, forma um sistema cultural em que se pode,

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9 Povo originário de Bosavi, na ilha a Papua Nova Guiné, Oceania.

a partir da análise dos modos e códigos de comunicação, entender o ethos e a qualidade de vida daquela sociedade. Durante a pesquisa, fizemos algumas aproximações das relações dos sertanejos com o universo sonoro e como elas também nos dizem sobre seu sistema simbólico e cultural.

Os pássaros no sertão nunca param, acordam mais cedo do que os outros animais e são os últimos a dormir. Anunciam o dia, anunciam chuva, anunciam seca braba, anunciam chegadas. Não se sabe se pela proximidade dos pássaros na ancestralidade da fala humana ou pelo maravilhamento causado com seu canto, mas eles se tornaram os comunicadores que mais dialogam com os sertanejos e as sertanejas. Segundo Schafer, "nenhum som da natureza tem estado ligado tão afetivamente à imaginação humana quanto as vocalizações dos pássaros" (SCHAFER, 1997: 53) e associa os cantos de pássaros à experiência humana de produzir sons: sons de alerta, sons de prazer, delimitação de espaço acústico. Talvez o canto da sereia na mitologia equivale à sua imagem mais arquetípica, à cena primitiva: as sereias em algumas representações eram mulheres em corpos de pássaros que encantavam, seduziam, maravilhavam, comoviam e podiam até matar, tudo a partir da emissão de sons vocalizados (SLOTERDJIK, 2016).

Para se relacionar com os pássaros, as casas do sertão estão cercadas por árvores frutíferas. Desta maneira, na época que dá umbu, acerola, cajá e pinha, os moradores e moradoras são acordados com cantos para animar e deliciar seus afazeres desde cedo. De acordo com Schafer, escolher os sons do seu entorno faz parte de um empoderamento da paisagem sonora de seu ambiente (SCHAFER, 1997), ele chama esse planejamento de "criação de um jardim sonoro". A plantação de frutíferas ao redor da casa é uma prática dessa criação comum no sertão: a fruta atrai pássaros e permite às pessoas escutarem seus sons, ambientando agradavelmente a paisagem sonora. Em *Sound and Sentiment* (FELD, 1982), ao analisar os hábitos sonoros dos Kaluli, habitantes da Papua Nova Guiné, Steven Feld afirma que os pássaros demarcam o espaço social, então jamais são caçados próximos aos vilarejos. A presença dos pássaros, das árvores e de seus sons é importante para os Kaluli pois estes acreditam se tratar dos espíritos de seus antepassados. Na paisagem sonora do sertão, também foi possível identificar muitas semelhanças a esta prática e percebemos que a presença dos sons de pássaros também funciona como demarcação de espaço social, definição de ações cotidianas e relação com o mundo mítico

O convívio com as aves se conecta aos aspectos mágicos do cotidiano. Era comum pessoas do sertão associarem os cantos das aves com interpretações do porvir ou de algum acontecimento próximo ao sítio. Os sons de

aves próximo à meia-noite merecem uma atenção especial. Canto de galo só pode acontecer em "noite alta", porque se cantar em "noite cedo" não é bom sinal, quer dizer morte ou traição. Já a galinha não pode cantar com o som de um galo, também traz mal agouro. Em *Grande Sertão: Veredas*, Riobaldo se depara com uma coruja no seu caminho: "vi uma coruja — mas corujinha entortadeira; e coruja só agoura mesmo é em centro de noite, quando dá para risã" (ROSA, 2006: 505). Assim sendo, Riobaldo segue rumo, sem ser atingido pelo agouro que poderia ter significado esse encontro sonoro, caso o mesmo acontecesse à meia-noite. Em Várzea Queimada (BA), existem sons que fazem as pessoas desviarem seus caminhos ao se depararem com eles: a coruja Rasga-mortalha que canta para quem vai morrer e o uivo de um cachorro no meio de um caminho de terra. Uma das moradoras de Várzea Queimada (BA) e participantes desta pesquisa, Jaiane Jesus, disse que quando escuta o uivo do cachorro muda de caminho e dá uma volta mais longa para chegar a seu destino. Todos concordaram que era uma benção não termos conseguido gravar a coruja, poderia acontecer algo de pesaroso nas nossas vidas. Mesma sorte não teve Riobaldo, ao escutar o uivo de um cão à meia-noite, momentos antes da batalha final com Hermógenes:

> Madrugada de meia-noite. A lua já estava muito deduzida, o morro e o mato misturados. Relanceei em volta. Todo o mundo dormindo. Só o cachorro mateiro, que sai debaixo dos silêncios, e um ô-ô-ô de urutau, muito triste e muito alto. Depois, ouvi o uivado inteiro dum cão. Os companheiros todos dormindo, acordado só eu, alevantado de noite. Pesou por diante de meu coração. Devi àquele cão mal-uivante? Idéia tristezinha, que me veio. Por que era que só eu tinha acordado, desoras, tão antes de todos? (ROSA, 2006: 560).

Para escutar e perceber os avisos e a comunicação com os pássaros é preciso a atenção do silêncio como estado de espírito, é preciso praticar a "cultura do ouvir", é preciso a quietude que permite perceber os sons ao redor. Este silêncio se pode encontrar no sertão quando Seu Zé de Citonho se senta no fim da tarde debaixo do umbuzeiro e escuta calado o canto das guinés indo dormir um pouco assustadas com o vôo de um gavião. Da escuta, pode-se partir para um imaginário com formação de um sentido cotidiano e mágico, que organiza, de alguma maneira, as vivências. No caso de Seu Zé de Citonho, ele espera atentamente e com muita paciência a calmaria das aves para poder seguir seus afazeres. Enquanto elas estão angustiadas, ele não sai debaixo da árvore. Esses animais são parte do convívio

e lhe fazem companhia; a presença e o cuidado devem ser de todas as ordens, não se limitando a dar alimentação nos momentos que convém, mas também de acompanhá-las respeitando e escutando seus sons, seus sinais e seus avisos. Mas por mais que nos esforcemos em perceber e entender os sinais dos pássaros,

> seja o que for que os pássaros estejam comunicando, suas vocalizações são projetadas para seu próprio benefício e não para o nosso. Alguns homens podem descobrir os seus códigos, mas a maior parte se contentará apenas em ouvir a extravagante e surpreendente sinfonia de suas vozes. Os pássaros, assim como os poema, não precisam significar, mas ser. (SCHAFER, 199: 56)

3. CONCLUSÃO

O encontro com os sons do sertão se deu a partir de intuições que eram entendidas, avaliadas e reposicionadas a cada passo, a cada som e a cada conexão que íamos fazendo durante pesquisa. Desta maneira, chegamos a um acervo sonoro que permite o aberto, permite novas interpretações e escolhas. Fizemos algumas na tentativa de conduzir o leitor para a imersão sonora.

O sertão que soa neste artigo não é homogêneo, apesar de proximidades e parecenças. Em Bodocó (PE), o amanhecer chamava os pássaros Cardeal-do-Nordeste para comer no umbuzeiro. A voz arranhada de Xaxá, nos fez conhecer todas as cerimônias religiosas celebradas frente aos altares nas redondezas do Bom Lugar. E ao longe, ainda se escutava o toque do buzo, em um reflexo sonoro de outras épocas, mas que seguiu reverberando na memória dos sertanejos e sertanejas pernambucanos. Várzea Nova (BA) apresentou seus sambadores, junto com a preocupação de que muitos estão morrendo, a vontade de gravar, registrar e fazer escutar esse patrimônio imaterial. Misturada ao som da enxada, nossos ouvidos escutaram o Aboio do Batalhão, com número reduzido de participantes, imaginando como soaria quando era formado por cem, duzentos, trezentos homens na terra capinando e cantando. Seu Joaquim, em Várzea Queimada (BA), contou os sons nos seus contos, em sua voz antiga e forte. No entanto, a roda da casa de farinha mecanizada, a morte de sambadores e dos rezadores, os animais que estão cada vez mais silenciosos, preocupam alguns sertanejos e sertanejas. Dona Cici, do Sítio Bom Lugar, lamenta que os sons acabam se "embaralhando" hoje em dia porque os "bichos estão confusos com tanta mudança na

nossa sociedade, mas antigamente era muito mais certeiro, tanto a reação dos bichos quanto o prestar atenção neles". Também Dona Bidu, de Várzea Queimada, relatou que, além de sons que evocam a cura, era importante evitar alguns sons para chegar bem na sua idade. Hoje as pessoas estão todas "doidas" e por isso "que não vê mais chuva", porque os tempos estão mudados. Então os cantos de trabalho vão sendo emascarados pelo motor da roda de mandioca, produzindo o mesmo que se produzia antes, mas com somente três pessoas. Seja mecanizada ou manual, a farinha produzida continua alimentando a todos, incluindo os caboclos, orixás, santos, na festa do Cariru. Alimenta-se também a alma, com rezas, cantos e toques. "Quem tem caboclo tem canto e quem tem canto quer dançar", conclui Dona Lena antes mesmo do Cariru começar.

Esperamos ter conseguido no decorrer desta pesquisa demonstrar, com a argumentação teórica e a experiência trazida da colheita dos sons, que a formação cultural, artística e individual das comunidades envolvidas se ancora na produção e escuta dos sons, tendo estes como sua principal aliança com o mundo presente e também com o mundo virtual e invisível. O imaginário destas comunidades sonosféricas pode ser chamado de Sonário e este pode ser um fio condutor para outras pesquisas neste sentido. Salientamos a experiência de captação e o encontro com os sons realizada neste projeto como um caminho possível para outras pesquisas em som: a imersão em campo e a realização de oficinas de capacitação e troca devem ser apreciadas, pois geraram resultados satisfatórios. Apostar na intuição e na memória são alicerces metodológicos que, se incapazes de serem medidos quantitativamente, são importantes para uma pesquisa que depende da sensibilidade para criar. Como um arrepio ou sentindo o som como um toque, como uma massagem, essa sensibilidade da intuição consegue nos levar para o profundo que é a própria pele e que nos colocou em movimento nos espaços sonoros sertanejos. O encontro etnográfico com esses espaços e sons trouxe, não só um desenvolvimento da formação acadêmica da pesquisa, como também uma profunda transformação pessoal, caracterizada principalmente pela possibilidade de escuta, aprendizado e de vibração em conjunto com os sons do sertão.

Não imaginávamos os desdobramentos possíveis que a pesquisa teria. No decorrer dela, foram ampliando os objetivos e os interesses iniciais, às vezes descobrindo que, para alcançá-los, era necessário enveredar por outros caminhos e assim criar novas perspectivas. O projeto de formação de acervo e divulgação do patrimônio imaterial propiciou a criação de um banco de dados sonoros, disponível virtualmente e acessível gratuitamente, seja para

o uso de pesquisadores acadêmicos, cinematográficos, musicistas, professores e o público em geral. Desde seu lançamento, o *site* já teve mais de três mil acessos e pretendemos partir para a sua versão em espanhol e inglês.

Esta pesquisa não se pretende fechar e terminar, mas podemos dizer que chegamos a algumas conclusões, que foram expostas aqui. Os sons reverberam e vão se perdendo no espaço, e mesmo não sendo mais capazes de escutá-los, ainda estão presentes de alguma maneira, sentidos talvez por algum animal de audição mais aguçada ou pela nossa pele e memória. Não queremos com isso dizer que é uma pesquisa infinita, mas que ela abre possibilidades e que não conseguimos fechar portas, mas abrir janelas. E, quando todos esses sons findarem, virão outros, pois o silêncio existirá como uma escolha, experiência sentimental ou no silêncio que narra. Portanto, esta página se embranquece, as palavras se esvaem e imaginamos um silêncio depois da escuta proposta nesta pesquisa. Um silêncio até que o próximo som nos tire dele, como um canto das sereias, e nos leve para outro caminho, como o uivo do cão à meia noite, empurrando-nos para outra viagem sonora.

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Rurals, The Experiment: Reclaiming the soundspace

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Abstract: The Rurals Experiment was a sound intervention developed and conducted by me and it took place in the city of Cruz das Almas , Bahia, Brazil in May 21 and 23, 2014. In this paper I analyze the intervention as an opportunity to disrupt the established soundscape of the city and give space for fresh engagements of the population with their soundscape to temporarily occur and reflect on the reasons why this approach would particularly impact that city's reality. Making use of field recordings captured at the city's countryside, they were presented in contrast, in the commercial urban center of the city in order to instigate reflection about the quick changes their sound environment has experienced in a short period of time. Thus, I review the history of Cruz das Almas, identify some of its soundmarks I considered relevant to demonstrate the hardcore and sometimes oppressive nature of this city's sound reality which has strong influence in this community's disposition to perceive sound and provides essential tools for engagement with the experiment.

Keywords: soundscape, noise, fireworks, musicology, affect, Cruz das Almas.

1. INTRODUCTION

In 2014 I created a sound intervention in the city of Cruz das Almas in the State of Bahia, Brazil. The idea was to contrast sound aspects of urban environments and the countryside, reflecting on the fast changes the city's sound environment has experienced in the last few years. Set up as a sound intervention presenting rural soundscapes in an urban center, the experiment consisted in reappropriating a popular element, heavily present in that town's cultural reality to temporarily transform that place's sonic topography. The intervention was called Rurals (Ruralidades) and consisted of re-purposing the locally popular sound equipped cars, known as carros de som, commonly used as audio advertising tools to present rural field recordings in the city's urban center during the town's busy working days. It was realized as a result of the artist in residency program Cambio 14 taken place in Mexico City, the project was funded by the Brazilian Ministry of Culture and will be referred to as 'the experiment' for the purpose of this paper. In the afternoon of 21 and 23 of May 2014 the Rural Experiment

created and directed by me took place, it spanned along the urban center for an hour each day, filling the streets with a loud clamor of crickets, frogs and toads.

This paper will present this experiment and discourse on the aspects from which the idea emerged, reflecting on the inadvertent audience's reaction, justifying the use of the sound equipped cars by analyzing the History and sonic background this experiment was implemented. The article is divided in three moments, the first thoroughly describes the project and how it took place in the context of the urban environment of Cruz das Almas, it makes the necessary definition of the sound system equipped cars, known as 'carros de som', the way they were organized and presented in the street to better create the dynamics between the audio files being played in each car. It will explain the process in which noise pollution was fully installed in Cruz das Almas' reality, configuring the soundscape characteristics to the city. It reports the reaction of the public, of people involved in the intervention and the problematic raised by their responses. The second moment investigates the aural history of Cruz das Almas contemplating some of its soundmarks, defined by Murray Schafer as sonic aspects which hold qualities exclusive to a community's acoustic reality and specially understood and esteemed by this community.

Thereby, it will present the socio- cultural conditions in which the traditional fireworks known as espadas, meaning "swords" in English and also nicknamed the "swish" fireworks are staged; the city's complex sound fabric which incorporates elements of the country and rural landscapes interweaving with technology from telecommunication devices, counterfeit electronics trading and the nationally famous "paredões", the culture of spending large amounts of money to install extremely powerful sound systems in the back of the cars, organizing meetings to show off the systems or simply parading alone, sometimes in groups in the streets of the city. By examining these aspects, the paper discusses and recognizes the aggressive and invasive qualities of the sound ingrained to the reality of Cruz das Almas, featuring the city with a unique soundscape and relationship to it.

2. THE EXPERIMENT

After a tropical warm and rainy week, the sun had dried out the streets, the people left their umbrellas resting behind their living room doors and hit the city center for another busy lively day. The market was thriving with people rushing to avoid Saturday morning shopping. In the city center of a town

like Cruz das Almas, in the State of Bahia, northern Brazil there is rarely a moment of tranquility and very little space for silence. Speakers installed on the lamp posts loud and sharply broadcast the local radio shows to the frantic main square, motorbikes grunt up and down the roads. The shop assistants holding their megaphones and microphones scream at the top of their voices about the best deals they have to offer interpolated by 'cheesy' contemporary local music, popular and passionately known as 'Arrocha'. This type of music combines sharp and extremely high pitched male vocalists singing about love, disillusion and unemployment while accompanied by keyboard default electronic harmonic and rhythms, commonly 'merengue', 'beguine' or salsa in an unusual slower bpm and with each tune splicing over the next, nonstop.

Cruz das Almas offers several sound alternatives for businesses to advertise their products. In such a small scale city, amplified sound covers efficiently and for cheaper a much wider area; that explains why an increasing number of people install on their personal vehicles large PA speakers, charging per hour to drive around town advertising different products and services. Whether with a microphone reading a script live or with an audio file recorded on a cd or pendrive repeating over and over again, these vehicles can be cars, bicycles, motorbikes and even ice- cream trolleys; going around the center, rich residential neighborhoods, occupations, impoverished and sometimes closer countryside areas. These cars are also heavily used during election campaign with noise pollution levels perhaps at its peak in this period.

The universal deafness predicted by many experts mentioned by Schafer (Schafer, 1993) seems to be fully embedded in this city's reality, with husky speakers, 'doppler shifted' music, piles of cheap electronic toys and equipment in the market stalls loudly demonstrating their gimmicks. Radio devices tuned and television sets on and in full volume for the simple purpose of demonstrating the efficiency of 'diy' antennas, highly integrate the life and psyche of this little town's soundscape. The experiment explored aspects of collective memory and 'psychogeography' by occupying the sound space of an urban center with its opposite, countryside environmental sounds. After frustrating negotiations and being stood up by three car drivers and a bike owner, the experiment finally came about with two cars equipped with more or less 200 watts speakers and one motorbike with something less potent. The three left the starting point at the same time, with the motorbike at the front followed by the two cars occupying the street in parallel, when possible. Each vehicle played one specific audio file and when

out together created this dimensional effect where the soundscape would be perceived differently depending on where the listener were standing. It happened on a Wednesday and was repeated on Friday. The days and times were chosen based on the high peaks of street activities but limited to the city council's license permissions, which didn't allow the experiment to happen on a Saturday morning, the busiest day of the week arguing it would cause nuisance.

In The soundscape (Schaffer, 1993), he argues the production of sounds represents subjectivities of modern age while contemporary soundscape's dynamic hedonism could reflect upon social conditions, indicate trends and evolution levels of societies. To the author sound stance is also disadvantaged in terms of historical perspective and while aspects of the city can be forever registered in photographs and maps, the soundscapes and sonic characteristics of an environment will rarely be known for certain, with these sounds being altered and slowly dissolving into the ever changing sonic reality. But if it is true that every reality carries soundmarks which creates its specific geography and, though they can gently fade away from the sonic reality, its systematic disappearance would directly cause a sense of impoverishment. Is it also true to say that by repositioning these soundmarks in a slightly different context where that society, for having been so indiscriminately fast transformed and bloated, still hold the tools to investigate their own collective memory and relate to them, would it create a sense of self- awareness and identity reinforcement? Would the experiment pose as an opportunity to create a human experience of exceptional powers, what Schaffer has called 'clairaudience' (Schaffer, 1993) and of which Western societies seem to be completely void?

As the cars drove along, people's reactions were expressed in diverse forms, the most appalling coming from one of my drivers whose reactions were expressed from his position of being part of the audience as well as a business man. He suspected it all to be part of a well orchestrated campaign to demoralize the culture of the sound equipped cars by exacerbating its effect through music he defined as 'maddening' and 'disturbing'. He also seemed to be extremely concerned that he might have been allured to engage into an illegal activity and could be arrested at any moment. He carried on and fled the scene after his one hour job was over.

His reaction demonstrated a curious controversy. These drivers get paid per hour and can sometimes work up to 4 hours non stop driving along and playing the exact same 15 seconds advert over and over again, how could

he become so disturbed by the sound of birds, cicadas and toads? The files used were not plain sound recordings of nature environments, they had a mild level of filtering and software processing on them but the overall quality and timbres were still very faithful to nature's sound, resembling white noise and rearing an ethereal sound one could perceive as cosmic or simply as the familiar local countryside calmness.

Others ran to the shop' doors to see what was happening. Passers- by and business attendants froze their activities to experience it and, although looking confused for seeing sound equipped cars without adverts being played. Expressions of relief followed by smiles were reported, with people escorting the cars in the same manner seen during the carnival street party, when they follow the trio elétricos, trucks that go around a street itinerary and carry the music groups while they are performing; or also, when showing support to their political party candidate during campaign parade. Here the experiment suggested moments of fun and leisure, where people stopped their fast paced walking, relaxed and chatted with each other in the street.

Fig. 1: Sound system equipped cars during procession. Photo by Bartira Sena.

Fig. 2: Sound system equipped cars. Photo by Bartira Sena.

Another comment explained the experiment as an actual advert to campaign for dengue fever awareness, while the other remarkable assertion defined it as Art, from the perspective that whatever cannot be understood or objectively justified would fit into this category, with the passerby describing it as 'that's what Art is, these crazy things'. This comment was coming from a man on his mid- 50s who appeared to be from the countryside himself and possibly uneducated. However, it also highlights the cultural changes the city and its surroundings have experienced throughout the years where, though people might not attend school or Higher Education or even leave their rural settings they are educated by tv and Internet, accessed from gadgets such as smartphones and tablets, re- stating Brazil as one of the countries which most consumes telecommunication products.

3. AN ACCOUNT OF CRUZ DAS ALMAS

Cruz das Almas is a county in the State of Bahia with an estimated population of 63.761 inhabitants apart from an average of 15 thousand dwellers residing in the city during University's term. Considered an important sub-regional center, it is the second most important city in the south of the region known as Reconcavo Baiano. The city hosts the Rectory Office for the Reconcavo da Bahia's Federal University and houses important centers for agricultural and livestock technology research.

The name means 'Cross of the Souls' and its origins are uncertain with some regarding it to late drovers who, when passing by the city of Nossa Senhora do Bom Sucesso(one of Virgin Mary's many names) spotted a cross where they stopped and prayed before continuing their journey. It is said the city developed around this cross. Others argue that the name was chosen in tribute to the Portuguese city of same name so there would be a sister city in the south American invaded land.

With a majority of the population experiencing serious financial struggle and with a council severely compromised with corruption and bribe, the city is nationally famous for its St. John's festivities in June. The 'espada', 'sword' in English, an extremely dangerous type of fireworks have given the city its strongest cultural pillar. As someone who grew up in the city I have vivid memories of its sound and I believe it is engraved in everyone's who have lived there too. This certainly very ancient artifact is regarded by researcher Moacir Carvalho (Carvalho, 2009) as being 6 to 7 centuries old and has gone through several transformations in its functions. Consisting of a pyrotechnic device, the 'espada' is an artifact which is pushed forward through autonomous energy generation, in this case, gun powder and it has Arabic origins, with initially war functions and later as port signaling tool in Europe. It is used in Cruz das Almas today in what they conveniently named "'espada' wars", consisting of playful group disputes for a determined space control and taking place basically anywhere in the city, apart from streets with hospitals or petrol stations. Designed to stay just above ground level it received the name of 'swish' firework and the word in English could not define better the astounding sound this device produces. Banned since 2011 in Cruz das Almas, people still make and play with it and because it requires the use of illegal smuggled substances, some communities have kept a complicity to cover the local manufacturers as if reclaiming their cultural heritage.

My perspective to the 'espadas' is that of a social soundmark, regarded by Schaffer (Schaffer, 1993) as "those sounds which are important either because of their individuality, their numerousness or their domination". It once more places the city of Cruz das Almas as this environment encoded with imposing sound with which relationship's nature can be clearly defined as one of power and domination, with sound frequently playing the role of oppressor. As a child and teenager I perceived St John's festivities as the most extremely dangerous time of the year, with my sister spending most of the days locked up in her room and people covering up their windows and doors with pieces of wood or thick cardboard to prevent the fireworks from entering. I was strangely very drawn to it, mesmerized by this mixture of feelings I was unable to grasp, the loud sonic violence it

produces reminding what one would define as harsh noise. This time of the year is waited with huge expectation by most of the people, mainly the disenfranchised communities who embrace it as their unique tradition. Recognizing this as a significant sound feature of the soundscape and considering Schaffer's accounts that features may not always be heard consciously but its ubiquity pervades behaviors and moods, it is interesting to think what the aggressive sound of the 'espadas' says about that society, specially when looking through the lens of sound as social welfare.

Attali(Attali, 1977) argues that music is more than a subject of study but a way of perceiving the world, a tool to directly assess it. This growing ambiguity and fast change of social economic scenarios pose a challenge to rethink music, since he as well believes it to be an instrument of understanding society, "a form of sound knowledge which in his own words reflects the manufacture of society, constituting the audible waveband of the vibrations and signs that make up society", could we theorize about other societies through the case of Cruz das Almas' unique scope of sounds and its relationship to it?

In Noise, the Political Economy of Music Attali(1977) also speculates about "why music is so rarely listened to and why-as with every facet of social life for which the rules are breaking down (sexuality, the family, politics)-it is censored, people refuse to draw conclusions from it."

Although Cruz das Almas' council organizes a huge outdoors event secured by police and with all sorts of catering options for tourists and all the city's communities, the vast majority of poor people stay in their houses or proximity watching the 'espadeiros', name given to the person lighting up and throwing the firework and who could be their neighbors, friends or just someone passing by.

While burning the 'espadas', people deliberately run after it in an attempt to kick it or take it from the ground and throw it back again, with people getting seriously burned as a result of actions performed during these adrenalin rushes. Several 'espadas' can be lit up at the same time by different groups of people, smoke takes over the space and the tremendous sound coming from all directions can be seriously disorientating. For some of the participants however, these burns will be exhibited as trophies suggesting this practice as one of liberating vindication not only of the physical space but also their whole body and consciousness, away from the submission of their workplaces or social power relations.

Fig. 3: 'Espadas' War in 1983. Photo from http://reynivaldobrito.blogspot.co.uk/2012/05/guer-raque-assusta-uma-cidade.html. Retrieved in 20 November 2014.

Cruz das Almas' soundscape can as well be expressed through its historical complex semiotic system, with its own grammar and syntax as understood by Garrioch(Garrioch, 2003) in his analysis of western cities. Having gone through dramatic changes in the last decades, the city has experienced a fast process of expansion towards the countryside areas. Brazil has in itself gone through considerable economical reconfiguration which reflected directly in northern cities. The horses and wagons gave place to motorbikes; landline devices to mobile phones, tablets and notebooks used outdoors; community vans and cars equipped with potent sound systems replaced horses and donkeys, radically changing that landscape in less than 20 years. From a bucolic rural setting, marked by farmers leading the cattle, whistling or singing while working the land, the town developed to a small self- contained urbanized rural center with a confusing mixture of loud television, radio and other communication mobile devices occupying the space with their embedded notification bleeps competing with the sounds of farmers' markets, carts and donkeys.

In a more similar fashion to noise gigs, here a violent and aggressive sound might not exactly pose as oppressive but well as enjoyable circumspection,

Fig. 4: playful disputes in 2014. http://atarde.uol.com.br/galerias/30/18425-cruz-das-almas-naoabre-mao-das-espadas

Fig. 5: Cruz das Almas Central Market. Photo from http://newssaj.blogspot.co.uk/2011/10/cruz-das-almas-feirantes-reclamamd.html. Retrieved in 20 November 2014.

the constituent which incites the guts to confront such dangerous fireworks with great charges of adrenalin liberated, like the reassuring shouts of self-encouragement when about to experience something one is scared of.

According to Garrioch(2003), soundscapes can contribute to evoke multiple identities, local and broader. For the author, these particular sounds and responses allow the construction of multiple acoustic communities bonded by a dispersed sense of belonging arising from familiarity with the local noises thick with meaning. The communities participating in the 'espadas' wars might share this familiarity, ascribing triggers to the fireworks' sound that might suggest urgent frightening escape for safety or signal the folk street party's starting point. The council's free music festival taking place in the city's commercial center is dismissed and a certain civil disobedience materializes elsewhere.

If human language is no longer assumed to offer the only meaningful model of communication as states Thrift(2003), events must be understood as genuinely open on at least some dimensions and, regardless of the extraordinary power of many social systems, the experiment proposes temporary condition for them to emerge. Cruz das Almas inherited set of keynotes, consisting of the harsh noise in the 'espadas' tradition; the convention of invasive amplified sound spaces, whether through personal cars pounding sub-woofers, loud level music coming from houses and the shop assistants with their microphones; the city constitutes an auditory community equipped with properties to withdraw meaning and engage with the experiment, which on the other hand uses the very same method of intense sound occupation to momentarily reconnect with another set of symbols. If events unfolded in the cities are threads in which the bodies experience affect this experiment could as well bring a whole set of histories and geographies. The incongruence the rural sounds caused when broadcast widely in that urban scenario effectively staged an experience of de-familiarization which revealed that city's own contradictions. It disrupted the established cluster of registers which Thrift(2003) argues is used as economic weapon instrumentally deployed for political ends.

Such assertion weighted when a license to execute the action on a Saturday was regarded as 'difficult to obtain'. Saturday is the busiest day of the week in the center, with the farmer's market and other stalls in the main square intensely running its activities as well as huge number of cars and motorbikes traveling in the smothered and overcrowded streets. The experiment would only last for one hour, with the cars moving in an average of 20km/h,

stopping the traffic was not required and sound equipped cars when in use for adverts are not normally prohibited on Saturdays. A recurrent question I had to answer was about what exactly I was selling with the difficulties being disclosed after they have learned it was an Art project and I was not selling anything.

Although cities are expected to have 'buzz' and be 'creative' as Thrift(2003) mentioned they are also supposed to catalyze economical activities and the experiment didn't seem to dialog with the capitalist guidelines. A staff member in the Transport and Traffic Office as well as one of the drivers had suggested the experiment should be heavily advertised with time and 'space' clearly informed so people would be able to plan themselves to attend it. One of the drivers also suggested the details about the project should be read live through a microphone from one of the cars during the action, explaining what the project was about. I was obviously not interested in having an audience but in catching passers- by inadvertently turning them into audience only temporarily, as that would be the only effective way to disrupt their acoustic routines. It would no longer propose a form of sociality where people could meet and communicate, a very programmed project where people would know exact location and time would simply be ineffective and sterile though timely to the economic agenda. An Art project taking place in the streets of the city becomes an opportunity, a commercial attraction for trading goods rather than a construction of symbols dissolving the other imposed and controlled to exist as commercial arena.

In this context, Attali(2003) assures the networks can be destroyed by noises attacking and transforming the conventional codes if the latter fail to normalize and suppress the first. For Attali(2003) noise contains order in itself, it carries different codes of information. Thus, a new order can be constituted by replacing new differences for old differences.

The use of sound equipped cars in the context of Cruz das Almas seem to hold analogous position to the musical instrument in Attali's(1977) understandings. Since the instrument often predates the expression it authorizes it grants constant creation of music, what he defines as a renewed syntax. It allows a new system of combination, outstretching the field for a wider possibility of musical expressions usage. Thus, the Rurals experiment re- appropriates from element and practice constitutive to that context and could not have worked the same way in any city.

The *carros de som*, term for these audio system equipped cars integrate a cultural group of means used to propagate sound and it could be regarded

as of mild impact in face of what they call paredão, meaning big wall in English, these are cars, sometimes of popular cheaper model, with portable soundsystems installed at the rear, attached to the back seats and extending all the way to the trunk, the whole system can cost more than the actual car and have strength to break window glasses and be heard from miles away. Though the *paredões* exist nationally, the community in context listens to a very specific locally brewed type of music and encompasses various levels of social complexities, I will not cover this subject in this paper, focusing my analysis in their use.

The choice for the sound equipped cars for my experiment was not done by chance and in order to justify it, a presentation of this other crucial cultural sound component becomes necessary. The very organized community of owners meet regularly in meetings to exhibit their always more improved sound systems. I am talking about meetings held in the local stadium or large outdoor spaces where their portable sound systems are pulled out and fully opened, played at its highest in order to identify technical qualities of their sound systems, usually focused in how clear and high the audio in their systems can get. It will not be abnormal to see more than 10 of these cars parked on semicircles, all playing at the same time. They also give names to their systems and most of the times as direct references to violence implying one has to painfully "endure" or "survive" their soundsystems with names such as *pancadão*(big bash) or *porradão* (big shitload) heading the list.

It is easy to make connections with Suzanne Cusick's(Cusick, 2008) studies of music as torture, with the owners of these cars clearly stating the distress they cause through the names given. In this context however, this distress is glorified and understood as playful provocation to enthuse one another to keep on improving their equipment and without including an audience. In her paper Musicology, Torture, Repair, Suzanne G. Cusick(Cusick, 2008) claims to be uncertain in relation to the aimed functions of music played to prisoners in the detention camps, concluding it rather worked more often as sheer sound which to assault the hearing capabilities of the prisoners, obscure and confuse the prisoner's ability to think clearly as well as disorientating their sense of temporality and bombarding the prisoner's body with acoustical energy. The circumstances here can present similarities, as a few of the cars have their systems pulled out and playing music at the same time in very loud volume, a cacophony of sound emerges and one cannot immediately recognize any music, possibly perceiving it as sheer sound. Considering the extreme power of the equipment, the acoustic energy it

produces can be definitely felt in the body of those standing close to it, usually their owners and acquaintances. It is clearly a very different way of music enjoyment and to attempt to explain it a real challenge, as it dramatically changes the concept of music as a form of expressing human creative feelings, due to its characteristics of severe violation of someone else's sound space. Though the *paredões* enthusiasts are not being tortured, this cultural ingredient presents itself as a case to grasp what kind of meaning it is taken from this experience, since it does not favor their music and besides it posing serious harm to their hearing capacity. Having such a sonic feature as a soundmark, Cruz das Almas's soundscape, once again exposes its aggression and oppressing features, adding substance to the sound ecology the experiment attempted to dialogue.

Fig. 6: Paredões. Photo by http://www.blogers.com.br/fotos-de-carros-com-som/

4. CONCLUSION

This paper investigated the aspects of the soundscape present in Cruz das Almas, denoting the characteristics of its sonic reality in order to contextualize the scenario in which the experiment was implemented. By analyzing the process of modernization that happened in a very fast period of time, the paper recounted the process through which the city became one of the main centers for shopping in the region, with farmer's markets and shops competing for a parcel of the outdoors sound space. The use of outdoors sonic fabric seemed to be essential for the experiment to effectively engage with the community, as the use of outdoor spaces remained as a tradition inherited by the dynamics of farmer's and street markets to trade goods, even after the fast expansion and changes experienced during the process of modernization.

Technology and electronic goods co- exist in the outdoors with unpaved rural settings, car and motorbike traffic, market sellers, horses and other animals as well as chariots, expensive 4x4 trucks, amalgamating this complex urban environment in which the Rurals experiment took place. The use of the outdoors seemed utterly justifiable and a contrast between the sonic environment and the recordings presented by the experiment strikingly necessary to disrupt and temporarily establish a new soundscape. One which could be understood by that community, effectively remove them from their commercial activities and allure their habitual disposition to noise and invasive sonic backgrounds, channeling this remarkable skill to a plunge into their memories, allowing them to engage and re- think their sound reality.

Cruz das Almas's intrusive and richly textured sound composition could be defined as one of a hardcore nature with its harsh noise similarities re- enforced by the 'swish' fireworks and the 'paredões'. Whether it is one more expression of subcultural resistance, a means to participation, class and gender reaffirmation, the 'paredões' configure an appalling puzzle to musicology, because of the way enthusiasts exercise music listening and enjoyment, challenging any conventional conception and complexities such as loudness and pervasion. Thus, sonic mobility represents a notable characteristic of the aural environment of Cruz das Almas proving to be exceptional tool to briefly suspend the order and it could not be ignored when developing the experiment's framework. Thus, it is reasonable to conclude that the status quo can be formed by a myriad of sonic layers tensed together within an economical, cultural and geographical context. By 'reading' and manipulating the aural fabric of a city, in order to understand its dynamics and syntax it is possible to disrupt momentarily that status quo and release from conventions, opening

space for people to interconnect with their identities and culture behind social codes mostly economically controlled, suppressing the economic hypnosis strengthened by their sound environment. This experiment has revealed the relevance of the soundspace as a medium to transmit a different kind of message, one with no commercial purposes, which freely allows the community to overtake an opportunity to stir questions and, perhaps feelings of empowerment and liberation.

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Must We Suffer in the Rhythm?

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Abstract. Using sound as a container for a variety of social issues I attempt to demonstrate how listening in relation to housing and employment has become highly politicised. The aim being to both demonstrate how sounds can embody some of the most pertinent issues of our time and also to question how artists might work in ways which go beyond mere representation and work with communities, employers and local government to solve problems and influence policy working towards what Julian Henriques (2011), calls a "thinking through sound". Drawing upon research in and around some of the UK's fastest growing cities this work shows how government and employers often overlook opportunities for imaginative solutions to issues such as noise pollution and allow for the creation of potentially dangerously noisy and sonically banal new towns and workplaces. In addition to noise pollution, the research presented also explores our relationships with the sounds of our automated environments, which are increasingly punctuated by a conglomeration of unimaginative alert-tones and mono-cultural automated voices. Through communication design practice and theory, musical analysis and embodied cognition I demonstrate how noise pollution and the sounds of automation punctuate key parts of our daily routines forming a conglomeration of multimodal stimuli that profoundly affect our everyday. And I go on to question how sound artists might begin to facilitate change in policy through their ability to poetically evoke responses problem solvers rather than documenters of our sonic environments.

Keywords: Regeneration, Soundscape, Immersivity, Sounding, Media-Ecology

1. INTRODUCTION

In the field of sound practice, artists often feel the draw of working and recording in either large dense urban areas or faraway wild-places. Yet it is prosaic, semi-rural areas, where new towns are rapidly being carved into the British countryside that afford great possibilities in terms of expanding our thinking around the future role of sound in relation to housing, land and employment. The present political climate here in the UK is one in which artists and architects working in the 'public realm' face co-optation through state led regeneration, and where the role of socially-related practice has become fraught with tension and difficulty. However, the current housing crisis and acceleration in automated employment offer opportunities for

artists to influence thinking and practice around the design of our domestic and working environments and as Josephine Berry suggests there are now "moments in which power and counter-power negotiate, clash and find articulation". (Berry,2009)

Setting up discourses around sound practice through action-based research is crucial but often difficult and problematic, partly because describing important aspects, such as corporeal engagement, in linguistic terms is difficult (Leman: 2008). However, approaches such as a "thinking through sound" expounded by Julian Henriques (2011), are useful in that they point to the possibility of academic approaches outside of current practice. Julian Henriques' concept of "sounding" (2011), for example is appropriate for his main area of concern: sound-system culture, because one of our primary forms of engagement with reggae, dub and dub-step is through the corporeal activity of dance. The theoretical, linguistic apparatus of writers such as Matt Fuller and Steve Goodman is also helpful as their approaches manage to incorporate the philosophical work of Giles Deleuze and Felix Guattari with that of major media theorists including Marshall Mcluhan and Friedrich Kittler.

Our reception of sound is always multi-modal, and an inquire into the potential of sound-based practice to elucidate social relations necessitates not only an acceptance of broad and shifting perceptual responses to sound, but a view of these practices as part of a larger ecological system, a system in which practices may converge in different ways at any given time.

The research below began as part of a one year residency in the city of Peterborough, through Arts Council England, Metal Peterborough and Peterborough Presents, the aim of the residency was to engage local people in issues in relation to listening and their environment. Despite the importance of a problematising of a prioritisation of the visual in design, the intention of this work is not to propose a counter-attack of aural cultures against the hegemony of an ocular-centric society, or any other modality. Rather, to show how an exploration of how the current situation affords artists and designers working in the field of sound new possibilities, which thereby offer new models of interpretation of social concerns and issues more broadly and calling for sound artists to take a more critical approach to the future of sound and its impact on our everyday lives through the machines we use and sounds that modulate us.

2. PLEASANT SOUNDS

A key reference point for the project was the work of local, working-class poet John Clare (1793-1864). In his poems Clare paints a bucolic aural image of the British countryside that probably still exists in our national, cultural consciousness. Much of Clare's countryside is now dominated by large international distribution centres, mammoth agricultural farms, wind turbines and new towns. I'm sure Clare's countryside was full of noise, both natural and man-made and his poem necessitated a filtering of unwanted sounds in order to find the idyllic aural portraits depicted. The contemporary sounds of Clare's countryside are still rich and fruitful and they embody some of the most important issues of our generation. Through a careful listening they allow us to engage in issues around housing, land, employment, immigration and the environment, that have both local and national resonance.

One of the major contributing factors to dangerous noise levels throughout the UK is road traffic, although our national soundscape will change radically due to the introduction of electric vehicles, much can be gained through examining the contemporary relationships between traffic noise, housing and employment. In his writings on helicopter usage in Sao Paulo, Saulo Cwerner describes how, "aeromobilities become contested and politicised, and therefore an important feature of the social divisions that mark contemporary mobility" (Cwerner 2009: 225). Sao Paulo has the world's densest helicopter traffic, whose sonic footprints pervade the metropolis, as a reminder of the power of the city's elite, resonating issues beyond those of mobility and transport. As with helicopter flight the sounds of heavy haulage trucks are indicators of social, political and cultural issues, and the UK's elaborate system of road networks allows for a "playing" of the countryside. In this "playing" residents are involved in a transaction between the vehicles and the land, where the relationships are complex, fluid and shifting. The auditor's role is far from that of a passive listener as he/she makes compositional choices through factors such as movements and usage of media objects. Steve Goodman, in relating the work of Augoyard and Torgue (2006) to his own studies of urban audition, goes as far as to suggests that the body is in itself an instrument in this performance, as "the body is rendered as a multi fx-unit, as transducer of vibration as opposed to a detached listening subject isolated from its sonic objects" (Goodman 2010:46).

The decibel levels I recorded on footpaths adjacent to roads in some of the small towns and villages around the City of Peterborough regularly exceeded those I recorded at the same times of the day in traffic 'hotspots'

in central London. I commonly found readings of 90db or above metres away from housing and schools. As UK urbanisation and social cleansing increases, families unable to afford to live in the capital and migrant workers seeking employment are contributing to the growth of small cities such as Peterborough. Many end up in housing developments such as Welland and Cardea, just outside the city, the later consisting of fake hills and lakes incongruous with the topology of the flatland surrounding it. These housing developments butt-up against the busy A-roads heading to the North or transporting goods to and from cavernous distribution hubs around the city as a result the new residents enjoy exposure to illegally loud noise levels.

It is not just the sounds produced by the trucks that is important in this case but also the unheard distribution centres that they serve which visually punctuate the local landscape and are a reflexive counterpoint to the vehicular emissions. The sounds of these gigantic centres are inaudible to many but form the intense immersive experience for their workers. Constant high decibel hums and a cacophony of electronic alert tones punctuate the soundscape inside the warehouses and the machine sounds form part of the communication network of human-machine employment. Amazon UK for example forms the company's third largest workforce globally and most of the workers in their warehouses earn just above the minimum wage (currently, £7.83 per hour). Brandon Labelle, in his explorations of urban sound explains how the visual markings of pedestrian crossings, along with accompanying electronic beeps form "rhythms", "that stimulate forms of alignment and entrainment" (Labelle 2010:96). Inside Amazon's warehouses many workers follow a carefully controlled algorithmically generated route where their journeys are marked by sets of lines and boundaries on the floors. The notations here are not only indicative, but also reflexive, reinforcing the beeping sounds. These notations all exist discursively with sounds of the warehouse and help become its "rhythm". Instead of disrupting activity the sounds actively enhance and support the workers operation during a day that might typically involve them walking up to 15 miles.

3. CLEAN CITY SONOPATHY

Despite the importance of to raising awareness around the impact of noise pollution on health and well-being, we should be wary of simplistic approaches which don't take into account the contextual nature of listening. Top-down solutions to visual or environmental pollution need to which don't take into account the multi-modal nature of experience or the complex web of contemporary social relations are problematic.

In 2006, the Mayor of Sao Paulo, Gilberto Kassab, embarked on a violent campaign, the aim of which was to eradicate the city of advertising in public spaces. The project was called, "Lei Cidade Limpa", or "Clean City Law". Sao Paulo enjoys the ambient noise levels consistent with any other megalopolis, and by 2002 noise levels in the city were already consistently well above Brazilian Standard Limits. What the Mayor's policy demonstrates is a prioritising of the senses; Kassab's fixation on visual noise, totally disregarded warnings that sound noise levels in many parts of the city "represented a considerable health risk" Alves, Cardoso M. Moura-De-Sousa, C. (2002), no corresponding laws were introduced to combat audio advertising or noise pollution. One noticeable result of Kassab's "A Cidade Limpa" was that not only did graffiti become more prolific; particularly on the blank-canvas spaces left by one-time advertising hoardings but it also became more obvious because of the lack of competing visual noise. What this example shows is not only the visual dominance in city government thinking but also the result of not taking an ecological approach to issues.

In Peterborough's town square, we find the go-to solution for urban planners when it comes to dealing with noise; the water fountain. The new fountains in the centre of the city's square are surrounded by an array of national and global retail outlets and restaurants which have sprung up in a bid to reignite the cities dwindling daytime and night time economies. The space, though technically public, feels like many other privatised, interchangeable spaces with the familiar water soundscape and array of eating options. This consumption of acoustic space through attempts at the privatisation of aesthetic experience can be seen as an inevitable impact of "The Culture Industry" Adorno (1991), through which, not only are the conglomerate parts of our cultural experience reduced to the lowest common denominator, but the perceptual space in which these operate becomes subsumed to form part of the process. Lefebvre, who in The Production of Space (1991) extends Marxist concepts around the commodification of leisure and "free-time" Adorno (1991), to the commodification of space explains how space in the form of a commodity is necessarily divided, standardised and measured. In contemporary listening practices, as exemplified by the fountain, it is this standardised format of the water-feature that represents the measured commodification of our acoustic space.

However much the mediated environment of urban space may become fetishised and normalised either through mobile audio technology or simplistic structural features, these remain only one of a many devices and systems that operate in, on, and in-between our perceptual modalities. As

Leman reminds us, "even if the music is limited to a single energetic channel such as audio (as in radio, CD, or iPod), then the musical experience can still be said to be a multimodal experience" (Leman 2008: 139). As in cinematic space, our experience of public, urban space is subject to an assemblage of signals and energies that affect our experience of it.

Our acoustic relationship with sonic objects in our built environment is one of constant feedback. For Matt Fuller (2005), one of the tasks of media ecologies is to carve out unaccounted for potentialities from "standardised media-objects" (2005). The "affordance of possibilities" Gibson (1979), offered to us by standardised objects such as mobile phones, fountains or PA systems is still broad and artists have a responsibility to reveal new potentials for standardised modes of reception and behaviour. Writer, activist and artist Stephen Pritchard uses the term 'Artwashing' (http://colouringinculture.org) to describe the process through which artists are co-opted into the regeneration process, their work being used as brokerage through which to secure permission for new planning developments. The result being that both local community and artist are disempowered and rendered impotent. Although artists working with sound can't pretend their work is innocent of the same financial imperatives as that of visual artists or that collusion with local government might not come at a price, there may be opportunities for sound artists to have a meaningful social impact.

Acousticians, consulted by local government or employed by architects and developers hold a degree of power when it comes to the composition of our listening experience. Some acousticians aware that their lexicon can be intimidating or alienating have begun to adopt the language of Acoustic Ecology to engage more widely. Sonic immersion is a major feature of sound practice and the construction of immersive listening environments is a key element of acousmatic music. In architecture, auralisatation processes commonly involve the simulation of sonic environments using multi-speaker setups. There may be ways in which these practices can be brought together to explore immersive listening environments as both an artwork and a co-design tool. In order to meaningfully engage with sound-art we have to go beyond the representation of issues, to ways it can be used to directly influence policy and decisions.

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| Session #3

Extended Abstract

Singing Caesuras: Phonography's Generating of Otherwise Times

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In this paper, I want to engage (once more) in and with phonography – that concept, term, problem which has both occupied and troubled sound studies, musicology and media theory ever and at least since the birth of the phonograph (Cf. Feaster 2015; Kittler 1986; Sterne 2012). I am opening up the term or the thinking around this term once more because I want to amplify a reading of phonography as a deconstructive tool and concept to rethink the violent ontologising that is carried out under the umbrella of sound technology and its reproductions (of the notions of the human and the subject).[1] Such a deconstruction of the term has mostly been developed in critical race theories and particularly Black Studies (Weheliye 2005; Chude-Sokei 2015; Moten 2003, 2004) and taken up as well in musicology and sound studies (James 2018).

I am following this deconstructive notion of phonography not only because it opens up the rethinking of sound and its reproduction due to the coalescing of performance and iteration in the constitution of phonography (see Moten, Weheliye). But more particularly because I am interested in how such a notion of the phonographical allows us to rethink voice and singing more specifically.

I will listen to and follow the singing of Nina Simone's 1959 version of "Black is the colour of my true love's hair" to argue that in her phonographical singing we can hear not only the questioning and destabilising of firm ontologies of voice but furthermore how common notions of (musical) temporality are dislodged. Listening to Simone sing allows for the convergence of performance and reproduction to be heard: we hear her singing as phonographical. I argue furthermore that her singing as phonographical cannot

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[1] I am here following the critique of the ontological turn in current sound studies (Cox 2011; Thompson 2017; Goh 2017; Kane 2015).

only be determined and found at the places of emanation (i.e. her body, her subject, loudspeakers, the record) but that such a singing as phonographical is at the same time determined and co-produced by listening. Our ears, our listening and perhaps even Simone's ears and her listening are conspirators of the whole musicking ensemble that is called singing.

In this paper, I want to dwell on the moment of this convergence, where singing is grounded from and within listening – where singing is determined similarly by sound as well as listening. We hear and find such moments of convergence, when and where listening and singing collaboratively generate temporalities that exceed media and chronological and metrical time. Those moments in which we can follow phonographical singing signal towards otherwise times, caesuras from which new times emerge, yet (and always?) unheard (of). Tuning towards these caesuras and otherwise times then allows for the queering of causal listening (Chion 1994) and for a more temporally rhizophonic (Stanyek and Piekut 2010) relation of voice (and sound) to ear.

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Extended Abstract

Microphone Choreography and Painting with Sound: Naná Vasconcelos in the Recording Studio

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Celebrated percussionist Naná Vasconcelos created a kaleidoscopic palette of sonic timbres using a wide range of instruments, from the one-stringed musical bow the berimbau, to drums, shakers, glass jugs, and bird calls. In the recording studio, his arrangements took shape, as he drew from Foley artistry with the aim of painting with sound, creating cinematic sound-scapes of percussion and voice that refigured the border between what is considered music, sound, and noise.

In this presentation, I draw on oral history interviews with Naná Vasconcelos's close collaborators regarding his workflow in the recording studio. In July, 2018, I spoke to artist and producer Arto Lindsay, guitarist Vinicius Cantuaria, bass player Melvin Gibbs, producer Pablo Lopes and re-cording engineer Patrick Dillett. Their recollections help to elucidate his process. For example, the depth and width of the stereo field in his signature recordings, such as Africadeus (1973) and Saudades (1980), was produced in part by Naná's microphone choreography. Moving toward, away from, and between a stereo pair of microphones spaced a few feet apart in a kind of dance, Naná created a three dimensional sense of auditory space distinct from similar efforts done with stereo panning at the mixing board.

The studio engineers with whom he worked report that often, they would have no idea what he was trying to do after tracks 1, 2 and 3 had been re-corded. Naná's arrangement would instead cohere little by little, like an im-age emerging from a dot matrix printer line by line. When the final tracks were recorded (tracks 10, 11, and 12, say), each sound would appear in its interlocking place in the mix. Subtle fills would serve as cues to himself, so that he would remember the transitions from one overdubbed track to the next.

Naná's superb time in playing in the studio with other musicians' previous-ly recorded tracks is another theme that surfaced in several conversations.

Arto phrased it this way: "Naná has this kind of crystal clear time. It illuminates everything around it. It's the time itself that is just glorious. It breathes, but never lets you down." This ability to breathe musically played out in the studio, in situations where Naná was put in the situation of having to reconcile the clashing grooves of two previously recorded tracks, or to mend an arrangement recorded by other musicians with a shakier sense of time.

The musicians, producers and engineers who worked closely with Naná Vasconcelos in recording studios over his 50+ year career, narrate an important angle of Naná's story. It is a portrait of a percussionist sideman who, in his restlessness, rethinks the place of the percussionist, dynamically occupying more and more of the stereo field. For Naná, being audible on a record, and being socially visible as an Afro-Brazilian performing all around the world were bound up together. His enduring success was not only made possible by his superlative berimbau chops, but also by his microphone choreography and painting with sound in the recording studio.

Extended Abstract

How We Were Never (Post)human: The Posthuman Body in Pamela Z's *Voci*

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This paper analyzes artist/musician Pamela Z's work in light of feminist critiques of posthumanism from sound/music and black studies. Z's large-scale multimedia work *Voci* (2003), which the artist describes as a "polyphonic mono-opera," consists of a series of vignettes that combine vocal performance with digital video and audio processing. Z manipulates these sources using the BodySynth, an "alternate controller" interface that converts bodily gestures into expressive control signals. Z's work, which often foregrounds race and gender, is often considered through cyborgian, Afrofuturist, and posthumamanist discourses. But rather than affirm her practice as fully consonant with technological visions of the posthuman, I argue that she challenges the very liberal humanism upon which posthumanism is built. For a key tenet of liberal humanism, as Alexander G. Weheliye observes, was the racial and gendered apportionment of humanity into full humans, not-quite-humans, and nonhumans. We've never been human, let alone posthuman.

Z uses technologies of the embodied voice to confront *both* the posthuman imaginary and the continued effects of its ideological preconditions in racio-colonial liberal humanism. In a *Voci* scene entitled "Voice Studies," for instance, Z engages the problem of "linguistic profiling" as it applies to housing discrimination, citing the work of Stanford linguistics researcher John Baugh. Against a backdrop of percussive vocalizations, Z explains, "Studies reveal that people can often infer the race of an individual based on the sound of their voice," subsequently playing back recordings of housing applicants containing vocal signifiers of racial difference. Following a discussion of the black voice and what Jennifer Lynn Stoever calls the "sonic color line," the chapter follows Z's operatic narration of the "prehuman," "human," and "posthuman" across *Voci*'s constitutive allegorical structure. Moving with and against a posthuman imaginary, Z ultimately suggests that although we've never quite been human or posthuman, we may nevertheless narrate new versions of each.

| Session #4

Extended Abstract

The Brown Canon: Non-Western Perspectives in Sound Studies

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In the arts and humanities, Sound Studies has rapidly established itself as a vibrant and productive academic field resulting in a profusion of scholarly writings on sound. Two consecutive compendia such as *The Routledge Sound Studies Reader* (2012) and *The Oxford Handbook of Sound Studies* (2013) have been complemented with handy anthologies like *Keywords in Sound* (2015) and a number of peer-reviewed journals that are entirely dedicated to the studies of sound. These publications show that now sound studies indeed is a rewarding area of research receiving wider academic attention within and outside of the broader disciplines of music, film and media studies, performing arts, and musicology. Notwithstanding this rapidly growing body of work (Sterne 2003, 2006, 2012; Born 2013; Théberge, Devine & Everrett 2015; Dyson 2009, 2014; Demers 2010; Novak and Sakakeeny 2015; Blesser 2007; Bijsterveld and Pinch 2013), much of the attention has been invested in studying sound within an American and/or European media cultural context. Sounds in other Non-Western/Non-European contexts have largely remained underexplored and ignored. The above-mentioned works have been canonized in the global community of sound researchers by the sheer amount of citations and reviews but they have a negligible number of non-White and non-Western contributors. Furthermore, there is a serious lack of representation from the non-White, non-Western scholars, thinkers and researchers in the bibliographic resources and reference list of these works, which are now considered classics. One concerned with this problem of a serious lack of representation may lament that Sound Studies indeed is overwhelmingly white as well as Eurocentric, and the racial conservatism is limiting the fields' research as well as social outreach. It is an act of complacent ignorance not to engage with African and Asian thinkers regarding their sonically rich cultures; while, many of their works are now available in translation. The proposed paper addresses this concern about an unfair social divide upheld in Sound Studies. The paper intends to fill this void by developing a comprehensive understanding of the unique sonic sensibility and sound aesthetics in a non-Western culture like India, through

a literature review as well as the examination of historical developments of sound practice and the corresponding aesthetic shifts. By drawing attention to this ignored line of inquiry, the proposed paper confronts a number fundamental issue in the studies of sound, i.e. subjectivity.

The audible truth: Reflections on the phonographic real

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Abstract. Taking Rodolfo Caesar's *Círuclos Ceifados* (1997) and Francisco López's *La Selva* (1998) as starting points, this article proposes a discussion of the implications of representing the real through phonography. For this purpose, we bring examples of how an idea of "the real" has surrounded many discourses in sound studies, and also suggest a parallel between phonography and photography, drawing from ideas introduced by André Bazin in his 1945 article *Ontology of the Photographic Image.*

Keywords: Reality, Imitation, Representation, Phonography, Sound Studies.

1. INTRODUCTION

It isn't hard to point out similarities between Rodolfo Caesar's *Círculos Ceifados* (1997) and Francisco López's *La Selva* (1998). Both pieces work as acousmatic music, that is, a kind of music in which the source of the sounds is invisible, creating a split between the sonic image and its visual referent. Besides, both works distance themselves from a significant part of the electroacoustic tradition by their employment of explicit extramusical references. If we try listening to the first three minutes of each piece, we shall recognize a dense nocturnal fauna with crickets, frogs, large conglomerates of insects – we don't see them, but we identify them immediately through causal listening (cf. CHION, 2008).

There is, however, a fundamental difference between these two fragments, that may not easily reveal itself through an uninformed listening experience. The sounds heard in *La Selva* were recorded by Francisco López in the reserve forest of the same name, in the north of Costa Rica (LÓPEZ, 1998). Meanwhile, in *Círculos Ceifados*, the majority of the sounds were digitally synthesized by the composer through techniques of FM and Granular Synthesis (CAESAR, 2008: 37), generating a type of material that Caesar himself refers to as 'artificial' (CAESAR, 2008: 62). Would it be reasonable to argue that, knowing the source of the sounds being heard, López's fauna is

more real than Caesar's? Or even that one is real while the other isn't? In which ways does this knowledge affects our listenings of these works?

This article investigates how an idea of the "real" has surrounded many discourses in sound studies. This extends from investigations on the origins of phonography, all the way through the more recent practices of field recordings, sonic art and electroacoustic music. We propose a parallel between phonography and photography, showing how both have been historically marked by a particular relationship to reality. Finally, we examine Francisco López and Rodolfo Caesar's writings to point out how both composers have dealt with the matter of reality when thinking about their artistic production.

2. REALISM AND IMITATION

Distinctly from the visual arts, the imitation of soundscapes and quotidian sounds appears as a minor interest in the tradition of European classical music at least until the second half of the twentieth-century. Although the sounds of nature have been occasionally used as sources of inspiration for many composers, the representation of these phenomenons has operated more often in a symbolic form than in an imitative one. For British anthropologist Georgina Born, this characteristic manifests itself as result of a fragility of the musical medium, in comparison with literature or the plastic arts, in creating denotative meanings, which would lead it to privilege connotative modes of signification (BORN; HESMONDHALGH, 2000, p. 32). We might raise the hypothesis that this incapacity, or this lack of interest, is due to a certain inadequacy of the musical instruments to convincingly replicate these types of sounds; or perhaps that, on the contrary, musical instruments (and, by consequence, the very concept of music) have purposely evolved in opposition to this type of representation.

Since the end of the nineteenth-century, the perspective of an essentially non-representational music has crystallized – a kind of music that would refer to nothing except itself, concerned with internal aspects such as form and structure – as result of the conflict between *programmatic music* and *absolute music* that has led to the prevalence of the last (IAZZETTA, 2016: 384). According to Douglas Kahn (2003: 78-79), sounds perceived as imitative or carrying explicit referentiality to external phenomena encounter great resistance in the musical tradition, often being considered a "lower life form", appearing only as sound effects or mere curiosity.

We might also connect this apparent lack of interest in imitation to the ephemerality characteristic of sound production. For French cinema theorist André Bazin, imitation in the plastic arts originates itself from a desire of embalming, of saving the body from its mortality, therefore fixating its appearance in a medium that could guarantee the permanence of the image (BAZIN, 1974: 9-10). At least until the development of phonography, the sonic image could not be immortalized in an analogous way to what painters and sculptors did, and consequently any attempt at creating a sonic imitation would be no less fleeting than its original and, therefore, ineffective.

The development of perspective in the fifteenth-century marks, for Bazin, the "original sin of Western painting", which would lead to a long-time obsession for the imitation of the visible world, for the illusion of forms, for an attempt to replace the exterior world for its double and therefore save it from its finitude – an obsession that could only be redeemed centuries later, with the emergence of photography and cinema (BAZIN, 1974: 12).

In 1878, when Thomas Edison made the first demonstration of his phonograph, the inventor believed his machine to be "practically perfected" in what concerned the fidelity of its reproduction (THOMPSON, 1995: 135). It's safe to say that Edison's criteria of fidelity were probably very different from those that would mark countless generations of audiophiles and *Hi-Fi* enthusiasts, insatiable consumers of modern sound reproduction devices promoted by the phonographic industry.

Emily Thompson (1995: 137-138) shows that the criteria of fidelity are directly associated to the function attributed to the phonograph in different periods of its history: when Edison proposed that the machine could serve offices as a kind of "aural letter" in transmitting messages or registering contracts, the intelligibility of the spoken word was the most important parameter to be considered when judging the success of his technology. However, when the same machine became a vehicle for the notorious voices of famous opera singers, these criteria become immediately insufficient, bringing up new concerns such as the particular kind of timbre produced by the system.

A higher bet on the equipment's fidelity appears with the *tone tests*, events for promoting the phonograph organized between 1915 and 1925, on which Edison's company proposes the spectator a comparison between the music as reproduced through the phonograph and the same piece being performed live by the recorded artist. In some of these presentations, the experience was further reinforced by an acousmatic listening session, on

which the lights were turned off so that spectator was unable to know if the musician was or wasn't on stage, conceding his judgment entirely on his auditive perception (THOMPSON, 1995: 152). The criteria of fidelity, now, becomes an illusion of presence, brought by an incapacity of the listener's ears to distinguish between the authentic and it's copy.

New criteria would appear through the history of phonography to progressively revive the quest for ideas of fidelity and realism. Although recently many technologies dedicated to musical listening have privileged portability and accessibility, often in despite of sound quality (IAZZETTA, 2009: 127-129), a great deal of electroacoustic music and audiovisual systems have manifested the desire to simulate the perception of different listening spaces, in an analogous form to the quest for space introduced by perspective in painting.

For German media theorist Friedrich Kittler, "hi-fi stereophony can simulate any acoustic space, from the real space inside a submarine to the psychedelic space inside the brain itself" (KITTLER, 1999, p. 103). However, this conviction on the spatiality of the stereophonic system doesn't seem to be shared by artists and engineers who keep searching, through new technologies such as *ambisonics*, for a sense of space in phonographic reproduction that seems closer to the one we're able obtain in our daily listening. According to engineer and researcher Peter Lennox, for example, there's still a long way to be tracked in the direction of a faithful representation of spatiality:

> We do not have control (or the capacity to display, yet) of attributes such as virtual objects' sizes, orientation, and precise position within a virtual location. We also do not have particularly good audible depiction of virtual places – with a wall over there, a door opening here, the ceiling so high, the floor cluttered with furniture, and so on. There attributes are all audible in the real world, and we should be able to have them in our artificial one. (LENNOX, 2009: 266-267)

Anyway, the promise of fidelity in imitation didn't seem to be enough to sustain the marketing campaign for the Edison phonograph. As Emily Thompson (1995) argues, the campaign gradually shifts from the idea of phonography as an imitation of reality to the idea of phonography as *reality itself*, aiming at positioning the experience of phonographic listening in the same realm as the experience of music produced by live musicians. The author also points out that some journalistic reviews of the *tone tests* campaign reveal a curious inversion between original and imitation:

> Yet the *Transcript* reported that [the singer Christine Miller] "adjusted the power of her voice to that of the 'record' with skill and the reproduction was closely imitative." It is not clear what "the reproduction" refers to here; is it Miller's reproduction of the recording or the recording's reproduction of her? (THOMPSON, 1995: 156)

In this way, the *tone tests* campaign seems to predate a common phenomenon in the transformation of reproductive technologies into productive technologies, that came to mark not only electroacoustic music, but also the majority of pop music in the second half of the twentieth-century. It's not unlikely to observe, recently, criticisms of musical performances that praise the interpreters for their capacity to adequately reproduce the nuances of the song such as they have been made in its phonographic version, that is, the capacity of the musician to present a faithful copy of his own song. Phonography acquires the status of the real, leaving for the performer the task of producing, as faithfully as possible, its imitation.

3. FROM REALISM TO THE REAL

For André Bazin, the greatest strength of the photographic representation is less related to the image's fidelity than to a certain *objectivity* inherent to this particular type of representation:

> For the first time, between the originating object and its reproduction there intervenes only the instrumentality of a nonliving agent. For the first time an image of the world is formed automatically, without the creative intervention of man. (...) All the arts are based on the presence of man, only photography derives an advantage from his absence. Photography affects us like a phenomenon in nature, like a flower or a snowflake whose vegetable or earthly origins are an inseparable part of their beauty. (BAZIN, 1974: 13)

Thus, for the author, the photographic image is capable of obliterating all subjectivity, manifesting itself as an indisputable proof that the represented image existed and has appeared in front of the photographic machine:

> The objective nature of photography confers on it a quality of credibility absent from all other picture-making. In spite of any objections our critical spirit may offer, we are forced to accept as real the existence of the object reproduced, actually *re*-presented, set before us, that is to say, in time and space. Photography enjoys a

certain advantage in virtue of this transference of reality from the thing to its reproduction.

A very faithful drawing may actually tell us more about the model but despite the promptings of our critical intelligence it will never have the irrational power of the photograph to bear away our faith. (BAZIN, 1974: 13-14)

French philosopher Roland Barthes would also support a similar view, arguing that the photographic image has as its very essence the ability to "ratify what it represents" (BARTHES, 2000: 85). Therefore, Barthes distinguishes the photographic referent from other types of representations:

I call "photographic referent" not the *optionally* real thing to which an image or a sign refers but the *necessarily* real thing which has been placed before the lens, without which there would be no photograph. Painting can feign reality without having seen it. Discourse combines signs which have referents, of course, but these referents can be and are most often "chimeras". Contrary to these imitations, in Photography I can never deny that *the thing has been there*. (BARTHES, 2000: 76)

Both Barthes (2000: 82)[1] and Bazin (1974: 14) mention the Shroud of Turin as a mythical example of quasi-photographic objectivity in representation. This Christian relic is said to have revolved Christ's body after his crucifixion, and somehow preserved his image on the cloth. Although the image that remains is faint and barely identifiable, the possibility of having originated directly through bodily contact, and not through an artist's hand, concedes the image a higher degree of credibility, from which it derives its mythical status. After conducting a reconstruction of Christ's body based on the image left on the Shroud, Professor Giulio Fanti of the University of Padua claimed to have produced "a precise image of what Jesus looked like on this earth" and was even able to add that "according to our studies, Jesus was a man of extraordinary beauty" (MARTINENGO, 2018). No matter how artistically inspired Leonardo da Vinci or Caravaggio's representations might have been, they can never be as reliable a source of information as the acheiropoieta, as these magical proto-photographies are known.

This particularity of photography that, as we will argue, is also often perceived in phonography, is independent of any apparent similarity or fidelity

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1 The English translation of Barthes' *La Chambre Claire* by Richard Howard, however, replaces the original text's Shroud of Turin for St. Veronica's napkin, a different *acheiropoietos*.

of the representation to its model, but connects instead to the way in which these image were (re-)produced. It's located not in the final product, but in its origin. Thus, the perception of this "index of reality" depends on the spectator's awareness of the processes that precede these particular types of representation, a shared belief in the objectivity of the photo/phonographic devices.

Similarly to Barthes' reading of photography as being able to testify to what it represents, Friedrich Kittler identifies the inscription of "wavelike shapes into the phonographic plate" as a reproduction "authenticated by the object itself" (KITTLER, 1999: 11-12). Like Bazin, the German author argues for the objectivity of phonography as a result of its ability to bypass any subjectivity in its mediation of sound: "The phonograph does not hear as do ears that have been trained immediately to filter voices, words, and sounds out of noise; it registers acoustic events as such" (KITTLER, 1999: 23).

Kittler borrows from Lacan's distinction between the symbolic, the imaginary and the real, and then goes on to identify the first with the typewriter, the second with cinema and the last with phonography. "The real", writes Kittler, "has the status of phonography" (KITTLER, 1999: 16). The unprecedented type of reproduction provided by media is therefore able to escape all linguistic or symbolic grids. As Seth Kim-Cohen has pointed out, for Kittler:

> Visual and sound recordings, as exemplary instances, are not obligated to resemble a preexistent referent. Instead, they are products of an object: of light in the case of photography; of sound waves in the case of phonography. In this sense, they are purely indexical: the physical imprint of a material catalyst, *not* the iconographic likeness of an external referent. (KIM-COHEN, 2009: 94-95)

As an earlier example of sound mediation providing access to "the real", Jonathan Sterne's description of the introduction of the stethoscope in medicine shows how the instrument allowed doctors to access information from the insides of patient's bodies that previously could only be available through an autopsy (STERNE, 2003: 99-128). Sterne argues that the stethoscope's success was based both in its ability to increase the physician's listening skills, allowing for previously unheard sounds to appear, and also in the possibility of maintaining a physical and social distance from the patient. Like Kittler's reading of the phonograph as being able to avoid the subjective "filtering and censoring" (KITTLER, 1999, p. 89) of listening, the

stethoscope allowed medicine to replace the patient's subjective descriptions of his or her own symptoms for a more objective and therefore reliable access to the body itself:

> It offered a way of constructing knowledge of patients independent of patients' knowledge of themselves or what they might say about themselves. *The truth of a patient's body became audible* to the listener at the other end of the stethoscope. (...) The sounds of the patient's body were independent of the patient's free will: patients could not "conceal, exaggerate or lessen" the sounds that their bodies yielded on examination by mediate auscultation. (STERNE, 2003: 122; italics added)

This act of mediate auscultation, which in Sterne's account provides sonic information that surpasses the ones provided by the patient's talking, resembles many qualities attributed to phonographic recording. In his *In the Blink of an Ear* (2009), music theorist Seth Kim-Cohen brings forwards interesting reflections on how changes in the social context allowed the emergence of new meanings in Stephen Vitiello's *World Trade Center Recordings*. This project, made in 1999, involved a series of recordings made in the World Trade Center's 91st floor, in New York. Vitiello set up contact microphones in the building's windows, allowing the capturing of the city's vibrations reverberating through the edifice (KIM-COHEN, 2009: 128-129). Kim-Cohen argues that, following the terrorist attacks in 2001 that caused the building's destruction, Vitiello's work acquires a new layer of meanings, being rewritten as a document of a violently extinguished reality, which radically affects the ways in which it's perceived:

> Vitiello's World Trade Center Recordings act as aural portraits of the world pre-9/11. (...) Vitiello's recordings are the reminiscences of the fallen towers "in their own voices," the last words, not of the legion dead, but of the buildings themselves, of the architecture that, for the terrorists, symbolizes America's capitalist empire, and which now, for the rest of us, symbolizes the multitude lost and the zero from which the new world begins to reaccumulate itself. (KIM-COHEN, 2009: 130)

It is only through the particular kind of connection that phonography establishes with its represented object that Vitiello's work can acquire this strength of representation, in a way that allows Kim-Cohen to read it as a register of the "last words" of these buildings. Not Vitiello's words on the World Trade Center, but the building's own sounds. Furthermore, the

attaching of contact microphones to the windows of a building that would soon be dead is strangely reminiscent of auscultation. Even if the captured sounds tell us nothing about the place where they were registered, the attack that was soon to happen, or even about what kind of sound people who worked really there heard in its interior, the work still acquires an intensity that could hardly be grasped by any attempt of posthumous representation. It is in this sense that Vitiello's field recordings resound Bazin's considerations on photography: "No matter how fuzzy, distorted, or discolored, no matter how lacking in documentary value the image may be, it shares, by virtue of the very process of its becoming, the being of the model of which it is the reproduction; it *is* the model" (BAZIN, 1974: 14).

The most significant part of the work's textuality depends on a tacit agreement between the listener and the composer, an informal contract that confirms the presented sound to be not necessarily 'faithful', but 'authentic'. This information doesn't simply appear through 'sound itself', but through a discourse that precedes the work, informing the listener on the way it was produced.

4. FROM REAL TO REALISM

The emergence of the real through photographic objectivity is well portrayed in Michaelangelo Antonioni's *Blow-Up* (1966), in which David Hemmings interprets a London photographer who, after taking a series of pictures of a couple while walking through a park, attempts to unveil a murder that seems to be hidden in the background of his photographs. The murder is invisible to the photographer's naked eye, but can't avoid being caught by the camera's lenses. On the foreground, one sees only the couple and the park. After a series of enlargements (*blow-up*), however, the truth is revealed hidden in the image's background: a hand holding a gun, traces of a body lying on the ground.

The picture, now with its image blurred due to successive enlargements, looses realism, but allows the photographer no notice things that had escaped him in the ephemerality of that short moment while taking the picture. Even photographic manipulation, in this specific case, does not cause the image to lose its quality as an "index of reality" that allows the photographer to convince himself that a crime has happened. On the contrary, it is precisely the possibility of manipulation that allows the murder to noticed, conceding the photograph an authority over the real that exceeds the naked eye's, allowing an unveiling of the world.

A phonographic counterpart to Antonioni's film would be portrayed in cinema fifteen years later, with Brian de Palma's *Blow Out* (1981). John Travolta plays Jack Terry, a sound designer for low-budget movies who seeks new sounds for his latest production. After field recording in a park at night, Jack realizes he might have unknowingly recorded an attempt to murder a presidential candidate. The death is widely reported as a car accident, but the media's biased discourse is unable to convince the Travolta's character. As in Jonathan Sterne's essay on the stethoscope, sound mediated by technology is preferred over the spoken word, for it presents itself as less influenced by human subjectivities and, consequently, more trustworthy. The field recordist listens to the recordings multiple times, replaying the scene, thus allowing himself to grasp what couldn't be heard by the naked year: the sound of a gunshot that precedes the explosion (*blowout*) of the vehicle.

As in Antonioni's film, technological mediation is portrayed as being able to unveil a reality hidden by the fallibility of human perception. The sound designer is equipped with highly sensitive microphones, allowing him to hear at a longer distance, and a tape recorder which allows him to register and reproduce the event, disclosing sounds that would have otherwise passed unnoticed.

A different connection between phonography and the real is outlined later on in the movie, when Jack and his partner Sally (Nancy Allen) try to send a copy of his recording to a journalist, as a proof of the murder. In order to avoid that the recording gets stolen, Jack wires Sally by attaching a microphone and a transmitter on her coat, monitoring her from a distance while she attempts to deliver the magnetic tape. Allen's character ends up being deceived and murdered by the same man who planned the killing of the presidential nominee, while Travolta helplessly listens to transmission through his headphones. The phonograph is unable to save Sally's life, but her last whispers, captured by the microphone, are permanently stored into another of the sound designer's magnetic tapes.

Back to the film studio, Jack employs Sally's death scream as dubbing for the voice of a bad actress in his new production. As part of the cinematographic fiction, the sound becomes highly convincing and realistic, pleasing the film producer; for the sound designer who is aware of the sound's origin, however, the sound is not only realistic but also terrifyingly real. Throughout the movie, De Palma successively transports us back and forth between the aspects of realism and reality in the magnetic tape. Although the phonograph fails to save the real from its necessary finitude, it allows the sound

designer to immortalize its appearance, as suggested by Bazin, and make it into an art object. Furthermore, in Blow Out, it is the murdering of the real which allows the emergence of realism in the artistic production.

5. ON *CÍRCULOS CEIFADOS* AND *LA SELVA*

The contrasting ways of representing nature employed by Caesar and López – digital synthesis and field recording, respectively – are directly related to the musical intentions of each composer. *Círculos Ceifados* comes out of Rodolfo's ongoing research in Bioacoustics, which would also result in works such as Ranap-Gaô (2001) and Bioacústica (2005) (SVIDZINSKI, BONARDI, 2016: 74). The composer takes animal sounds as his original reference, and then reconstructs them through FM and Granular Synthesis processes, well described in his 2008 book that shares the composition's title. By working this way, Caesar is able to obtain a higher degree of control over his materials, allowing him to manipulate them according to his compositional project. However, the composer's writings also demonstrate his concern with the achieving of a certain 'naturalness' in the synthesized sounds, which might also be interpreted as a quest for fidelity in representation: "the only 'disadvantage' in this technique (which might be an 'advantage' in another compositional context) is that the result is not very 'natural': the sounds (and their behaviours) seem too perfect, clean and isolated from an acoustic ambient"[2] (CAESAR: 2008: 48).

Part of the compositional project behind Círculos Ceifados concentrates on the establishing of an instability between two pairs of categories of sounds (and listening): the 'natural/artificial' and the 'sonorous/musical'. With the first pair, Caesar initially seems to refer to the sound material's origin: either by synthesis (therefore *artificial*) or by sound recording[3] (therefore *natural*). However, by admitting his efforts to maintain a 'naturalness' in synthesized sounds, Caesar implicitly considers an idea of naturalness related to a perceived realism in representation, now only partly related to its production means. The text therefore alternates between the comprehension of the 'natural' as being located in the sound's origin (in its means of production) and the natural as located in the sonic result (through a listening

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2 "[a] única 'desvantagem' dessa técnica (que pode ser 'vantajosa' em outro contexto de composição) é o resultado pouco 'natural': os sons (e seus comportamentos) parecem muito perfeitos, limpos e isolados de um ambiente acústico".

3 Caesar's preferred expression is "***morfo-microfonado***" ('morpho-miked'), which emphasizes the understanding of the microphone as an instrument and of the act of miking as marked by creative, authorial decisions. (CAESAR, 2008: 136)

judgment). The paragraph quoted below illustrates the construction and deconstruction of an ideal of realism (fidelity of imitation as perceived through listening) as a characteristic mark of phonographic objectivity:

The different origins of the sound material ('natural' – by recording, – or 'artificial – by synthesis or processing) get mixed in various combinations not always intended. Recorded sounds (*morfo-microfonados*) find similarities in synthetic sounds; some synthetic sounds try to look 'natural' while others not so much; and some recorded sounds 'seem synthetic'. All this network of comparisons goes to show that, in electroacoustic composition, sometimes it doesn't matter if what presents itself as material has its origin through synthesis or through recording.[4] (CAESAR, 2008: 62)

The second pair of categories, 'sonorous/musical', suggests a distinction between "the sounds perceived for their referential characteristics (indexical)" and "a listening of sounds as participants and agents in a more recognizably 'musical' text"[5] (CAESAR, 2008: 61). The passage from one of the extremes to the other in this axis constitutes the teleology of the first section of the piece, which the composer calls *Hermetologia* ("hermetology"), through a progressive 'musicalization' of 'natural' sounds (CAESAR, 2008: 60). From a compositional point of view, this opposition echoes Simon Emmerson's distinction between *mimetic discourse* (which privileges the images evoked by the sound's extramusical references on the listener's mind) and *aural discourse* (which avoids directly evoked images, privileging the internal relationships between sounds) (EMMERSON, 2003). From the listener's perspective, it is reminiscent of Michel Chion's distinction between causal listening, on the one side, and semantic and reduced listening, on the other (CHION, 2008).

Therefore (although being careful to always write these terms between quotation marks, as to reveal his consciousness of possible ambiguities), Caesar's writing sometimes seems to announce an identification between the 'musical' and the 'artificial'. The artificialization of biological sounds is

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4 "As diferentes origens do material sonoro ('natural' – por gravação –, ou 'artificial' – por síntese ou processamento) se confundem em diversas combinações nem sempre voluntárias. Sons gravados (morfo-microfonados) encontram semelhança em sons sintéticos; alguns sons sintéticos tentam parecer 'naturais' enquanto outros nem tanto; e alguns sons gravados 'parecem sintéticos'. Toda essa rede de comparações serve para fazer surgir a noção de que, em composição eletroacústica, às vezes tanto faz se o que se apresenta como material tem sua origem em síntese ou por gravação."

5 "os sons percebidos por suas características referenciais (indiciais)"; "uma escuta dos sons como participantes e agentes de um texto mais reconhecidamente 'musical'".

proposed as a method to inflict a transformation from an indexical listening to a reduced one, more focused on the inner ('musical') characteristics of sound. This identification is further reinforced in João Sridzinski and Alain Bonardi's analysis of the *Hermetologia* presented in the Musica Theorica journal:

> This 'landscape' is progressively transformed and conducted into a 'musical' listening. That is, the animals introduced in the first moment now have an 'anti-natural' or 'artificial' *allure*. This happens due to musical operations: crickets sing in minimalist rythms, and frogs dialog with a panning effect.[6] (SRIDZINSKI; BONARDI, 2016: 77)

And also appears in the opposition between the 'hermetic / real' and the 'musical', suggested by Caesar in the following paragraph:

The musical realization of the project initially implied portraying *hermetic* situations in a directly *referential*, photographic mode, and then slowly shift to conditions more shaped by compositional intention. It starts from recognizable 'real' situations, narratives of fields in whose plantations potential circles await to emerge. And, when they appear, they develop until they get to the composed and abstract condition of complete circles, now musical.[7] (CAESAR, 2008: 105)

Distinctly from the gradual artificialization of bioacoustic sounds proposed in Caesar's composition, Francisco López's piece limits its materials to sounds recorded in the tropical forest of Costa Rica, without employing any synthetic sounds. Moreover, the composer affirms not having altered the recorded materials, not submitting them to any further mixing or additions (LÓPEZ, 1998: 1).

Despite exclusively employing sounds captured through phonographic

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6 "Ce <<paysage>> est progressivement transformé et conduit à une écoute <<musicale>>. C'est-à-dire, les animaux introduits dans un premier temps ont désormais une allure sonore <<anti-naturelle>>, voir <<artificielle>>. Cela se fait grâce à des opérations musicales: les grillons chantent em rhytmes minimalistes et les grenouilles dialoguent avec un effect de **panning**."

7 "A realização musical do projeto implicou inicialmente em retratar situações **herméticas** de modo diretamente **referencial**, 'fotográfico', para então ir passando lentamente a condições mais marcadas pela intenção composicional. Parte de situações 'reais' reconhecíveis, narrativas de campo em cujas plantações círculos potenciais esperam para surgir. E, quando surgem, desenvolvem-se até chegarem à condição composta e abstrata dos círculos prontos, agora 'musicais'."

technologies, López argues against the idea of technological 'objectivity' supported, for example, by André Bazin. For López, the microphone – one of the main instruments of the phonographic process – isn't a neutral technology: each microphone 'listens' differently, often influencing the sonic result just as much as post-production would. Any recording of a sound would be, consequently, nothing but one possible version of this sound. Besides, the composer considers that, even despite of phonography, there could be nothing like an 'objective' apprehension of reality, suggesting that the subjectivity of each particular listening and the temporality of our presence in space already constitute some kind of editing. Therefore, contrary to what he considers to be the predominating tendency in Bioacoustics, López claims for "the right to be 'unrealistic'" (LÓPEZ, 1998: 2).

Like Caesar, López also aims for a listening that could transcend a uniquely indexical perception of natural sounds, that is, a listening that isn't restricted to an identification of the context and agents that produced the sounds. However, in opposition to Caesar, López doesn't propose the manipulation or artificialization of the presented sounds as a means for that end:

> the essence of the creation of this sound work that I'm calling a piece of music is rooted on a 'sound matter' conception, as opposed to any documentative approach. (…) What I'm defending here is the transcendental dimension of the sound matter *by itself*. In my conception, the essence of sound recording is not that of documenting or representing a much richer and more significant world, but a way to focus on and access the inner world of sounds. (…) I'm thus straightforwardly attaching to the original 'sound object' concept of P. Schaeffer and his idea of the 'reduced listening'. (…) We have to shift the focus of our attention and understanding from representation to being. (LÓPEZ, 1998: 2)

Both López and Caesar adhere to a particular idea of 'music' as something distinct from a more general conception of 'sound'. The main difference, however, is that in *Círculos Ceifados* this musical construction occurs through compositional strategies, sonic manipulations that induce this passage from the 'merely sonorous' to the 'specifically musical':

> This passage is achieved through a kind of 'domestication' of the nocturnal beings that populate the acoustic scenario of the field, progressively giving each one of them *musical* life. The cricket, the frog, the bat, the mosquito, whoever was caught in a *pre-musical*

situation had to be studied in its habitual behaviour so that, gradually, abstracting their natural references, the particular of music emerged. By *pre-musical* I mean a kind of sonic expression in which we detect shades that, adequately developed, leave the 'hermetic' category and enter the musical.[8] (CAESAR, 2008: 105)

While, in *La Selva*, the accomplishment of this passage is an action exclusively attributed to listening:

I consider *La Selva* to be a piece of music. (…) I think it's a sad simplification to restrict ourselves to this traditional concept to 'find' music in nature. (…) On the contrary, I believe in an expansion and transformation of our concept of music through nature (…) This doesn't mean an absolute assignment of sounds to music (either in any restricted traditionally academic sense or in the Cagean universal version). Instead, it refers to my belief that music is an aesthetic (in its widest sense) perception / understanding / conception of sound. It's our decision – subjective, intentional, non-universal, not necessarily permanent – what converts nature sounds into music. We don't need to transform or complement the sounds. (…) It will arise where our listening move away from any pragmatic representational 'use'. (LÓPEZ, 1998: 3)

Therefore, the types of representation chosen by Rodolfo Caesar and Francisco López contribute to the accomplishment of musical discourses that, through contrasting procedures, aim at a similar kind of listening: one that approaches the Schaefferian idea of the *écoute redouite* in its contemplation of the internal characteristics of sounds, but that doesn't require an abolishing of their referential dimensions. In *Círculos Ceifados*, the synthesizing of animal-like sounds allows the composer to create complex rhythmic and spatial relations among the materials, playing with the duality between 'natural' and 'artificial' sounds, and transporting them from a 'hermetic' or 'pre-musical' field to a highly composed one and, in Caesar's perspective, a 'musicalized' one. In *La Selva*, the recording of natural sounds through phonographic procedures and its subsequent

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8 "Essa passagem é efetuada através de uma espécie de 'domesticação' dos seres noturnos que povoam o cenário acústico de um campo, dando pouco a pouco vida musical a cada um deles. O grilo, o sapo, o morcego, o mosquito, quem quer que fosse apanhado numa situação *pré-musical* teve que ser estudado em seu comportamento habitual para que, aos poucos, abstraindo suas referências naturais, surgisse o insólito da música. Pelo termo pré-musical penso em um tipo de expressão sonora na qual se detectam esboços que, devidamente desenvolvidos, saem da categoria 'hermética' para entrarem na musical."

acousmatic reproduction allows the composer, and the listener, to listen to these sounds through a different perspective, musicalizing them through a resignification of listening.

6. CONCLUSIONS

With this article, we tried to highlight the effects caused by the particular relation established between phonographic representation and the real. This relationship, vastly discussed in photography and cinema studies, still occupies a rather reduced space in music, probably due to the non-representational tradition that still strongly prevails, but has gradually reappeared traversing many of the discourses in sound studies.

Although Caesar and López's works bring explicit referentiality to nature sounds, an analysis of their writings revealed little concern with proposing an unveiling of reality through sound recordings. In *Círculos Ceifados*'s narrative, realistic representations of nature sounds, particularly in the first few minutes of the piece, appear as a way of shaping an opposition between the 'musical' and the 'pre-musical' realms. Through the manipulation of referential sound materials, the composer creates a delicate balance between what Barry Truax has called music's inner and outer complexities (TRUAX, 2001). While being concerned with the compositional development of aspects such as texture, rhythm and sound mass (the *inner complexity*), Caesar's piece doesn't require the listener a suspension of referential focus, benefiting as well from his understanding of a narrative that involves sonic images such as frogs, flies and flying saucers (its *outer complexity*).

In the case of *La Selva*, both realism and the 'index of reality' suggested by André Bazin are put to doubt in Francisco López's writings, who also advocates for a 'musicalized' listening that approaches Pierre Schaeffer's *écoute redouite*, and shows little interest in the identification of whatever might be represented by the recordings. López demonstrates neither the intention of creating an illusionism of appearances, nor of bringing the listener any information on La Selva (the forest) through the objectivity of phonographic representation.

Although López's criticisms to phonographic objectivity and "the fallacy of the real" (LÓPEZ, 1998: 1) are pertinent, we shouldn't overlook the fact that these ideas persist in the quotidian use of recording and reproduction technologies, as exemplified in various segment of Brian de Palma's *Blow Out*, or in current uses of recordings as support for police or journalistic

investigations. Thus, we agree with Seth Kim-Cohen (2009) that textual layers of external, 'non-cochlear' signification cannot be neglected while thinking about music and sonic art, and therefore we believe that the appeal of the phonographic device both as a provider of realistic representations and as a mechanism for (re-)constructing the real shouldn't be ignored.

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Sound isn't a thing in itself, but a carrier for leaking things

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Abstract. A critique on the cultural construction of sound such as we - the people in general, but mostly musicians and artists in the Western world – understand it. The listening experience has been studied and described in ways that it is almost as if one could 'see' sounds as objects flying in a space – most of them fortunately unidentified. I will juxtapose a few propositions which, for some years, I have been dealing with and writing about, trying to sum these articles' intentions in one and the same: to prevent us against the faith on the neutrality and the universality of a compartmentalised and constructed perception, and to recover a more wholesome mode of listening - if not in the general day-to-day life, at least in the artistic field.

Keywords: Sound Object, Sonority, Senses, Psychology of Space.

1. INTRODUCTION

Since Heraclitus fragments, one clear thought spread into shared knowledge in most philosophical, scientific and other thinking systems: that for us, humans – unless one had a unique mystical experience – there is no integral perception and understanding of the world. Despite all of our certitudes, we are only capable to conceive, and occasionally share some of the world's slices, some of its angles and moments, rarely the same ones, but always parts of the whole. Perhaps this will always remain like that, since it seems that, in order to our reasoning to function, we need to separate things into wholes and their parts. If this is how it works for our conscience of the world, then we can assume that the same operation applies to the objects for each of our isolated senses. For example: we see a part of something that belongs to a whole, and we give to this part the importance only the whole of that something has. The same goes for the hearing attention, when we notice just a part of something bigger and classify it as the whole. In a more subtler way, with the isolated senses it is also noticeable a tendency in relying in partial results of analyses as if, for not reaching the wholeness, they would respond for the experiences. My initial concern in

this article is the sense/part relative to all things that we listen, be it music or just 'sounds' and noise. I intend to show how much it is possible to raise difficulties when one needs to clearly classify sounds, and how the easiest classification method responds for the whole.

For our Western contemporary musical/artistic scene, there may be still a noticeable attitude of taking the parts for the whole, specifically when we deal with and talk about listening. Sound perception experiences are being too quickly identified according to types, sensations and shapes, and thus misunderstood. For the other senses with less literature like tactile, taste and smell senses it is worse. And as if to make matters even worse, the task of description and classification for these senses will become still more difficult, if we stop acknowledging their relative boundaries. The classical division of five senses, which is still accepted as if they were five separate perceptual devices, according to the physiological places in the human body where they manifest, has been the subject of growing concerns. It may no longer be clear where can one find the places for the fixed boundaries between them. Therefore: the listening experience is not really taking into account the complexity of the aural sense, and it also ignores that the senses are more interpenetrated than we think.

This article makes another effort in search for a comprehensive listening attention, believing that, in order to reach a more wholesome (I didn't say 'total') experience, we must be aware of our 'natural' propension of slicing things into parts. What I pretend has nothing to do with the promotion of an idea that only total experiences are to be art's purpose: I just intend to comment on how its opposite works, and remember one obvious but forgotten truth: the awareness of our bias is the first step to acknowledge complexity. The text will evaluate some certainties and tropisms around the vernacular and 'cultured' term sound - in this sense of a sonorous and / or musical object *par excellence*. Once we understand that 'sounds' are more than what we got used to think of them - or in other words - once we abandon the certitudes allowed by a 'sound object', we come closer to the conscience of partiality, to the incertitude, to the fleetingness of moments. We may get to the listening fullness once we stop attributing to one slice the richness of the whole complex.

2. SOUND

Dictionaries in many languages agree that the word sound means something like "vibrations that travel through the air or another medium and can

be heard when they reach a person's or animal's ear"[1]. In a more cartesian style, one other edition asserts that sound is a "mechanical radiant energy that is transmitted by longitudinal pressure waves in a material medium (such as air) and is the objective cause of hearing."[2] A brief terminological study confirms that the word sound is understood in multiple and diverse ways, having underwent several transformations along time and accordingly to local idiosyncrasies, not only in dictionaries but also in popular forms. Summing up many versions, there emerges a notion of sound as if it where a thing in itself. Not only society in general, but the medium of music in the Euro-American tradition and contemporary sound arts understand it - and as a consequence deal with it - almost as if it were a physical body flying in the air. In order to undergo a long process of reification, this 'thing' has left behind some of its mysteries. Within this current notion of sound hides an incapacity of accepting or just a refusal of the whole scope of the listening experience. Thus a good part of music and sounding arts in this 21st century still protect themselves in a comfortable niche. But, as a collateral damage, they deal with a less powerful material. Without assuming the ambition of proposing a complete historicization of listening, I will go through some focuses of discussion, concluding that the remedy against sound's reification (and drain) resides in sound itself. To do so, I need to revisit past written attempts that I have been doing for some years, all dealing with the complexity of listening. The sum of these efforts may bring more clarity to my concerns.

Certainly the construction of such 'sound', and its more recent distribution in the vernacular, has received a great impulse after the emergence of phonographic & gramophonic plus radio technologies and their proliferation in the domestic environment (Iazzetta, 2009: 89). A notion that sound is a thing develops in association with these technologies' dissemination in the domain of music, together with either sonic, visual, video and cinematographic arts. These manifestations of a sound culture follow a line analogous to another more ancient process of 'slicing' perception, i.e. isolating each of the senses in a closed case: the segregation of visuality that has been central to Western culture since its beginnings.

Recalling the motto of the conference, I will try to merge two theoretical poles of sound, the 'internal' and the 'external' - in my view inseparable,

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1 'Vibrations that travel through the air or another medium and can be heard when they reach a person's or animal's ear'. https://en.oxforddictionaries.com/definition/sound

2 'Mechanical radiant energy that is transmitted by longitudinal pressure waves in a material medium (such as air) and is the objective cause of hearing'. https://www.merriam-webster.com/dictionary/sound

pointing to how technologies in Western culture participated in its construction. I need to examine this 'sound-in-itself', or 'sound', of 'sound object' in the artistic context, to understand it as a consequence of a complex process rather than a natural phenomenon, as it has been taken for granted. Over the centuries, we have been building an incomplete, particular sound whose materiality is nowadays being artistically manipulated and spatially controlled, whether horizontally, longitudinally and / or vertically in electroacoustic concerts – or over-amplified by decibels in the arts that rely on such feature. It is not my purpose to promote the ideia that an all-encompassing listening experience should prevail, but just remind us that, as it is now, we are not listening enough.

3. DELUSIVE SENSES

The first doubts one could raise against such draining (or 'thinning of sound') appear when one loses one's customary trust in an impervious division of senses. Let's consider all perceptual crossings called synesthesia, already commented by many authors. And their complementary trans-modal perceptions, like Michel Chion's 'trans-sensorialité'. There is more to trigger confusion in our senses: the annexation of a new palette to the classic group of five. Why not to put our reliances in check after such important increase: proprioception, balance, pain, etc? Quite recently, I have read somewhere in the internet that in the domain of neurosciences there is (a still unpublished) research being made, leading to the idea that perception is one and only sense, functioning according to the interconnections of two or more of the 'classic senses'. For example, neuroscientist Don Katz has been writing on the interdependence between smell and taste, concluding that one affects the other. This isn't really news for most wine connoisseurs, but – for non-connoisseurs like me – it is visually convincing if we pay attention to some animals' 'smiles', or more precisely, their flehmen response.[3]

3 http://www.brandeis.edu/now/2009/december/katz-nature.html.
https://www.medicaldaily.com/chemosensory-system-neuroscientist-don-katz-believes-humans--have-1-sense-not-5-365878

Fig. 1: This *Puma yagouaroundi* (gato mourisco) is not making grimaces to frighten an enemy, but just sniffing the air using at least one other of its senses, by wide opening its mouth, as if to taste the smell. This is called the *flehmen effec*t, or *response*.

The interpenetration, or perceptual collaboration between senses, corroborates an article of mine, in which I display my ignorance on the whereabouts of the boundaries between listening and other senses, exemplifying with *stridency*, a feeling that may build a bridge between hearing and pain (Caesar, 2017: 1-6). One can bet that the newly arrived to the list of senses have much to do with 'influences' originated with the replacements of technologies over the cultural dynamics (Caesar, 2016), whereby each one of the senses doesn't always have the same importance in different periods of our History. The importance of seeing, for example, follows a line started with the recording of visual things in caves' walls, there initiating a sequence of different materials and techniques to store visual information (Kittler, 1985). The walls of the cave marked just the very beginning of a *crescendo* emphasizing on visuality. The other senses stood one or more steps below, until very much later, during the turning to the XXth Century, Thomas Edison and Charles Cros invented technological equivalents for a more volatile sense: the hearing. Before that, by lack of adequate support for sound recording, the activities dependent on listening and sound production took more time to build the objectivity status of their stored items.

With the exception of the musical score invented to annotate precise qualities of specific sounds, only after the arrival of phonographs we managed to record any sorts of sounds, allowing us – nowadays – to think of them as images, analogously to visual *images.* A broader discussion can be stimulated by reading (Bayle, 1993) (Caesar, 2012) and in the next paragraphs.

4. THE THIN SONORITY

With reasonable criticism directed to the over-reliance many musicians placed on the quantitative nature of the acoustical science of their time, the 1950s, Pierre Schaeffer wrote: «... fions-nous à nos oreilles" (Schaeffer, 1967: 2), to advocate a fundamentally phenomenological and qualitative attitude, allowing for the maintenance of a 'primacy of listening'. It aimed, in particular, to focus in the model followed by elektronische Musik, the serialist root of electroacoustic music, which based its aesthetics on a regular cartesian science that, for Schaeffer, was too limited to deal with music listening. After more than five decades passed, it is not yet possible to say that these disputes are not more than just memories of a fight between France and Germany. There remains a side-effect, emanating in the field of contemporary concert music, stemming exactly from Schaeffer's propositions. From his theoretical work it developed another overconfidence – this time widespread – in his model type of listening: the *écoute réduite*. Supposedly, it meant just a methodological listening attitude, one capable of inducing the evaluation of Schaeffer's own concept of *objet sonore* (Schaeffer, 1966). In search of a supportive and justified 'structure' for music composition, which would provide more legitimacy than the potential narrative possibilities housed in everyday sounds, we came to celebrate only the 'kernels' of sounds. To entertain us with these 'inner' characteristics, we have eliminated the 'external' references of sounds, despite their availability in musics dealing with physical recordings of sounds on various media. How was that?

According to Pierre Schaeffer's theory, the concept of 'sound object' should be used as the initial focus for the constitution of a descriptive operational language applied to isolated 'sounds', by developing their descriptions through the morpho-typological exercises based on a 'phenomenological reduction of listening': *l'écoute réduite*, a tabula rasa of listening. It is acceptable to say that 'sounds' can be understood as objects, but only when, conveniently, we keep in mind that they still belong to the category of unidentified flying objects. The task of accounting for their meanings, complexities, scope, and connotations by means of translations, approximations, schemas, analogies, or any other reductions is endless. For the purposes of

musical analysis and description, such an effort is adequate at least for the musical aesthetic segment that has not abandoned constructivist modernist pretensions. For others it continues to border on uselessness.

It is this operation that has mostly served to the music pieces that discard the 'exteriority', the narrative (the *anecdotique*). These are all sounds, which do not fit into what would be acceptable as pertinent to the 'musical'. Let us recall Schaeffer's picture of 'convenient' and 'inconvenient' objects, since such a typology refers to criteria for a 'composability' of objects. Anedotism, references to sources and messages would form not the only one, but a category well highlighted by its inconvenience. It is true that this category did not establish norms followed by the composers who succeeded to Schaeffer in GRM, because:

> As soon as the researcher [Pierre Schaeffer] withdrew [from GRM's leadership], the composers, aided by new technologies, lined their pieces with too long sounds, too eccentric, too banal … in short: little balanced – for the typology, but very interesting for authors and listeners. (Couprie, 2013: 4-5) [4]

Actually, even before his retirement in 1975, the GRM repertoire had taken over the 'anecdotal' without asking for Schaeffer's blessings. The works of Bernard Parmegiani, Michel Chion, François Bayle are testimonies. Luc Ferrari's demise of the GRM signalled that too much 'anecdote-oriented' sounds was really not advisable. That's why he left the GRM right after composing Presque Rien I, in 1970, and inaugurated what he would call 'musique anecdotique'. The one who strictly followed the schaefferian methodology was himself, its own creator, who, thanks to it, as I have already commented in another article (Caesar, 2006), is better than no one else to exemplify the perfect link between theory and practice.

In modern times of postmodernity and deconstruction, it has become easy to recognize that schaefferian morpho-typology does not really result in a reduction, but rather a construction, following allegedly 'universal' criteria, representing the yearnings of modern European culture. We might even agree, for example, on the existence of a grainy texture constituting the bodies of certain sounds, as well as we may agree about a blue color of the

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4 "Une fois le chercheur parti, les compositeurs, aidés par des technologies nouvelles, ont truffé leurs musiques de sons trop longs, trop excentriques, trop banals… bref pas assez équilibrés pour la typologie mais trop passionnants pour les auteurs et les auditeurs."

sky. But what would guarantee the universality of the categorization is not the agreement of a group over the grainy aspect listened to, but an unlikely intention – common to each culture – to seek, in listening, qualities of this kind, instead of other. One can look up to the sky and see clouds together with the blue color. This 'reduced listening' would translate a planetary and shareable interest, but in the end, as a co-lateral effect, it builds an aesthetic zone of comfort.

The exercise of 'reduced listening', by means of morpho-typological criteria, no longer applied to describe isolated sounds, as was Schaeffer's first intention, but extended to the listening of musical works, thus freeing Schaeffer from the threat of the anecdotalism of the music he had created. The practice he proposed to deal with the description of the isolated sonorous object extended to their appreciation as objets musicaux. This was timely maintained and sustained, in the musical sphere, as a critical-analytical procedure, allowing the permanence of notions such as 'sound in itself', 'sonority', and other cuts that only celebrate, fetishizing, the shallow slice (Ingold, 2007: 11-13) of acoustic perception trained by morphology-typology. That is why, as François Couprie asserts, GRM had not accepted the rule:

> That is why this typology, while still interesting for a comparative study of objects, can not currently be used in the musical sense conferred on it by Schaeffer. It can help us compare certain sound objects but it deserves a real decompartmentalization of its various categories, something that composers do naturally.

This analytical method filtering sounds through such a reduced scope has left a deep mark on much of contemporary music, which even nowadays prefers to keep the doors closed against 'inconveniences'. I would not blame on the sector that employs conventional instruments, since birth - and optionally - physically constrained to deal with a more limited sounding repertoire. As far as a tool for descriptions and classifications for instrumental music are concerned, Schaeffer's morpho-typology can do finely. But for the electroacoustic repertoire, it gives the last word only for schaefferian aesthetics. Currently, in both sectors, the notion of sonority, debtor of the 'objet sonore', celebrates the thinner reach of sounds.

Tim Ingold stated that just as light is not the visual object, sound is merely the carrier and not the carried stuff. Sounds, mistaken by the name of its vehicle, are images carried to our minds, as visual images are transported - in a faster speed and on a different medium - by light. The 'smells' are

olfactive images reaching us through the air, and the tactile qualities, images too – not unlike the sonorous ones - affect our touch by reaching our skins, the tympanum being the softest of all skins.

5. A PSYCHOLOGY OF SPACE

Computer-music, the field of contemporary music that maintains the relationship with technology formerly started with electroacoustic music, inherited from the former its *raison d'être*, the sound object, objectified in computer software and hardware. Digital media has allowed to a larger degree of what I called 'composability', i.e. the ability of organising sounds according to their 'perceptual criteria', meaning the 'sound object's' ones, in a musical-compositional way. One of the most employed techniques is the composition of movement and placement of sounds in 'space'. Computers allow for greater control of sound positioning and projecting in trajectories in the concert hall. Thus 'spatialization' – the art of conducting sounds in routes and places, distributing them between all quadrants of a sound 'projection space' – is mainly already determined by the composer's will, but it is also a task for the agent responsible for the diffusion of pieces in concerts. A 'diffuser' used to keep or accentuate the original recorded spatial dynamics of sounds, something previously decided by the composer while composing. There are many projection/diffusion spaces and diagrams, shaped as a cube, hexagon, octagon or just a square, according to the hall, hemispherical such as the Osaka pavilion built for Stockhausen and the Coupole by Léo Küpper, and also much more complex halls like the Phillips Pavilion where Varèse and Xenakis premiered in 1958. Invariably it is an empty room, which the artist more or less foresees in his mind during his compositional work.

The notion of space as emptiness is an inheritance of the modern concert hall (Thompson, 2004: 235), and the final objective of the work. The technology of architectural design of halls is an important influence in this regard. Here we see an evident and coincident overlapping of 'tecnographical brandings' (signs left by the subjectivation of technologies that I have already described in several texts) (Caesar, 2016). The emptiness of concert halls is the ideal place for the computer control of sound's spatial conduction. In a different stance but agreeing with this notion of subjectivation, the historical computer scientist Alan Perlis (Wang 2008) said: "programming language that does not change the way you think is not worth learning". This is reiterated either by the software spatializer and the spatial emptiness of the concert hall. This technological intersection is the hidden subject

underneath the compositional proposal of authors, who are busy working to create trajectories, intersections, fills in horizontal directions and vertical, cardinal, etc.

However, while relatively disposable in software, space is not a void, but a living being. Its dynamics, psychological, and emotional qualities are not in the scope of software manipulation. In an article published in 2004, I argued that there is a close connection between fear, tightness in the chest (anguish) and space (Caesar, 2004: 13-32). I still think that one of our most primal emotions, anguish, is a form of fear that relates to tightness, the lack of space, being the ultimate degree the one that represents the total lack of space, one such that removes the possibility of breathing. John Cage understood perfectly well the living being of a concert hall, as he let it come to life for 4'33".

6. A BROADER EAR

I need to reinforce the idea that this paper is not a pledge towards the destruction of a 'reduced listening' education, because such mode is one among several other modes that allow us to have partial contacts with reality, and all of them should be acknowledged. I understand that an exclusive or central promotion of listening the 'internal' sonorities, or 'tympanic listening', as I called it in an article (Caesar, 2007: 68), diminishes our capacity for listening sound's more intellectual and associative possibilities. I am not the only one to have paid attention to this impoverishment: in an analogous and extensive publication, Seth Kim-Cohen confirms this same feeling, by launching the term 'cochlear listening' (Kim-Cohen, 2009). Regardless of the divergent physical locations in the listeners' heads, both proposals coincide with a demand for greater intellectual articulation for the sense of listening. This is not new in the visual domain: Marcel Duchamp, surely last century's most interesting artist, already complained about the limitations of a 'retinal' art. Coincidentally and almost simultaneously, but without spoken or written words, Erik Satie made similar propositions with some of his pieces. The most radical of them, Vexations (1897) certainly was not meant to please our ears, exposing them to the same modest melody repeatedly 840 times. Not only a psychological depth and a conceptual frame are filtered off, but as a consequence, because of the lack of them, the political and social spheres are also kept outside the listening contacts with the 'external' world.

7. FINAL CONSIDERATIONS

In disagreement with scientific certitude, expected in academic texts, I assume a risk by proposing that the word 'sound' did not have, in older times, the generic descriptive meaning we give it now: something capable of detaching the objects of the listening experience from their causes. Today anyone can say one hears the creaking door's sound, instead of simply saying one hears a creaking door. This word sound, introduced between the listening act and the creaking of the door reduces the integrity of the 'creaking', at the exact moment when the notion of sound – by individualizing the word itself – acquires a greater importance. I do not know at which point in History humans have ceased to refer to direct listenings of birds songs, cryings of children, murmurs of waters, and so on, and started interposing a generic 'sound' before the emitter's designation. I believe that there must have been a paradigmatic leap, which consolidation probably took place along or just after our modern times.

One of my first recollections of listening in the reduced mode dates from when I was fifteen years old. During a strong rainfall in Rio de Janeiro in 1966, lasting for many days, the city was declared in state of public calamity. The street where I lived, as well as other streets in the neighbourhood, became a water stream, running towards the main street – itself already a river – the rua Lopes Quintas in Jardim Botânico. All streets were paved with 'paralelepípedos', cobblestones in rectangular shape (also known as setts or sampietrinos), each piece weighing ca. three kilos. I remember standing at my house's window, listening to the sound of these stones, as they rolled down pulled by the weight of the water, passing right in the front of the garden, until they reached the other stones already descending the Lopes Quintas. We could hear nothing but that overwhelming rumbling sound. The 'soft' quality of the sound, a textural mass of random wet shocks, eventually disrupted by more severe bumps, as if water and stones melted in one new matter, it produced a sublime effect, captivating my attention to a pleasurable listening pause, very close to a feeling of beauty, producing a calm state both to my mind and my body. Protected from the rain and aware both of the eventual sharpness at the onsets of each shock, and to their imprecise and un-pitched variations, I, above all, enjoyed the fusion of that 'complex mass' with its random rhythmic complexity. I was engaging with these sounds' ear massage, but naively unaware of its consequences: the power of destruction this rain would cause in the city.

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| Session #5

Banzo Sounds: between muteness and the word

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ABSTRACT: This paper discusses the process of research-creation that I have been exploring through the fields of art and psychology, focusing on the voice and its potential and fundamental role in elaborating and recreating the banzo-on-us; a colonial trauma that continues to exist and act as an affect that deprives us of our bodies' vital power.

Keywords: banzo, colonial memory, voice, sound

1. THE WORD BANZO

BANZAR[1]. Astound with sorrow; Stupere pra dolore. Dolore Stupidum Obmutescere.

BANZEIRO[2]. Restless. Improperly secured. Banzeiro sea, neither quiet, nor turbulent. Dubium maré. But how the sea with calm waters had been Banzeiro. Barros, I. Dec.Fol.27.col.I.
The game is banzeiro, neither side is winning.

PASMADO[3]. Very much admired for something. Stupefactus.
To be astounded, Obstupefactus est admiratione.
From something so new, so important, was the Consul so astounded he was speechless; Such disgrace leaving them astonished and astounded; That who was so astounded by something it was as if he were dizzy; The herdsman felt astounded by what he saw.

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[1] Free translation from [The First Dictionary of Portuguese Language] *Primeiro Dicionário da Língua Portuguesa Vocabulario Portuguez & Latino, aulico, anatomico, architectonico bellico, botanico etc.* written by priest Raphael Bluteau, published in Coimbra (1712-1728). Source: Instituto de Estudos Brasileiros – IEB USP. Available at: <http://200.144.255.59/catalogo_eletronico/consultaDicionarios.asp>

[2] Ibidem.

[3] Ibidem.

BÂNZO (1850)[4], s.m. (Lat. pansus, parted, open, from the verb pandor, separate oneself, open oneself.) mortal melancholy or sadness to which slaves taken from Africa surrender, ordinarily preceded by homesickness, deep cogitation about their lost freedom, or maltreatments to which they are sometimes subjected.

BANZO (1872)[5], s.m. Melancholia, that affects captive Blacks; a type of mortal nostalgia resulting from homesickness.

BANZO (2013)[6], State of psychological depression that affected Africans right after their arrival in Brazil. Usually those who fell into this situation of profound nostalgia died. Such depressive state is attributed to homesickness, to missing the African village where they were born, in a way that affected only the first generation of slaves, that is, those directly imported from Africa. However some may explain banzo without recurring to psychological causes, alleging that Africans got to this condition because they were already contaminated by the "sleeping sickness", infirmity decurrent from the bite of the tsetse fly, before coming to Brazil. Yet, it does not seem to be a very plausible hypothesis, the explanation of psychological depression is preferable, as many of the slaves affected by banzo killed themselves, which did not occur in the case of sleeping sickness. João Ribeiro (1900) describes the African slaves affected by the disease as: "A strange infirmity that is homesickness, forced suicide, a kind of nostalgic craziness; banzo decimates them by inaction and tediousness, or tuns them apathetic and idiotic". Renato Mendonça (1935) attributes the origin of the term to the quimbundo mabanza, which means village and, by extension, homeland. Namely, it would ultimately mean feeling homesick from their village, from Africa (...).

In contrast to my lived experience, Banzo is not a commonly used word, not a routinely employed term. Uncountable times, throughout my doctoral research, in the act of saying its title [Banzo Sounds], I experienced

4 Eduardo de Faria. Free Translation from [The New Dictionary of Portuguese Language] *Novo Diccionario da Lingua Portugueza. O mais completo...*, (1850), p. 745-746. Available at: <https://archive.org/details/novodiccionariod01fariuoft> <https://archive.org/stream/novodiccionariod01fariuoft#page/744/mode/2up/search/N>

5 Dr. Frei Domingos Vieira. Free translation from [The Great Dictionary of Portuguese] *O Grande Diccionario Portuguez ou o Grande Thesouro da Lingua...* (1872), p. 721. <https://books.google.com.br/books?id=6MdRAAAAcAAJ&printsec=frontcover&dq=o+grande+diccionario+portuguez+ou+o+thesouro+da+lingua+volume+1&hl=pt-BR&sa=X&ved=0CCwQ6AEwAmoVChMIy-G-bt--FyQIVShmQCh2BVwVg#v=onepage&q=o%20grande%20diccionario%20portuguez%20ou%20thesouro%20da%20lingua%20volume%201&f=false>

6 Clóvis Moura. Free translation from [The Dictionary of Black Enslavement in Brazil] *Dicionário da Escravidão Negra no Brasil – 1*. Ed., 1 reimpr. São Paulo: Editora da Universidade de São Paulo, 2013, p.63-64.

the immediate astonishment at the sound of the word *banzo* established in that present. As frowning seasick listeners, with involuntary ear movements and twisted mouth, their memory operation, searching in time for the remembrance the word ought to actualize. It is as if the listeners faced a block of sound sensations pulling them from afar, bringing them smells, rhythms and flashes that would soon disappear and never be fixed. A chiaro-obscure, an I-know-and-I-don't, an I-remember-but-I-cannot-recall[7].

I observed with amusement, and awaited the moment of having to say briefly: Banzo is the name given to the state which affected Black Africans in Brazil. A kind of deep sadness manifested by the enslaved condition of the Africans far from their homeland. In banzo, an enslaved body presented itself in the midst of an intense apathy, deep silence, pains of an abolished freedom, and a continued suffering from the rough treatment received. An absolute life disempowerment. Pain in relation to what cannot be anymore, where 'I' cannot be the same. More than that, where 'I' cannot be recreated in the face of devastating forces that lead to forced suicide.

More often than not, the listener would express astonishment as well as admiration. Banzo is something that feels strange yet familiar. After that, many questions about the sound and performative aspects of the work would come up, questions that I have been investigating and researching within the field of arts (sound and performance) and have presented

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7 *Bergson's Matter and Memory* works a profound relation between the couplets movement/perception and time/memory. At its limit, pure perception is movement, while pure memory a little bit of time in a pure state. Between these extremes we find the body, our bodies. How our bodies deconstruct and reconstruct movement diagrams perception, just as the different attitudes it adopts condition the evoking of the past, of memory. Memory-images pour into perception, giving reality its color. "Little by little", Bergson says, "[the memory-image] comes into view like a condensing cloud; from the virtual state it passes into the actual; and as its outlines become more distinct and its surface takes on color, it tends to imitate perception. But it remains attached to the past by its deepest roots, and if, when once realized, it did not retain something the original which stands out distinct from the present, we should never know it for a memory (Bergson: 1991, pp 134)"

With Banzo, however, it's as if the movement going from the past to the present was somehow interrupted. The body feels the word, sends confused nascent movements to motor centers which the body expresses involuntarily not knowing what to evoke, how to evoke, as if the body looked for an attitude that allowed consciousness access to the past, to memory-images, but became estranged from itself, disembodied from itself, its own attitudes, sucked into a hole, dispersion, confusion. More than "attention to life", the body here falls into inattention: it desperately wants its way back to itself, to reality, to attitudes and movements which allow for perception, memory, but it has lost its "attachment to life", to itself, opening a hole between memory and perception, which is a hole in us, in the body: Banzo

on numerous occasions. I sought to answer some of these questions, without hesitating to express my own banzeiro place, also seasick, nebulous and blurred. And I would conclude by saying: I don't know well what I do. I grope around oriented by banzo sonorities that have stuck on me. For banzo is not restricted to the suffering of those who were enslaved, it was born with them, but then it became more than that. What screams in my ears is the fact that banzo–although almost completely disappeared from Brazilian parlance–has never ceased to exist. It is real and it operates in the logic of a deep Brazil. Banzo overruns the invention of Brazil. I am interested in its sound expressions.

The conversation would end there. There was nothing more to be said in the encounter with the seasick listener[8].

This research has started from the point of view of the muted voice[9]. If there is something of deepness in such banzo, it is the knot in the throat that drags the voice to muteness. My own experience during the first years of doctorate research was of a deep muteness, an inability to speak, an expression of the symptoms of what came to be called *banzo*,

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8 I refer to the different conversations that succeeded the presentation of my research process (in informal conversations or during the post-graduation tutoring group encounters) during the undertaking of the performative actions that triggered this study.

9 I recall a work I developed during the Nuvem Summer Residency in February 2014. Nuvem *Rural Station of Art and Technology* is a experimentation space in the Pavão Valley in Visconde de Mauá (Mantiqueira Mountains, Rio de Janeiro State). My short residency lasted for five days. My proposition was to remain in absolute silence from the second day on until my last residency day. I didn't communicate verbally with the people there and avoided any kind of bodily communication. In this period, I played berrante several times inside the small river that crosses the small farm. I explored the sonorities of the blow, of the water, of the berrante. At the end of the third day I proposed going back to speaking in a slow process, inside the same river I inhabited during the mute days. After playing the berrante several times, blowing, I let all species of inarticulate sounds arrive; screams, glossolalias, for then finally reading my text, A Body. What occurred during the performance was astonishment when facing my own difficulty of reclaiming speech. I was able to continue not speaking for days, weeks in silence. I didn't feel any necessity to compose sounds full of meaning. Returning to speech was an enormous effort, a demand that went through the communicating obligation of "compulsory sociability" (Elizabeth Pacheco). This performance allowed me to gain awareness of the potentiality of the Voice in itself, in its sounds, the sound blocks it may liberate, dragging us to distinct and strange places. Between Mutism and the Word there is one (or several) world(s) in which to tread, create and invent, with in which I am currently exploring with my post-doctoral research at Concordia University.

Residence record <http://nuvem.tk/wiki/index.php/Mariana_Marcassa>

Access to the text A body written by me, Portuguese and English versions: <https://cadernos-desubjetividade.files.wordpress.com/2013/09/cadernos2011_baixaresolucao.pdf> <http://www.inflexions.org/exhaustion/PDFs/Marcassa.pdf>

since its first stammerings when the word had not yet gained space in the lexicon of the Portuguese language[10], nor a place in my own research[11].

Like its neighbouring terms *banzar, banzeiro* and *pasmado* found in *Primeiro Dicionário da Língua Portuguesa Vocabulario Portuguez & Latino, aulico, ana-tomico, architectonico bellico, botanico* written by friar Raphael Bluteau, pub-lished in Coimbra (1712-1728), this research presented itself astounded; unquiet; astonished; unsafe; amazed; mute.

One day I was trying to write an art project with the intention of coming closer to the state of things that had led me to be mute, I received a blow of hot air in my ears whispering "*banzo sounds"* and immediately a block of sound sensations placed me face to face with the hole where I had been for a few years. A mixture of deep happiness, astonishment and admiration, faced with the fact of listening to the wound. The open wound, the weak spot, and with it, the astonishing acknowledgement that it would be neces-sary to find a way of placing my finger on such affect that was invested in me: listening to it, thinking it, reinventing it.

By becoming audible, the sound of the word banzo itself–by being said–gift-ed company to my muted silence. A double betrayal: saying banzo opened an exposed fracture in the silencing of the voice at the same as it pro-duced the effect of turning itself against my ears, as in a strike, turning my body muted once more[12]. However, the tension offered me something. Still

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10 According to Ana Maria Galdini Raimundo Oda, the noun *banzo* was incorporated into the official lexicon of the Portuguese Language in the second half of the 19th century and it appears in the dictionaries by Eduardo Faria (1859) and friar Domingos Vieira (1871) meaning "the mortal nostalgia of African slaves transported to Brazil". However, the first proposition of the concept was the study by Luís Antônio Oliveira Mendes in 1793.

11 This is a description of the mute body that I wrote in 2014: *He is tired. His muscles sting, his feet pulse, his mouth is dry. He shivers because he does not know what to say anymore. He doesn't. He makes moves with his mouth and tongue until having cramps. He touches his palate, bites his gums, eats the skin from inside. Bleeds. Put the cramps paralyze. The throat suffers. It is then that the drooling comes. And drooling is something said, something done, something thick. He feels his tongue in white saliva, makes his eyes sting. He stammers words that bristle the hairs. The dilated nostrils swallow air and eat atmosphere. They smell everything, from the skin pores to the swing of the hips, they smell the entrails, entering an unlimited field of memory that makes him sweat. It is a Cavalo de Macumba [Horse of Macumba]: it doesn't stop, it lives incessantly a remote movement. The Cavalo makes of the turnings an axis that seems to be an other, bursting the body and connecting it to the memories inscribed in Time. A state, a shoot, a cavalry of macumba. Catimbó, country, farmyard, performance. Revolt, performance. Performance. What is this state?*

12 This was a powerful situation, where my body had experienced the phenomenon that Bran-don LaBelle describes about the fact of the voice "a bodily missile which has detached itself from its source, emancipated itself, yet remains corporeal". (…) "The voice is projected from the body

slippery and fragile, this thing was something to be persecuted/followed in the urgency of making itself voice.

I went to specific studies of banzo in Brazil, learning about how it became sayable:how the stammering of the verb *pasmar* became the noun *banzo*. Not an easy enterprise. What I had were just traces, travelling diaries, brief conceptualizations in both old and new dictionaries, a rare and important [Study about Atlantic slave trade and the slaves' diseases], *Estudo sobre o tráfico negreiro e as doenças dos escravos,* written by Luis Antonio Oliveira Mendes in 1793[13]. In the field of actualities, a sole companion: Professor Dr. Ana Maria Galdini Raimundo Oda[14].

And what I found between travelings diaries from 19th century, were physiologist approaches outlined by the idea of *race*, as if the Africans gave themselves in intensely–and with pleasure–to suffering. Dwelling on the ideas and images of the past, folding themselves inside a lost place, refraining from all and every nourishment and, worse, intentionally doing all of this in order to emphasize "their slow and horrendous suicide", Dr F. Sigaud and the naturalist K. von Martius[15], turned Africans and Indigenous

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to circulate out there" and, I would add, it has the power to affect its own body, its own source, reconfiguring it. LaBelle, Brandom. *Lexicon of the mouth. Poetics and politics of the voice and the oral imaginary.* New York: Bloomsburry, 2014.

13   Luis Antônio de Oliveira Mendes was Luso-Brazilian, born in Salvador, Bahia in 1748. A graduate of Law from the University of Coimbra (1777), where he also researched Arts and Science. He spent a significant part of his life in Lisbon as a lawyer in Casa de Suplício and was a member of the Royal Academy of Science, where he presented studies on several themes. Written in Portugal and presented in the Academy, *Discurso,* is dedicated to explain the conditions of the slave trade between Africa and Brazil. It was written in 1793 and was the first study to name banzo as the pathos of the enslaved Africans; the first written record of the word banzo–before that only verbally used, probably regularly, between slave traders and masters. These records and their first conceptualization caused a strong impact on the literature. It has been with and from this first concept that all other ideas of banzo have been spreading since then. Echoes of these descriptions may be found in dictionaries of Portuguese language from the middle of 18th century, in foreign writings that in Brazil in the first half of the 19th century, as well as current studies about the life of slaves in Brazil and its transatlantic economy.

14   Ana Maria Galdini Raimundo Oda is a Prof. Dr. at the Department of Medical Psychology and Psychiatry of the Faculty of Medical Sciences at Unicamp. It was through her articles, published at the Latin-American Journal of Fundamental Psychopathology (of which Oda is one of the associate editors) that I was able to get in contact with its extended research about [Slavery and psychopathology in Brazil] *Escravidão e psicopatologia no Brasil.* Her publications have brought me bibliographical references, reaffirming paths I had already tread, and offered me a historical discussion of banzo from the perspective of the History of Pathology and the certainty of how much the discussion about banzo in Brazil is scarce and how urgent it is to think it from another perspective.

15   Joseph François Xavier Sigaud, a naturalist French doctor, arrived in Brazil in the year of 1825,

Brazilians into disturbed beings, and made of banzo a modality of Tropical Melancholia. If such approach nowadays seems absurd, unfortunately this is what we Brazilians reproduce without questioning; that banzo is a kind of suffering of the order of homesickness and melancholia.

In face of this finding I asked myself: by fitting banzo into the category of melancholia, aren't we escaping from banzo in its singularity and affects? Aren't we avoiding a larger and more obscure problem, totally implicated in the slave-labour economy? Aren't we burying slavery? Aren't we disengaging from the violence slavery has produced in us?

These were some of the questions I aimed to approach during the doctoral research, which led me to think banzo as psychopathology created by the Atlantic economy logic which violently expropriated millions of people from the African continent and placed them in the condition of a currency, of property, of things. Yet, such questions did not cease to resonate in my ears. It is, then, for the future of this research that another question arose: if banzo is a product of the violence of the modern civilizational project, in which the transnationalization of the Black people is a constitutive part, wouldn't banzo be a present affect? Especially given that the whole contemporary world deals with the effects of this abusive process, of which the Atlantic slave trade is the incubation motor?

Banzo is not a modality of the tropical melancholia associated with the feeling of homesickness [*saudade da terra*], but a psychopathology directly linked to the first forms of racial capitalism that continue to manifest and to have effects today. The question then arises: how to think banzo today?

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and lived in the country for 30 years. He played an important role in the areas of medicine and culture in Imperial Brazil. He was the doctor of the young Emperor Pedro II, pioneer of the national press, editor of medical journals, founder and president of the Medicine Society of Rio de Janeiro and member of the Brazilian Historical and Geographical Institute. He was the main responsible for the translation work of hygienist researches in the 19th century in Brazil. As he had a blind daughter, he dedicated himself to the creation of the Imperial Institute of the Blind Boys and of the Braille method of learning to read and write.

Karl Friedrich Phillip von Martius was a bavarian naturalist who travelled around Brazil between 1817 and 1820. His research resulted in several publications such as: [Nature, disease and medicine of the Brazilian indigenous peoples] *Natureza, doenças, medicina e remédios dos índios brasileiros* (1844); *Flora Brasiliensis* (1867); *Glossaria Linguarum Brasiliensium* (1863); [Journey Through Brazil] *Viagem pelo Brasil* (1863) along with J.B. Von Spix. Considered the pioneer in Brazilian ethnography, von Martius, (although influenced by the western conceptions for the Brazilian disease problems, compatible to the medical and scientific mentality of that time) certainly offered us an extremely vast historical testimonial to consider, acknowledging the indigenous Brazilians knowledge of the medicinal power of native plants and their respective therapeutic uses.

Returning to the idea of Achille Mbembe: today we are living a process in which all subaltern humanity has become Black:

> Across early capitalism, the "Black" referred only to the condition imposed on peoples of African origin (…). Now, for the first time in human history, the term "black" has been generalized. This new fungibility, this solubility, institutionalized as a new norm of existence and expended to the entire planet, is what I call the Becoming Black of the world (Mbembe: 2017, pp 5-6).[16]

Whiteness sees the Subaltern as an object from which one should be protected, which should be fought against and destroyed (the horror of the Other). But, on the other hand, the subaltern experiences resentment, anger, the desire for revenge as they fight against injuries, and are increasingly obliged to suffer uncountable humiliations.

If we are living the becoming black of the world, as Mbembe proposes, what are the pathologies involved in this sickly becoming?

The most frequent symptom of slave banzo was the state of mutism accompanied by inaction: people did not speak, did not act, did not eat, did not work. Their gestures were a kind of slow, forced suicide. Are these not the symptoms of a body from which the possibility of existence has been withdrawn, rendering it impossible to affirm its vital force?

The problem that matters is not exactly whether such symptoms are evidence of a process of resistance. What seems to me to be urgent is to put into practice the idea that what slavery produced in the depths of subjectivity has to do with the expropriation of the possibility of existence, effected in the impossibility of the exercise of the vital force of a body more-than-human (Manning, 2012)[17].

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16 Membe, Achile. *Critique of Black reason.* Durham: Duke University Press, 2017, p. 5-6.

17 The concept "more than human", as conceived by Erin Manning (2012), arises from her approach towards process philosophy and its political implications. Having as a point of departure authors like Alfred North Whitehead, Daniel Stern, and Gilbert Simondon, this notion argues that in relation the whole is always more (and different) than the sum of its parts. A body, for example, is more-than a body in the sense that it is made neither of an interior nor from an exterior, it is co-composed from the middle, the event. The concept questions not the what of forms, but the how of forms (p.17). Furthermore, it questions how complexes ecologies come to co-constitute a body. Thus, the human being is not itself human, it emerges from the in-between of an event, as defined by Massumi (p.xx), the human being is more than human. Human plus different form-takings, complexes of many other co-constituted categories amongst a body: ecologies, space-

It is therefore evident that banzo is not a psychopathology exclusive to Brazil, but a historical result of the violent process of colonization of the Americas. From the perspective of my research, the enslaved African and Indigenous people who suffered from banzo were the object of an expropriation of the body, resulting in the production of a body suffering from a kind of auto-amnesia, which renders the body incapable of effecting connections with the new place. This is a violent expropriation of the body. To perceive merely melancholy or nostalgia in the slave's banzo is to completely deny the violence of slavery. This violent expropriation that continues to have its effects today is what this research wants to hear. It is therefore thinking of the "impossibility of the exercise of the vital force of a human or more-than-human body" that I have been exploring for what I call the "state of *voicelessness*".

The state of voicelessness is central to both my understanding of the lived experience of banzo, and my point of departure toward an aesthetico-clinical practice. It was, through voicelessness that the voice presented itself as a place to explore uniqueness of what occurs between muteness and the word. What I have been asking is: how have sounds of the banzo and its effects been reverberating in bodies? How to listen to this *voicelessness* that has been inscribed in bodies since the transatlantic slave trade? These questions are difficult to answer, and are currently being investigated through my aesthetic-clinical practice.

2. ART-SOUND-VOICE-CLINIC

From an artistic point of view, many aspects of this work began to open themselves up during the exercises of song and sonorities I was exploring in my artistic residency at Oficina Cultural Oswald de Andrade, between November 2014 and March 2015. I had my first opportunity to elaborate "banzo sounds" through my performances, which were sonorous explorations. During this residency, I travelled to the [countryside of Minas Gerais] *Sertão Mineiro*, listened to the *veredas*, to the landscapes of the banzeiro *cerrado* and talked with all the country people I was able to listen to and record. Playing my berrante, an instrument which screams and makes the body's sorrows vibrate, I went knocking house to house, looking for herdsmen and *Sertão* stories. Listening to the berrante's sounds, they told stories and sang for me with tears in their eyes. They expressed a paradoxical

time experiences, collective individuation, vitality affects. MANNING, Erin. *Always More Than One.* Duke University Press. Durham and London: 2012

sad-joyful state, making the presence of an active past – one that unfolds today onto the landscape of *Sertão*, where everything is rubble and disgrace, leaving anyone with a hoarse throat – actually felt. My ears sniffed the microtonal variation of their songs. I noticed with the aboio[18], such as in the Arab and Moorish chants, the presence of a deep and painful lament that concerns the:

> Aridity of sertão, secular representation of the desert, where the conditions of life take up aspects produced in several parts of the world: the coexistence with a ruthless nature, the lack of water, the dealings with cattle, the manifestation of an acute religiosity (Makely Ka:2013).

Yet, it is simultaneously a chant bearing the ability to make our bodies vibrate and touch memories that have crossed us, working for a reconfiguration of the present cartography.

As an outcome of this process, I developed the performance that carries the same name as my thesis *Banzo Sounds*[19]. In this art piece, Andreas Trobollowitsch and I composed a performance that exchanged works of voice, live instruments, previously recorded sounds emitted by me, chants of Northeastern Brazilian herdsmen, Brazilian countrymen's speech, and percussive sounds. Breath, voice, chant, scream, aboio, cowbells, whip, berrante, accordion. This was the sonorous matter which allowed us to compose a sort of ritual where the sounds produced in the performance were a 'gutural banzo'. My body was entirely immersed in percussive music and

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18 There are several studies on the close relationship between the aboio and the Moorish culture. Here are fragments of the article [Traces of the Iberian Heritage in Brazilian Music] *Traços da herança ibérica na música brasileira* written by the musician Makely Ka, in my translation: The northeastern aboio, chant of the herdsmen in order to guide, to call and calm the cattle down, anchored in vowels and melismas, monochord, has indisputable oriental origin. According to Câmara Cascudo, aboio arrived in Brazil through Moors slaves from Madeira Islands. He continues: 'chanted in a series of interjections similar to vocalises, having a very much marked oriental style, specially regarding Neuma, the extraordinary similarity to 'Moorish, where it seems to be derived from'. Aboio has a marked presence in contemporary popular Brazilian music from northeastern matrix, from Luiz Gonzaga to Lenine." In: <http://www.overmundo.com.br/overblog/tracos-da-heranca-iberica-na-musica-brasileira>

19 Banzo Sounds is also the name of the performative research I proposed for the program Mergulho Artístico at Oficina Oswald de Andrade developed between November 2014 and March 2015. This presentation was the accomplishment of a new performance, elaborated during the residency. It happened on March 28th, 30th and 31st, at the open lounge of Oficina Oswald de Andrade and counted with the partnership of an Austrian musician friend, Andreas Trobollowitsch. For details and audio see: https://cargocollective.com/marianamarcassa

the chants of herdsmen from sertão. My voice presented itself as a place through which many voices would move. The voices created a paradox, they were simultaneously familiar yet remote to my life experience. With this work, I had the opportunity to feel for the first time the power of voice and sound as disruptors of remote traumas. Not only in my body, but also in those who were present for the three days of presentation. We received much feedback from the audience, telling us how much these sonorities shook their bodies, reconfiguring the bodies landscape as a whole.

Fig 1: *Performance Banzo Sounds* [Sons de Banzo] at Oficina Cultural Oswald de Andrade, 2014-15

Fig 2: *Performance Banzo Sounds* [Sons de Banzo] at Oficina Cultural Oswald de Andrade, 2014-15

Since then, I have been pursuing bodily research. I listen to numerous sound archives as devices to find some resonance with the sounds presented in my performance with Andreas Trobollowitsch. I am seeking to produce a multiplicity of sounds and noises with my voice, throat, nostrils, tongue and teeth. This way, I have found my tribe, via sonorous contamination, a tribe I have never been able to name since I started working with Performance.

However, concerning the sounds of an affect, I dared to go to an unknown place in my artistic path: the aboio of the herdsman from sertão, in its Arabian-Gypsy tonality, connected this research to the universe of music and, more specifically, to its modal logic, in its oriental version and its guttural, nomad sounds, becoming a place to be explored.

That is when I saw myself face to face with Overtone Singing, the song of the old civilizations, the herding chants, shamans' singing, Suonare la Voce[20]

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20 Suonare la Voce is the last project of the musician and singer Demetrio Stratos, Greek-Egyptian singer based in Milan. He used to say, in the 1970s, that "voice in today's music is a transmission channel that does not transmit anything. Radically experimental, Demetrio studied techniques of high vocal reach and ethnomusicology in collaboration with CNR de Pádua, giving life to the

and its experimental singers: Demetrio Stratos, Fátima Miranda, Diamanda Galás, Meredith Monk, Sainkho Namtchylak, Mike Patton, Tran Quang Hai, Dhafer Youssef, Joan La Bárbara, Jöelle Léandre. Tuvans, Mongolians, Tibetan monks, Amazonian indigenous, Africans, Arabs, Persians and Gypsies.

Through modal music and experimental voice artists, a universe of noise, harmonic and primordial sounds, has begun to vibrate in my body, calling me to this encounter, producing snaps, moving my research, pulling its muffled sounds out of banzo, convoking them for a dance. This universe in my path is an accurate arrow pointing directly to the core of the issue: the relationship between banzo's trauma and the *voicelessness* state, and a possible way of working with this connection. I perceived with Demetrio Stratos, Antonin Artaud, and the *modal* world that voice is the bearer of a potentially medicinal, creative, primordial, magical, shamanic dimension and–also its opposite: castrating, aggressive, terrifying and damned. But it does not concern the speech-voice that enjoys a fundamental role in the core of our western civilization, historically taken as an object of interpretation by psychoanalysis, philosophy and language sciences. Here I refer to, for instance, *voice-pharmakós*[21], by Demetrio Stratos: the voice that can free itself from the hegemony of the communicational speech, the voice that creates its own language, making everything that language-meaning has come to repress (noises, tremblings, whispers, breaths, etc) audible.

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project Suonare la Voce. With this project he reached incomparable results: diplophonia, bitonal and diphonic sounds, capacities rarely found in the same person. Some years before his death, Demetrio developed an investigation in which he crosses several fields of knowledge (psychoanalysis, music, performance, happening, voice, speech-language science), offering us precious material to be studied. Prematurely dead at the age of 34, he has left us the greatest reference for the experimental *voice-music* field. Although not very well known in Brazil, it was in Brazil through Janete El Haouli, that his work took the form of a book, contributing to his recognition in other parts of the world. HAOULI, Janete El. *Demetrio Stratos:* em busca de la voz-música. DF, México: Conaculta, 2006.

21   Demetrio Stratos criticized the hegemony of the use of voice subordinated to language and understood voice as *Pharmakon*. A voice that is capable to release itself from its prison of spoken language; evoking noisy, damn and healing sounds (*pharmakon*: inside the poison has its antidote). However, in order for this operation to take place (to remove from the vocality the dominant repetition), Demetrio proposed a sacrificial listening in which the noisy sounds touch the listener. From the same Greek root of *Pharmakon* derives another word, *Pharmakos*, which later becomes the term pharmakeus, meaning druggist, poisoner, by extension, magician, wizard, sorcerer. Janete El Haouli creates the term voice-farmakós to refer to what Demetrio proposed with his own voice: a sacrificial song in which an encounter takes place, an event that promotes lines of flight, between the voice and the listener. HAOULI, Janete El. *Demetrio Stratos: em busca de la voz-música*. DF, México: Conaculta, 2006.

This research follows, and insists on, a path of voice experimentation; to extract out of the *voicelessness* its muffled, noisy and strange sounds. To listen to, and drag them out of mutism–not because one desires the *voicelessness* to speak, but to create a new speech-voice, potent, singular, and active, in consonance with its own life, full of unheard-of sounds.

The voice is a very complex wind instrument, a powerful healer that acts in the creation of the existential, subjective and material universes of a body. However, both the healing capacity and the sonorous complexity of the voice have been mostly annihilated, atrophied and repressed ever since the logic of Western tonal music gained sufficient strength to fix a model of musical scale that eliminates the chaos from the music and imposes an order that is supposedly pure and clean. Additionally, this process has been exacerbated by spoken language becoming the most important tool of communication and interaction in the world. Spoken language is one (perhaps the strongest) of the pattern gestures of compulsory sociability which does not see the multiplicity.

What seems absolutely important to assert is that this system of tonal music begins to take place in the West precisely at the moment when Europe begins its "civilizing" project of colonization of Americas, having its culmination in the 17th century with the Bel Canto (and its decline in the late 19th century when the Latin American colonies sought their independence.) The Native People of the Americas had (and still have) a modal system constituting their musical thought. In other words, the tonal music system is a constituent part of the European Colonization project supported by the exploitation of natural resources, the expropriation of natives, and the trade and enslavement of people in the African continent.

This study proposes the artistic investigation of banzo as an audible trauma, where the voice is a strong vector of memory, that carries the capacity of displacing this trauma. In other words, if banzo begins by creating voicelessness, how might a different account of voice – a voicelessness of voice itself – facilitate healing? And if it does facilitate healing, what is it to voice voicelessly? What is the relationship between the voice and memory? Can we foreground listening to the voice and its memory by creating a kind of storytelling based on the voice itself? What can the voice do to dismantle the traumas of the body? What kind of listening space do we need to create so that these sonorities can be embodied, moving the body into the future and producing difference? How can we invoke the sounds of sad affections, open them, move them as if they were in a dance that now sympathized

with the world? What role does sound play in creating a new body? To what extent can voice and sound act as disruptive forces?

The space-sounds *between mutenes and the word* gives us a clue: what can be heard, and felt, through strange exercises of voicing? Might these exercises reconnect and recreate pieces of the body that have been annihilated?

My research has been the creation of a processual practice since July 2017. This is accompanied by Demetrio Stratos and Antonin Artaud (their thoughts on voice, word and sound) but, above all, with Lygia Clark (particularly with the therapeutic artistic project she developed in the last phase of her life, including group experiences with her students at the Sorbonne between 1972-75, and the sessions of individual works of *Structuring of the Self* between 1976-88). It was at this stage that Lygia Clark realized a clinical dimension unavoidable to the artistic process and with which she affirmed a hybrid poetic practice without fixed categories. *Structuring of the Self* is a poetic-therapeutic process which moves beyond a simple multisensory body experimentation. The therapeutic dimension of Lygia's work opens us up to an experimental field where the artist sought to touch the body of her clients with the use of *Relational Objects*. These objects were created with simple materials of different textures, sizes and weights. In individual sessions, Lygia would first have her patients lie naked on a big mattress, one of her relational objects.

> [Once they became settled on this] 'divan sui generis', clients immediatly 'opened furrows' with their own weight where 'their body was accommodated'. So began the session. Lygia explored the many uses of Relational Objects that would allow her to come in contact with the body of her client: massage, rub, caress, squeeze, press, light touch, blow, pant, heat, cover, wrap, emit sonorities, or simply leaving them there, silently, alone with the client and resting on it. With the aid of her objects, Lygia was filling holes, closing cracks, replacing missing parts, soldering disconnected joints, shoring up unsupported weight, opening a body space at points of contraction – her decisions were in response to the demands of the client's body that she encountered throughout the process. This is what guided the artist in the choice of objects, their sequence and how to use them (Rolnik, 2012: 1-2).

It is through the *Structuring of the Self* that Lygia Clark inaugurates in Brazil and in the world a radical artistic experimentation in which there exists a sophisticated relationship between Art and Clinic. This attachment to the

clinical has led her research to be rejected by the artistic establishment until the present day. Her proposal is concerned with the micropolitics of affections: through summoning body memories, she intends to expel the *phantasmatic of the body* in order to create a new body, one that is "healthy", active and imaginative. A healthy body that is capable of suffering and feeling pain, falling into crises and experiencing sadness, one that is willing to confront its trauma in order to find and create new ways of living.

It is along this path opened by Clark, that my research-creation practice is founded: sound and voice are my *Relational Objects*. Through a series of individual and collective sessions different knowledge has been gathered and put into practice: Sound and Voice therapy studies; my fifteen years of experience in the field of performance art, and popular Brazilian knowledge about the effects of herbs as therapeutical medicines, which I have learned with my family.

The collective sessions search for a way of facilitating voice experimentation with the intention of opening the listening of the body, and activating its vitality exercise. Individual sessions vary from person to person. In the first encounter, I search to feel the person through a standard session in which I touch the whole body lying on the floor over a properly cared-for space. I use oils and essences. The parts that I work closely on are the chest and the feet. After that, I start the sound work. I use percussive instruments, Tibetan bowls, bells, and some objects that I have turned into musical instruments (such as: plastic bags filled with water, earth, stones, stones with one tied to the other, a whip, etc). When I look for a musical instrument, or an object to insert into my sessions, this means that I am looking for the qualities and forces that that object or instrument can provide. With the whip, for example, I work the wind, the air, the thunder, the storms and also everything that needs to be cut, extracted and cleared. With plastic water bags, the entire body of the bag is wrapped around the head, promoting total water immersion, enhancing the sound experience through vibration. I finish these sessions with herbs on the body, activating grounding with a tuning fork, and a few drops of essential oil that drop onto the client's hands, so that they can activate an experience of smell. I cover their ears with my hands, so that they can listen to the present cartography we have created together. If the same person returns for other sessions, we begin to work with movements and vocalizations in order to hear what the body is trying to say, but cannot do through the usual means of everyday life. I give them their time to come back, I offer water to drink and wait to close the session through words. Putting the experience of the body into words is not

obvious or easy. The body has been opened in its multiplicity, and it is necessary to give words to this intensive experience. An effort is summoned, and little by little, the words arise, giving a new shape to the experience that vibrates in their bodies. When words come out from this alive encounter, the body cries, the body laughs, the body understands, and another stage opens to be worked in the next encounter.

Fig 3: Individual session at Seance for the Living exhibition - SBC Gallery, Montreal 2018

Hearing or singing from this place is to shake the rhythmic patterns that are habituated, learned, or marked by paralysis. In a way, all trauma works like this, it is inscribed in the body like a wound that circulates inwardly, causing insistent repetition: the performance of the same patterns of expression and functioning that cause more and more damages and injuries.

Fig 4: Instrument made by stones for collective and individual sessions

However, it is not about eliminating the word but about the destitution of its hegemony, the disorganization of its hierarchy, the reconfiguration of its function, and the way of convoking it. Might it not be the case that the word

is, prior to anything else, a material sound that desires at all moments to make its own energetic and vibrational dimension, as a being of movement, to be heard as the displacement of air that its enunciation provokes?

As with Artaud, words are of interest to these performative experimentations, as breathing and plastic sources of language, considered not only for what they say, semantically speaking, but for their sound and, most of all, as movements: stammerings, babies' vocalizations, undulations, cries, modal world voices, the strangest variations, noises, whispers. Regaining the voice in its performative and bodily dimension is the same as reinventing a body, freeing it from automatisms. Would it not be in this operation of sound matter and voice extraction that Artaud finds the necessary conditions to create a *Body without Organs*, which Demetrio Stratos, Meredith Monk and other experimental artists of the voice unfold?

It has been through voice and sound–as performance, as aesthetic proposition and clinical intervention–that I have been asking, in practice and theory, how an engagement with voice-without-language might facilitate new modes of experience, and with these, new techniques for living.

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Extended Abstract

An Ear Without a Body: Affect, Corporeality and Sonic Multiplicities in ASMR

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As feminist practitioner-scholars of sound forms, we aim to interrogate the increasing ubiquity of Autonomous Sensory Meridian Response (ASMR), as an opening toward the creative and critical facets of marginal, ephemeral, liminal sounds in their movements and flows. ASMR is the generic term given to widely divergent sounds and their sensory responses; often termed 'tingles' by the ASMR community. Dually understood as a millennial internet genre and curated by self-described 'ASMRtists', ASMR videos are thematically diverse, yet primarily foreground quiet sounds of haptic and bodily movements with objects, such as tapping, scraping, brushing hair, lip smacking, eating, licking, breathing and whispering plosive and sibilant sounds. Some commentators describe affects from such sounds manifesting as a surface-level sensation that moves through the scalp, spine and limbs ('tingles') to cause relaxation and/or euphoria. For others, these sounds can cause extreme discomfort, if not distress. In this case, the affective response is misophonia: where such sounds produce a strongly negative neuro-physiological effect. Why certain sounds produce such divergence is of less interest to us than the phenomenology of this experience, which we are motivated to explore further in our wider interest in how sounds and bodies are co-implicated. While ASMR as a genre or practice doesn't interrogate or address its own ontology (for example, it fails to acknowledge the concept of Noise in the very moment it is promoting or demonstrating the concept of Noise), we nonetheless see the potential intersections of ASMR with our own feminist materialist conceptualisations as sound practitioners.

In this paper, we will situate ASMR as a phenomenon/a into its media context, and consider the affordances of ASMR and its sonicities as a conduit for feminist/queer interventions into embodied relationality. We will explore

various sonic and performative components of ASMR that emphasise the oscillation between embodied thought and corporeality/materiality, to re-configure this relation as an active, uncontainable, and generative process in the poetics and politics of living. Feminist conceptualisations of corpore-ality by Elizabeth Grosz, as well as affective cultural theory by Sara Ahmed will be used alongside specific ASMR examples to offer discussions of sonic potential through multiplicities and its relevance for queer and feminist in-terventions into sound theory.

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An Aerolastic Flutter: or Is She? or which weeps weeps the witch which weeps each witch which weeps or That´s a Likely Story.

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Abstract. *An Aeroelastic Flutter* spins around different names: *Is She?* or *which weeps weeps the witch which weeps each witch which weeps* or *That´s a Likely Story*. How to speak out of the exotification of bewitching flutes, of bewitching prophetesses, of bewitching female bodies? As a possible answer, *An Aeroelastic Flutter* spins around the tragic female voice, searching for ways to work around/ detour/ dribble the female body as a place of curse and punishment. I spin a collage of voices around a specific bird named: *Urutau, Mother of the Moon*. I spin around the narratives and the sound(ing) imaginary that surrounds that bird, resonating my voice with her cursed chant, in order to bring into play my listening and my body-musician, in order to flutter the female body with her sounding-political potentiality.

Keywords: artistic research, sound art, body politics, tragic female voice.

> *The witch-hunt, then, was a war against women; it was a concerted attempt to degrade them, demonise them and destroy their social power. At the same time, it was in the torture chambers and on the stakes on which the witches perished that the bourgeois ideals of womanhood and domesticity were forged.*[1]
>
> (Silvia Federici)

> *We, Tupi people, used to call her* jandaia*, because always joyful, she would break the fields with her passionate chant. But now, sad and mute, disdained by her lady master, she did not look like the beautiful* jandaia*, but the ugly* urutau *that only knows how to moan.*[2]
>
> (José de Alencar)

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[1] (Silvia Federici, 2004: 186).

[2] (José de Alencar, 2016: 40). My own translation. "A gente tupi a chamava jandaia, porque sempre alegre estrugia os campos com seu canto fremente. Mas agora, triste e muda, desdenhada de sua senhora, não parecia mais a linda jandaia, e sim o feio urutau que somente sabe gemer."

Is she?

or

weeps each witch which weeps weeps the witch which weeps

or

an aeroelastic flutter

or

that's a likely story.

then a flutist was first a bird

The earliest known flutes were made of birds' little bones. We know they were made at least forty thousand calendar years ago. A bird-bone flute is one of the oldest musical instruments ever found alive, although in pretty bad shape.[3] At the time of its making, flute players practised stealing flying voices. They knew that music hides in the bones of things. We do not know if flute playing then was about playing the flute, or if it was a bird-becoming or if it was all one and the same thing. We only know that much later that all this magic was named "flute playing", as if we knew what it was all about. Flutists nowadays do not care much about bones. They want shiny gold instead.

How to speak out of the exotification of bewitching flutes, of bewitching prophetesses, of bewitching female bodies?

> – *By bewitching myself another spell.*

I invoked a bird-becoming in order to call on the remains of the tragic female voice, of the restless wondering: Who shed so much tragedy, and put it into the mouths of female-figures?

For Adriana Cavarero, a tragic confirmation: "In the large range of samples available within (Western) tradition, it is not possible to find a single female figure that meets the declared needs of female subjectivity".[4] Cavarero then acts by stealing. She steals female figures from their contexts, in order "to relocate them suitably within the compositional canvas of a feminine symbolic order that is ready to embrace the free-flowing gestures of other female weavers".[5] If Adriana steals and weaves and plays with words through a hermeneutic game in order to find our way out of such a tragedy, I create

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3 Nicholas J. Conard, Maria Malina & Susanne C. Münzel (2009). New flutes document the earliest musical tradition in southwestern German. Nature, 460, 737–740.

4 (Adriana Cavarero, 1995: 4).

5 (Adriana Cavarero, 1995: 8).

with leaves, with feathers without ink: *Urutau*, *Mother of the moon*[6], a piece for feathers, tree leaves and a bicycle wheel.

A small miss-spell(ing): I am not playing the flute. I dislodge the flute as an external object. I search for my relation flute-body-flutist in winged things. A search that moves around a wheel that spins air like a flute, a wheel of fortune, a whirlwind: my mouth, my cauldron. I grow a forest. I listen to the beats of wings, of leaves. I let rhythms form, transform, organise, deform, disappear. I surrender to the rhythmical breath of spinning.

*Urutau, Mother of the Moo*n is already a telling, a remembering of a co-creation, which I now tell again. I start to tell a story within a story, in which I play a text-collage of voices that I stole from their contexts, like leaves, like feathers. For this particular spell, I relocate the stolen voices, transferring them into the voice of a particular bird, which is bound to the female tragic voice: the *Urutau*, also called *Mother of the Moon*. Commonly found in the deep forests and urban spaces of South America, but rarely seen because of its wondrously artful camouflage, this bird is most famous for its song: A nocturnal, mysterious, haunting, sensuous chant, commonly interpreted as a jinx, and thus feared. "Melancholic and strange, recalling a guffaw of pain" were the words chosen by Luís da Câmara Cascudo in his dictionary of Brazilian folklore.[7] If I could summarise, with "a measure of inherent arbitrariness",[8] the various stories that live within a variety of traditions in Brazil, it would be:

> – *The bird is a she.*
>
>   *Her bird-fate is to weep weep weep.*

My bewitching ingredients are:

> – *Dry twigs full of leaves, of flowers, sundry.*

I remember the sounding of leaves traversing the work of a number of musicians: *Gotlhar* (2010) by Mauricio Rodriguez; *Plant Orchestra* (2011) by Luke Jerram and Matt Davies; *Groene Ruis* (2007) by Cathy Van Eck; *Living*

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6 An invitation for my sound/video-essay Urutau, Mother of the Moon: https://www.youtube.com/watch?v=7VQfMuhZN2w or https://vimeo.com/332893372 .

7 (Luís da Câmara Cascudo, 2000: 533). My own translation. "[…] seu canto melancólico e estranho, lembrando uma gargalhada de dor, cercou-a de misterioso prestígio assombrador. […] Só quem haja ouvido o grito da mãe-da-lua pode medir a impressão sinistra e desesperada que ele provoca durante a noite."

8 (Adriana Cavarero, 1995: 7).

instruments (2016) by Serge Vuille, Luc Henry and Vanessa Lorenzo; Diego Stocco's music from a tree, music from a bonsai, duet for leaves and turntable (2015-2018); the bio-sensing art of the 1970s. I remember the Australian Aboriginal gumleaf tradition as a practice of leaf music that reveals the existence of "a close relationship between musician and plant in the Australian Aboriginal societies of which Western philosophy has little awareness".[9]

– Found feathers, the ones one is most fond of.

If the Urutau became famous for her bewitching singing, not all birds sing with their voices. Some sing with their feathers: a wing singing, an aeroelastic flutter.[10] I remember winged sound installations: cristo fué y guacamaya by Rubén D'hers (2015), Mengenang by Lachland Brown and Cave urban[11] and Tremor by Carri Fucile.[12]

Each feather and each branch has been collected by me in the different places that I have been. The spell begins in the woods, at a lakeside, on a roof top, following animal and vegetable traces. Carrying dry twigs on city trams, on airplanes. Waiting for the leaves to dry, to crackle. Waiting for spring to offer feathers, waiting for autumn to offer the crackling sound of sleep. Waiting for the metamorphosing whirlwind of a wheel spinning.

– A bicycle wheel: "girar até acabarem-se as penas", spin until feathersorrows are gone.

In Portuguese, "pena(s)" meaning both feather(s) and sorrow(s).

– Stolen voices, sundry, as many as you can spin, carefully, before they turn against you.

I spin around my counter-spell

9 (Robin Ryan, 2013: 225).

10 See Christopher J. Clark, Alexander N. G. Kirschel, Louis Hadjioannou and Richard O. Prum (2016). "Smithornis Broadbills Produce Loud Wing Song by Aeroelastic Flutter of Medial Primary Wing Feathers". Journal of Experimental Biology, 219, 1069-1075.

11 See: https://www.caveurban.com/sbts-bondi1/ (Accessed 01-02-2019).

12 See: http://carriefucile.net/tremor (Accessed 01-02-2019).

I start as she said "once upon a time the world was round and you could go on it around and around".[13]

I think she said it when she said:

Voices start spinning when all the world is asleep. When we hear "only the bushy weeping, that comes below the silences, and an uh-uh-uh of the Urutau, very sad and very loud".[14]

That is what he once said, but if you are there to hear she might not uh-uh-uh at all.

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13 (Gertrude Stein, 1995: 543).

14 (João Guimarães Rosa, 2001: 576). My own translation. "Todo o mundo dormindo. Só o cho-chôrro mateiro, que sai de debaixo dos silêncios, e um ô-ô-ô de urutau, muito triste e muito alto."

A nocturnal voice is almost never truly heard it seems no one likes to be up all night;

it is easy to believe stories we like to tell and we like to "accumulate something dark and heavy around the images of nocturnal birds".[15]

[Circular text: "but one wants what bounces in nocturnal voices no one wants to listen to" with inner spiral repeating "bounces bounces bounces bounces bounces bounces bounces"]
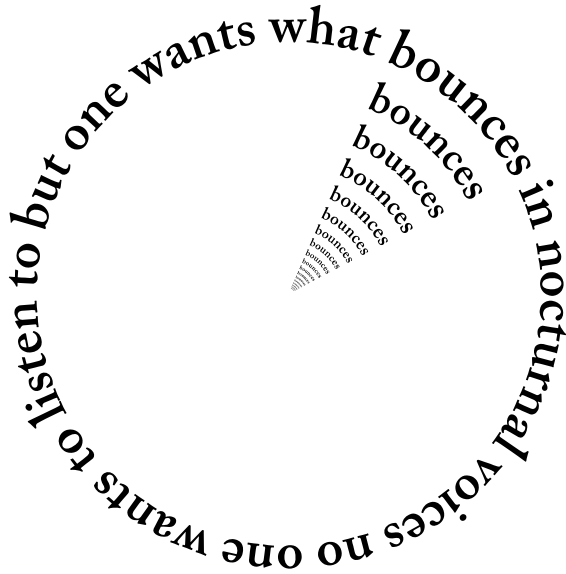
Once upon another time, instead of weeping she was singing around and around:

> "But don't get sentimental,
> From the beginning, the world is against us,
> whence every year the apocalypse is sworn.
> The moon wants to be black, black,
> She paints herself in the eclipse.
> I'm part of the night."[16]

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15 (Gaston Bachelard, 1990: 88). My own translation. "[...] inversement quelque chose de sombre et de lourd s'accumulera autour des images des oiseaux de la nuit."

16 See Baco Exu do Blues. "A Pele que Habito". Track from the album Esú. 2017. My own translation. "Mas não se emocione / Desde o começo é o mundo contra nós / Por isso todo ano juram o apocalipse /A lua quer ser preta, preta/ Se pinta no eclipse / Eu faço parte da noite."

to own the light that lights the moon wants to hide from a culture of light that wants to own the

Once upon another time in a camping ground in Nazaré Paulista-SP (Brazil), people "were intrigued and even frightened by the singing of this bird, because they thought there was someone in the bush trying to scare them with a flute".[17] A bird researcher had a hard time persuading them that it was the chant of an Urutau.

17 See Rodrigo Girardi Santiago, 2006. https://www2.ib.unicamp.br/lte/bdc/visualizarMaterial. php?idMaterial=395&idiomaMaterial=pt#.WqLxSpPwa34 (Accessed 01-02-2019).

a flutist might scare with a bird might scare with a flute might scare with a flutist might scare with a bird might scare with a flute might

If humans mistake flutists for birds, they also try to explain their names as if such names could say it all: "a corruption of Guaraní language's 'guyra' (bird) and 'táu' (ghost) made 'urutau' – the name of one of the birds most cultured in the tradition of the 'sertanejo' (inhabitants of Sertão, backcountry of the Northeast of Brazil) and curiously little known to most of the Brazilian people."[18]

as she is a bird is little known as she is little known

18 (Fernando Costa Straube, 2004). My own translation. "O nome já diz tudo: uma corruptela do guarani guyra (ave) e táu (fantasma) fez "urutau", nome de uma das aves mais cultuadas na cultura do sertanejo e curiosamente pouco conhecida da maior parte do povo brasileiro."

But a bird – as all things, has many names, we only know a few ones, those that humans gave it, and that are still remembered.

Urutau jurutau, jurutauí, urutágua, urutago, urutauí, urutavi.

mãe-da-lua: mother of the moon.

manda-lua: bossing-the-moon.
>   ibijaú, cacuí,
>   chora-lua: cry-moon
>   preguiça: laziness (Brazil).
>
>   urutaú (Argentina),
>   guajojó, uruta (Bolivia),
>   urutau, guaimingüe, judío (Paraguay),
>   ay-ay-mama (Peru). [19]

potoo in English
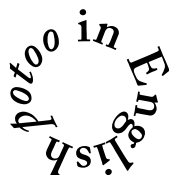
Once upon a time, far up North, in the Faroe Islands, humans practised a *Sealanguage*.[20] Birds had as many names as possible encounters. Practising names was an art, a pleasure. This pleasure was misunderstood by re-searchers, who thought that the *savages* – that is how researchers named the inhabitants of places that they wanted to own – were unable to discrim-inate clearly between words and things. The researchers thought that the savages would deliriously invent a bond between a human and a non-hu-man body in such a way that magic could be wrought on the savages them-selves just as easily through their names as through their hair as through their nails or any other part of their being. [21]

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19 Ibid.

20 (Simone Kotva, 2017: 26).

21 Ibid.
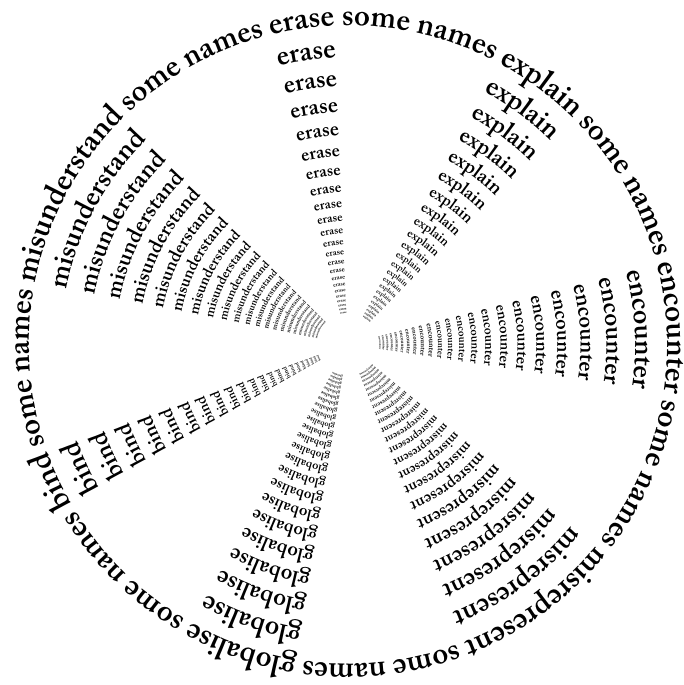
It was only later that another researcher concluded that magic is a practice that describes "the environment of a way of acting, it becomes superstition only when mistaken for science".[22] To this voice, another researcher added hers, challenging the socially progressive character of a scientific revolution. She made audible the thought that "the advent of scientific rationalism produced a cultural shift from organic to a mechanical paradigm that legitimised the exploitation of women and nature".[23]

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22 Simone Kotva´s remarks (2017) on Wittgenstein's Remarks on Frazer's Golden Bough (1979). See Kotva, (2017) "Sealanguage: Field Notes from the Anthropocene".

23 Silvia Federici traversed by The Death of Nature by Carolyn Merchant. (Silvia Federici, 2004: 13).

by hunting witches now haunting back scientific rationalism legitimised mechanical exploitation by delegitimising magic

Once upon another time, the Urutau travelled around and around, crossing oceans and entering the mouth of coloniser-researchers. It has been said that of all the birds of the earth, there was one that the savages would not kill, nor would injure for anything of this world. It is said that her chant reminded the poor creatures of their departed loved ones; that the poor creatures believed that the bird would bring them good luck.[24]

what men like to teach poor creatures

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24 André Thevet (1503-1592) transcribed by Nomura (1996) found in Straube, Fernando Costa. op. cit. My own translation. "Entre todas as aves da terra, existe uma que os selvagens não matariam nem mesmo feririam por nada deste mundo [...]. Dizem as pobres criaturas que esse canto lhes faz recordar os entes queridos que se foram. Este pássaro seria um enviado dos mortos, trazendo boa sorte para os amigos que ainda viviam e azar para seus inimigos."

"that the world was round
that the sun was round
that the moon was round
that the stars were round
And they were all going around and around
And not a sound.
It was so sad it almost made her cry
But then she did not believe it."[25]

round as a cry of a female mouth might be round

But once upon a time instead of weeping she was hearing an Omágua/
Kambeba woman singing:

"Maá munhã ira apigá upé rikué
Waá perewa, waá yuká
Waá munhã maá putari."[26]

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25 (Gertrude Stein, 1995: 543).

26 (Márcia Wayna Kambeba, 2013: 39). "What to do with men in life, that hurts, that kills, that do as they please". My own translation.

with what to op o

A cursed body

a bird became: she

her female body shuddered in shivers

she let out repeated moans

she disappeared completely

into the woods with wings

wandering through the branches

she would not need her beauty anymore

she had become a being of unspeakable ugliness

she had been condemned

to perch on the end of a dead trunk

dead as her dead hopes

and from there

staring at the moon

spending all her time singing

her sorrow for the misadventure of her love. [27]

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27 My mash-up of different versions of the woman transformed into an Urutau based on a mash-
-up found in Straube, Fernando Costa, op. cit.

your beauty your hope of love is a misadventure that takes away your body

Once upon another time, humans conceived of beauty in birds and the Urutau became estranged from the patterns by which we had become accustomed to thinking about birds. Then "in literature her ugliness became almost unanimous."[28]

accustomed to conceive females are threateningly strange to the patterns with which we got

---

[28] (Fernando Costa Straube, 2004). My own translation. "É uma verdadeira contradição de beleza que nos permite reavaliar nossos conceitos de beleza, ainda que na literatura sua feiúra seja quase unânime."

Once upon another time, the Urutau – going by her other name, Mother of the Moon – was happily in love with a Bacurau, a Brazilian Nighthawk. That was until one night, when at dinner she opened "such a big mouth to laugh that her bird bridegroom got scared and fled into the forest. The bride, realising that the bridegroom would not return, decided to go to her old home, where she still sings: gone, gone, gone…".[29]

too loud too sad of males run when haunted when scared when love laugh

sad sad sad sad sad sad sad

she did not believe it was so sad it almost made her cry but then

sad sad sad sad sad sad

29 (Angthichay, Arariby, Jassanã, Manguadã and Kanátyo, 1997: 14). A *Pataxó's* myth found in Angthichay, Arariby, Jassanã, Manguadã and Kanátyo. O *Povo Pataxó e sua história*. São Paulo: Global Editora. My own translation. "A Mãe-da-Lua abriu uma boca tão grande para rir, que o noivo Bacurau ficou assombrado e fugiu para a floresta. A noiva, percebendo que o noivo não voltaria mais, resolveu partir para a sua velha morada, onde até hoje canta: foi, foi, foi…"

Later on, birds became the newest dish on the academic Otherness menu, "waiting for hungry researchers to theorise them."[30] Later on, academics started to talk about birds in the way that I am talking about "the transformation interpreted as a punishment, in the form of a bird that could not be seen and could only regret."[31]

once more is she once more interpreted once more punished once more invisible once more

is she
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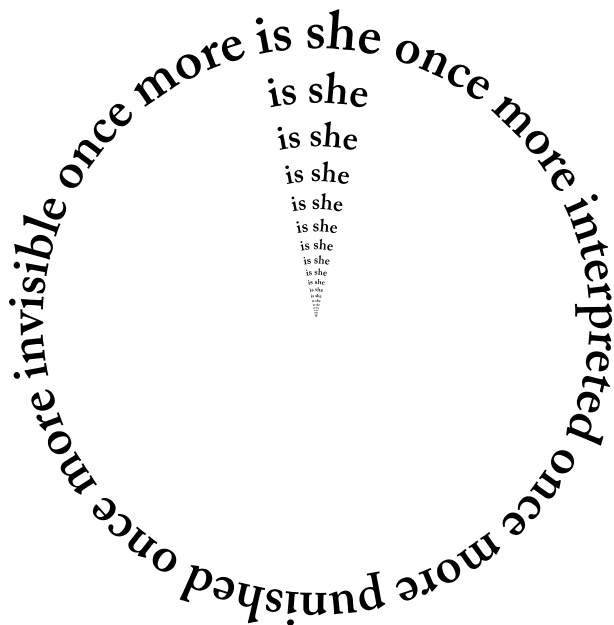
Once upon a time instead of weeping, she listened. She heard on television the soap-opera of nine o'clock, around and around: "Sad, mad or bad, will be qualified, she who refuses to follow the one recipe. I cannot see myself in the word Female: a hunting target."[32]

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30 (Fabio Prikladnicki, 2008: 1). My own translation. " [...] que os animais são a mais nova alteridade disponível no cardápio acadêmico, à espera de pesquisadores famintos por teorizá-los".

31 (Paulo Victor Albertoni Lisbôa, 2015, p. 65). My own translation. " [...] a transformação em urutau pode ser interpretada como uma punição, sob a forma de uma ave que não podia ser vista e só podia lamentar."

32 See Francisco, el hombre. Triste louca ou má . Track from the album SOLTASBRUXA, 2016. Soundtrack of the Brazilian soap-opera O Outro Lado do Paraíso (2017 -2018) / The Other side of Heaven – Rede Globo. My own translation. "Triste, louca ou má / Será qualificada / Ela que se recusar / Seguir a receita tal [...] Eu não me vejo na palavra/ Fêmea: alvo de caça."

"And as she sang her mouth was round and was going around and around.

  Oh dear, oh dear was everything just to be round and go around and around."[33]

"After she sings, it seems that nothing else is heard, our ears being hypnotically attentive to the strange repertoire, awaiting a new stanza."[34]

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33 (Gertrude Stein, 1995: 544).

34 (Fernando Costa Straube, 2004: 8). My own translation. "Depois que canta, parece que nada mais se ouve, ficando nossos ouvidos hipnoticamente atentos ao estranho repertório, aguardando nova estrofe."

eye that turns off it turns out the urutau has a magic

turns turns turns turns turns turns turns turns turns turns turns

If we could see when she closes her eyes, we might find two incisions in her upper eyelid, through which she "is able to observe the surroundings with 'eyes closed', that is, without opening the eyelids, and thus giving the effect of a 'magic eye'."[35]

when too close to what she can see with her eyes closed eyes trained to close

She can see with her magic eyes that the body "has been for females in capitalist society what the factory has been for male waged workers: the primary ground of their exploitation and resistance, as the female body has been appropriated by the state and men and forced to function as a means for

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the reproduction and accumulation of labour."[36]

is a body si

It is a body-politics spell. It is a spell-refusal to identify the body with the sphere of the private. "It is to claim the female body as a source of identity and at the same time a prison. It is why the body is so important and so problematic to valorise." [37]

imprisons a body that resists a body that

Once upon another time instead of weeping, she listened. She heard a Guarani man singing:

> "In the twenty-first century, rivers
> from all over Brazil,
>   will be polluted and dead,
> and they will end with fish.
>
> The animals will also be,
> All destroyed, the trees,
> There will be none,
> Men will feel lonely.
>
> They will have no more joy,
> That they will come to have will
> Of not existing,

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36 (Silvia Federici, 2004: 16).
37 (Silvia Federici, 2004: 16).

Said the shaman."[38]

another prophet forms another prophecy from another prophetess forms another prophecy from another prophet forms another prophecy

She now sings what she sings out loud: "Capitalism undermines our capacity to understand the rhythms of nature; it destroys our sense of the magical in nature".[39] "It is impossible therefore to associate capitalism with any form of liberation. The difference is that today the resistance to it has also achieved a global dimension."[40]

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38 See Jekupé's poem *"Profecia do Pajé"* found in Lisbôa, Paulo Victor Albertoni. op. cit. My own translation. "No século XXI, os rios / De todo canto do Brasil / Estarão poluídos e mortos / E acabarão com os peixes. / Os animais também serão / Todos destruídos, as árvores / Não vão existir nenhuma / Os homens se sentirão só. / Eles não terão mais alegria, / Que chegarão a ter vontade / De não existir, / Disse o pajé."

39 (Arlen Austin, Beth Capper, and Rebecca Schneider, 2018: 139).

40 (Silvia Federici, 2004: 17).

why we cannot hear her big mouth spells out loud now we might hear

Once upon a time, music, performance art, theatre and dance allowed us "to enter into cross-temporal scenes that interrupt the temporality of capitalism", and enabled us to sense our bodies differently, and "invoked speculative possibilities for other worlds and other modes of social reproduction, where 'magical' knowledges permeated our lives."[41]

I think she said it when she said it.

likely a story that is a likely story that is

What is left from the voice of a flutist without her flute, a love misadventure?

I spin and bewitch the rhythmical pulsating of leaves and feathers. An

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41 (Arlen Austin, Beth Capper, and Rebecca Schneider, 2018:133).

aeroelastic flutter. A love spell, womanly, without punishment. It is the pos-sible of a bird becoming, a bird celebrating that sings the rhythmical deli-cacy of sounds that traverse the world that transforms a body. It is a joyful curiousness, a humorous spell, like hearing the chant of an Urutau.

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| Session #6

Extended Abstract

Sampling the City: Field Recording as Resistant Creative Practice in São Paulo, Brazil

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This paper investigates the ways in which individuals employ field recording as a means of interrogating and confronting urban experience, space, and sound. In order to address this phenomenon, I examine the work of the São Paulo-based sound artist Renata Roman. Roman uses field recording as a primary creative technique and is the founder of the collaborative online project São Paulo SoundMap, which solicits field recordings of the city's different neighborhoods from individuals across the city. Incorporating data from participant-observation and interviews with Roman, the paper argues for understanding techniques such as field recording and sound mapping as critical means for individuals to respond to marginal urban experiences and reconfigure urban space and sound. As a case study, I examine Roman's 2015 electronic music work "Sampa," which incorporates collaborative field recordings made with recent immigrants to São Paulo from Bolivia and Haiti. My investigation approaches field recording as a form of everyday resistance (De Certeau 1984:97-98) with the potential to challenge the hegemony of the visual, highlight peripheral urban experiences, and provoke listeners to re-evaluate the way they conceptualize urban space and sound. I conclude with a discussion of the ramifications of this phenomenon in the personal sphere, focusing on how field recording enables individuals to mediate urban experience on their own terms and take control of an element of cities that many view as oppressive.

The vernacular electronics of the gatorra: a report from the frontline.

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Abstract. This paper summarizes the author's research work on the instrument known as *gatorra* so far, and is divided in three main sections: an outline of the instrument and a brief description of its history, research and development; a recap of the academic bibliography about the instrument, including some of the author's own works and; a presentation of the recent developments in terms of making the serial production of gatorras viable. The author concludes with a brief discussion of the possible ways this research can unfold.

Keywords: Gatorra, experimental lutherie, circuit bending, hardware hacking, post-punk, experimental music.

1. INTRODUCTION

In this paper I have set out to summarize and describe my research on the instrument known as the *gatorra*, the beginning of which takes place during 2013 at the time I was finishing the research for my Master's degree. By then I had been an enthusiast of the gatorra and of its inventor, Tony da Gatorra, for a long time already, ever since a friend showed me Tony's profile on the now defunct *Trama Virtual* website[1]. Over the years I had attended several of Tony's gigs, mixed one of his albums – *Novos Pensamentos* – and invited him to talk at one of the meetings of our research group at USP[2].

During the course of my research I have attempted to focus less on Tony's artistic persona and more on the instrument itself, trying to discover what influences were present on its design, how other players interact with the gatorra and what their impressions are, but it was inevitable to do so without researching a lot of its builders' life and artistic output as well.

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[1] Trama Virtual was a web portal for independent musicians and bands which was online from 2002 to 2013.

[2] Formerly known as Móbile, now NuSom: http://www2.eca.usp.br/nusom/

Over the next three sections I: 1. Sketch a brief description of the instrument itself and discuss some similarities and differences with other instruments associated with the gatorra by several reasons; 2. Outline a framework of theoretical references used by different authors to discuss the gatorra and; 3. Discuss the process, developed in parallel to my main research, of attempting to make the serial production of gatorras viable.

2. THE GATORRA

The gatorra is an instrument developed by Antônio Carlos Correia de Moura, a.k.a. Tony da Gatorra, born on August 3rd, 1951 in Cachoeira do Sul, about 150 miles west of Porto Alegre. The instrument itself was conceived and built by Tony in the mid-1990's[3].

The construction of the gatorra allowed Tony to kickstart an artistic career singing his own protest music, first recorded in a demonstration CD around 1998, which over the years was to draw attention of both local and national music press, leading to a regular output of music released independently and occasionally in independent labels[4].

Broadly speaking, the gatorra can be described as a drum machine - minus the sequencer - mounted on a scythe-shaped guitar or keytar enclosure. Its likeness to the guitar has prompted the instrument's name, similar sounding to the Portuguese word for guitar, *guitarra*.

At the time of writing nearly 30 gatorras have been built following a similar pattern in terms of features:

- Drum sounds - 6 or 7 sounds with a percussive envelope, emulating those of a regular drum machine.

- Synthesizer sounds - 4 or 5 sounds triggered by buttons, the pitch and duration of which can be controlled by knobs - that can sometimes be attached to short levers - and that usually start to self-oscillate at some point.

- Extra features - Some gatorras feature repeaters based on the 555 chip, at least one has a built-in custom-made Atari Punk Console.

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3 A more detailed account of Tony's life and career can be found in Lima (2018a: 117-127)

**4** At the time of writing, the best resource for Tony da Gatorra's discography is the artist's page on YouTube: https://www.youtube.com/channel/UCseC4OMbcugna-n8CPYLBxA. The page was setup and is maintained by Tainam Dias, a musician from Porto Alegre who has been collaborating with Tony for the past few years

> Some have LEDs assigned to each sound, some have LEDs that follow a sequence of their own unrelated to any user input.

On top of building the regular, full-sized, gatorra, Tony has also built around 10 *minigatorras* – which feature less sounds and a smaller enclosure – and a number of *batucadores*, instruments that employ a gatorra circuit with 4 or 5 sounds mounted on regular, box-shaped enclosures for electronic projects.

2.1 SOUNDS

The sounds of the gatorra are based on so-called *Twin-T* oscillators, an approach common to most drum machines and drum sound generators before the use of sampled drum sounds[5]. Twin-T oscillators are fairly simple to build, and have been widely employed on drum machine projects with various degrees of complexity aimed at the hobbyist / DIY public, since at least the beginning of the 1970s. Such oscillators can be built based both on transistors or IC chips, the former being the approach used in the gatorra.
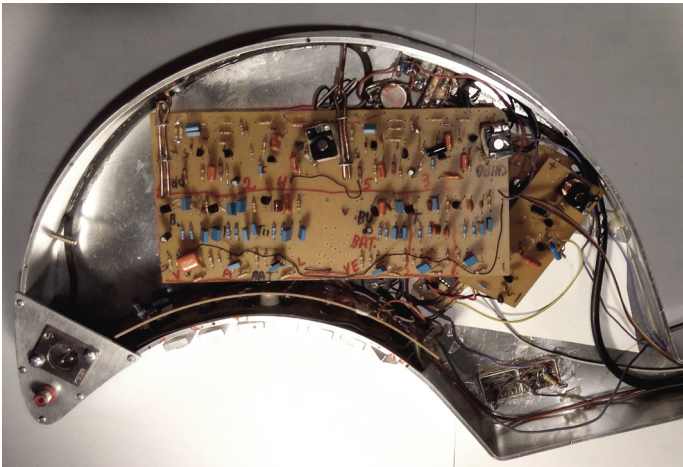
Fig. 1: Image showing the main circuit board of the gatorra in its enclosure.

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5 This statement on drum sound generators is well established, but in this particular research information on the use of Twin-T oscillators on drum machines was provided mostly by Scott Lee, engineer at PAiA Electronics, via e-mail, as well as detailed information on the PAiA instruments mentioned below.

Sonically, the gatorra sounds very similar to other drum sound generators based on Twin-T oscillators. In the links that follow one can hear a comparison between the gatorra and the SLICIE, a handheld drum machine that was very popular in Brazil in the 1980s and 1990s and that is also based on Twin-T oscillators:

SLICIE - https://tinyurl.com/slicie

Gatorra - https://tinyurl.com/gatorra

2.2 Interface and ergonomy

Due to its guitar shape, one can describe the gatorra interface in terms of its body and neck sections. On the bottom of the body section there are usually 7 buttons which trigger the drum sounds, and on its front panel there is a selection of switches and knobs, the quantity and functions of which vary according to the model.

Usually at the joint between body and neck is an area where a number of potentiometers are placed which are responsible for tuning the *synthesizer* sounds. In earlier models this was done by employing a recycled TV-set analog tuner, in which case all of the sounds in the instrument could be tuned to the player's liking.

On the neck there are usually two rows of buttons, one of which replicates the buttons and the sounds present at the body's bottom section, the other responsible for triggering the synth sounds. Additional knobs, sliding controls or levers are present at the neck, their functions varying according to each model of the instrument.

The enclosure construction has employed a number of different materials over the years, from Formica to aluminum to polycarbonate see-through panels, together with an assortment of metal and plastic scraps. The material of choice has somehow divided the history of gatorra building in three periods: the Formica phase ranges from gatorra #1 to #13, the aluminum phase from gatorra #15 through to #19 and the polycarbonate phase has begun with gatorra #21 and has lasted until the instrument most recently built, #26[6].

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6 Gatorras #14 and #20 have transitional designs that recap some elements of previous phases. A recent picture posted by Tony in his Facebook account hints that a new era is dawning on gatorra enclosure design, eschewing the circular scythe-shaped body for a more angular approach: https://www.facebook.com/photo.php?fbid=10210595202635763&set=a.4583275239408&type=3&theater.
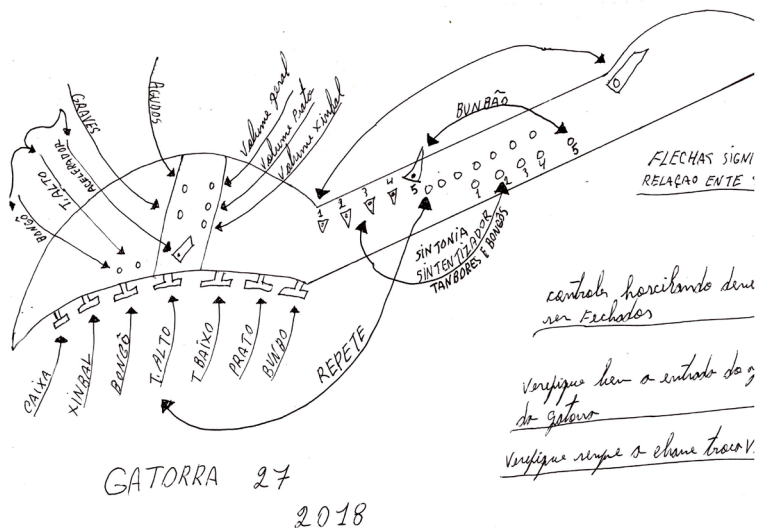
Fig. 2: Diagram detailing the various sounds and features of gatorra #27, hand-drawn by Tony da Gatorra.

2.3 The gatorra and its peers

In this section I discuss the similarities and differences between the gatorra and other instruments, in terms of their sound and their interface.

As mentioned above, the gatorra drum sounds sound quite similar to those of the SLICIE handheld drumkit. In fact, it was realizing this sonic connection that prompted me to research the origins of the SLICIE drumkit, which in turn led to further research the usage of Twin-T circuits for drum sounds by instrument designers such as John Simonton Jr. at PAiA Electronics[7] (Lima, 2018a: 132-136).

Although they share a common sound generation principle, one of the aspects that sets the gatorra apart from other electronic drumkits based on Twin-T oscillators is its employment of the feedback – or self-oscillation – feature embedded on the Twin-T design but mostly avoided. In truth, Twin-T

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7 The sounds of the *Drummer Boy* drum machine can be heard on this video: https://www.you-tube.com/watch?v=9-Vi8q16GTg. Although the Drummer Boy was a rhythm box with a built-in sequencer, its project allowed for the building of the sound generator section as a standalone instrument, which has in fact been sold by PAiA as the *Percussion Pac* kit.

oscillators are not oscillators *per se*, but resonant filters with a very narrow band – described by the term "High Q" – which are on the verge of self-oscillating, but are electronically restrained to do so[8]. The gatorra, on the other hand, combines restrained Twin-T oscillators with a number of other which are allowed to self-oscillate, albeit with limited control over their behavior.

Over the years, during this author's research, a few people have mentioned that the gatorra reminded them of the instrument known as *Drumitar* – played by US percussionist Roy "Futureman" Wooten, member of the group Béla Fleck & The Flecktones – as well as other percussion controllers worn like guitars, such as the *Zendrum* percussion controller created by David Haney and Kim Daniel in the 1990's.

Both the Drumitar and the Zendrum, however, consist of MIDI controllers which trigger sound banks loaded on a regular sampler, and do not include any sound-generation stages on their own. The Drumitar itself consists of an adapted *SynthAxe* MIDI guitar controller, whereas the Zendrum was a purpose-built instrument, inspired by the Drumitar[9].

Fig. 3: A selection of gatorra players gathered for the 1st Gatorrafest in São Paulo, from left to right: The author and gatorra #19, Tony da Gatorra with gatorra #1, Paulo Abraão with gatorra #18 and minigatorras #7, Drummer Tiago Babalu and Alexandre Porres with gatorra #2.

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8 A brief description of this operation can be found at: https://www.paia.com/ProdArticles/syndrum.htm

9 Further information on such controllers can be found at https://en.wikipedia.org/wiki/Zendrum and https://www.zendrum.com/index.php?route=information/information&information_id=9

3. CONCEPTS

In this section I attempt to outline the theoretical framework with which a number of authors assess Tony da Gatorra's work. Part of this analysis is present in my own Thesis (Lima: 2018a, 138-144), on top of which I've added some more recent references. It is beyond the scope of this work to fully explore each of the concepts presented here.

In the bibliography concerning this ongoing research thus far, the earliest academic work to acknowledge Tony da Gatorra's work is Fernandez (2013: 166), who mentions Tony in an appendix featuring artists that practice what the author describes as *circuit alteration*, an umbrella term coined in Portuguese by Fernandez to encompass both *circuit bending* and *hardware hacking* practices due to the lack of comprehensive translations for both terms. In Fernandez's analysis it is pointed out that Tony's work would most likely fit on the hardware hacking side of the spectrum, given that he builds instruments from scratch from either salvaged hardware or brand-new components.

The work of Obici (2014) employs the umbrella term *Gambiarra* – a Portuguese word with multiple uses that could be summed up as a "technical solution with makes the best of the available means" (Obici, 2014: 10) – and describes a comprehensive amount of work by sound artists and experimental music practitioners in Brazil. Obici describes Tony's practice as a "*post-punchê lutherie*", merging the notion of a post-punk lutherie with the gaucho interjection "tchê" to point out the fact that Tony's insularity at a suburb on the south of Brazil, as well as the insularity of gaucho culture and pride in itself, has somehow helped an electronics technician to "discover himself as a post-punk artist after inventing his own instrument" (Obici, 2014: 5). The work of Ernesto Oroza (2012), in particular his concept of *technological disobedience* is brought forward by Obici (2014: 15) as similar in many ways to the concept of *Gambiarra* as an approach to Brazilian experimental lutherie.

From the concept of gambiarra Obici (2017: 89) comes up with the term *gambioluthiery* to describe the work of several brazilian artists, and although in this particular paper Tony's work is not mentioned, I believe that Tony's sonic and musical endeavors could be viewed from the following perspective:

By exploiting sound without necessarily drawing from the syntax of traditional musical instruments, its practice does not necessarily exist outside music but rather emerges from a tension within the concept of a musical instrument and its material context. (Obici, 2017: 89)

In a previous work, I have analyzed Tony's work on the gatorra's construction the concept of *reprogramming* as proposed by Nicolas Bourriaud (2002) and Vilém Flusser's (2000) concepts of *programming* and *black box*. Bourriaud's notion of reprogramming can be described as the process of "selecting cultural objects and inserting them into a new context" (Bourriaud, 2005: 13). Flusser proposes that black boxes – not merely technological ones – are *programmed* to perform functions which the user has little understanding of, being allowed to assess its operation in terms of input and output. In this particular work I suggest that by *reprogramming* technical objects – in the Bourriaud meaning – Tony's approach to instrument building does interfere with the *program* – as per Flusser – by opening up several black boxes and selecting the elements necessary to build his own black box.

The work of Marcelo Conter (2016)[10] analyses what the author calls "low-definition assemblages in pop music" based on the work of Gilles Deleuze and Félix Guattari, and one of the case studies presented is that of Tony and the gatorra. Also making use of Flusser, Conter (2016: 146) posits that the gatorra is "a black box that reprograms other black boxes", and that Tony becomes his own programmer in the process.

Despite some similarity, Conter's work on the Gatorra and its use of Flusser has been developed independently of my own. On Lima (2018a) I also propose that the emphasis of Conter's analysis of the gatorra in its aspect of resistance to the "triumphant history of gadgets" (Conter, 2016: 154) is not too dissimilar to Oroza's concept of technological disobedience.

Adding to the theoretical framework outlined so far, in Lima (2018b) I propose that the gatorra can also be considered an *infra-instrument* to a certain extent, according to the concept of *infra-instrument* as proposed by Bowers and Archer (2005). Bowers and Archer propose the concept of Infra-instruments as an alternative to the notions of *Hyper*, *Meta* and *Cyber*-instruments[11] as applied in the design of new musical instrument interfaces or new musical instruments *per se*. Their proposal of an Infra-instrument states that such instruments support a constrained interactive repertoire through the

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10   On a personal note, Conter is also the person responsible for making twenty odd years of my musical research come full circle by lending a gatorra to Lee Ranaldo at one of his performances in Porto Alegre on May, 6th, 2018. Ranaldo is an US guitarist whose former band Sonic Youth was one of the major influences in my teenage interest for unusual instruments and experimental music. A video of Ranaldo's performance with the gatorra can be seen in: https://www.youtube.com/watch?v=IE4NKgn5VQs&feature=youtu.be&t=86

11   The prefix "cyber" is employed by Bowers and Archer in place of "virtual", which is more commonly used.

deployment of few sensors or making few gestural measurements, engendering relatively simple musics restricted in their virtuosity and their expressivity (Bowers and Archer, 2005: 6).

The concept of Infra-instrument relies heavily on the work of Nicolas Collins and Reed Ghazala, and Collins himself (2006: 91-93) acknowledges the infra-instrument concept and proposes that Bowers and Archer are part of a newer generation of hackers or benders in a continuum that includes the earlier experiments by David Tudor, Gordon Mumma and Ghazala.

In my work I propose that the notion of infra-instruments is a resistance to the "Californian Ideology"[12] that permeates and influences a great deal of research and development of musical instruments and musical instrument interfaces (Lima, 2018b: 62), and in this respect also relates to the notion of technological disobedience.

One can observe in Tony da Gatorra's work elements that relate to contemporary practices such as Glitch, Lo-Fi, Hacking, Bending, but has also to understand that gatorra music emerges in the late 1990's without any previous knowledge of such tendencies or genres. And despite the fact that Tony da Gatorra has had the opportunity to interact with practitioners of such styles, there seems to be little influence on either his building or his compositional approach.

The gatorra can be seen a sort of multimodal bricolage, as it is made up of materials found and gathered over years of shop experience and repair of electronic equipment. By multimodal also I imply that the making of the circuit and its adaptations to a specific end are part of a scavenging process, or perhaps scavenging-oriented research and development.

4. REBUILDING THE GATORRA

Over the years Tony has expressed the wish to shift the production process of the gatorra from the habitual practice of building one at a time, at times perhaps 2 or 3 concurrently, but nevertheless at an artisan's pace. This has been a constant subject in interviews over the years, and it's also mentioned by Conter (2006: 145) and myself (Lima, 2018a: 131-132).

The main goal in making this serial production viable is recreating and adapting the circuit boards so they can be mass-produced by the current

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12 "The Californian Ideology" is a 1995 article by Richard Barbrook and Andy Cameron that criticizes the Silicon Valley dominant school of thought.

technologies employed by manufacturers. A significant hindrance regarding the process of replicating the gatorra over the years has been Tony's own reluctance in sharing the schematic diagram of the gatorra circuits.

There have been some previous attempts at replicating the gatorra for serial production. One of such was a link between Tony and the hackerspace known as Garoa Hacker Clube, in São Paulo, cut short precisely due to Tony's reluctance to revealing the inner workings of the instruments, namely the values of the electronic components and the designs of his handmade printed circuit boards (Lima, 2018: 131).

I have been involved myself in helping Tony out for a few years, and our joint efforts have gone through two different stages. Our first attempts to have the boards made involved approaching a number of manufactures seeking for one who could handle the process in an old-fashioned way, namely to just print the board by silkscreening Tony's original design onto the copper layer of the boards, which is similar to the handmade process that Tony employs at home, but which could be then made in scale.
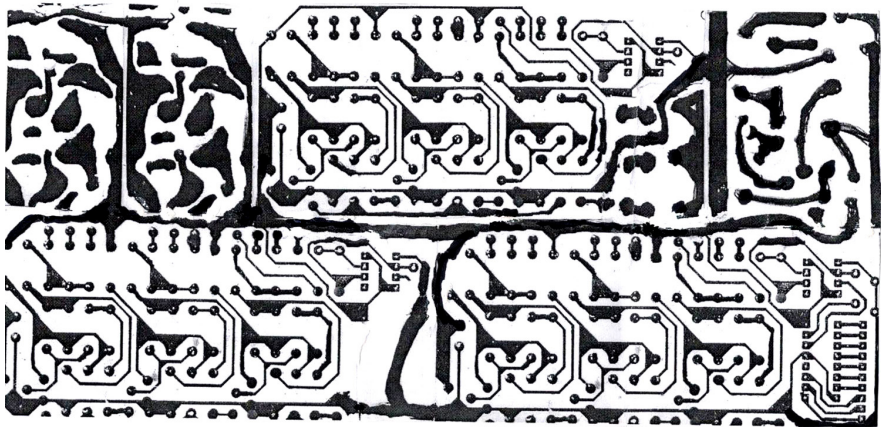
Fig. 4: One of Tony's designs for the gatorra printed circuit board.

The main problem regarding this approach was that most manufacturers today don't receive image files as an input source anymore, so it was not viable to just send a regular scan of the board design for replication. The format employed in the industry nowadays is the so-called Gerber file, which needs to be drawn with the aid of computer programs.

Eventually a manufacturer was found in São Paulo that agreed to replicate the boards straight from Tony's hand-drawn schematic. The process wouldn't allow for automated drilling of the boards, however, which was the main reason why this particular strategy was dropped.

The process of designing the correct Gerber file for the gatorra board seemed to be the only way forward, and was stalled mostly due to Tony's lack of ability with the available programs, and my personal lack of knowledge in electronics at the necessary level in order to understand the circuit well enough and translate it into a Gerber file. The São Paulo based synthesizer builder Arthur Joly, another longtime collaborator of Tony, has also shown interest in helping out with this process, but over the years a tight schedule of building his own synthesizers, producing music and cutting vinyl masters has prevented him from getting more involved in the process.

A second stage of my personal collaboration with Tony regarding the gatorra production began around May, 2018, as we decided to team up with interface designers Batebit, based in Recife, on the northeast of Brazil. Batebit is the association of researchers Filipe Calegário and João Tragtenberg, who research digital instrument interfaces and also develop their own projects in association with local musicians[13].

The association with Batebit and a contact with the duo's production has prompted Tony to fully unveil his own designs, something unheard of up to that moment. In this respect, Tony provided us with hand-drawn schematics of his circuits, complete with the component values. To that I contributed with making my two gatorras available for inspection, which could possibly help for reverse-engineering some of the problems we might stumble upon along the way.

The project seemed simple enough: after a previous analysis of the schematic diagrams, opening the instruments would help to make the project clearer and shed some light on the details of its construction. And it turned out to be something completely different: on neither of the gatorras the circuit was built to match the schematics we received, and it looked more like the schematic diagram – and the printed circuit board, for that matter – worked more like a sketch or a starting point from which the construction assumed an improvisational aspect.

This particular process of rebuilding the gatorra is still in course, and at the time of writing we're testing prototypes of some of the sound generators.

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13 For more information, visit: http://batebit.cc/

The next step we are planning to make is to build a full-scale prototype for testing. At the same time, Tony has informed me recently that with the aid of Arthur Joly he's managed to get the circuit translated into Gerber files, and is about to order printed circuit boards from a manufacturer abroad.

5. CONCLUSION

After immersing myself, with help and guidance from my friends at Batebit, on the archaeology of the gatorras I own and of Tony's diagrams, the idea occurred to me that this particular creator has developed a *vernacular* approach to his electronics practice through instrument building. The feeling we all got by examining the instruments closely and comparing our findings to the diagrams we had in hand was that of a builder very comfortable with his personal understanding of what is needed to achieve his goal, capable of adapting his own project as it's being built and of aggregating different pieces to the puzzle, in a way that it's difficult to put in words or to crystallize on paper.

The notion that electronic circuits can be understood as a language of their own is not alien to those researching people and groups who build, bend, hack, customize all sorts of electronic equipment, but nevertheless the way that Tony developed his own vernacular language on the subject seems very interesting, and has to do with this person's insular condition in social, economic, cultural and geographic terms. This vernacular approach is also part of the reason why it's hard for outsiders to reconstruct the gatorra starting with a normative approach such as demanded by the manufacturers of electronics supplies.

Apart from wishing to collaborate in one way or another with the future of the gatorra – finding out whether it's viable to produce and sell gatorras in bigger quantities at a time, and perhaps helping to explore the gatorra potential as a digital controller – I understand that the research on the instrument as it has been built so far could benefit from a more detailed inspection on each of the existing instruments, as well as interviewing their owners / players about their personal involvement with the gatorras.

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Headphone listening cultures: contingencies and crossings

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Abstract. This paper discusses the headphones as key factors in the establishment of a mobile listening culture by suggesting that the function of this artifact has been changing according not only with technological innovation, but also with economic contingencies borrowed from capitalist logics. By discussing concepts such as tympanic function (Jonathan Sterne) and Commodity Scientism (Thimoty Taylor) the text will examine theories on the origins of headphones, as well as analyzing early models. The Walkman, launched in the 1980, will be the subject of a detailed scrutiny, since it is responsible for linking the consume of audio equipment with the urban life. Afterward, the article will confront a handful of texts discussing mobile listening fostered by the Walkman but extended by subsequent portable audio products such as the Apple's iPod. In the contemporaneity, the headphones underwent a process of stylization and have achieved the status of a fashion accessory. On the other hand, they are being implemented in interactive audio narratives such as games and smartphone applications. Locative audio will be discussed as an experimental field envisaging future functions and features for the headphones.

Keywords: Audio Culture, Headphones, Walkman, Audio Portability.

1. INTRODUCTION

The changes that mobile music brought to music consumption and society are mainly related to the launch of the Walkman and its successors, such as the iPod. Often overlooked, the headphone plays an important role in this history, being the part that allows the private listening in public - one can be "mobile" with a big stereo, but never sound isolated without a pair of cans.

Even without a systematic study of the headphones, this article finds its presence in different subjects and authors, such as early phonography (Sterne, 2003), the mp3 format (Sterne, 2012), music consumption (Taylor,

2001), hi-fi and genders (Iazzetta, 2009), the Walkman and its successors (Hosokawa, 1984), (Acosta, 2000), (Chambers, 2004), (du Gay et al, 1997), (Bull, 2005) and locative media (Tuters & Varnelis, 2006), (Behrendt, 2015), (Verstraete, 2017).

Being a technology adapted from military communication to hi-fi stereos and finally to the streets, its history may be traced even before any sound recording, back to the start of what Jonathan Sterne calls tympanic function, evolving to a technological commodity and even to a fashion statement. This article looks at the headphone history, suggesting its functions varies through time, from his use as a military device to a luxury fashion accessory.

2. THE TYMPANIC FUNCTION

The origins of the headphones get back to what Jonathan Sterne calls *tympanic function*, which raises in the transition between the 18th and 19th centuries, with the study of the human's ear anatomy and functioning. According to the author, from these mechanisms derived a series of research techniques as well as scientific experiments which promoted the construction of a new gear of equipment, dealing with operational hearing and composed by auditory extensors.

> The history of the isolation and reproduction of the tympanic function leads us back into the construction of sound and hearing as objects of knowledge and experimentation in the late eighteenth century and the nineteenth. The tympanic function emerged at the intersection of modern acoustics, otology, and physiology and the pedagogy of the deaf (Sterne, 2003: 22).

Leon Scott is the inventor of the Phonautograph, the first device with sound transduction. Analyzing his works, Sterne finds that the ear's mechanism can be used with several purposes. Hence, Sterne accomplishes an archaeology of auditory devices, including in the hearing amplification history the stethoscope and communication devices, such as the telegraphic and the telephonic network, developed in the 19th century. According to Sterne, these devices contribute to the creation of the firsts sound reproduction products, commercialized by Edison in the last decade of the century.

Following Sterne's reasoning, the function of a technology sets up before its materialization in devices and products. The function of technology would

be *"a set of common operational and philosophical principles, and, most important, as embodiments and intensifications of tendencies that were already existent elsewhere in the culture"* (Sterne, 2003: 34).

The author suggests that the interest in the auditory channel as a research instrument triggered the proliferation of audio equipment creation. The headphones are no exception, being a material result of the *tympanic function* discovery.

It is worth mentioning that, by finding that connection between the stethoscope and the Edison's audio gears, Sterne inverts the causal role technology use to have towards culture. Furthermore, it could be argued that Sterne follows the inverse path of the sound media commentators and experimenters, by counterbalancing the hegemonic post-war explanation of audio culture origins. Remarkably, the School of Frankfurt cultural theorists, such as Walter Benjamin or Theodor Adorno, or even composers from the so-called electroacoustic music schools, such as Pierre Schaeffer or Karlheinz Stockhausen. For these thinkers and artists, the assumption is that sound reproduction media triggered a series of cultural and artistic practices. In contrast, according to Sterne. "...tympanic sound reproduction technologies are best understood as the result of a proliferation of a particular set of practices and practical understandings concerning sound and the ear, not as the cause" (Sterne, 2003: 35).

3. HEADPHONES AS TECHNOLOGICAL COMMODITY

Besides the relations between the tympanic function and the creation of the first sound reproduction machines, we also identify a social need for communication as key to the development of 19th century sound media technologies such as the headphones. That need, fed with the discoveries of the human auditory system, pushed inventors and audio engineers to the creation of audio technological products for a growing modernity.

The Electrophone System is one of the first inventions of audio tech to operate in the UK in the late 19th century. This sound transmission system used the National Telephone Company lines, broadcasting to its subscribers a live a stereo audio signal with music performances from concert halls, theaters and churches, as well as financial market news (Estreich, website).

Fig. 1: "Photograph of hospitalized british soldiers, joined by their toy elephant mascot, enjoying the Electrophone entertainment service". Photograph included in the article "British Wounded Hear London's Favorites Via Telephone", from page 230 of the August 1917 issue of The Electrical Experimenter magazine, available at https://commons.wikimedia.org/wiki/File:1917_London_Electrophone_hospital_listeners.jpg

The figure 2 shows an early headphone model used by Electrophone subscribers. Its shape reveals a proximity with the stethoscope, echoing the idea of an outer body auditory extension. The Electrophone System was also an early tentative in the commercialization of audio, but the venture vanished when broadcast radio spread.

Headphones were originally developed for military and civil communication purposes, where the telephonic patchbays where manually operated and the need for a hands-free device led to some of the first headphone designs. The bi-telephone, patented in 1891 by Ernest Mercadier, pioneered today's earbuds. It's a hands-free design, yet very similar to a medical stethoscope.
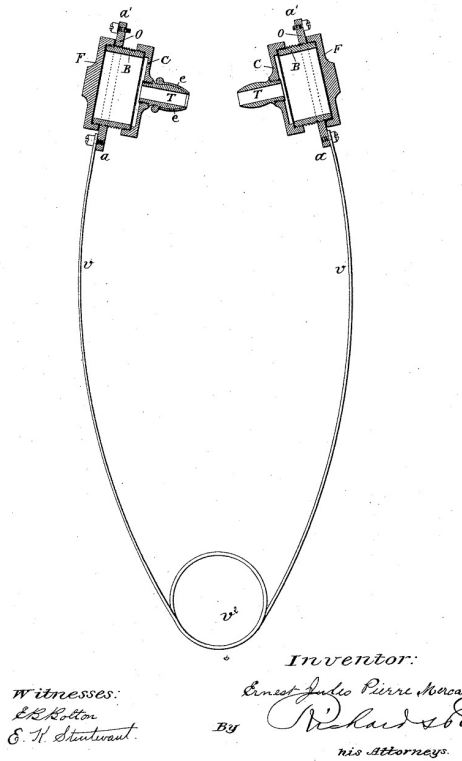
Fig. 2: Mercadier's patent for telephone earbuds, U.S. Patent No. 454,138 (Google patents)

Nathaniel Baldwin's 1915 patent shows a closer link with modern head-phones. Its head band for telephone receivers achieved great commercial success due to the quality of its sound amplification. After several rejections, Baldwin sent his prototype to the American Navy. Following feedbacks and suggestions from his new client, he improved the head band, achieving a more comfortable design and receiving a 100 units order from the US Navy (Howeth, 1963: 149). Building the first headphones in his own house with a contract for 10 units deliver batches, he soon had to build a factory in Utah to deal with the increasing demand. By 1922, radio had become a popular

leisure activity, Baldwin's company grew even more, producing 150 head-sets per day. Through partnerships he built two more factories in the cities of Chicago and Holladay and sales contracts were signed with companies from Japan and Canada (Singer, 1979: 51).
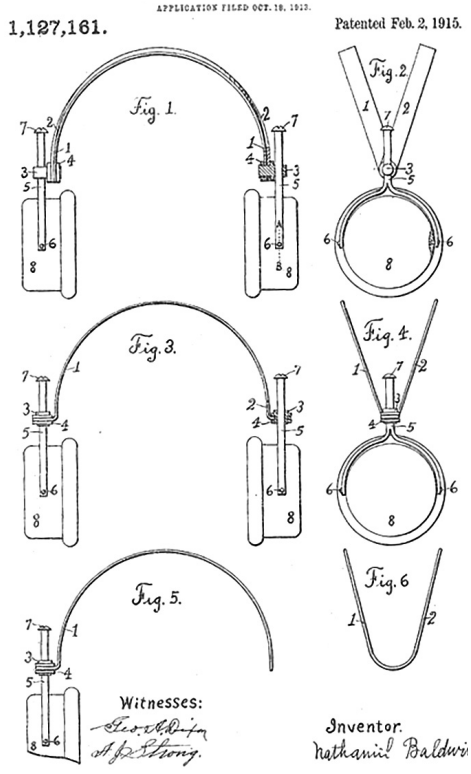
Fig. 3: Baldwin's patent for head-band for telephone-receivers, U.S. Patent No. 1,127,161 (Google patents)

Despite his success, Baldwin ended up poor. After some bad deals in new ventures and choosing the wrong partners, his radio equipment company went bankrupt. He went to jail in 1930 for irregular transactions, and after his time Baldwin was flat broke.

4. HEADPHONES AS AUDITORY DISPLAY

In the 1930s, with the expansion of the phonographic and radio industries, we observe the design of new devices in separated modules. Transducing electric energy into sound, the terminal module, previously embedded into the devices, start to have autonomy as a module, being sold as speaker boxes and headphones. In the Sound Design field, the idea of auditory display is considered as a category in which headphones are a particular case

> Auditory Display encompasses all aspects of a human-machine interaction system, including the setup, speakers or headphones, modes of interaction with the display system, and any technical solution for the gathering, processing, and computing necessary to obtain sound in response to the data (Hunt&Hermann, 2011).

Although relevant in the problematization of the design research process, the notion of auditory display helps to illuminate the new functions of the headphone. It becomes the auditory display of a myriad of consumer products used in everyday life. This process matches with the dizzying development of technological innovations incorporated into the headphones during this period.

In 1937 the German company Beyerdynamic launches the first dynamic headphone (https://global.beyerdynamic.com/company/once-and-today). Being a monaural headset, the DT-48 pioneer dynamic transduction technology in the headphone market. It is a milestone because this technology is still used today in the vast majority of commercial headphones, due to its reduced cost and lower distortion performance.

5. HEADPHONES AND COMMODITY SCIENTISM

The economic interests of capitalist agents coming from the 1940's phonograph and radio industries also participated in the social transformation of the headphones. With the prominence of unidirectional models of communication, the advertising and marketing sectors came to elaborate a new symbolic universe associated with the audio and materialized in the notion of High Fidelity, or Hi-Fi, which provided a new set of new connotations for headphones. The idea of Hi-Fi audio gathers ethical values and ideologies circulated in advertising campaigns of the time, which reached the consumers at their weakest spot. Therefore, the proliferation of domestic gadgets,

intended to the North-American middle class, made the headphones a kind of techno-listening commodity. According to Iazzetta,

> The term hi-fi (high fidelity) was introduced by the recording industry as one of the market strategies to convince its consumers that the music played by such devices as phonographs, gramophones and later turntables was "faithful", meaning by that an adequate representation of the music performed live (Iazzetta, 2009: 114).

Analyzing the advertising and marketing campaigns of audio devices in postwar American society, researcher Timothy Taylor highlights the notion of commodity scientism as "a belief, negative or positive, in the ineffable qualities of science and technology" (Taylor, 2001: 76). Being key devices within the Hi-Fi home audio system, the headphones went beyond symbols of social differentiation, they acquired connotations related to a form of futuristic leisure provided by the advances of science. Moreover, Taylor points gender issues in the materialization of this commodity scientism in the Hi-Fi audio, identifying the consolidation of a male figure as the main consumer of this technology.

> Commodity scientism in the domestic scene for men is probably best represented by the hi-fi craze of the late 1940s and 1950s. Many of the first hi-fi enthusiasts were men who had learned about audio technology in the army during World War II. They continued their interest by becoming hi-fi hobbyists back (Taylor, 2001: 79).

According to Taylor, within the values of the period, a pair of Hi-Fi headphones let the user escape from the mass media production intended to the female audience (Taylor, 2001: 80). The man had access to a qualified device for listening high culture musical products. The household appliances for cooking and cleaning are usually settled as a female version of Hi-Fi.

The male audience used these technologies to confront the female hegemony within the family environment, supported by the obscurity on the operation of those devices and the volume they could produce, thus confronting the order and tranquility imposed by the housewife (Iazzetta, 2009: 121)

What Taylor and Iazzetta suggest is that during the 1940s and 1950s the consumerist notion of Hi-Fi contributed to the definition of gender identities. Particularly, by transforming the user's home into a technological leisure environment, Hi-Fi audio equipment such as the headphones helped to exalt the user's masculinity.

During the 1950s, valves replaced transistors inside audio equipment. Transistorized components built by AT&T enabled the construction of lighter, smaller and more efficient audio amplifiers, which were quickly implemented in hearing loss devices. However, according to Acosta,

> ...through the United States regulatory anti-trust system, licenses were granted to the small Japanese company who wished to acquire the rights, and Mr Morita and Mr Ibuka from the newly named company, Sony, did in 1952 for U$ 25.000 (Acosta, 2000: 20).

Thanks to the transistor, during the 1950s, 1960s and 1970s corporations such as Sony launched to the market smaller radios and players with recording and media browsing capacities such as rewind and forward. The functional and visual diversification in the design of audio equipment also suggests a transformation in user habits, placing audio consuming in the lifestyle.

Headphones joined this audio technology stylizing process. The Koss brand released models such as the SP/3 and then the ESP/6, commercialized some years later. The former, created in 1958, was the first stereo headphone to be sold (https://www.koss.com/history).

The idea of Hi-Fi was frequently invoked to sell these devices. The latter was launched in 1968 and is also aligned with an audiophile listening practice. They were the first electrostatic headphones released on the market. The magnetic induction takes place in the diaphragm itself, composed by thin layers of conductive surfaces that vibrate when excited by the electric audio signal.

Regarding audiophilia, audio device manufacturers spent years optimizing the technologies they developed, offering their consumers products with more quality. With the exponentially increase of quality and prices, a niche market for the consumption of these technologies appears. A worth mentioning example is the the innovative noise cancellation model, manufactured by Bose and released in 1995.

Two years before the launch of the Koss ESP/6, in 1966 Koss launched the famous Beatlephones, which main innovation was not technical, but social, marketing the product to new audiences. The Beatlephones had a blue color shield with pictures of the band members printed, adding a new quality layer to the headphones, through artist sponsorship (https://headphoneshist125.weebly.com/the-beatlephones.html).

6. HEADPHONES AS URBAN STRATEGY

With the launch of the Walkman in 1981 and its vertiginous popularization, the consumption of audio devices gets more complex. Leaving behind the domestic audio Hi-Fi devices, portability was explored by Sony for two decades. The Walkman super aural headphones model was lighter and smaller since it was intended to be used outdoors. The Walkman outlined a cultural transformation, which did not remain indifferent to the humanities. Thus, a series of theories emerged, pointing out different aspects that are relevant to our thinking about the function of headphones. These theories accumulate in a field of studies addressing cultures of mobile listening. This article intends to contribute in this field, discussing some of the main ideas and authors.

6.1. Walkman studies

Shuhei Hosokawa's seminal text "The Walkman Effect" (Hosokawa, 1984) was the first to link audio equipment to urban life by discussing the Walkman as a citizen's instrument in a nomadic distribution of the modern city. Hosokawa discusses concepts such as portability, uniqueness, autonomy and construction/deconstruction of meaning as key factors in the desire for social isolation. The author outlines a whole musical theory on portability, the musica mobilis, taking into consideration many relations between music listening and urban structures.

From the technical perspective, Hosokawa states that the Walkman was a technological regression, in the sense that it has neither recording operation nor a speaker. The idea of reducing the functions was conceived by Sony president Akio Morita when he walked through New York streets. Furthermore, the Walkman advertising campaign pointed to an urban lifestyle where technological simplification became a positive aspect. By collecting arguments in both conceptual and technical grounds, Hosokawa suggests that the Walkman is a strategy, a tactic for the contemporary urban life.

British scholar Ian Chambers (2004) extended some of the thoughts addressed in the Hosokawa's original text, notably by discussing the construction of a diasporic identity of the life in transit. For Hosokawa, the construction of identity raised by the use of the Walkman is materialized in the notion of singularity, while Chambers draws attention to the place destabilization caused by the Walkman:

Its uncanny quality lies in its deliberate confusion of earlier boundaries, in its provocative appearance "out of place". Now, the confusion of "place", of voices, histories and experiences speaking "out of place" forms part of the altogether more extensive sense of contemporary semantic and political crisis. A previous spatial hierarchy has had increasingly to confront an excess of languages emerging out of the histories and languages of feminism, sexual rights, ethnicity, race and the environment that overflow and undercut its authority. The Walkman is therefore a political act? It is certainly an act that unconsciously entwines with many other micro-activities in conferring a different sense on the polis. In producing a different sense of space and time, it participates in rewriting the conditions of representation: where "representation" clearly indicates both the semiotic dimensions of the everyday and potential participation in a political community (Chambers, 2004).

In sociology and cultural studies fields the Walkman provided an excuse to elaborate a detailed and didactic academic work getting onto social sciences research topics and methods. The text "Doing Cultural Studies, The Story of the Sony Walkman", brings together five essays and five authors (Paul Du Gay, Stuart Hall, Linda Janes, Hugh Mackay and Keith Negus) who analyze the Walkman's cultural phenomenon from perspectives such as Representation, Identity, Production, Consumptions and Regulation.

We have chosen the Walkman because it is a typical cultural artefact and medium of modern culture, and through studying its 'story' or 'biography' one can learn a great deal about the ways in which culture works in late-modem societies such as our own (du Gay et al., 1997: 2).

Although the main topic of the text is cultural studies rather than the Walkman, the scrupulous social science research developed by the authors enables a close look at the various cultural nuances of the Walkman and the headphones. The study involves the analysis of advertising and journalistic material, interviews with executives and designers from the Sony corporation, as well as a rich bibliographic path which confronts many of the 20th century cultural studies theorists. In short, the text responds in a systematic way to the complex problem of Walkman's cultural meaning.

The chapter 5 is particularly relevant to our discussion while it discusses consumption and how the theories explaining it have historically evolved. Consumption is characterized in contemporary societies as a productive

practice involving appropriation and resistance. The chapter 6 deals with the mechanisms of the society to rule the use of the Walkman. According to the authors the walkman causes a disruption in the established classifications that define the public and private spheres. The authors discussed the enfolded debate about appropriate and inappropriate modes of public behavior shortly after the launch of the Walkman in Britain.

Michael Bull's study "Sounding out the city. Personal Stereos and the Management of Everyday Life" (2000) follows the same direction than the study performed by Du Gay, Hall et al, since he places it in the field of cultural studies. The originality of Bull's study resides on the research methodology, since the author appeals to ethnographic methods to reach his conclusions. In doing so, the author points out new arguments about the use of the Walkman from interviews and focus groups among other methods of practice-based social science research.

A more recent commentator of Hosokawa, Pieter Verstraete, reflects on the qualities of the Walkman to construct and deconstruct musical meanings.

> This audio walk or 'theatre' turns the sense of being 'in charge' as iPod user over one's environment around and plays on a voyeurism in the mobile listening act, enhanced by the secrecy of the headphones which make one feel safe to look shamelessly at others who become part of one's own secret theatre (Verstraete, 2017).

Taken from the Hosokawa analysis of the passerby's experience with the Walkman, the notion of secret theater is confronted by Verstraete with recent works of locative sound art, especially the piece Alter Bahnhof Video Walk by Janet Cardiff and Georges Bures Miller, presented in Kassel's Documenta 13.

About twenty after the Walkman, some technologies matured and converged to renew the musica mobilis in urban culture, adopting an intangible media. As Jonathan Sterne explains in his book *mp3: The Meaning of a Format*, the music exchange culture was reborn by new ways of storing, transporting, and copying the music.

6.2. Headphones in the computer age

With the proliferation of personal computers with multimedia players, the songs could be extracted from a physical media. With the development of an algorithm that reduces the size of digital audio files and the creation of

the mp3 format, the songs were converted into smaller files, that could be easily stored and, thanks to the popularization of the internet in the developed countries, distributed among those interested in accumulating mp3 files in their computers.

Soon emerged portable devices running the new audio format. They were extremely limited in the beginning, almost as functional prototypes: one of the first devices able to reproduce mp3 files was Diamond Multimedia's Rio, released in 1998 (Sterne, 2012: 203). It had 32 Megabytes of memory, enough for about half an hour of music in the mp3 standards of the time. Just three years later Apple started selling mp3 players. The first iPod, from 2001, had five Gigabytes of space - or "1000 songs in your pocket", as the marketing campaign bragged.

In line with the music industry attempts to contain piracy, Apple launches the iTunes Store digital sales platform in 2003, establishing a new market (Cummings, 2013: 89 and 220). This allowed the commercialization of the digital phonograms to a wider audience than internet geeks: Apple sells one million files in the first week, 25 million in eight months (Hill, 2013), and in 2008 it becomes the largest music seller in the United States (Apple, 2008).

In the computer market, Apple's product design has always been a distinguishing feature, being part of its marketing strategy. His "mp3 player" had to be unique and unusual.

Sony popularized the super aural headphones – small and unobtrusive for that time – selling them alongside the Walkmans. The devices, although portable, were hardly concealable, and the Walkman was visibly worn and fixed to the clothes with clips. IPods, launched more than twenty years later, took advantage of another generation of component miniaturization. Although the advertising images showed silhouettes holding the device in hand, even the slogan of the 1000 songs suggested the pocket as the most suitable place to keep the equipment.

Because of its size and discretion, the product uniqueness appeal had to spread to the headphones: since its first model the iPod was sold with a pair of innovative little white earphones. The 2003 iPod ad campaign illustrates just how Apple intended to use the headphones look to stand out from the competition.

Fig. 4: Apple's iPod ad campaign. Photo "20.Chelsea.NYC.PM.25March2006" by Elvert Barnes, 2006, under CC license [CC BY-SA 2.0], original available at https://www.flickr.com/photos/perspective/14765417491/in/photostream/

With an advertising campaign approximately one hundred times more expensive than the one from its competitors (Isaacson, 2011: 392), Apple not only positioned itself comfortably in the portable player market, but also collaborated to renew and multiply the use of headphones on the street. Apple branded products were socially differentiated by the use of white earbuds, which were replicated by the competitors shortly thereafter, proving the strategy's efficiency.

The headphones, which slowly came out from military applications to play a decisive role in the the privatization of music, now was also serving as an object of ostentation in the urban landscape.

6.3. Headphone as luxury item

Shortly after the first few years of selling iPods and other "mp3 players", North-American rapper Dr. Dre, music producer Jimmy Iovine and engineer Noel Lee teamed up to create headphones that mixed sound quality

with fashion and branding. By appealing to hip-hop music lovers, the headphones audio response was designed to enhance rhythm patterns and bass frequencies. The brand Beats by Dr Dre launched its first pair of cans in 2008, associating its products with music and sport celebrities in aggressive product placement campaigns, giving to the headphones the status of fashion accessory and luxury item. They are circumaural (covering the entire ear), larger than Apple earbuds, and therefore very flashy.
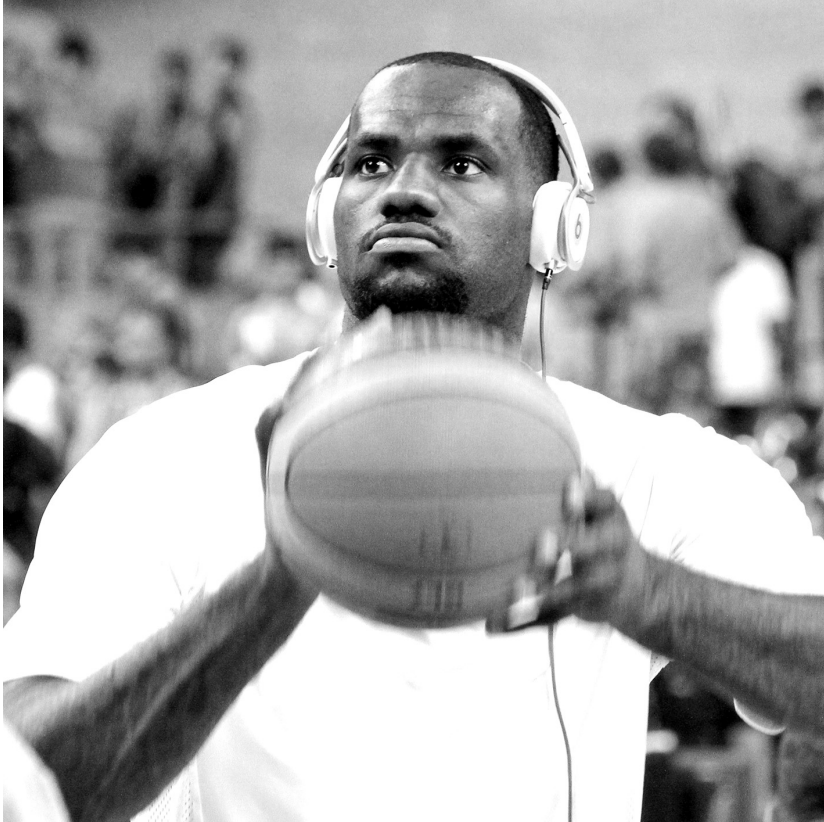
Fig. 5: Basketball player LeBron James warming up before game with his Dr Dre headphones. Photo "Basketball: USA reign in Spain" by Christopher Johnson, 2012, under CC license [CC BY-SA 2.0], original available at https://commons.wikimedia.org/wiki/File:LeBron_James_warming_up_before_USA_vs_Spain.jpg

According to the creators, the goal was not competing with well-known brands of headphones like Sennheiser or Bose, but to dispute the money of the young who buys a pair of sneakers. The success of the venture reflected in the industry numbers, which saw a 32% increase in revenue. The headphones now have another social function, as Greenburg reflects:

> Just as Nikes were as much a fashion statement as an athletic necessity, Beats—with its flagship Studio line available in a rainbow of colors—soon became equal parts accessory and audio device. "We changed the way headphones are a part of lifestyle," says Lee. "It established headphones, where it's cool to wear headphones around the neck even though they may not be plugged in." Adds Brian Dunn, Best Buy chief executive: "It's not about the sound, solely; it's about the fashion" (Greenburg, 2013).

It is clear in the statement above the value of the headphones beyond musical fruition or urban noise isolation. In the 1960s they were already associated with famous bands like The Beatles, but since the launch of the iPod they have a new layer of meaning, with a clear fashion and status appeal, often losing its sound reproduction function.

6.4. Locative Audio

Digital audio devices provide operations that extend the playback of music files. Both in the gaming and in the mobile applications industries, a territory of creative experimentation in the field of interactive audio has extensively grown in the last decades. In the construction of these new narratives, the integration of a microphone to the cans in a single headset device has produced a new powerful human-computer interface. They gave rise to new ways of exploring virtual and mixed realities, where neither the sight nor the hands are occupied. Among these new narratives we will discuss headphones in the context of locative audio.

Locative media take advantage of context-aware computing (Townsend, 2006) by working under the assumption that ubiquitous internet access is changing our relationship with space by overlaying a second virtual world over the physical one (Tuters & Varnelis, 2006). Under this conditions the headphones become an indispensable tool for the commuter to access the smart cities.

The specificity of locative sound media or locative audio has been discussed by Frauke Behrendt (2015) from four different categories such as placed

sound, sonified mobility, sound platforms and musical instruments. The author brings different uses of the GPS on audio applications and highlights what she calls placed sounds:

The popularity of this category is demonstrated by the fact that, over the last decade, several themes or sub-genres of the "placed sound" category have emerged, including more narrative ones such as historical, touristic, educational, fictional, games, and less narrative ones such as music and experimental sound.

In the locative audio experience, the headphones play a different role than as a traditional music player. The headset enabled the user send and receives information without occupying neither the sight nor the hands. While the relevance of GPS and online information about the city is growing and the tools to access this information is getting more and more sophisticated, it is expected to be an even bigger field of exploration for locative audio headphones designers.

7. DISCUSSION

After our inspection the headphones turn up as a place of convergence bringing together a set of technological and cultural values, where issues about music, market, alterity, citizenship, gender and fashion coexist. Despite these crossings, it also raises the question on the supposed empowerment of listening through technology, by unveiling the cultural and social contingencies interacting in the definition of its function. As it is remarked by Sterne, "it also shows the degree to which a social practice almost two centuries old—the isolation in a world of sounds first developed by medical doctors in the early nineteenth century—can be articulated in new ways". (Sterne, 2003: 337)

Beyond the scientific use addressed by Sterne or even the commercial success of Baldwin's headphones in military training, the headphones have joined the evolution of recent human civilization becoming an indistinctive symbol of modernity. In the first decades of the 20th century they were a rudimental communication device used in the first radio and telephonic systems. With the expansion of phonographic and radio industries they were promptly exploited as a music listening device. It is when they assume their modern function as an auditory display. While consuming music was a postwar middle class value, headphones were transformed in a kind of techno-listening commodity grounded in an ineffable trust in

scientific innovation and materialized in the concept of Hi-Fi. Furthermore, according to Taylor and Iazzetta during the 1950 and 1960 the headphones were a gender definer since they were associated with a male universe. Transistor's miniaturization brought new modes of use for the headphones, notably with the launch of the Walkman in the 1980's. They turned into an urban strategy for the passerby in a nomadic distribution of the modern city. Therefore, natural headphone features such as mobility and portability gained attention as consuming values. The headphones' function turned into a lifestyle matter. From the 1980's, the headphones are used deliberately as context isolators, not without provoking a disruption in the traditional categories about public and private behaviors. Apple iPod + iTunes package exploited MP3 audio Internet technologies and changed the consumer market scenario by offering earphones as an extra gift. While the privatization of music listening were tokenized by apple earphones, Dr. Dre was launching its first fashion headphones that did not take long to become a luxury item. Meanwhile, headsets equipped with microphones are also being adopted in interactive narratives such as gaming and smartphone applications. Particularly, in the emerging field of locative audio, headphones play a decisive role as a hands-free and sight-free computer interface.

Since each of these headphones' uses have a temporary validity, they overlap each other in the contemporaneity. As a result, we can conclude that headphones have many possible functions related to audio consumer habits. From this perspective the history of headphones is also the history of consumerism, marketing and advertising of audio. While Walkman users surpassed the domestic audio Hi-Fi craze by giving a urban function to the headphones, Dr. Dre headphone users have completely absorbed this urban function and are adding new stylish connotations to them. The evolution of headphones' use shows how consumerism became an active operation: an act where identity is defined and constructed.Lastly, we wonder why Walkman has received so much theoretical attention, while is hard to find studies devoted to the headphones. By comparing the Walkman and the headphones as subject matter, we would say that all that is true for the Walkman, is also true for the headphones. Moreover, some of the analysis devoted to the Walkman, could be rather attributed to the headphones, such as the isolation quality, the disruption of the public and private or even the association with a lifestyle. From this point of view, the Walkman could be seen as an academic fetish masking the relevance of headphones as a symbol of modern culture.

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| Session #7

Algorithms, experience and listening: contemporary modes of sound perception

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Abstract. In a digital everyday life, where one is entangled by intelligent and sentient systems, human sensitivity itself is mediated by algorithms – lines of command or rules that allow the solution of an issue – and express this situation in the daily events. Revisiting Walter Benjamin's classic essay on the work of art in the era of its mechanical reproduction, we try indicate how digital reproduction techniques guarantee other modes of existence of the aura and a sensitive regime that favor approximation and the desacralization of art in daily life.

Keywords: Sensitivity, Digital Age, Environment, Actor-Network Theory.

1. INTRODUCTION

The research problem that we deal with has its origin in the discussion about the ways of feeling and perceiving in contemporary culture. Walter Benjamin formulated this question in several of his essays. One of the most emblematic "The work of art in the era of its mechanical reproduction" continues to be interpreted and to exert fascination in 21st century philosophers and theorists.

In 2003, Hans Ulrich Gumbrecht and Michael Marrinan published a set of articles in the book "Mapping Benjamin - The Work of Art in the Digital Age", in which Benjamin's essay was revised by a number of authors and questions were formulated in order to think about the challenges imposed by digital culture to the daily experience.

The aim of this research is to radicalize the authors' proposal and to think how the ways of feeling and perceiving, which were central to Benjamin, are reconfigured in the process of digitization of cultural practices and in the algorithmization of experience. That is, can one think of an era of algorithms, in which human sensitivity is more and more educated by digital standards?

What values emerge in such a culture? How are they expressed in the everyday situations of criticism and musical consumption?

My hypothesis is that in a digital everyday life, where one is entangled by intelligent and sentient systems, human sensitivity itself is mediated by algorithms - lines of command or rules that allow the solution of an issue - and express this situation in the daily events. Those sentient systems have the ability to act and react to human habits and performances, thanks to the set of data they collect in everyday digital interactions. They are thus capable of learning and perfecting their own functioning, but still incapable of reflecting on this functioning.

Antoine Hennion and Bruno Latour (2003) indicate how digital reproduction techniques guarantee other modes of existence of the aura and a sensitive regime that favor approximation and the desacralization of art in daily life.

Benjamin's essay ranges from a position of nostalgia to a way of experiencing the world that claims singularity and co-presence (that he calls aura) and a furor about the powers of sensitivity set by a technical and simultaneous world of cinema and the metropolis of the twentieth century. Reproduction techniques both increase and decrease distance with art. They reduce the distances of objects that were hitherto little available to the public, but create new distances by obfuscating the material infrastructure that enables such approximation, naturalizing it.

Both Benjamin in the twentieth century and Latour and Hennion in the twenty-first century are concerned with the historical and organic patterns of sensitivity, with the configuration of perceptual habits and with the inflections that spatially and humanly closest objects provide in experience with the environment – reiterations and uniqueness, presence and absence, singularity and fetish.

This is a significant way of writing, since daily life has revealed its own violence and vigilance devices that directly affect contemporary sensibility (such as cameras, social networks, applications, sensors, etc.), so that these same devices are used to express the actions and anxieties of daily life. The objects, which constitute the devices, are also agencies that act on our sensitivity and do it (Lemos, 2015).

From this context our research proposition emerges. Such devices act on the contemporary subjects, so that they are part of the social performances and everyday behaviors that we develop. Apps used for dating – like Tinder, Partnership and other – and even making selfies, are examples of

how habits can be shaped by such devices. Musical recommendation apps can act as social bubbles in the sense that only musical expressions already known and judged as similar to the performance standards already cultivated by the system are presented to the user.

2. MUSICAL CONSUMPTION AND PERCEPTIONS

The consumption of music by streaming service in the last five years was extremely high. From 2013 until 2018, it increased in lots of ways which indicates that by the year 2025, almost 80% of the people in the planet will have access to streaming music services. About that phenomenon The Guardian published an article, in the end of 2018, in which it shows the way the music industry was recovering itself from a large period of loss during the early 2000.

> In 2015, Universal Music Group, the biggest player in the music industry, posted revenues of more than $5bn, about $1bn of which came from streaming. Today, it was announced that streaming music revenues had surpassed income from the sale of traditional formats for the first time last year. And earlier this month, we learned that British music company revenues grew faster in 2017 than in any year since 1995, with labels experiencing a 10.6% rise in earnings year-on-year. British companies enjoyed a 45% increase in subscription streaming revenue in just one year – from £239m in 2016 to £347m in 2017. Spotify went public this month, with the company now valued at $25bn. And Apple Music says it is catching up in terms of paying users, especially in the US. (The Guardian, 2018. https://bit.ly/2vJKz8i)

When talking about the comparison between traditional formats of products from the music industry (as CD's and vinyl records) and the consumption of music with streaming services, the number are even more impressive.

> U.S. album sales declined in 2017 as streaming continues to grow, according to Nielsen's year-end music report released this week. The report found that album sales, including both digital and physical, fell 17.7 percent last year to 169.15 million copies, down from 205.5 million in 2016. Meanwhile, streaming once again soared, leading the overall music industry to growth, largely due to the significant 58.7 percent increase in on-demand audio streams over last year.

Although others ways of consuming music are still alive - like buying vinyl records and also CD's, or downloading music files - these commentaries shows us that the typical listener of the early 21st century is becoming adapted to the use of streaming service for music with apps like Spotify, GoogleMusic, Youtube Music. That process of adaptation makes the listener aware that he/she can access every kind of music genre and to enjoy it, even not having an idea of what band or artist is playing in the app.

That is called the hegemonic cultural practice, because it reinforces all the patterns of our society, not only the economical ones, but also the political and social ones. When our contemporary listener signs in a Google account, or in Spotify or in the iTunes store, he/she is also agreeing with the terms and policies from those companies, also agreeing in let his/her uses of the count being stored (for better functioning of the system, or improving the owner's experience). But this hegemonic cultural practice don't end here. One could say that it's just a little part of what we can see and that is still so much under the water - to use the iceberg metaphor.

The other aspect of this hegemonic practice, that remains barely discussed is the form of musical perception that this very practice sets. In the context of *on line* culture, the very form of world perception and listening to music are (one more time) changing and it is important to pay attention to what is raising. If at a certain moment it was in the co-presence (media environment in which the body is the emanating source of sense) that the sound events were experienced, phonographs have made it possible to experience such event without necessarily being present. That is what Schaeffer describes as *acousmatic listening*, since the sounds are perceived in a recontextualized manner, "what has produced a sound at a certain place, at a given moment, resonates in another place and at another time" (Palombini, 2007: 09).

These same phonographs have imposed that certain brands should register their production due to their own incapacity to store. It is for this

reason that special attention has been devoted to the ways that techno-logical mediation affects the processes of production and reception of music in the works of Théberge (1997), Freire (2008) and Iazzetta (2009).

Paul Théberge (1997) indicates at least two levels of changes in the pro-cesses of production and listening to music, which result from technologi-cal innovations: the first level concerns the practice of music itself, as new instruments have been developed, the analogical relationship between the instrument and the sound produced has been lost. The second reason im-plicates the limitation between who produces and who consumes music; after all, while a programming a synthesizer or a *sampler,* the musician him-self also consumes the music production technology. Hence the main the-sis of his book originates "*making music is, simultaneously, consuming tech-nologies*". One should therefore seek to understand how the technology, the organization of the music industry and the market contribute to the emergence of the image of the musician as a consumer of sophisticated technologies.

The author makes it clear that "what is at stake here is not simple a change in technology - the substitution of one set of materials for another - but rather a form of practice, where practice is taken to mean a form of knowl-edge in action" (Théberge, 1997: 04).

Recently the blog Northcoders wrote and article about this particularly re-lation between music and technology in the era of the digital on line cul-ture that helps us to understand the process of knowledge in action, that Théberge was concerned.

> Since 2015, music streaming services have become the music in-dustry's biggest source of income, with revenue from these services increasing by 57% in the first 6 months of 2016. The vast majority of this income came from subscriptions. Interestingly, ad-support-ed platforms generated less money for labels and artists than vi-nyl sales. With this information, and the understanding that there is over 30 million tracks available at our fingertips, it would seem we are the masters of our musical destiny. However, I would argue it's not us that are the taste makers, but the big data our listening habits generate.
>
> (...)
>
> For example, all music streaming platforms will only pay out after a certain amount of a song has been played. As a result, the aver-age length of a song intro has decreased from over 20 seconds in the 80's to less than 5 now (Pink Floyd are getting the rough end

of the stick). With such a wealth of music available, it's a constant battle for the listeners attention. Data and common sense suggests we are far less likely to skip a track we've heard before. As a result, it's now common for tracks to feature the hook, guest artist or a prominent sample in the first few seconds, contributing to a phenomenon known as the "Spotify sound", something that artists are paying a lot to try procure.

(...)

As a result, for better or worse, chart music is becoming more homogenized. How do we know this? In 2013, the top 1% of artists accounted for over three-quarters of all revenue from recorded music sales. In the same year, 20% of songs on Spotify had never been streamed (you can download an app devoted to playing them called Forgotify).

One example of these taste-making algorithms, created by Pandora, is named the Musical Genome Project. This takes 450 musical attributes from any song to match it other tracks and match it to a genre. These aren't genres as we know them though. Rap alone has over 350 sub genres (I don't even want to think about how many sub genres Metal has).

(...)

For me, the next big shift in how we consume music will be smart-home speakers like the Alexa, and the challenge of condensing monumental libraries of music into a series of keywords.

When using a voice-controlled device, it's not nearly as easy to skip through tracks, and if the platforms don't get it right quickly, customers will quickly reach into their pockets for their phones. As a result, I'm fascinated to see how the industry will continue to adapt to emerging technology. (Northcoders, https://bit.ly/2U7185Y)

The article shows us what kind of competence is being required to adapt into the musical world consumption nowadays in the 21st century. It's a similar gesture produced by Sergio Freire (2008) when he affirms that the major events in the field of musical experience in the twentieth century, mainly due to the technologies of production and reproduction of sound. The perspective presented by the author directly relates the technological innovations to the new standards of musical experience.

The mechanical recording in effect until the twenties years defined the fundamental characteristics of its repertoire: use of powerful voices, short duration works, and instrumentation conditioned to sound capturing. The introduction of electrical recording (with the invention of microphones) has enabled the construction of new

> forms of sonic balance, which were unthinkable in purely acoustic situations: that is the case of the crooners, capable of singing with a soft and clear voice, while they are accompanied by sets of great acoustic power. The exploration of different types of reverb also begins at this time (Freire, 2008: 02).

In fact, the formulation that summarizes the author's thoughts on the issue of musical (listening) experience is the presence of mediation from the speakers, which are devices that synthesize all the instrumentation of a work into to a single sound source. In the digital age, we could say that the presence of musical apps with recommendation systems summarizes the consuming experience of the listener.

3. LISTENING

Fernando Iazzetta (2009) observes the musical practices that have been developed from the phonograph and the electronic mediations, so as to examine to what extent these practices were modulated by musical technologies. The initial assumption of the author comprehends that the electronic mediation derives from phonograph, as it has been used as a tool for electro-acoustic production since the mid-twentieth century. In other words, Iazzetta assumes that it is the capacity of shaping a new listening attitude (the phonographic) that will influence the new practices of musical (and reception) production.

Yet, how could one recognize such listening practices? According to Ola Stockfelt (2004) the very situation in which the listener relates to the music affects the musical experience. The type of relationship that will be established therefore crucially depends on how the listener decides to listen to music. Still, the choice is neither accidental nor fully individually deliberate. Why?

The first argument of the author can be named *thesis of cultural competence*. According to this thesis, the relationship the listener will establish is constrained by the repertoire that he has or that he can develop in a given situation. The second argument, which is called *applicability thesis*, establishes that a type of relationship with music may not be applicable in all sound or musical structures. The thesis of the *situation* asserts that this relationship also depends on the specific listening situations and, finally, the *thesis of non-selectivity* indicates that it is often impossible to choose to reflectively listen, when many sound sources compete for attention.

Stockfelt (2004) reinforces his argumentation by drawing attention to the types of relationships established by listeners with different musical genres. Each style brings into focus a different musical aspect, and therefore a competence, applicability, situation and non-specific selectivity. There is music made for palaces, cathedrals and churches, concert arenas, or even for speakers. Each of them affects the musical experience:

> For each musical genre, a number of listening situations in a given historical situation constitute the genre-specific relation between the music and listener. These determine the genre-defining property and the ideal relation between music and listener that were presumed in the formation of musical style - in composing, the arranging, the performance, the programming of the music (Stockfelt, 2004: 91).

Thus he infers the existence of two complementary dimensions: *genre-normative listening situations* and *the genre-normative modes of listening*. When one hears depending on the requirements of a particular social situation and in according to the socio-cultural conventions prevalent in the subculture to which that music belongs, there has been an adequate listening; a listening that regards both the situation and the normative listening mode. The adequate listening is not therefore superior or more intellectual than other listening modes; it is just the way that leads to listening to the most relevant elements of each song, thereby relating to music the way it was prefigured.

Pierre Schaeffer (1966) presented important contributions to distinguish actions that are implicit in the verb *to hear*, which remain unclear if little attention is provided. In his study involving musical objects, he presents four different meanings:

> 1. Listen (*écouter*) is to pay heed to, be interested in. I actively address myself to someone or something that is described or indicated by a sound. 2. Hearing (*ouir*) comprehends the perception through the ear. In contrast to listening, which corresponds to an active attitude: what I hear is what I am provided in the perception 3. From understanding (*entendre*), we will retain the etymological meaning. Have the intention to: What I understand, what is heard, is the function of that intention. 4. Comprehending (*comprendre*), interpreting, holds a dual relationship with listening and understanding. I understand what I have aimed at listening, thanks to what I have chosen to listen. But mutually, what I have understood conducts my listening and informs what I understand (Schaeffer, 1966 cited in Melo, 2007: 52).

In this sense - listening/hearing - the two worthy analyzing aspects are related to more concrete aspects of the relationship with the sound. One of them requires a subjective attitude, the listening. It depends on the action of the listener. The other aspect precisely refers to that primitive dimension of perception from which listening derives. Much is heard, even when the listener is not interested in listening. As Schaeffer explains, this concrete dimension refers to the potentialities of sound or to causal aspects of the acoustic event.

This means that, although *hearing* could be considered a physiological capacity, *listening* does not hold that status. Instead, listening is seemingly an action that can be learned, exercised and sophisticated; it is an action associated with a cultural dimension. *Listening* therefore involves using the existing codes and repertoires in the perception of relationships and the dynamic range of sound.

> From the onset of phonography, there has been a progressive conditioning of the listening to the musical material recorded and reproduced through speakers. The change resulting from technological mediation in relation to music listening was not only contextual, but it has significantly altered the relationship that listeners have music (Iazzetta, 2009: 37).

This leads the research into that field where changes in the *media* are fundamental to understanding the establishment of new patterns of production and reception, which would be learned and practiced, thus introducing new listening practices. The point is, in a practical sense, this reconfiguration shall advance in order to indicate reconfigurations in the material and physiological capabilities of hearing. The cultural practice of listening to music should not be taken as something immaterial, but as a behavior that transforms the perceptive abilities of listening and thereby educates the body and develops hearing.

Theodor Adorno (1996) himself has thematized that question in his essay "*On the fetish character in music and the regression of listening*". For the philosopher, the fetishistic character of fast music - a term he uses to generically refer to Jazz – would have invaded the form of production of serious music (classical) and the hearing of the masses, hence resulting in an atomistic and decoupled hearing, an infantile state of hearing.

> The perceptual behavior mode, through which forgetting and quick remembering of music for the masses are prepared, is the act of

deconcentrating. Except for some details, if the standardized prod-
ucts – hopelessly similar among themselves – do not allow a con-
centrated hearing process that does will not become unbearable to
the audience, they are no longer capable of an absolutely focused
hearing. (Adorno, 1996: 92).

Regardless of the evaluative position taken by the author, there is a ba-
sic thesis that supports the important relationship that the practices as-
sociated with fast music have established with the perception abilities. It
is important to make it clear that the musical practices referred to by the
author are the Jazz and the Blues, genres that were consolidated in con-
nection with the recording industry and the mass market model of music.
According to Adorno, it is as if the listening associated with fast music had
made the listener increasingly more "deaf" on the perception of wholeness,
thus clearly showing the relational way he thinks about technical aspects
and sensitivity.

Listening is therefore constrained by the characteristics of genre itself, but
it is not limited to what already prevails as adequate listening. Assuming
such determination would mean that individuals have a "stocked" and
stored repertoire they would constantly appeal to, when confronted with
a musical expression. In other words, it implies the comprehension of the
listening practice as a purely recognition activity.

4. DO ALGORITHMS "LISTEN" ?

Although this "storage" comprehension would have been disapproved for
many philosophers, specially those concerned withe the problems of the ex-
perience (like John Dewey, Richard Shusterman, Walter Benjamin, for exam-
ple), we should not discard completely the role it plays in the contemporary
culture. And that is because in the programing lines of commands, what our
beloved musical apps do is exactly this kind of action. It recognizes the infor-
mation that you searched for, memorizes it and with cross-references data,
it learns a bit more of what are our interests. Next time you use your favorite
musical app, it will access the data that he already collected about your pref-
erences and will offer you something similar. It's not only the listener that is
listening to music, the algorithms are "listening" too.

In fact, Shusterman had already make a point about the problem of treat-
ing experience and recognition as one and the same thing. He used a met-
aphor of a human and a cyborg that were put in front of the same beautiful

pictures and argues that even if both can establish judgment about the works (based on the fact that they have information about the art world), only the human could experience the works, because he experiences *values.* The cyborg, Shusterman says "only process the information about the artworld it already has, and gives a judgement based on the data collected" (2000: 30).

Based on these arguments, one can say that listening to music involves more than a mere recognition of standards and codes, or the imitation of past practices. There are also the unexpected aspects, the emergence of elements that totally or partially reconstruct what already existed - live an unexpected gesture of the musician, another way of dancing to the sound, effects of resonance, distortion and so many others. But way should we neglect the fact that also in the field of technical systems there are unexpected aspects? Isn't it true that our musical apps, sometimes surprises us, by recommending something that we would never hear?

As we made explicit before, this kind of event may happen because the systems are also sentient. They have the ability to act and react to human habits and performances, thanks to the set of data they collect in everyday digital interactions. In this process, something unexpected may also happen – the concept of "noise", for example, appears in the history of communication research for the first time in the cybernetic theory with Claude Shannon's and Warren Weaver's work, in 1948 - putting itself in a situation that we could claim to be as interesting as the human that appreciates paints.

If this unpredictability can happen to the systems, we should be more carefull about the kind of self referentiality they can develop. Those kind of questions are being formulated by a large number os theorists in Brazil and worldwide, specifically in the Actor-Network-Theory (ANT). André Lemos (2015) and Fernanda Bruno (2015), following the proposition of Bruno Latour, are some of the brazilian schollars that have emphasized the need for further development in the study of the interaction between objects in digital culture.

These are the sensory and physiological demonstrations that reveal the kind of experience conducted. They reveal the behavior adopted in the process of interaction between listener and music, which allows processing the experience as something not exclusively tied to knowledge, but as something connected to the action, including the daily action.

 The dynamics of the manifestation of experience is therefore a practice constantly reviewed and renewed by the actors involved on it and by the characteristics of the situations they are involved with. It is not just to exploit the aesthetic possibilities, but above all, to adapt to the field of action made

possible by the experiences. It is only when there is creativeness at the moment the listener meets the object or phenomenon of music that spaces of experience can indeed be expanded and new aspects and qualities in familiar scenes and objects can be revealed.

It also allows recognizing the type of commitment the different musical expressions require as a revealing phenomenon/constitutive of aesthetic, social and cultural values shared, thereby enabling the communication theories to address issues concerning the sharing of taste and value at various levels, and focus on the elements involved in sharing a kind of "knowledge" that is not eminently knowable, but volitional - that appears to be an alternative to investigations that are always based "meaning" and "discourse".

As experience - including musical - is not confined to the mere recognition of patterns or the conductive predictability of the "experiment", but it comprehends the unexpected appearance of elements that entirely or partially reconstruct the previous experience, it is a particular feature of the relational perspective of Communication that allows understanding what emerges in the "meeting" of the listener with the music.

Whereas this study specifically concerns how the different practices of listening are "toned", i.e., informed by the nature of experience developed between the listener and the objects, in a peculiar situation - historically and socially confined and mediated by diverse elements -, it reveals the ideological, poetic and even technical transformations a certain music genre can undergo. More importantly, the study therefore reveals that even these ideological, or poetic, or technical transformations are not consequences of a productive or technological social determination, but above and before all, a *transformation in the experience*.

There are, however, reconfigurations in the experience that are so significant that not only establish a behavior, i.e., not only lead to the emergence of a new listening practice, but also expand or reduce the ways people feel and perceive - the hearing capacity. After these experiences, the perception becomes open to phenomena not experienced before; even though the sounds are not always relevant to a particular listening practice, the hearing ability is improved. This means that even that less active dimension of listening, which Schaeffer referred to as hearing (*ouir*), is shaped by experience, especially for its aesthetic dimension.

> The same way our sight has a number of instruments (cameras, video cameras and other prostheses), our ears are *equipped* with an

> unprecedented scale. And, since Pierre Schaeffer until at least the current Djs, this equipment grants the possibility for every listener to make their hearings notable: Also, the possibility to reproduce and disseminate them, i.e., to make them public, so that they are heard, shared and commented; in summary, to jointly build up a *critical* culture of listening (Szendy, 2001 cited in Iazzetta, 2009: 35).

Although Szendy focuses on the technical aspects of these extensions and indiscriminately uses the terms "hearing" and "listening", one can note that his concern is the change in the scale of sensitivity - which he shows when talking about building a culture of critical listening.

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Sound effects: A sociotechnical study

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Abstract. This paper presents some initial considerations on the study of sound effects and their role in contemporary audiovisual media. Effects are tools for manipulation of recorded sounds in order to adapt them to different needs. In general, the use of these tools is associated with the different sound recording and reproducing apparatuses that have emerged especially since the end of the 19th century. As the theoretical framework, this proposal dialogues with different perspectives, seeking an interdisciplinary approach. The perspectives are: A) Archeology of the media; B) Ethnomusicology; C) Sound studies and, in a complementary manner, D) Film studies.

Keywords: Sound effects, Media archaeology, Acoustemology, Sound Studies, Film studies.

1. INTRODUCTION

This paper proposes some initial bases for the study of sound effects and their role in the various types of contemporary audiovisual media. Effects are tools for manipulation of recorded sounds in order to adapt them to different needs. In general, the use of these tools is associated with the different sound recording and reproducing devices that have emerged especially since the end of the 19th century. The technical character of this interference on sound is evident, but not the only feature in which this analysis is interested. It is possible to perceive ways of altering sounds in a less mediated ways, by what we could describe as more "natural" phenomena. By doing so, it is necessary to make it clear that the distinction between "natural" and "artificial" realms is merely circumstantial and should be thought of as part of a more extensive discourse about the different technological environments. The archaeological approach, which I will describe later, relativizes both the chronological ordering of such apparatuses and the teleological character attributed to technologies. Thus, even the notions of artificial or natural are framed by flexible and volatile logics.

Sound effects are elements that are rarely discussed, despite the current scenario of intense sound manipulation (both analog and digital). Their

function in musical production and in other related activities is underestimated by more traditional studies, since it departs, to some extent, from the roles attributed to composition, instrumentation or classical theory. It can be said that the effects, with their ability to modify sonorities or timbres (and here I understand the two terms as different things), would refer to the field of perception or even of acoustic science. I would rather propose that effects, on the one hand, escape the subjective model of psychoacoustics, concerned with analyzing the differences between produced and perceived sounds. On the other hand, they do not have as exclusive repertoire the natural laws of propagation of sound, as we can see in the study of acoustic phenomena (although they deal with different forms of manipulation of sound parameters). In addition, especially from different technological models, the field of sound effects constituted a corpus of objects that differs from the logic of acoustic instruments and the interactions between human bodies and these instruments. Effects are part of the repertoire of electric and, mainly, electronic instruments. More than that: in the present day, sometimes effects themselves assume the role of a unique and meaningful instrument.

The research on sound effects is an extension of my previous one on the constitution of different models of audibility in cinema. As audibility, I proposed the characterization of different ways of reporting to the sound universe in different practices and their relation with social, historical and technological contexts. The current research extends the investigation of such models of listening from the different sound manipulation devices – analog or digital ones – within the scope of audiovisual expression forms.

Understanding that, at the same time, the study of sound, as an expressive element or as a symptom of different social conjunctures, involves the different media, this investigation proposes a more detailed study on the forms and uses of such devices. The practice of interference on sound material (musical or otherwise) is related to a broader *ethos* that I intend to describe, involving common concepts to the various forms of expression of the 20th and 21st centuries: *fidelity*, *realism*, *definition*, *alterity*, etc. We can detect the concern with some of these principles already in the first treatises on sound and perception.

As a theoretical framework, this proposal dialogues with different perspectives, seeking an interdisciplinary approach. The perspectives are: A) Archeology of the media; B) Ethnomusicology; C) Sound studies and, in a complementary manner, D) Film studies.

After a brief description of the theoretical fields that serve as background, I will comment on some of the earliest investigations into the physiological processes of listening, incorporating perception in the field of musical study. Finally, I will make a short analysis of some examples in the areas of music and cinema, articulated with the previous discussions.

2. THEORETICAL PERSPECTIVES

An archaeological study deals with the search and description of practices consolidated and materialized into objects. This sort of bias is less concerned with questions of technical evolution or chronological ordering of facts than with the characterization of a particular model of relating to things and to their presence in the world. These models end up characterizing a type of existence of these objects in a more complex network that includes other objects, human beings, habits, practices, beliefs, social systems, etc. An archaeological view does not perceive apparatuses as means to a predetermined end, but as enunciating agents of their own discourses. Different technological configurations produce epistemes that may or may not resemble others, regardless of the historical period in which we perceive them. Thus, the idea of a constant development of the apparatuses may not be fruitful to our objectives, although the discourses supporting an endless and inevitable technical improvement have always been based on this type of historical approach.

The differences between various tendencies within the field of media archaeology present some difficulties in defining a specific methodology. Being described as an "undisciplined discipline" (SOBCHACK, 2011), what seems to be a consensus among different authors is a reduced concern about narrative or hermeneutical aspects that the different media can inspire. The re-presentation of the past, as a transhistorical and presence inspired dimension in which affective, sensual and material elements play a fundamental role seems to be a recurring point in the work of media archaeologists like Siegfried Zielinsky (2006) and Wolfgang Ernst (2011). However, there are irreconcilable distances between the two perspectives, especially with regard to human agency. While Zielinski tries to articulate the technological aspects with cultural ones and with the constitution of the subject itself, in Ernst's perspective – following authors like Friedrich Kittler (2000) – cultural aspects should not be taken into account if we really want to approach the nature of technical objects. To be "close to the machine" (ERNST, 2011, 242) is to reverse the subject-object relationship,

which had so much influence in the continental philosophy of the twentieth century, and to seek other forms of meaning production. The "correlationism", as Meillasoux (2008) names it, advocates that the meaning of things is achieved by processes of interpretation – usually conducted by a subject in relation to a determined object. The archaeological view proposed by Kittler and Ernst is close to some more contemporary lines of thought in which the "subjectivity of things" prevails over hermeneutical questions.

The archaeological perspective is therefore concerned with a specific ontology of objects, rather than with precise methodologies for analyzing them. It is necessary to look at the material conditions of existence and use of such objects. The materiality of media is fundamental in the processes of interaction between humans and objects and in processes in which humans are absent. When we talk about digital media, we often leave aside the material issue in favor of a technical discourse that defends the immaterial virtues of digital to the detriment of physical conditioning of media. A closer look at these issues is necessary.

As for the field of ethnomusicology, there are some points to be clarified. In fact, the kind of approach that comes closest to the analysis that is intended to be done here is what Steven Feld (2017) calls *acoustemology*. Feld makes clear his discomfort with the very term "ethnomusicology", which he understands as a "Eurocentric construction of 'music'" (FELD, 2017, p. 83), reinforcing classifications as "traditional", "popular", "western" or "non-Western." These terms are a sort of colonialist heritage.

Even the adoption of the term "anthropology of sound", as a way of relativizing the paradigms of analysis present in traditional ethnomusicology, still do not solve impasses linked to the excessive reference to the "human" component in the constitution of the different acoustic phenomena. New tools are needed to account for the multiple elements in the field of sound and music as a process, not as a structure analyzed from a privileged point of view. Acoustemology would then be a way of not thinking only of cultural aspects as determinants in the different research contexts: an "alternative to the musicology vs. anthropology debates that have dominated each ethnomusicological identity crisis for the last fifty years" (FELD, 2017, p. 84).

Feld is interested in the constitution of objects in a relational way, that is, the non-determination of the nature of objects before identifying the entanglements between these different actors. The existence of each element can only be thought after its relation with the others, in a relational ontology.

Although preoccupied with sound elements in different environments, acoustemology refuses the notions of sound ecology or of soundscape, as proposed by Schafer, especially because it sees them as irremediably anthropocentric. They are concerned with the description of the conditions of (human) life in certain environments given the characteristics of perceived sounds. The classification of different sound spaces based on criteria of greater or less fidelity is equally problematic to acoustemology, partly because these are already contaminated perceptions with a certain idealization of listening conditions and of the constitution of sound ambiences, but also because it essentializes the role of the different actors in such environments, particularly talking about the technologies. Acoustemology is concerned with the denaturalization of the agency of listening, with its "relational and contingent, situated and reflexive" character (FELD, 2017, p. 86).

The field of sound studies is relatively new if compared to traditional ones related to music studies. It accompanies, to some extent, the resizing of listening as a promising object and with distinct concerns from those in areas such as theory and musical composition, for example. "Non-musical" ingredients have become important both as a response to an idealization (and limitation) of musical forms and by its forceful incorporation into modern sound experience. The vanguards of the early twentieth century and the concrete music of the 1950s, among other artistic movements, brought to the foreground the material conditions and technical mediation as determining factors in sound experience. Music acquired expanded contours, extrapolating consolidated models of composition, instrumentation or performance. The consumption of new forms of sound organization is fundamental to current media scenario and results, in the era of huge databases, in ways of circulation and consumption very similar to those of other digital content.

In a way, sound studies end up encompassing many of the works in the fields of media archeology and even ethnomusicology. By having an interdisciplinary proposal, the field welcomes researchers from different backgrounds.

Finally, film studies can raise some questions regarding the relations between sound and image. In a complex communicational environment such as ours, it is difficult not to think of media as responding as a whole to the same models of interference, manipulation, and circulation. The use of effects to modify sounds in films is as old as the technologies of recording moving images and sounds upon material surfaces. An investigation of

those apparatuses contributes to a genealogy of effects, searching for proximities and distances in technical mediated sound practices.

Historically, film studies have tended to disregard technical apparatus – within which sound is an important factor – as if they were mere tools for something rather than a genuine object of study itself. Technical aspects were usually considered only as a means to obtain a cohesive cinematographic discourse. New approaches are necessary to take a step forward in this type of discussion. David Bordwell (2006) is one of the theorists who follows a neoformalist perspective of filmmaking practices, emphasizing the material and cognitive issues of cinema, going beyond the scope of hermeneutic, structuralist or culturalist approaches.

3. ACOUSTIC, PHYSIOLOGY AND MUSICAL THEORY

The work of Herman Helmholtz (1954), one of the pioneers of modern acoustics, based on the decomposition of complex sounds to their simple partials and proposing the study of the reorganization of such partials in the act of listening, uses elements of musical theory as articulators in the relation between production and apprehension of sounds by the human sensorium. In this sense, his work demonstrates clear implications between the notion of musical intervals (mathematically structured) and the understanding of sounds.

Before Helmholtz, Descartes (1987) had already used the mathematical proportions, formulated by Pythagoras, to define a scientific model of consonance and dissonance. Although he attributed to the exactness of this model the classification of the different intervals, Descartes admitted that the "limitation" of the human ear (*aurium imbecilitas*) would stipulate a limit for the correct perception of consonances, although mathematically accurate. In Helmholtz, we have a detailed description of the physiology of human listening. He makes it clear in the introduction to his book that he deals with two sciences which, in principle, appear to be distinct but which he seeks to unite: physical and physiological acoustics on the one hand, and music and aesthetics on the other. One notable fact in his approach is that of treating the "sensation" of sound as a construct involving physical parameters, but also perceptual parameters, the two of which are not directly equivalent:

> [...] we came upon the remarkable fact that the human ear is capable, under certain conditions, of separating the musical tone produced by a single musical instrument, into a series of simple tones,

namely, the prime partial tone, and the various upper partial tones each of which produces its own separate sensation (HELMHOLTZ, 1954, p.25).

Ernst Mach (2000) was one of Helmholtz contemporaries, also interested in the description of the elements of sensations. Mach, who had a mathematician formation, proposed that any empirical affirmation about a certain phenomenon is nothing more than a comparison of sensations and these are, in the last instance, the real nature of all objects. The physical data of things are taken as (or cannot be dissociated from) the perception about events. In Mach's view, the superiority that physical mechanics assigns to space and time, as palpable references in every perceptual act, should be relativized. When science describes colors, sounds, and smells, it actually refers to their temporal and spatial connections, seen as more real than the sensations themselves. "The physiology of the senses, however, demonstrates that spaces and times may just as appropriately be called sensations as colors and sounds" (MACH, 2000, pp. 7-8).

In both Helmholtz and Mach, or even in Gustav Fechner, of whom Helmholtz was an assistant, the body is treated as a locus of sensations. Every natural manifestation ends up being submitted to the sensory apparatus, as if in a field of tests, and this relation is the true object of study. Between 1833 and 1840, Johannes Müller (1842) proposed that the immediate objects to our perception are nothing more than specific states produced in the nerves. Each sensory system works with a characteristic type of affectation and, although understood in an "erroneous" way, appropriate stimuli for each perception organ may be perceived by different ones. Müller dissociates the stimulus from perception.

Musical theory and the study of the physical behavior of sound waves – from the description of perceptual mechanisms and from a rigid mathematical systematization – worked together in the constitution of a precise discipline with the responsibility of determining how sounds are produced and how they are perceived. Helmholtz is an example of a researcher who, in order to study the behavior of the sound elements, makes use of musical theory concepts. However, he admits the non-parity between the sound phenomenon and its perception. Despite growing importance imputed to the body and its mechanisms of perception, the study of sound has become almost synonymous with the study of music. For Helmholtz, musical instruments are taken as models of sound production (strings, woodwinds, reed instruments, etc.) and musical theory (intervals, chords, etc.) works as an

overarching classification of perceivable phenomena. Classical music theory legitimates as objects of study a particular type of sound and a certain way of producing it. Musical sound, thought as a specific type of performance, is inseparable, in this case, from human agency.

The researches on the human sensory conducted at that time contributed, to a certain extent, to the relative autonomy of listening in relation to musical theory. From the development of different sound recording mechanisms in the nineteenth century, more complex issues emerge. Sound experience can no longer be thought of as just a mathematical abstraction, nor does it depend exclusively on human agency. Other factors, many of them of difficult control, delimit the audible field of the twentieth century.

By thinking of different forms of sound manipulation as well as producing sense, we extend the repertoire of possible sounds and insert them into a much wider universe. The parameters by which we analyze and contextualize the different sound objects are updated, allowing a complexification of the notions of listening, performance and agency.

The interlacing with other digital media is an essential aspect for the understanding of contemporary forms of sound expression. Thus, if we speak of sonorities, we cannot avoid, besides physical and/or affective questions, material aspects of apparatuses, interfaces and dialogues with other forms of creation. Making music has become as increasingly manifold activity, inseparable from the technological environment in which it happens.

4. SOME EXAMPLES

According to Douglas Kahn (1999), phonography, by defining new objects of study and by resizing the parameters through which to investigate those new objects, promoted the creation of a new ontology and a new epistemology of sounds. I have already proposed, in previous works (CASTANHEIRA, 2015), the duality between a metaphysical perception and scientific objectivity presented by the new recording technologies from the end of the 19th century. Musical objects are structured according to internal abstract logic despite the tradition of studies on perception and the empirical separation between stimulus and sensation. Musical theory proposed a sort of experience detached from social factors or perceptual diversity. Its logic disregards to some extent the material character implied in technological mediated sound experience.

Sound technologies brought to the forefront new ways of making and experiencing sounds, relativizing to some extent any idealism that theory could propose about musical experience. In fact, sound experience had always dealt with a multiplicity of mediations. Musical performance should suit different spatial conditions for better reception. Reverberant spaces could either be a means to intensify the impact of the performance or an obstacle to a perfect understanding of musical composition. Composers had to adapt and devise strategies to deal with these natural effects.

Technical mediation, notably enhancing the possibilities of control and use of such effects, became an inseparable part of the musical/sound experience. From the use and continued consumption of these resources over time, we developed a very peculiar way of perception in which we delimit, albeit in an intuitive way, specific meanings for the uses of different sorts of effects. Even when, in a process of extreme modification, sounds become unfamiliar, we can access a set of codes about how to hear and interpret these new sounds, enriching our repertoire and producing meaningful connections with other forms of expression. Here are some common examples of effects and of practices of modifying sounds through their use:

Reverberation is one of the earliest acoustic phenomena of which we have experience. As such, various uses and meanings were attributed to reverberant sounds. The amplification or the resounding among the different bodies within a space helped to consider reverberation as a kind of link between mystical instances and the earthly world. The interior of churches, for example, as a space for preaching – and demonstration of divine power – is representative of this type of use. As a venue for musical appreciation, churches also helped to construct the notion that musical performance could be embellished with the effects of reverberation. Again, there is a connection between music and the divine experience.

Thinking a little further, from some ideas presented by Jean-Luc Nancy (2002), reverberation is a sharing of bodies, it is a flux conformed by objects and people in space. Consequently, reverberation is the confirmation, the signature of that space. Non-reverberant experience, like listening inside an anechoic chamber, is devoid of surroundings, sounds unreal and non-adherent. It escapes our perception in a way more evident than the sound that, when finished, still leaves a trail that gradually disappears in the air.

Films also used reverberation as a fundamental tool for the recreation of realistic environments. The sound synchronized with the moving image had its initial limitations, given the precariousness of recording and editing

equipment. Even with more sophisticated recorders and microphones, the use of natural reverberation of spaces was problematic precisely because it undermined the understanding of the dialogues. The interference of external noise was also one of the reasons for the professional filmmaking between the 1930s and 1940s to seek acoustically prepared buildings. From the constitution of the great studios as ideal spaces, under the strict technical control of sound and image, reverberation ceased to be a natural and circumstantial element in the making of films, to become a measurable, controllable and, in a way, non-specific event. "Echo chambers", a term that would later be used to name presets in electronic effect modules, were designed to receive the signal from the microphones used during the recording, reproducing them in reverberant room. Reverberant sound would then be picked up again and sent to another channel of the mixing console. Thus, the sound operator would have the "dry" signal and the reverberating signal in separate channels and could mix them in an "adequate" way.

The electronic miniaturization of much of these effects brought greater convenience to musical and film production. However, it is worth noting that most of the known repertoire of effects – still references to most contemporary productions – was conceived in a period prior to the electronic modules. The musician and producer Alan Parsons, in a 1998 interview,[1] says that some of the effects used in the production of the 1973 album, Dark Side of the Moon, by Pink Floyd, were created from editing magnetic tapes, using two different recording machines. "[A] digital delay would have made the echoes on 'Us and Them' much easier." In fact, Parsons created a loop with the magnetic tape, making it pass through the playback head of a second recorder just after it had passed through the recording head of the first. The second recorder would then send the previously recorded signal to the first recorder, and so on continuously.

The tradition of using studio features as a new type of instrumentation is especially important from the late 1960s. Albums such as Sgt. Pepper's Lonely Hearts Club Band (1967), from The Beatles and even the Dark Side of The Moon, were insurmountable challenges to live performance decades after their respective recordings. They were works made possible by and dependent on a rapidly growing technological environment.

The microphones used in the recording of dialogues in films of the 1920s and 1930s had the characteristic of being less sensitive. The mechanisms

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1 Cf.: http://www.mediaandmarketing.com/13Writer/Interviews/PAR.Alan_Parsons_HFR.html

responsible for the conversion of sound waves into electrical impulses – diaphragms or magnetic ribbons – responded only from a certain level of sound pressure and to a limited spectrum of frequencies, producing what Andy Birtwistle classifies as the "tinny, strident quality of early sound film" (BIRTWISTLE, 2010, p.94). By responding only from a certain intensity threshold, these old microphones functioned as primitive gates, producing sounds with sudden attacks and decays. The spaces between the dialogues were filled by the sounds of the optical track, creating a strange effect of speech "islands", isolated by a sea of background noise. At the same time, the limited capacity of mics in relation to the frequencies, worked as a process of equalization, although involuntary, producing the kind of sonority very peculiar to these films.

5. CATEGORIES

I propose a preliminary systematization of different types of sound effects: a brief description of the ways in which they act and their insertion in the different technological, social and historical contexts. In a later moment of this research, I will try to delimit specific discourses pertinent to the practices and to the environment in which these sound practices take place, from the analysis of different empirical objects (recordings, films, analog equipment, digital tools, etc.).

A) An "abstract" model of manipulation. The relation between the projected sound and the sound resulting from different layers of mediation produces a kind of idealization of the audible world by means of rigid parameters such as pitch, time, intensity, and other musical criteria. The musical score is an attempt to register those many variables, and music theory was developed aiming at a specific and objective type of sounds. Other levels of mediation can be found in the affordances of each family of instruments or in the agency of musicians.

B) A model of natural sound manipulation, where the scientific advances in the investigation of the physical properties of sounds and acoustic materials promoted domestication of the audible elements, proposing "correct" forms of sound recording, propagation, and of listening. The electrification of urban spaces contributed to the configuration of new types of sounds, present in specific practices and of great impact in the social dynamics of the twentieth century. The technologies of recording sounds and images (both mechanical and electrical) have proposed metaphysical dilemmas (regarding the possibility of the existence of sounds and images

independently of their physical bodies) and ethical dilemmas (the relation between the real object and its representation). Noise control and the notion of fidelity to a previous reality were developed from the use of mechanisms of reverberation or primitive forms of compression for the reduction of background noise.

C) A model of technological efficiency is that in which the apparatus – an electric or electronic one – proposes a rigid praxis in the different stages of recording and reproducing sounds. The technical perfectionism is dealt with as a procedural reason, functioning through a logic that often distances itself from the common sense and, thus, is seen as a fundamental element in the concretization of a modern sonorous space. Certain practices, such as audiophilia, are symptoms of this type of logic. The phonographic and cinematographic industries owe much of their growth during the twentieth century to the imaginary designed by this technological efficiency model.

D) A reconstruction/depersonalization model of the sound object. A kind of extrapolation of the previous model, the reconstruction/depersonalization has to do with the intense manipulation provided by electronic and then digital technologies. There is a difference between both, but what is significantly different in this specific model is the creation of a new relationship between sounds and concrete objects to which they refer. New parameters of association of sounds to objects are created through technological mediation – even though that kind of mediation presents a high level of opacity. In the reconstruction/depersonalization model, this relationship is no longer so assertive. From the most rustic devices of sound synthesis to the most unusual digital effects, what is being recycled continuously is not only the form of sound representation but also the need for something to be represented.

Among the different types or group of effects, we can identify those that affect more specifically acoustic parameters such as frequency and amplitude (either fundamental sounds or harmonics) or those that simply propose a new way of organizing basic sound units (such as samples and loops).

6. CONCLUSION

The act of listening is not directly comparable to the linguistic experience. The interpretation of sounds, especially in the case of music, and the comparison to structures of meaning from a codified system of graphics or sound elements, is not enough to account for the sound experience in a

more comprehensive way. The rigid coding of sounds and their meanings presupposes a limited lexicon with little attention to the materialities of sound objects.

In this sense, the existence of a sound universe that we inhabit daily, which serves as a map for existence in society, is inextricably linked to sound technologies. The technical devices help to configure our media experience and are modified from other sociotechnical instances.

Going back to the effects of phonography, all sound technologies consolidate specific ways of reporting to themselves – formats, media, listening protocols etc. At the same time, they define the relationship with the very sound of which they are a vehicle. There is no way to dissociate affections, practices, repertoires, cognitive processes of any of them. Sound, listened to in a certain way, in a given medium, under certain conditions, shares the same universe of the technical objects that enable that listening. They are entangled in a relationship of mutual determination.

Technological events propose changes in the perceptual ecology of each epoch. It should be noted that no technology is detached from its historical context and there is no way to think about changes in listening models and in the notion of sonorities without analyzing a large number of joint factors. The idea of timbre is also closely related to these various factors.

The main hypothesis in these initial considerations is that sound effects are not only accessories that ornament a particular recording, embellishing it or highlighting a certain musical/sonic signification. They can be considered, themselves, the very meaning sought by creators in different areas like music of film. Effects determine and are determined by practices that are historically and culturally consolidated. They delimit modes of addressing to sounds, stimulating or making difficult certain ways of understanding them. There is a profound change in the way we listen to things and how we attribute meanings to the things we hear.

Unlike the natural effects (that could be said to present themselves without any kind of human interference), the technologically mediated effects shape our perception from a sociotechnical bias, and also work in the production of affections, leaving marks in both organic and technical bodies.

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Extended Abstract

Voltage Control and Cybernetic Subjectivity

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The advent of electronic sound technologies in the twentieth century is typically interpreted under the sign of the progressive rationalization of music. But concurrent with these efforts were other ways of using the new instrumentarium that carried with them very different aesthetic implications. In this paper, I focus on the alternative model of electronic musicianship introduced by the emergence of modular synthesizers in the mid-1960s. The technological basis of this new paradigm was *voltage control*, the use of electrical signals to govern various aspects of sound generation, from the pitch of an oscillator to the rhythmic and timbral effects imparted by filters and amplifiers. Voltage control is the principle underlying the most basic functions of analog synthesizers: a crude example is the use of a keyboard to generate scaled voltages corresponding to the frequencies of a given tuning system. Although voltage control could be used simply to automate processes previously done by hand–for example, replacing the manual turning of a knob with a low-frequency control signal–it also suggests a new relationship between human beings, technology, and music-making. Rather than realizing a preconceived compositional blueprint, modular synthesizers were used to set up a field of interactions whose configuration is specified in advance, but whose exact behavior cannot be fully foreseen. In the apt metaphor of Brian Eno, the composer is "no longer the architect of a piece of work but more the designer of a musical ecosystem."

This attitude closely corresponds to the idea of control in the discipline of cybernetics, founded in 1948 by the American mathematician Norbert Wiener. Control as Wiener conceived it was not a matter of total determination, but rather the guidance of processes that had their own impetus outside of human knowledge and intention. I will focus on two principles pursued in both cybernetic thinking and modular synthesis: feedback and randomness.

Feedback is the central concept in Wiener's formulation of cybernetics. It expresses the capacity of a system to "observe" and regulate its own behavior

by connecting its outputs to its inputs. Wiener believed that the feedback processes found in nature could be modeled and replicated in artificial systems built to serve human uses. Feedback is readily achieved in robust voltage-controlled systems, where virtually any output can be connected to any input. In particular configurations of feedback, whether of high-frequency audio signals or low-frequency control signals, voltage-controlled systems can cross the threshold from repeating periodic shapes to the generation of sound phenomena whose behavior resembles the complex musical patterns associated with sentient beings–a musical parallel to the cybernetic dream of artificial life.

The second key principle is randomness, which in the discourse of cybernetics and information theory was seen not simply as undesirable "noise," but as a necessary source of novelty without which communication would be impossible. A classic example of a voltage-controlled implementation of randomness is Don Buchla's "Source of Uncertainty" module, a complex generator of random voltages that took its name from a 1962 book by British cybernetician Gordon Pask. The range of voltages as well as their frequency could be set not only by knobs on the panel, but also by external voltages sent to the inputs from another module. The Source of Uncertainty allowed musicians to dial in the precise amount of randomness–in the terminology of information theory, to calibrate the ratio of information to redundancy. Randomness becomes an input to be integrated and–paradoxically–controlled.

Voltage-controlled modular synthesis thus constitutes the technological substrate for what I call *cybernetic subjectivity*. While the traditional concept of the composer is based on the ideal of mastery, with the artist imprinting their will upon an inert material, cybernetic subjectivity assumes a non-dualism that recognizes human beings' place in a complex network of technology, sound, and intention. Crucially, this is not a question of extinguishing subjectivity, as in the indeterminacy of John Cage, but of situating the musician as just one among many inputs in a given musical system. As Andrew Pickering has argued in his important book *The Cybernetic Brain* (2010), the lessons of cybernetics remain relevant as guideposts toward a "nonmodern" perspective that does justice to humanity's entanglement in the world. Following this line of thought, I argue that voltage control, with its recursive wirings and capacity for unexpected effects, remains viable both as a creative method and a metaphor for the human condition in late modernity.

MUSIC IS NOT ENOUGH
The appropriation of the category "arte sonoro" in Argentina.

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Abstract. The first event in Argentina that ever included *arte sonoro* in its programming was Experimenta. Through its concerts and workshops, it was a milestone for the argentinean experimental music at the end of the 90s. Since its first edition in 1997, it challenged circles and procedures already stabilized in music, bringing together artists from different generations and sonic searches. It was in its year 2000 edition that the festival incorporated *arte sonoro* as one of its tags for the first time. What does it happen when it becomes necessary, from one moment to the next, to use a new expression to name an artistic activity?

That *music is not enough* is the hypothesis of this outline of the sound art history in Argentina, which aims to illuminate the foundational moment when that category *arte sonoro* began to be used in the programming of events and festivals.

From the observation of the textual framework around works and events -that is, catalogs, critical texts or press releases- we will see that, since 2000 in Argentina, the category circulated associated with the work of experimental and electroacoustic musicians, to expand the genealogy that connects avant-garde music, experimentalism and interdisciplinary research. Also, and perhaps more strongly, appropriation happened to build an alternative for a stagnant circle of academic music that did not embrace many practices with sound.

Later, new events and art contests would link sound art to the world of technological and contemporary art. But that initial usage shows what could be understood as musical origin, as a reaction to what was established, and as one of the features that contribute to the particular identity of early Argentine *arte sonoro*, in contrast with other histories -from other geographies- that usually link the origin of sound art with art installations and the participation of galleries and museums.

Keywords: arte sonoro, sound art, identities, histories, categories, Argentina.

INTRODUCTION

Why, from one moment to the next, does a new designation, such as *sound art*, *arte sonoro*, or *Klangkunst* arise in order to name an artistic practice? Why, if thus far the word *music* has been enough to denominate the artistic domain involving sound?

"Music is not enough" is the hypothesis of this outline of the history of the origins of sound art in Argentina. With the aim of recovering the particular case of early-20th-century Argentina, we will first address the initial circulation of the category of *arte sonoro*; that is, where and when *arte sonoro* began to be talked about, and what social representations promoted this designation.

Beginning from the observation of the textual framework surrounding events, cycles, and festivals, we will see that, since the year 2000 in Argentina, the category of *arte sonoro* has been propagated in association with the work of experimental and electroacoustic musicians, broadening the genealogy connecting vanguards, experimentalism, and interdisciplinary searches. We will also see it evidenced that the appropriation of expression occurs primarily in order to construct an alternative to an antiquated circuit of academic music which did not embrace more radical practices in sound.

Thus we will postulate what could be a musical origin of Argentine *arte sonoro*. It is musical in its negative sense: *arte sonoro* is proposed as a reaction to what is institutionalized as music and its legitimated paths of circulation. And it is musical in the sense of persistence, evident in its recurring proximity to categories such as experimental music, improvisation, and performance art, and in the tendency to prolong spectatorial habits around music, such as that of the concert format.

This origin grants to the Argentine sound art of the beginning of the 21st century its particular identity, which furthermore contrasts with other histories - of other geographies - which usually connect the origin of sound art to artistic installations and the participation of galleries and museums.

So it is, that this paper hopes to provide two lines of examination: one illuminating the history of *arte sonoro* in Argentina in the foundational moment at which the category began to circulate in order to define a practice, starting with its incorporation in events and festivals, such as Experimenta, Conciertos en el Limb0, and Tsonami, and another which aims to address the sense that pushes categories forth as particularly site- and time-specific phenomena.

IT IS BEING: SENSE AS RELATION

History is not a simple succession of facts. The past is written in history: history is the past textualized in material traces that connect in some way,

starting from an observation. I refer to history as a scientific discipline, and as experience.

The object of history is always a relation, unstable, between the observed, the observer, and the situation of observation. Fortunately, it is this way. Otherwise, it would be a closure, well-known and boring. This good fortune is rooted in the fact that the past is not that which has happened, but that which happens with each new designation (Moyinedo, 2014). For this reason, each group or individual provides its particular vision of the past, connecting and disconnecting practices from genealogies, each time with its own intentions. Thus are written histories which live in synchrony with others and, through legitimation, in different states of truth.

The object of a form of expression such as *arte sonoro* also enjoys this good fortune. *Arte sonoro*, like so many other designations emerging in contemporaneity, emerges steeped in that consciousness of the instability of its sense, the broadening of its being-true. As with other designations, artifacts of language, *arte sonoro* is not today as it was yesterday; it is neither here nor there. Perhaps this is why aesthetic approaches which attempt to delimit their identities beginning with the enumeration of characteristics within works drown in contradictions. And even more so when this delimiting is attempted based on histories which are not constructed from the point of observation of the particular case.

As we were claiming: sense is always a relation. No material manifestation is, in itself, a work of *arte sonoro* or sound art. A text's ability to signify (A text, a cluster of heterogeneous materials presented for perception) is defined every time it is placed into a social fabric, that is, every time it acquires a position with respect to other texts. Linguistic texts, or texts with otherwise semiotic modes: visual, spatial, sonic, gestural. Only upon being placed, that is, upon linking with its discursive surroundings, may a materiality acquire the status of a work of art, of sound art or music.

If our objective is to reconstruct some aspect of the identity of sound art in Argentina at a foundational stage, it will be necessary to rebuild those links in order to recover the different representations that it brought about at a given moment. That is, to try to rebuild the relations of that which was denominated *arte sonoro*, with the habits of production and of reading that it called forth. Methodologically, these habits are revealed as textualities, as discursive sets that constitute the conditions of production and recognition (Verón, 1987). The textualities that concern us in this work may be denominated paratexts.

By introducing the notion of paratexts, we are recovering the ideas of Gerard Genette, who also provides the relational focus that we are proposing as a counterpart to intrinsic discursive analysis. Through the idea of transtextuality (Genette, 1962), Genette approaches the study and classification of the different modes of relation that a text establishes with others. Of those possible, of special interest to us will be paratextuality, which is that which maintains the greatest degree of proximity to the text, surrounding it and forming a threshold through which the reader or receiver accesses the text.

With the aim of describing how, from paratexts, the horizon of expectations determining works of sound art is constructed, we will analyze the case of those events, festivals, and cycles which, in early-21st-century Argentina, used this category to refer to their content. Thus our body of work will be comprised both of any graphical and digital categories, and any articles in newspapers and magazines, which have proposed *arte sonoro* as a configuration of sense.

Starting from the observation of this textual framework, we will propose a reconstruction of the relationships that *arte sonoro* established with adjacent categories such as music, concerts, installations, improvisation, performance art, and others, in order to bring ourselves closer to some of the trajectories of sense that it has brought forth in this slice of space-time.

BORDER ZONE: EXPERIMENTA 2000

The first event in Argentina that included *arte sonoro* in its programming was the Experimenta cycle. Through its numerous concerts and workshops, it constituted a milestone for late-90s Argentine experimental music. Since its first edition in 1997, it was not only the setting for internationally-renowned artists to present their work in the country; it also signified an important impulse in the local scene. Artists of different generations and seeking different sonic pathways congregated at and around its concerts. This raised the standard for questioning the established circuits, genres, and procedures around them; they thus broadened the ideas of music and experimentation with sound in Argentina. Furthermore, its programming built bridges between Latin American avant-garde art and international experimentation in the 60s and 70s, via the recuperation of works by artists not included in the official repertory, and from the divulgation of texts and videos by artists who were impossible to schedule for presentation.

All of its editions between 1997 and 2000 included the publication of a general catalog with information on the artists presented, as well as handbook

catalogs for each edition. The festival's statement appears over and over: Experimenta aimed to encourage a cutting-edge aesthetic and bring to light all sound works circulating outside of established genres.

> Experimenta is a production and diffusion space which provides for the sharing of the knowledge of current-day creators who exist on the border areas, "no-man's land", and at the same time invites anyone who wishes to venture, in this sense, to use the space to develop new ideas.[1] (Koremblit, Catalog 1997)

This question-posing nature, one seeking the aesthetic and institutional borderlines, led to the incorporation, in the year 2000, of *arte sonoro* as one of its tags, which appeared in close proximity to *experimental music*, *improvisation*, and *performance art*, to describe its content. In fact, it even changed its name: Experimenta 2000 was sub-titled as *Festival Internacional de Arte Sonoro y Visual* (International festival of sonic and visual art). Before it has simply been Experimenta. Again the words of Claudio Koremblit, its driving force and producer:

> Experimenta 2000 is an Independent International Festival of experimental music, improvisation, sound and visual art, performance art, film, and experimental video, which has been alive in Buenos Aires for 4 years,
>
> It is independent in that it does not depend on any political organization and it answers to no established artistic school, ghetto, or genre.[2] (Prologue of 2000 edition catalog)

Experimenta 2000 lasted 10 days in a row and was held in three cities: Buenos Aires, Bariloche, and Santiago de Chile. The activities were concerts, workshops, and video projections. In the case of Buenos Aires, these were held in the Rojas Cultural Center, the MAMBA (Buenos Aires Museum of Modern Art), and the Recoleta Cultural Center.

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1 "Experimenta es un espacio de producción y difusión que ofrece compartir el conocimiento de creadores del presente que caminan por zonas de frontera, "tierras de nadie", y a la vez invita a quienes quieran arriesgar en ese sentido a utilizar el espacio para desarrollar ideas nuevas." (Koremblit, Catálogo 1997)

2 "Experimenta 2000 es un Festival internacional Independiente de música experimental, improvisación, arte sonoro y visual, performances, cine y video experimental, que cumple 4 años de vida en Buenos Aires. Independiente porque no depende de organización política alguna y no responde a ninguna escuela, ghetto o género artístico establecido." (prólogo del catálogo de la edición del 2000)

Fig. 1: Experimenta 2000 hand catalog.

As in its previous editions, the graphical items that the festival produced were a general catalog numbering nearly 100 pages and a foldable A3-sized hand catalog. The general catalog contains information about the programming, plus interviews and theoretical texts or essays which serve as a framework for reflection on the activities. The hand catalog, on the other hand, only deals with listing the program, giving minimal information on the works: artist, title, and description, date, time, and place of activities.

It is interesting to distinguish between the different functions or associations that the category of *arte sonoro* acquires in the catalogs (Fig. 1). Initially, it suggests an overall sense of expression, which seems to construct a disciplinary distinction more than a generic one, as it appears in the event's name: *Festival internacional de arte sonoro y visual* (International Festival of Sound and Visual Art). In this case it would seem to gravitate towards that conception of *sonic arts* or *artes sonoras* as a notion inclusive of all artistic practices involving sound, within which music would fit.

However, in both catalogs, another sense of the expression *arte sonoro* is evidenced, when, in the description of the programming, it appears in a list among other expressions such as *experimental music*, *performance art*, *improvisation*, *experimental film*, and *video art*. In this case, the functioning of the category seems to issue a distinction of type or genre, through which the works may be grouped.

Another place where it takes on the character of a generic category is in the general catalog. There, the works and artists are grouped into sections, under categories that were not in the hand catalog: *Arte sonoro*, *Pianismo* (works with piano), *Electrónica viva* (Live electronics), *Improvisación* (Improvisation), *Nuevas composiciones* (New compositions), *Nuevos instrumentos* (New instruments), *Del Di Tella al 2000* (From Di Tella to 2000), and *Video-arte sonoro* (Video-sound art). These sections allow us to distinguish the curatorial lines in the programming of the festival and, through allusive texts, offer a context for their interpretation.

It is interesting to note that the Arte sonoro section, in addition to the two articles which deal with aesthetic problems in sound art (written by Paul Panhyusen and Barbara Barthelmes, respectively), only includes the works of David Dunn and Richard Lerman, both of whom are artists from the United States who deal with the relationship between environment and sound, through the use of electronics and computers. The reason for this inclusion will be, for us, another narrowly-taken hypothesis: these artists work from an idea of sound "liberated" from the constrictions of musical and

instrumental language; they consider the sonic environment of the world to be a source for their works, and, in some cases, their work is site-specific.

On this occasion, "the composer and sound artist" (as he is called in the bio in the catalog) David Dunn presented two works, or two performances for computers. Both compositions, which, furthermore, were displayed in sheet-music form, possess a certain degree of openness, starting from the inclusion of computer programs with behavioral autonomy. Pleroma 3, one of the works, is basically a multi-channel electro-acoustic work in which the artist explores the chaotic behavior of a software-modeled system, proposing a sonic metaphor for the behavior of nature. In the catalog description, neither of the two works claim any belonging to the practice of sound art. However, on the same page as his description, the workshop that David Dunn was to give in Experimenta was summarized as so: "Nature, sound art, and the sacred". This workshop was to be concerned with presenting reflections regarding the relationship of sound and nature, and with bringing forth the artist's production of "sound art performances in specific places" (Experimenta 2000, p. 21).

For his part, the works of Richard Lerman are also presented as compositions which are performed, in this case, for different setups of contact microphones and objects. Changing States 6, for example, is a piece for 5 instruments, made by the artist, amplified with piezo pickups. The sounds are produced by the action of small blowtorches on the instruments. The performer follows a piece of sheet music describing the gestures that he or she must carry out.

Dunn and Lerman's inclusion in the catalog under the category of *arte sonoro* shows a particular representation of the figure of sound artist, which offers no greater specificity. In fact, it coexists alongside that of composer, not only because the denominations "sound artist and composer" appear nearby in their bios, but also because neither of the two artists abandons the productive habits of academic music: the works are composed, written in sheet music, and performed by an interpreter (in both cases, the composers themselves).

Observing the content of the other sections of the catalog will shed no additional light for our aim or configuring an idea of *arte sonoro*, or distinguishing the figure of sound artist clearly from that of musician in this appropriation. In fact, it would support the hypothesis of its initial instability, and above all, of how it exists near music, and its habits of production and reception.

The text of the catalog that introduces the festival, written by Daniel Varela, contributes not towards identifying sound art with some particular type of work, but rather, with the ability of the practice to establish an interdisciplinary space and question established genres and circuits.

> Experimenta 2000 will give a fundamental place to paradigmatic expression of the crossing of barriers between disciplines. Sound Art is an established example of the space where sound, plastics in the form of installations and environment - like simultaneous architecture and sculpture - may conjugate as another response to the limitations of the idea of the work. (...) Communication opened by these principles invites a dissolution of vertical structures pertaining to the musical establishment...[3] (Varela in Experimenta 2000 Catalog: 13)

It is very quaint (or symptomatic) how, in this list of crossing disciplines, music is not named. In this affirmation, the liberation of sound from its musical ties seems to be taken for granted. We can take it as an expression of desire, which is in line with what the spirit of Experiment was since its first edition. But, as the last sentence of the quote indicates, in Argentina, this would still require a disconnection that neither Experimenta nor the experiences to immediately come would not deliberately enact. This is because, from our reading, the musical establishment is not only identified with the institutional: music is also rooted (or stuck) in the methods of creation of those who would mobilize the category of *arte sonoro* in the beginning of the 21st century. Though sound may have successfully broadened its domain, it was to remain fenced into the concert form.

INTERDISCIPLINARY WORK, LIBERATION OF SOUND AND COUNTERCULTURE: LIMB0 AND TSONAMI EXPERIENCES

Some years later, there arose other events which incorporated arte sonoro in their programming, and in which some recurrent aspects can be seen from the aims of Experimenta.

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3 Experimenta 2000 dará lugar primordial a una expresión paradigmática del cruce de barreras entre disciplinas. El Sound Art es un acabado ejemplo del espacio donde el sonido, la plástica en forma de instalación y el ambiente –como arquitectura y escultura-, pueden conjugarse como otra respuesta a las limitaciones de la idea de obra. (...) La comunicación abierta por estos principios invita a una disolución de los verticalismos propios del establishment musical... (Varela en Catálogo Experimenta 2000: 13)

Fig. 2: Tsonami 2009 Catalog.

The cycle "Conciertos en el LIMb0" emerges at the pivotal point in the development of multimedia art in Argentina, towards the year 2007, and its activities extend into 2011 (inclusive), with the CCEBA (Spanish Cultural Center in Buenos Aires) as its principal headquarters. Coordinated by Jorge Haro, the concerts enjoyed a continuity which allowed for the presentation of numerous international and local artists.

At least since 2008, articles in the press and invitations refer to their activities as a *Ciclo de arte sonoro y música experimental* (*Cycle of sound art and experimental music*), and its content intermixes at least these three genealogies: electroacoustic music, experimental music, and sonic explorations stemming from "art and new technologies". In press articles and the official blog of the LIMb0 concert series, the concerts are presented as follows:

> ... A project of divulgation of new musical expressions and of sound art, constructed from the starting points of aesthetic and technical

research at intersecting areas between languages and new technologies.[4] (Online site of Concerts in Limb0)

A great many experimental musicians, electroacoustic composers, and audiovisual projects, and at times presentations of recordings or performances with new interfaces for creation, were presented at these concerts. To name only a few of the Argentine artists who were presented: Cecilia Castro, Nicolas Varchausky, the Buque Factoria collective, Yamil Burguener, and Coso, all linked to these concepts even in the years prior to the practice of sound art.

Despite the emphasis placed on the intersection between languages, the selection of the concert format did not facilitate the presentation of works which proposed other modes of listening or other relationships with space. The concert determines behaviors of reading: it begins at a specific time, the spectator must arrive on time, find a place to be situated, and remain in the hall for as long as the artist provides for the duration of his or her work. Even when, within the hall, the spectators are not situated "*a la italiana*" (in front of a stage), the temporal determinations of the concert are comprehensive in terms of the reception of the works.

On the other hand, as in Experimenta, we find in the concert programming the representation of sound art both as a practice which "liberates sound" from musical language, and to a greater or lessor degree, from the productive habits of the figure of the composer. As Jorge Haro himself, artist and curator of the Limb0 cycle, reflects, in an article entitled "Sound Art: Hybridization and the Liberation of Sound" from 2004:

> There are many ways to present an object or an artistic process containing sound: from concerts, today redesigned in the experimental field, and in many cases decoupled from the idea of the show, to installations, exhibitions, performances, or Internet projects integrating the sonic and the visual. What is certain is that sound as an expressive element has been liberated from music and musicians, and furthermore has been democratized in its use. [5] (Haro, 2004: 7)

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4 "...un proyecto de divulgación de nuevas expresiones musicales y de arte sonoro construidas desde la investigación estética y técnica en áreas de cruce entre lenguajes y nuevas tecnologías." (sitio online de Conciertos en el Limb0)

5 "Hay muchas formas de presentar un objeto o un proceso artístico que contenga sonido: desde los conciertos -hoy rediseñados en el ámbito experimental y muchas veces desligados de la idea de espectáculo- hasta las instalaciones, muestras, performances o proyectos en Internet que inte-

However, when we contrast these ideas with the circulation of the category of *arte sonoro* in events in Argentina in the first decade of the 2000s, we again find that sound had indeed not been liberated from musicians, nor from their productive habits. Let's take a look at another festival.

Tsonami took place annually between 2008 and 2013, in the Recoleta Cultural Center of Buenos Aires, except for the final edition, which was in Cordoba. Designated as a *Encuentro de arte sonoro* (Sound art conference), it was modeled after a Chilean event of the same name held since 2007. The catalog with 2009's program announced the event as follows:

> Tsonami Sound Art Conference Buenos Aires.
> Instrumental, electroacoustic, and mixed music concerts.
> Performances and Sound Installations.[6]
> (Tsonami Festival 2009 catalog). (Fig.2)

The meaning of the title *Encuentro de arte sonoro* finds purchase in the generic category list in its subtitle. Here again we find the broad meaning of *arte sonoro*, in which, under this expression, different modalities of music are contained, as well as more interdisciplinary practices such as performance art and sound installations.

In addition to this, that a work be that of artists who use sound as a favored dimension does not seem to be the sole condition under which the expression *arte sonoro* is used. In the same text, reference is made to a characteristic of the works that is of a more social nature than one of working modalities or procedures. Tsonami brings together:

> any and all expressions which work with sound as their principal axis and which do not have a space in mass or traditional media, whether due to their own characteristics or the pretensions of its creators, and which constitute expression which seeks neither profit nor commercial ends.[7] (Tsonami Festival 2009 catalog)

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gran lo sonoro y lo visual. Lo cierto es que el sonido como elemento expresivo se ha liberado de la música y de los músicos y además se ha democratizado en su uso." (Haro, 2004: 7)

6 "Encuentro de Arte Sonoro Tsonami Buenos Aires.
Conciertos de Música instrumental, Electroacústica y Mixta.
Performances e Instalaciones Sonoras." (catálogo Festival Tsonami 2009)

7 "todas aquellas expresiones que trabajen con el sonido como eje principal y que no tengan espacio en los medios de comunicación masivos o tradicionales, ya sea por sus propias características o por las pretensiones de sus creadores y que constituyen en una expresión que no busca el lucro, ni fines comerciales." (catálogo Festival Tsonami 2009)

These ideas, which aim more at artistic circuits and the mode of relating with the public, evidently were not sufficient to explain why a festival mostly programmed for music concerts was called a sound art conference. Perhaps this is why, as seen on the web page, the hand catalogs, and in promotional materials, the original subtitle of Encuentro de arte sonoro was replaced in 2011 with Encuentro de arte sonoro y nuevas músicas (Sound art and new music conference). (Fig.3)

Fig. 3: Tsonami 2011 Catalog cover page.

Something similar, or perhaps more radical, was to happen with the continuation of the Limb0 Concert cycle, the ESCUCHAR cycle. After changing the name and headquarters in the year 2013, the event kept the subtitle *Ciclo de arte sonoro y música experimental* (Sound art and experimental music cycle). But nearing the year 2016 it abandoned its affiliation with the *arte sonoro* category in its institutional paratexts, replacing its subtitle with *sonidos visuals* (visual sounds).

Once again, in all cases we highlight temporal events, whose social means and habits of reception bring them closer to the concert genre than to a situation of exhibition. The denomination of an activity as festival, conference, or cycle places the emphasis on the event's temporal nature.

The question of temporality is key to approaching the majority of activities surrounding the use of the expression *arte sonoro* in Argentina; the spectators must come together at the same time, and of course in the same place. At the same time, the use of the expressions "art show" or "exhibition" would turn attention towards spatiality: in a showing, the works are there, and the spectator decides the duration of their watching.

In this way, the type of events shown here are closer to the tradition of the temporal arts, prolonged spectatorial habits pertaining to music, such as the modality of the concert; these coexist to a lesser degree with other habits, such as those of the exhibition. Nonetheless, many of the spaces where sound art activities are carried out are associated with the world of contemporary art, (for example: Museum of Modern Art, Recoleta Cultural Center, CCEBA), implying not only the broadening of the specific audience, but perhaps also a certain predisposition to consuming sound art in a more artistic than musical form.

SOME CONCLUSIONS

We have observed that the incorporation of the expression *arte sonoro* in the cases examined coincides with the will to broaden the domain of artistic use of sound beyond the confines of music. The events taking place in Argentina in the first decade of the 21st century are born from a common symptom: there being no institutional space in music for certain poetics and modalities of work. Seen in this way, *arte sonoro* emerges as an alternative to a type of circulation which, as we can see in the paratexts of all cases, is considered restrictive in some way. In the brief duration of this work, I have not set the scene of what these events propose as an alternative; rather, we are talking about those which focus on the figure of the composer and the musical work, such as for example in the Buenos Aires Contemporary Music Concert Cycle, and in the training grounds of CEAMC.

The denomination *arte sonoro* is proposed at once as disciplinary space, as practice and as genre. Without defining a specific program, or defining characteristic procedures with sound, its incorporation allows for the fundamental opening of the aesthetic discussion of the operations that distinguish it from the musical space. However, in the cases observed there does not seem to be a clear distinction between the figure of sound artist and that of composer, nor between the modalities of musical works and of sound art.

The favored means of reception in the events also contribute to the idea of a musical origin of Argentine *arte sonoro*. In the experience of Experimenta, the concerts of Limb0, and the Tsonami festival, their programs indicate the prolongation of spectatorial concert habits. Though many of the works included in these programs constitute methods of questioning these habits (with the incorporation of new interfaces, instruments, sonic and visual devices), they continued to unfold in durations limited to the scheduled times. While methods of work which propose another type of temporality, such as installations and sound sculptures, and the means of reception of which is the exhibition, these are shown on far fewer occasions.

Though it was not dealt with in detail in this text, I'd like to indicate that, beyond the events and cycles planned for sound art, towards the year 2002 composers began to work with the urban space as a medium for site-specific sound works. This is the case, for example, with Nicolas Varchausky and the Buenos Aires Sonora collective, who came from electroacoustic composition, and who, a few years later (perhaps around 2005 or 2006) would retroactively denominate this part of their production as *arte sonoro* or sound art.

Until approximately 2013, the category of *arte sonoro* appeared mostly in association with the margins of the musical circuit and multimedia art forms, almost always appearing near the expression *música experimental* (experimental music). Further on, new events and competitions would link sound art to the worlds of technological art and contemporary art as well.

In contrast to what is happening in Europe and North America, where those who initially used the term regard works and events which focus on the spatial aspect of sound and, in many cases, from the contemporary art circuit, its use in these latitudes seems to take place in order to provide air for the deeply constricted generic categories of music and its traditional productive habits. As a coda, let's recover something of these other histories for comparison.

For example, the German example, *Klangkunst*, constructs its object in a more restrictive manner. The majority of the texts theorizing about its practice focus on the relationship of sound with its spatial localization, with installations and sound sculptures being central work modalities for circumscribing artistic practice. In turn, from aesthetic thought, solidified, for example, in the thought of Helga de la Motte-Haber, *Klangkunst* supposes the dissolution of the division between temporal arts and spatial arts. (De la Motte-Haber, 2002). Speaking of events, even in the catalog of

the celebrated Sonambiente exhibition of 1996 in Berlin, the same author writes:

> *Klangkunst* means in the first place not the many music performances, for which, with help from synthesizers and computers, artists develop new instruments that demand new performing techniques. Music performance might well have a place on the vague border with *Klangkunst*, and it has also become much broader, following action art. *Klangkunst* in the narrow sense is, however, mainly defined through new aesthetical implications, which have crystal- lised over the course of a long historical process. To this belongs an abandonment of the strong differentiation between spatial and time-based qualities, which had already been questioned by the musicalisation of painting and abolished with the onset of process art. Through this, every purist concept of the artistic material, which assumed a division between the eye and the ear, was dissolved. An art form emerged that wanted to be heard and seen at the same time. (de la Motte-Haber en Engstrom y Stjterna, 2009: 12)

Or, furthermore, to summarily exemplify other estimations of the Anglophone world, we may cite Alan Licht, sound art theorist of north American origin, who would say: "Sound art belongs to a situation of exhibition more so than to a situation of performance". (Licht, 2007:14)

Trying to tell a history of *arte sonoro* in Argentina thus implies something more than viewing artistic practice as a description of the works, procedures, and poetics as opposed to others. As we established in the beginning, this task must be directed towards the methods by which the practice builds links to the outside of its material dimension. In this work, we are concerned with freeing the circulation of *arte sonoro* as enclave of sense, in order to be able to, from this observation, access the description of a more complex sociocultural process which situates Argentine *arte sonoro* as part of a reaction to a way of understanding artistic practice using sound.

Regarding reach, this text is no more than one possible history, one more trajectory of history understood as a network of histories. The vision of complexity in the domain of the historic, and the construction of identity, proposes the acceptance of the multiplicity of possible readings (histories and identities) as coexisting and co-participating in a complex world. Likewise, the ideas solidified in this paper aim to contribute to the sense of *arte sonoro*, feeding into the density of its identity with one history more.

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Extended Abstract

Prácticas sonoras interdisciplinarias en América Latina durante los sesenta.

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A comienzos de la década del sesenta, Argentina celebró los 160 años de su independencia. El gobierno de Frondizi decidió festejar el aniversario con una Feria artístico-industrial, que coincide con el ciclo de expansión económica, cuando el país trataba de definir un perfil menos agroexportador y más industrial.

La representación sonora de ese evento, doblemente simbólico –por el aniversario de la independencia y el anhelo de refundar la Argentina con una mayor apertura al mundo–, fue un poema audiovisual, "el primer poema audiovisual que se realiza en nuestro continente", se anuncia en un folleto oficial. En el mismo folleto también se anuncia que el público iba a presenciar en un solo espectáculo "Arquitectura, escultura, poesía, música, sonido, estereofonía, luz y color". Bajo los auspicios de la compañía argentina de petróleo Shell, se construyó para la Feria del Sesquicentenario de la Revolución de Mayo un pabellón para albergar uno de los primeros espectáculos multimedia en la región. En rigor, se trató de un dodecaedro de 14 metros, equipado con dos proyectores, sonido sincronizado con la imagen, seis parlantes y luces, más un equipo acústico de tres amplificadores. El texto del poema se grabó utilizando procesamientos y procedimientos de las técnicas experimentales de la música concreta y se reprodujo espacializado entre los seis parlantes.

Poco después de la Feria del Sesquicentenario, el público de Buenos Aires experimentó una "vigorosa estereofonía" en otro espectáculo multimedia masivo, en la Exposición Comercial e Industrial de la Exposición Internacional de Ganadería en la Sociedad Rural Argentina en 1964.

Ambas experiencias tuvieron su propio antecedente en América Latina –incluso antes que los planteos multidisciplinarios del Pabellón Philips (1958) en Bruselas – con la Feria de América de 1954, para la que Mauricio Kagel compuso Música para la torre, la primera pieza concreta de latinoamérica.

Se puede observar en el período una disposición experimental que pone en práctica procesos no usuales de creación y realización sonora, vinculados a una experiencia de los sentidos con otras disciplinas artísticas.

A su vez, esas experiencias empujaron la composición en nuevos territorios, permitieron nuevas conexiones con otras disciplinas artísticas, y establecieron entre el arte y lo público conexiones y alianzas inéditas.

Las elites modernizadoras desde fines de los 50 y a lo largo de los sesenta encontraron en la experimentación sonora una representación válida para vehiculizar musicalmente sus fantasías futuristas asociadas al arte, la tecnología y la industria. "Poner al público –explica folleto del Pabellón Shell del Sesquicentenario – con un mundo mucho más sugestivo y dinámico". Resulta clave el emplazamiento de estas experiencias en lugares públicos porque se trataba de familiarizar a las masas con los vertiginosos cambios que introducía la modernización, como los cerebros electrónicos que inauguraban la era de la información. Las tecnologías de lo sonoro fueron igualmente capaces de permear múltiples esferas de lo cotidiano de manera cada vez más creciente.

Las experiencias mencionadas fueron hasta ahora escasamente explorados o inexplorados en algunos casos, incluso excluidas de cualquier análisis vinculado con prácticas artísticas, tal vez por las características de los proyectos y su vinculación con el espacio público. Considero fundamental su estudio para comprender de manera más cabal las prácticas experimentales vinculadas con el sonido en los sesentas, y que luego podrían conectarse como antecedentes de otras manifestaciones como landscape, diseño sonoro, arte sonoro, etc.

Extended Abstract

La práctica experimental y sus derivas en Buenos Aires a partir de la década del ochenta

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La idea de este trabajo es reponer un estado de la situación del campo sonoro y musical, hacia la década del ochenta y principios de los noventa en Buenos Aires, enfocado en la idea de "experimentación". Se propone iniciar una primera aproximación descriptiva al tema planteado, a partir de la selección de un corpus que no pretende ser exhaustivo, conformado por tres figuras representativas del campo, tales como la compositora Carmen Baliero, la pianista Adriana de los Santos y el músico y compositor conceptual Alan Courtis. Sus prácticas sonoras, en la década del ochenta, serán abordadas como parte de un posible mapa de aquello que puede ser pensado dentro de la línea experimental, considerada a partir del borramiento de fronteras y entrecruces inéditos entre campos, estéticas y tecnologías sonoras. Dicha disposición de apertura posibilita pensar en el advenimiento de un cambio sensorio-perceptual, a través de la reflexión sobre la escucha, el sonido como materialidad (Ochoa 2011, Sterne 2003 y 2012) y el quiebre de toda sintaxis musical (Meyer 1963), cuya especificidad contingente dentro del contexto porteño postdictatorial, determina la inestabilidad de la recepción y prácticas sonoro-musicales hegemónicas.

Dentro del recorte de la producción "experimental" desarrollada en los ochenta y principios de los noventa en Buenos Aires, pueden verificarse estrategias vinculadas con la utilización del azar y la improvisación, la intervención del cuerpo y las afectividades, la performance, la muestra del proceso más que un resultado prefijado, la participación del público, intervenciones dislocadas dentro y fuera de los instrumentos utilizados y un vínculo claro con lo conceptual. En este sentido, la propuesta central acerca de la experimentación se desgaja del pensamiento de John Cage y su escuela, e incluso puede pensarse en el arte conceptual en términos de Seth Kim-Cohen como la música o arte sonoro "no coclear" (Kim-Cohen 2009). Cage destaca la "nueva música" como una nueva actitud de escucha, en donde se incluye "(...) una música utilizada para buscar. Pero sin conocer el

resultado" (1981: 49). En esa música experimental "sólo los sonidos" tienen lugar (Cage, 1997: 13), permitiendo entonces que se produzca la expansión sensorial. El compositor norteamericano enfoca así la totalidad del mundo sonante y el sonido como materialidad vibrátil, que supone considerar el sonido como forma de saber y de conocimiento

Por último, pueden registrarse algunas tendencias, prácticas, instituciones y agrupaciones históricas que se presentan como posibles antecedentes de la experimentación en Argentina, y específicamente en Buenos Aires, desde la segunda mitad del siglo XX. Se trata por ejemplo de figuras fundadoras como la de Mauricio Kagel (que emigra ya en 1957), el grupo Movimiento Música Más, pasando por las distintas agrupaciones de improvisación generadas en los años sesenta y setenta, el Instituto Di Tella, los Cursos Latinoamericanos de Música Contemporánea e incluso el Centro de Música Experimental de la Escuela de Artes en Córdoba (Cambiasso 2018), entre otros.

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| Session #9

When I lost my self

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Abstract. This article summarizes an attempt to apply the concept of "transitional sub-ject" (developed by Gaetano Benedetti) in the context of musical collectives. Based on my experience in the coordination of musical collectives I seek to outline the challenges in the search for a collective compositional identity.

Keywords: Listening, Composition, Identity, Musical Collectives, Subjectivity, Representation.

"Eight composition students enter the classroom. They bring their sketches under their loose arms while I still sit in that chair, not al-lowing myself to be swept away by thoughts of anything. I see them open their papers and notebooks on the four tables placed next to each other with all kinds of papers cluttered the top - that we call our 'musical desk.' Pencils, pens, rulers, papers, speeches, looks, and silences; a set of concepts and ideas come from nowhere, with-out any specific order: just papers, resonating and words... words? Words come in streams. **I could have heard them say** that those circumstances were not usual and that something was missing to fix our broken certainties. But the table is young and uninhibited. At this table, we are dealing with ideas, producing more or less pro-ductive relationships, attaching things we love, pinning pieces of our identities on a very unusual map, or maybe it could be other sensations we cannot quite name. Sometimes we feel like we are just releasing the nodes of an old fabric frayed by different concepts and codes, inherited from the musical programs... we look for oth-er connections! Connect and disconnect ideas does not require any authentication. At some point, my mind gets blurred. Don't know why. I presume (or just feeling the experience of thought), maybe that the speed we enter and leave the conversation suggests some inconvenience pulsing among us, some uncanny ability."

"We don't stop! We talk about crossing ideas while exchanging meaningless words; sometimes we steal in the dark what others thought to say but didn't. When we are about to change our mis-conceptions the whole island of our abstractions it moves. We

stitch our sentences into edges of that old fabrics again, and forget the background of disunity that surrounds all this sonic palettes of digested musical analyzes (concept over concept flowing down; wavering lines without any sight of horizon) to operate the illusion that we are very creative, and that our music is very amazing"

1. IMAGINARY FIGURES OF THE COMPOSITION

The text that opens this article for this conference is an excerpt from my journal about the music composition workshops that took place in July 2015 in the classrooms of the São Paulo State Music School (EMESP Tom Jobim). Written during the 2nd edition of the 'Curto Circuito de Música Contemporânea Brasil Canadá' (Short Circuit Project of Contemporary Music Brazil Canada), it reflects the atmosphere of the occasion when eight young composers, undergraduate students, discuss their artistic identities against the backdrop of the academic culture of contemporary music, especially arguing on the social bonding of compositional identity. However, what holds together their interchangeable pieces of knowledge about music and society seems to be made of more fragile uncertainty. Although not seen, everyone feels it and share a primary instability that pervades the routines of musical speculations, despite the fact it does not reach a concrete or tangible form on discourse. Without saying, it seems that they talk about cultures and identities that underlie the artistic representations on contemporary music, convincing themselves of the intrinsic value of their identities in the exercise of composition. Since identity is part of a complex system of social interaction, within the framework of artistic relations in academic communities, it may be of great interest to put their training processes on the scene. Then, by analyzing the development of identity on musical composition, ask its social meaning. Gathering experiences of dialogues in music collectives, I propose to rethink the compositional identity from different outlooks, far from the individualistic (classical) models that constrain the self-perceptions to a labyrinth of mirrors and frames about what composer's identity should be.

It is by an analytical detachment concerning to the academic culture of music, and its educational representations, I intend to assume the position of a subject who asks the community for its role in the formation of individual identities. Because the power of the unspoken has been more crucial for the knowledge about the processes of artistic identity, I try to glimpse the detail that sparks in the dialogues about the musical composition and

society (at this small environment of musical workshops). That is why my efforts are oriented to look at the backdrop of the academic culture and their strong identities, that allow no new movements to override it, also considering compositional identity (framed by the musical institutions) as a symptom of a *subject's displacement* before closed models of artistic identity.

So, I have chosen this literary fragment of my hand to illustrate the challenges concerning to the management of musical listening groups, given a critique of the artistic subject, unfolded in many ways, that occurs inside of musical groups oriented to share experiences about music composition. Here I will try to avoid the word 'collective' as a synonym of musicians working on an egalitarian basis, because these workshops that organize itself as 'group of listening and composition' has shown what I hold to be a 'turning point' focused on one of his members, usually, a senior composer with more baggage and experiences, or a music teacher that provide clues for deepening students musical perceptions on music. It is to say that the functioning of these groups involves 'transitional aspect' centralized by one of its members, which will pass on perceptions fostering new ideas and impressions. To fulfill this task, the one who eventually centralizes impressions and ideas does so in the perspective of an identity that is presented to the experience — being thus, subject to transformation by interaction with the other members of the collective —, which might be properly examined as a singular effort to envisioning the open nature of identity.

Within the collectives, it is significant the presence of fractionation of representative external identities for the group, which can be referred to the processes of internal elaboration to the collective as well as the reminiscences of those that populate the institutional (academic) field of music. The elaboration of fragments of identity in many aspects is embraced by the academic culture, either through analyzes of works in which the life of its authors does not come stripped of biographical comments or through the pedagogical exercise whose emphasis recall on the assimilation and reproduction of musical contents. Also, by the aesthetic demands of teaching composers, when in the exercise of his profession, postulate aesthetic principles based on their (fragmentary) history and experience.

By that perspective, in the way it is presented identities, the reception of students is often close to the previous acceptance of the characters in a (musical) story to be read (by students). Therefore, given the social limitations imposed on institutional identities, the representation of characters in music persists rather than the life and transformations of the artistic persona, frequently subsumed on personal narratives. By that, we can visualize

and advance that even in a collaborative scheme that characterizes the musical collectives the shadowy figures of the composition populate their artistic productions very often.

Following this line of thought, it might be the case to properly examine what it is for compositional work to deal with imaginary subjects, and thus determine what their implications concerning musical collectives are. The centralization of subjects (and its attached images) in the management of music collectives, at first sight, seems to be as trivial a phenomenon as it proposes to a democratic exercise. However, what if would it be something more but an interference that quickly disregards the voices and their intentions to bring the exercise of collective music into more horizontal modes of relationship? A fragile film surrounds this scenario. Also, to take it off some steps of musical learning need to be carefully revisited, such as listening and perception of music.

In spite of the potentialities implicit in the work of musical guidance by an experienced composer, there always a risk of overlapping broken ideas and previous perceptions (gathered in other circumstances where they were strong) blocking those that are yet to be born, for that consequence '***narrowing the experience***' of listening and composition through a single spot in a forfeit soundscape (on the part of a experienced composer). Rather than close ranks about listening experiences (and its differences), the circumstances surrounding these groups of listening need to be examined in the light of the process of identity-making, especially by its uniqueness to put things together in unpredictable ways despite institutional regulations. (note about unpredictable). The question here is what makes a compositional identity? Neither the institution alone nor the individual produces it. Instead, it is on the constant relevance of the exercise of listening broadly speaking, reflected by the social, that identity is produced amid art. I believe, we need to change our lenses about musical thinking on perception to focus on that point: listening to it is equal to produce. In a certain sense, it is the first act of being (as self recognizing) a musician: one cannot become a musician without a history of listening and being inspired by what we've heard. Therefore, recognizing oneself as being a musician requires the reception of the notion that musical identity arises by and for musical listening. It is not just by gathering training experiences on musical learning but realizing that the foundations of the identity intrinsically attach to the listening. So, to reflect on the idea that music is the production of existence.

Rather than merely reproducing the structures of language and thought about identity, usually associated to the classical models and his cult of the

individual artist, we need to restart our previous experiences of listening to music to capture a glimpse of what could be a genuinely new approach of compositional activity. For that, the core of my intention relies on actual composer's identity transformations (my self) alone to reveal subtle changes that might be interesting to give birth to another sort of musical perceptions, able to get to disentangled from individualistic models.

Because of the lack of methodologies to make these kinds of questions possible the classical canons and its imagery still overwrites further developments of artistic subjectivity, doing no more than postpone the paradigm changes. We need to rethink the images culturally perpetuated indefinitely. Not for the fight against some evil imaginary force, but cause we make such questioning usually too late when we are only an afterthought trembling inside borders and walls. Also, when we are no longer able to pursue the creative nature of our self-perceptions on music and to experience it, not as a recollection of images but as the creation of more good possibilities. My contribution for this questioning resembles the process of music to share my experience embracing composition (collectively, or individually, speaking) as a fertile field of image proliferation, characterized by the constant reformulation of identities, because of musical listening.

2. TRANSITIONAL SUBJECT

Part of this intention to get glimpses about compositional identity functioning is reflected in the title of this short essay ("*when I lost my self*"), seeking for answers related to musical identities and the interchange of ideas in these groups. To preserve the dynamics of collective creativity, respecting the perceptions of others and the identities constitution, it comes the concept of 'transitional subject.' The concept was coined by psychiatrist Gaetano Benedetti (1920-2013) from his life experience on treatment of psychosis. "His method is characterized by the attempt to empathize as much as possible with the patient's world of experience and to identify with the patient during the transference process." Subsequently,

> Benedetti advocated the integration of patient art and its symbolism into the psychotherapeutic process. He stated that these paintings, drawings and sculptures had to be acknowledged as expressions of creativity in the context of their creators' symptoms. In this therapeutic setting, the therapist would interpret the symbolic meaning of an artwork together with the patient, a process that facilitates a "dialogical positivation" and releases a "transformatory power [...] which turns a negative situation into a positive situation. (Benedetti 1999: 94; our translation).

Before going further with this concept, it must be said that the parallel here between psychiatry and the field of collective artistic creation concerns to the communication of the process of artistic identity itself and its representations (and how the subject is constituted in the collaborative contexts of listening experience), usually suffocated or nullified by closed identity models connected to academic culture of music. It is worth dwelling on this point to situate the problems of identity-making that immerse in the academic culture of music, where every lesson subjects a group to an acquired knowledge, whose constant is to submit the identities to a rigid doctrinal corpus that will fit them into a single segment of musical training experience. Usually, in this scenario, the narrowing of perceptions about music is the pre-condition, par excellence, for undergraduates to stay on in the academy, sometimes negotiating part of their identity processes with teachers, in order to validate their images as a composer's artists.

Following these tracks, we can say that musicians with formal training are beset by the *'narrowing of accumulated experiences'* established on common beliefs of what a composer's identity is. In general, it refers to a system of representations and familiar places derived from the scientific contributions of study and analysis of classical musical works. Whatever the context, the classical composer (image) always acts as an isolated character, carrying his distinctive signs of self-realization: his musical works, which leads to the inescapable feeling about someone (a imaginary subject) who builds their identity entirely on their own (a model worthy of being seen), that even today remains in the contemporary culture highlights.

The complex referred to musical identity it is not so simple to examine. It takes many steps and time for analysis that we do not have here for this conference. In general, we can say that: narrowing the experiences means reducing conflicts in the interactions between developing personas in the classroom, creating a stable environment designed to conceal or subsume artistic issues that usually do not fit within the authenticated identity models (the traditional ones). It will always be more comfortable to throw the artistic identity over some appeasing representations and to let them be absorbed by the styles of being that refer to the logic of devotion and priesthood.

In my view, as a teaching composer, I believe it is necessary to reassess the way we are led to support the figures of the classical composer (which seems to remain untouchable in the contemporary music assignments) as if they were the only possibilities or models for the affirmation of musical identity. That is why I transcribed this note from my journal at the very

beginning, myself looking for other narratives to visualize the main factors inherent in music listening groups organized by composers. My log entry fulfills the dual purpose of recovering constitutive traits of a collective atmosphere, by my own experience on managing these groups, and ask the following question: how does collaborative music composition work? Not only how it works, but what 'works' to make it work? Knowing that in the collaborative environment the results can be both collective and individual, as it happens in the composition workshops, I ask: how can we look at the collaborative work so that it works as we imagine could be, and at the same time envision possibilities for another kind of experience than just recognition of our images reflected?

We are not talking about belonging (as an inseparable feeling that fulfills the life purposes of an identity), or even about creating another musical experience from the engagement of individuals working in musical collective, but something hard to see it, that paradoxically disappear at plain sight. We are talking about the emptiness that pervades images and identities, leading us to repeat the old mantra of personal fulfillment from our artistic endeavors. The results we already know. They are always the same. We remain unable to minimize the traits of individualism. On the contrary, we reinforce them, as much they are reinforced by our institutions, and to an extent, we do not cease to dismiss the attempts to decentralize artistic production from the individual. From this, it follows that we never do anything other than resume the sense of strengthening over preordained images, as a starting point for artistic expression. In a certain sense, we remain trapped in a tradition of causal discourse, repeating the teleological investments indefinitely over perception, representation, and expression.

I believe that the artistic self-realization of an individual primarily draws on creative power, to reinvent himself, something that Paul Valery, moved by other aesthetic concerns, called "imaginative logic" that sustains an artistic identity as long as it produces art. Whatever its present condition, it is no easy task to think out of the box, and disregard these uncomfortable starting points leading to the individual making himself over and over again. And I do not intend to do it.

My point is: how do we perceive the music identity phenomenon aside of the crystallized images perpetuated by a classical tradition, thinking it would be possible to uncover another level of musical experience, that might be worthy to see it? That would be trying to see what we see that we have not seen before. It means perceiving what we did not perceive, listening to what we had not heard before. It means creating the conditions to perceive and

listen without seeking recognition of the same reactive impulses as always. Here, I am addressing my speculations to a field of possibilities. I am talking about the artistic contingencies concerning identity in the process of musical composition to visualize something unusual. For sure, to accomplish that, we need to take into account another set of perceptions.

If we recognize on actual compositional identity some aspects related to image production, that underlie those questions, before narrowing the experience of composition through a single image, which we advocate has been real, why not make it open? My claim is something radical: rather than restoring the classical images of an imaginary subject (the classical composer), why not assume their fictional status as a figure of artistic expression? It means advancing compositional work in the field of representation from the study of the effects of its invented subjects. Composition not only related to its musical objects, but also to the study and articulation of those images that surround it, which involves invented subjects, establishing proper environments to the processes of identity.

To embrace this bold initiative, we need to assume another point of view, that is, listening to music is a possibility of creating prospective environments for compositional identity and its projective components of perception. Perception itself as a production of the body. Musical listening as the first creative act of being a musician. On this, to clarify and construct my argument, I want to introduce a twofold proposition. Instead consider artistic identity as the result of accumulated training experiences, based in assumptions around why we still nourish the old classics images of composition, one can reach a better understanding of its process of the constitution (as well as its representations) if we take through the path of his mutual interactions with others. That is to say, examining the collective contributions for the exercise of listening as foundations of compositional identity, we can envision the composer's identity as a malleable network of connections; as a musical hub: the central part of an image-oriented collective, as a figure of intertwined identities and creative forces. Furthermore, presuming that we are in the right to claim another kind of sense in music composition, we can see 'listening as a component' of a multifaceted image. We are not talking about passive mode listening, either an active one, but about its propensity to create and establish formalizable image-connections by sound structures that pervade a collective, also, questioning its commonplaces.

This point of speculation is not so simple to perceive or discuss given the individual models of classical composition. Although many socio-cultural transformations occurred during the twentieth century, which strongly

impacted the artistic mentality, in many ways the romantic image of the composer goes on as an implicit substrate in curricula, teaching programs, repertoire culture, modes the analysis of musical works, legitimized by the exercise of a historical alterity, which we lose sight of in the mists of time.

For Benedetti, the transitional subject is also named by "'therapeutic mirror-image,' a therapeutic working through of the self-object. It arise in the constant attempt of therapist both to introject the self-object image of the patient, which is projected onto him, as well as to project it back onto the patient in transformed form" (Benedetti & Peciccia, 1977: 60). The main characteristic of Benedetti's concept is precisely the introjection of the self-images of the other, which in turn are worked internally, and projected back to the other, which in turn takes them as parts of themselves developed. Alternatively, as Benedetti sums up the definition of practice, it is "a third image between the patient and his therapist, as it bears the features of the one as well as the features of the other." (Benedetti & Peciccia, 1977: 60)

Transpose to the musical collectives scenario, the Benedetti's concept of the transitional subject could be an alternative path the get along with the fragmentation of the identity images, and to search for other perceptual references in the listening that can fulfill the task of converging listening to the field of composition and identity. Under that premise, being transitional means being among others on a constant reworking relationship.

So far, no doubt that acting as a transitional subject requires a new model of perceiving subject to experience process of identity differently. In order to achieve the modulation for another level of mutual interactions among artists, to create differences inside of a fresh community, that will be the common ground for other constitutive initiatives of a consciousness of musical identity (what exactly we can do as composers), I reaffirm what I have been saying so far: we need to rethink ourselves, mainly, think about the product of the efforts we make to create something between music and perception, very often obscured. Finally, for untangling from crystallized images of composition identity, we need to develop our transitional aspects even more.

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The wind is blowing on the Flag … Affective report about a residency in art and health, in the MST's Normandia Settlement, in Caruaru – writings through many voices

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Abstract. This is an affective report written by some of the artists that participated in the 12-day residency RASA in the *Normadia Settlement* of the *MST located in the dry northeastern of Brazil. During the residency, promoted by the Medical School of the Federal University of Pernambuco, the artists produced performances, paintings, installations and gave workshops articulating art, health, gender and site-specific. Through a description, individual testimonials and pictures, the authors seek to share the intense experience they have lived during the residency.*

Keywords: RASA – Residency in Art and Healthy, healthy and art, gender and art, site-specific, performance, Normandia Settlement of MST.

1. INTRODUCTION

In "Notes on experience and the knowledge of experience" (2002) Jorge Larrosa Bondía proposes that experience is something that happens to us,

that affects us, transforms us. Knowledge of experience is necessarily contingent, singular, subjective, and finite. It is a knowledge that enables the creation of meaning. "The experience and the knowledge that derives from it is what allows us to appropriate our own life." (Bondía, 2002: 27).

Our report of collective experience is proposed from the understanding that what we experienced during the artistic residency RASA were individual experiences of transformation and creation of meanings. And that has resulted, in different ways, in artistic creations and reflections. In this sense, this report is a kind of bricolage between individual and collective processes.

2. THE EVENT – RASA AND OUR EXPERIENCES IN MANY VOICES

RASA - Artistic Residency in Health and Art was a 12-day immersion residency proposed by the *Quali-Sensi - Qualification, and Expansion* of the Laboratory of Sensitivities, Abilities, and Expression – LABSHEX. This laboratory is an important initiative of the Nucleus of Life's Science of the Medical School in the Agreste Academic Center (CAA) of UFPE – Federal University of Pernambuco.[1] The residency *RASA* was led by a teacher of the Medicine's Faculty, who is also the coordinator of LABSHEX - Eline Gomes. The objective of the residency was:

> To promote an intensive encounter with artists from different areas in immersion in the local culture, with the production of meanings through art in relation to the community and the pedagogical and formative process of CAA / UFPE students. (Qualisensi website)

Also, the proposal in the public notice suggested that the artists should develop collective and individual works integrating health, art, gender (especially violence against women) and site-specific.

A total of 20 artists were selected (incumbents and alternates). Among the selected people participated in the residence: Beatriz Corradi da Silva (Bea), Cesar Augusto Paro, Eva Maria Soloni Santoro, Laura Santos Franco, Luiza Maretto, Meujael Gonzaga da Cunha (Meujaela), Thaysa Cordeiro Silva (Thaysa Aussuba) and Tânia Mello Neiva[2]. In addition to the selected artists, the artists and teachers Patrícia Caetano and Líria Morais acted as coordinators and facilitators of the residency. The residency also had the

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1 http://www.qualisensi.com.br/

2 View edict: https://drive.google.com/file/d/1OKt6MKFtl6SrhtQk-EXf8ENNWehKzy0Z/view

participation of trainees who constituted a support team: Mayara Araújo, Milena Galvão and Jefferson César (students of the Medical School). The photographer and video artist Tonlin Cheng was responsible for recording the works. The place of lodging and accomplishment of much of the work was the Paulo Freire Training Center of the MST - Normandia Settlement, in the city of Caruaru[3]. The settlement is in the rural area of the city, collaborating to create an immersion environment, isolated from urban daily life.

We had access to a rehearsal room which was inside the former landowner's farm's house. We made the main meals in the dining hall of the Center and we had free access to the open and collective spaces.

Also, it is important to emphasize the historical moment in which the residency occurred: it was before the second round of presidential elections in Brazil. This moment had specific characteristics for the role that the social networks played; by the construction of fictitious narratives; by the deepening of the polarization between left and right; by the intensification and legitimation of positions considered fascist, misogynous, racist, homophobic and transphobic; by the rescue of strategies of struggle as the "vira voto" and many other characteristics[4].

Our group was characterized by heterogeneity. Each one comes from different places of both art and training and professional acting. For elaborating this text, some people participated more in the writing and others contributed with their personal testimonies, sharing of images and videos, poetry, songs, and others.

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3 MST - Landless Rural Workers Movement is a social movement of resistance and struggle that emerged in Brazil in 1984 with the objective of "guaranteeing access to land, claiming other social rights for the excluded peasants and seeking to build a new society with social justice ". (Thies e Melo, 2013: 13). The MST is organized in 24 states of the country in settlements, occupations and training centers and maintains training courses for children, and training and qualification for youth and adults. The Paulo Freire Training Center is in the Normandia settlement - former Normandia farm located in the city of Caruaru in Pernambuco, which was occupied in 1993 by 179 families. The Paulo Freire Training Center has been operating since 1998. The structure of the Center offers accommodation for 270 people. (Angola, 2016).

4 The political moment that Brazil has been going through since 2013 is quite complex and deserves a deepening that cannot be addressed in this text. Briefly, Brazil is part of a movement for the rise of the extreme right and conservatism in the world (Löwy, 2015) making use of the media and social networks by creating narratives of their own and supplying feelings of hatred and fear of the population (Goldstein, 2018). This movement was responsible for the institutional coup in 2016. The "vira-voto" movement was a strategy of the left to approach people on the street to talk about the proposals of each candidate - Jair Bolsonaro (PSL) and Fernando Haddad (PT) - and to convert, through rationality and empathy, null votes or to Bolsonaro in votes for Haddad.

2.1 What was done and experienced

During the 12 days we have worked with body experiences; with research and listening to the space. We visited specific places in the city of Caruaru such as Alto do Moura[5], the Morro Bom Jesus[6], the Caruaru Fair[7] and the suburb neighborhood of Salgado[8]. We had conversations with MST leaders. We created and presented several performances; wall painting, outdoor installation among others[9].

Thaysa's Voice

"During the visit to Morro Bom Jesus, we were faced with two significant moments: the panoramic view of Caruaru and two interlaced trees. The panoramic view of Caruaru showed us the extension of the Salgado neighborhood. It was visible the social class division between the buildings and the heap of houses, a large region of "periphery" that, geographically, was in the center of the landscape. Another significant moment was our encounter with two trees intertwined by the trunk, called *"barriguda*s" (big-bellied) by the population. Huge, robust and prickly stem they have been "united for more than a hundred years," said the guide of the tourist information office."

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5 Alto do Moura is a neighborhood characterized as a pole of handicraft production, (especially clay work) in the city of Caruaru.

6 From where one has a panoramic view of the city.

7 It is a permanent fair where one can find all kinds of articles.

8 Suburb of the city characterized by the concentration of textile production.

9 During the residence we carry out and participate in various activities. We are not mentioning all of them. We address only some, whose relationship with the statements and the works developed are more direct.

Fig. 1: Two "Barrigudas" in "Morro de Bom Jesus". Photograph: Thaysa Aussuba

Tonlin's Voice

Fig. 2: View of Normandy terrain from the window of the rehearsal room. Photograph: Tonlin Cheng

César's Voice

"Aridity ... It was arid times! The dryness was not only the humidity of the air, of the plants or of the earth: the political prospects were also dry with a polarized election, in which the already bruised Rosas, Daisies, Hortense, among many others would have even more difficult to flourish. "

During the first week, recognition activities were prioritized, as well as interaction among the participants, mainly through experiences related to "somatic" techniques,[10], exploring the idea of "corpomapeamento"[11]. The intention was to provide a deconditioning of the body and listening to enable

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10　"Somatic education as a field of knowledge harbors diverse techniques and methods that approach the body in its power to build knowledge of oneself and the world. Here, the body is understood in its cognitive, motor, affective and sensorial dimensions" (Caetano, 2015: 207).

11　"Corpomapeamento" is the process of structuring the "corpomapa". "Corpomapa" is the structuring relation between body, mind and place. It means that the process of creation in the body is

the opening to experience and, from it, the artistic creation inserted and integrated into that context (constituted by the place, historical moment, human conformation).

These experiences were carried out in several ways:

- Blessing Ritual (with basil) of the rehearsal room and of the participants;

- Body and Voice Activity on Health Awareness – In this activity we were to explore our names and words or phrases to define "health", from the question "what is healthy for you?";

- Corpomapeamento Individual route in Normandia - Each participant traced an individual route in Normandia;

Meujaela's Voice

"In one of the site-specific exercises taught by Líria, I walked on the dry mud road until I came across a large stone building. I could feel the thick walls, a strong smell of feces, and the death of the goats who had lived there for a short time. It was a place full of stories and ancestry. There, I started to create the site-specific performance with my research 'Alomorfia'. That, was then, allied with two incredible musicians: Laura Franco and Tânia Mello and together we created a powerful performance where we were able to purge memories, pains, and feelings present in our lives and in that place."

- Sharing of individual routes in pairs - pairs were created to "redo" the individual routes;

Eva's Voice

"We shared the individual routes through illustrations and personal writings. During the speeches in a conversation circle a common theme was brought to the surface by all the women present: the very frequent feeling of fear when being alone in public places. Then, there was a moment of mutual support with the emotion flowing and the affection building between the participants".

- Talk to Maria Joelma Martins (Pedagogical Coordinator of the Training Center) about the History of the Normandia

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necessarily related to the space in which it is creating. (Morais, 2017: 1223)

Settlement and the Paulo Freire Training Center. We also paid a visit to the Mandala - the vegetable-garden of the Training Center - and talked to Jeânio (a militant of the MST, responsible for the place).

Thaysa's Voice
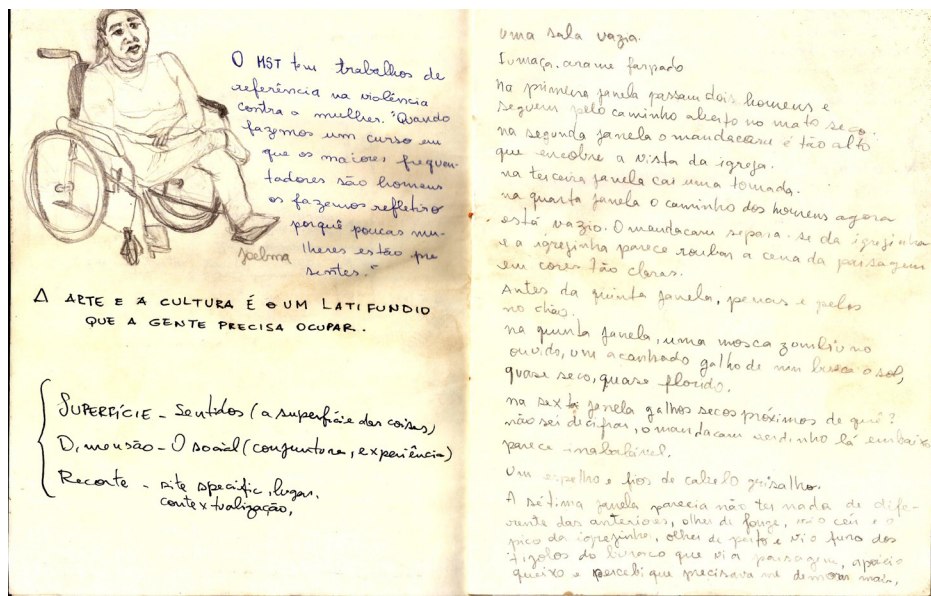
Fig. 3: Excerpt from Thaysa's field diary. Thaysa's drawing of Joelma and reflective text about the dialogue with the MST leadership. Featured sentence: "Art and culture are a latifundio that we need to occupy", said by Joelma during the conversation.

- "Corujão" – a bonfire held on one night on first week. It was a confraternization to strengthens the vowel between us. We singed and played music, told stories and others.

- Mapping of the Caruaru Fair. Each person followed a different route at the fair and decided how to perform a previously agreed action. At the end, we met and briefly shared the experience.

On the fifth day of residency, we began to join the MST Brigades.[12] We only participated in the "Kitchen Brigade", inserting ourselves into the groups formed with the participants of the "Cuso Pé no Chão"[13] ("Feet on the Ground Course") that was taking place in the Training Center simultaneously to RASA. We split into pairs to join the kitchen brigades.

The interaction with MST militants occurred mainly during meals and during the "Brigades", although some of us have established relationships with some militants at other times and spaces. Officially, as part of the Residency's personal and collective projects, the interaction with members of the movement was established through the "Oficina de Teatro do Oprimido" ("Theatre of the Oppressed Workshop"), given by César and Laura, through the recording of statements from Tania's personal project, through conversations with Luiza for her personal project and through Thaysa's Turban Tie Workshop held on the last day of the residency.

On October 17, just one week after our arrival at the Training Center, we had a lecture on "Decoloniality and Art" with Prof. Dr. Saulo Feitosa. This lecture sought to articulate our production in that space based on an understanding that the residency was materialized in a politicized way and committed to the questioning of hegemonic values and practices, at the same time as it enabled the experimentation and production of significant art in context and place.

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12 The "Brigades" are part of the organizational model of the movement. In summary, it is a division of tasks for work with common purpose. Internally in the training center, they function as the organization of the daily duties. People are divided into groups to take on the tasks of organizing and cleaning the kitchen, bathrooms and open and collective spaces. In the case of the training courses, there is also the "Mystical Brigade".

13 The "Pé no Chão" course is a training course for the MST, aimed mainly at young militants of the movement. It is often the first formation in the movement to which young people have access.

Tonlin's Voice

Fig. 4: Group talking with Prof. Saulo Feitosa after class. Photograph: Tonlin Cheng

The focus during the second week was on the realization of the projects, many of which have changed in relation to the original proposals.

On Thursday, the 18th, Thaysa, Bea, Meujaela, Cajú, and César went to visit the Salgado neighborhood, the suburb of the city of Caruaru, characterized by textile production. The other artists remained in Normandia preparing their personal and/or collective projects.

Thaysa's Voice

"The desire to expand the valuable experiences of RASA to the low-income population of Caruaru or, conversely, take the history of the population to the Residency made me reach the Salgado neighborhood. Bea Corradi, Meujaela, Cajú, César, and I went to visit the precarious streets of the most populous neighborhood that was not included in the tour guide. It was not pretty to see, it was the periphery. A place of abandoned infrastructure, with entire families working in their stuffy houses, under exhaustive days

for the great industry of the textile pole; "They nail a zipper for three cents," warned one of the neighborhood's residents. Salgado was there, invisible, and yet it took much of what we saw on the horizon of Caruaru seen from above in Morro Bom Jesus."

During the visit to the neighborhood, César practiced the clown work by assuming his character and interacting with people, spaces and various objects and animals (specifically a dog). The group stopped at Dona Nova's bar and, there, Bea painted her wall.

Cajú's Voice

Fig. 5: César doing clown work in the Salgado neighborhood in Caruaru. Photograph: Cajú Galón

Cajú's Voice

Fig. 6: Bea, Meujaela, Dona Nova, Thaysa and César in front of the bar of Dona Nova in the Salgado neighborhood. Bea's painting on the wall. Photograph: Cajú Galón

While this group carried out these activities in Salgado, the group that remained in Normandia worked in other productions. During the second week, Bea concentrated on painting a mural on the wall of a former pigsty. She painted the face of a black "Our Lady of Sorrows".

Bea's Voice

Fig. 7:. Mural painted by Bia of Our Lady of Sorrows with the interventions written by the women during a performance. On the left side, there is a painting made by Layane (MST child)

Eline Gomes (the proponent of the RASA), participated in several activities during the residency, having elaborated a performance herself. Also, the visual artists Heloísa Germany (Helô) and Cajú Galón participated, respectively, in one of the performances created by some of the residency artists and in an outside installation. The MST member Flávio Albuquerque also joined us in several activities. The medical students Milena Araújo, Mayara Galvão, and Jefferson César participated in some activities during the residency and presented to us a communication about the LABSHEX and their experience in the medical school.

2. 2 The artistic and some other productions:

During the residency we created eight performances, painted three walls, offered three workshops and made a lot of interventions (clowning, performative walks and interactions, outside installations – Memory Tree, and others). They were:

> • "Theater of the Oppressed" workshop with MST militants from the "Foot on the Ground Course", given by César and Laura, addressing the theme of violence against women;

Laura's Voice

Fig. 8: Militants of the MST during Theater of the Oppressed workshop by César Paro and Laura Franco. Photograph: Laura Franco

> • Workshop to MST militants from the "Foot on the Ground Course" to help the militants prepare the "mystic" (structural activity in MST that involves the construction of the imagery and the identity of the movement, made through songs, poetry, staging, flags, images, and others) given by Laura;

• Performance in the corridors of the medical course of the Academic Center of Agreste of UFPE prepared especially for the students of the course. The title of the performance was "What's Your Pain, Doctor? What's You Pain?" Which consisted of a song and a performative walk representing the four stations of the year associated with different states of body/mind, such as slowness, grief, joy, and others. This walk, which was sung and played (cello and percussion) was interrupted on each cycle by textual interventions that worked with the expanded idea of health and care.

Fig. 9: The residency artists during the performance: "What is your pain, doctor?" In the corridor of the Medicine course of UFPE - Caruaru. Photograph: Milena Araújo

Luiza's Voice

"We were there, residents, through this meeting: between a formation for people who take care of the pains of other people, and the food of sensitivity, through art, to nurture the way to care for the other, and of itself ...

Students participating in the sensitivities lab project are nearby and take care of people who are living there for some time and share their sensitivity. Doctor's poetry. Doctor of poetry. And they also spend the night finishing work, eating "anything" … That's what they tell us. The hardness of education marks, molds. The art of trying to recreate, to feel, to make a hole for water … The medical course and the laboratory of sensibilities took us there. So, let's go to them. It's important to be there. Art and health. The time, the cycle, the time, the cycle: spring, summer, autumn, winter, spring … "What is your pain, doctor? What is your pain?". Each walk, a season. The cycles of life. Future doctors observe us, in silence. Listen and say. Say and listen. What pains? To listen to one's own body so that one can hear the encounter with the body of the other."

> • The Performance of dance and music named "Águas de Normandia" "Waters from Normandia" performed during the dinner, especially directed to the public of the MST. It was created by Tânia, Laura, Eva, Líria, and Patrícia.

Tania's Voice

"At the 'Corujão' I played the cello. It was the first time I played cello during the residency. The next day, Joelma (the Center coordinator) came to me and asked why I had not played cello for the MST militants yet. After that, I realized that I NEEDED to play for them. So, Eva, Líria, Patricia, Laura, and I began to compose a performance of dance and music. We called it: "Waters of Normandia" inspired by the waters of the Mandala (vegetable garden), a water that fell from a pipe in a Styrofoam box every morning, a promise of rain that never fell, the waters that compose our bodies, the woman watery body … We decided that we would make that presentation in the dining room during dinner. I needed to hurry with the audio preparation … I had to record sounds, edit, compose and rehearse with everyone!"

> • Thaysa's performance with César's collaboration. The artist presented a performance in the outer space of the Center exploring the theme of "education" - how educational processes are often normative and disciplinary, pruning our creative, disruptive and political potential. The artist created a route exploring part of her individual trajectory made in the previous week. She wrote a text which was performed by her and by César.

Tonlin's Voice

Fig. 10: Thaysa presenting the performance: "The window in which I fit in in this latifundio". The audience was of MST militants and the participants of the RASA. Photograph: Tonlin Cheng

Thaysa's Voice

"The RASA experience has reached me far beyond its final products; performances and workshops. It has reached my difficult speech through the context of social exclusion experienced since childhood, from my ancestors and their racial conditions. It reached my mother, a countrywoman, and my enslaved grandmother and daughter of unnamed parents. It reached out to this unnamed parents and unnamed grandparents, unregistered and voiceless. It made me stir in the nameless revolt that makes me, even been a woman from the urban and cultural periphery, a late student of a public university, at the age of thirty, after several years trying unsuccessfully to pass the college entrance exam. It made me shout at all the rickety bodies who through their lives gave birth to my body, I cried out for the dream of the ones who wanted me crossing over to the other side of the bridge, drinking from the privileged knowledge that emancipates one from the explorations, from the loss of the name, from the loss of identity. It made me

scream during the performance with César Paro, later entitled "the window in which I fit in in this latifundio", by the knowledge denied to me and the people."

> • Preparation of the "Memories Tree". The collective embroidery of memories. During the second week, we began to elaborate the project idealized by Luiza. It would be the memories of what we had experienced and lived during the residency embroidered, written and drawn in fabric that we would spread through open space, hanging on trees.

Thaysa's Voice

Fig. 11: Photography of one of the embroideries hanging in the trees of the Training Center and the Settlement. It is possible to read highlighted: "tree time", "wind", "memory tree" and "rexistence" Photograph: Thaysa Aussuba

On Saturday, the 20th, we planned to present all the performances and interventions that were being produced that had not yet been presented. There were six performances and the installation of the "Memories Tree". There was a route to be covered, going from performance to performance, during the Saturday afternoon. Helô was responsible for guiding the audience for each performance assuming a performatic character. She was a woman carrying a female plastic mannequin dragging her along the way. A woman who carried the weight of a normalized, thin, white female plastic body, which, through the walk of this woman, suffered interventions and gradually ceased to be standard.

The route began in Eline's performance: "The dry woman", in which Tania participated playing noises on the cello and Laura playing percussion.

Líria's Voice

"With a bucket of clay, the dry woman follows the path of clay and the audience follows behind. The artist's body presents minimalist movements with an approximate aesthetic of the butô, in front of an open landscape of the arid northeastern."

Fig. 12: Eline Gomes in the performance of "The dry woman". Photograph: Tonlin Cheng.

Bea's Voice

Fig. 13: Beatriz Corradi's painting of the performance: "The Dry Woman"

The performance was presented on one of the streets of the settlement, in front of a house.

Some people from the MST, residents of the settlement watched the presentation of the performance of "The dry woman". The performances that had a significant audience of members of the MST were those performed during the week, such as "Waters of Normandia" and "The window in which I fit in in this latifundio". Initially, we had thought to do the great majority of the performances on Saturday so that the local people could attend to, we had even foreseen great publicity in the settlement. However, the Saturday, October 20, was a day of street manifestations against the candidate for the presidency, Bolsonaro, across the country, and the militants of the MST left the Training Center early in the morning to march and protest throughout the day, returning only at night.

At the end of Eline's performance, we continued to follow Helô, who took us to the henhouse of the Training Center, where Eva presented her performance: "Angolas" interacting with the chicken hens, experiencing a kind of "turn-chicken".

Eva's Voice

"The aspects of freedom, choice, autonomy, life itself are in duality with coercion, violence, and fear. Created during the artistic residency, the performance *"Angolas*" raises the aspect of the domesticated body. By witnessing the domesticated hens living inside a collective, the hen house, as an entity of the aspect that is deprived of freedom, I raise aspects of control by power structures to the detriment of the subject. The institutions, such as the State, the family, the church, control power through manipulation by fear and punishment, by the emotional blackmail that generates the fragility, passivity and annulment of the being. The structures for maintaining power through coercion and control, originating from imperialism and patriarchy, remnants of slavery that still systematically perpetuate in all our relations, recognize that the body is deprived of freedom and, at the same time, refuse to be property. It's a political act to be the author of my existence - sacred, unique and resilient. Body as life, in my woman's body, the struggle to be free, unrestrained, I resist dancing and creating images in order to conquer autonomy of choice, to gestate, to give birth, to motherhood, to work, to act in community, to achieve visibility and have my voice heard. "

Fig. 14: Eva looking at a chicken. Photograph: Beatriz Corradi

Then, we were led to another performance by the same artist. This time accompanied by Tania playing the cello and Laura playing the "water drum". Eva created a metaphor from a large stone surrounded by trees and bushes as if the stone were a uterus that would fit her body. With a white dress, the artist jumps into the stone with a reddish liquid and dances creating a sacred atmosphere in the open. The audience watches around it creating an interaction with this natural environment.

Bea's Voice

Fig. 15: Eva's "Uterus of the Earth" performance alongside Laura Franco and Tânia Neiva. Photograph: Beatriz Corradi

Eva's Voice

"The performance *'Uterus of the Earth'* derives from the practical research that has been carried out since 2017, *'Nests of the Earth',* where the artist searches for poetic images through the language of performance, photography, and videography of the body in places in nature. She searches for the shape of nests, burrows, concave wrappings in territories of natural biomes that transmit the reception and security of the mother earth in a sacred space which protects life in a state of vulnerability caused by the development. It's the contrasts between the fragility and the force of life present at the same moment: the beginning is represented by a dance that is inspired by the development patterns of the ontogenetic movement (human child development and evolutionary progression in the animal kingdom).

The movement expresses in the body of the artist the memory of cellular respiration, pulsating movement, sponge, learning to crawl, to move, as primordial beings, fish, lizards, mammals, rolling like a baby in search for maternal nutrition. It evokes gestation, the moment of gestating life, and thus, the feminine aspect of care, fertility, self-preservation. The aspect of wild nature, in the sense of undomesticated, autochthonous. In contrast to domesticated life, through fear provoked by violence and coercion. "

From the womb, we went to the old and deactivated goat slaughterhouse, where the artist Meujaela presented her performance with the sound interaction of Tânia (cello, metallic objects, and voice) and Laura (metallic objects and voice).

Líria's Voice

"The artist Meujaela chose a place that was once a goat's slaughterhouse. She established, with this place, a very strong and of intimacy relationship, which was important on her creative process. The audience followed her movements, feeling the smell of the place, the temperature and the textures that were very strong. Accompanying the scene, they had two musicians who produced real-time sounds of a cello and metal objects they found on the place. The artist's movements were of many falls on the ground, interaction with structures of the place itself and ritualistic actions with singing, surrounded by candles and flowers. There was a change of body state that responded to the sounds and meanings of the place. Her body was marked by every interaction with the walls and floor. The sunlight drew shadows that created beautiful images. At the end, during sunset, the artist hanged on the tree in a red fabric wrapping, while Tânia and Laura sang."

Bea's Voice

Fig. 16: Meujaela in performance at the old goat slaughterhouse. Photograph: Beatriz Corradi

Fig. 17: The final part of the performance of Meujaela. Photograph: Beatriz Corradi

The old slaughterhouse was located near a reservoir outside the site of the Training Center. Now the path led us back to the Center. It was led by two entities in pink dresses, standing out in that brown landscape. They, Liria and Patricia, walked slowly holding, each, a pitcher of water. We climbed the discreet slope of the land, passed through the large iron gate (which was open during the day) and under the MST flag hoisted beside the gate. A flag that amplified and embodied the sound experience of the wind. And we went to our rehearsal room. From there we followed the slow and delicate walk of Líria and Patricia, the two "big-bellied" who, although they were two, were united, almost sharing the same body.

César's Voice

Fig. 18: Líria Morais and Patrícia Caetano in the performance of "As barrigudas", "The big-bellied" entering the land of the Paulo Freire Training Center. Photograph: César Paro

César's Voice

Fig. 19: Performance "As barrigudas", "The big-bellied" by Líria Morais and Patrícia Caetano. Photo César Paro

Líria and Patricia, inspired by the image of the "bellied" trees seen in the "Morro de Bom Jesus", were each in a long pink dress, carrying two glass jugs spilling water along the way, as synchronized movements taking the

audience on a journey to the center courtyard, a set of trees. The audience watched from distance so they could see the purple-pink color and the surrounding trees plastically. The dance toke place in the interaction between two women with synchronized movements and the movement of the trees in the distance. The ambient sound composed mainly of bird song, people passing and the wind, integrated the performance amplifying the immersive and contemplative sensation.

After Líria's and Patrícia's performance, we met in the rehearsal room and watched a video and photos organized by Luiza, as part of the composition material for the "Memories Tree". We also worked on the embroidery, drawings, paintings, and writings of the memories on fabric, which would be hanged anywhere that we thought significant to support the "Memories Tree". All the resident artists participated in this process. Other people also participated in the Memory Tree project. They were: Cajú (who created an installation with stones hanging from trees), Helô, Eline, Milena, Mayara, Jefferson, Kaíque, Flávio (MST member) Layane and Lázaro children members of the MST.

Luiza's Voice

"Good feeling of people talking and embroidering, talking and embroidering. Weaving. Being there, together. Embroider and paint in the same fabric. And the wind often does not let them be marked in embroidered line. The time that trees and wind teach and tell us is another.

To embroider words is time-consuming. To hang on the trees, the wind blows. The time teaching that doing it demands time, another time. To do, and to be. But also desiring not to do, to be alone, without having to register. Cycle time. Time to pass the time."

From the "Memory Tree", we proceed in procession. It darkened and our walk was lit by candle lanterns. We arrived at the former pigsty, where Bea had painted the black "Our Lady of Sorrows", in which the last performance of the residency took place, with the artists, Thaysa, Beatriz, Laura, and Helô.

Líria's Voice

"Laura sang along with the other female voices artists and they were all dressed in a veil that covered their faces. The audience entered the space and all of them developed a corporal performance, at the final moments, a prayer was sung, and everyone appreciated the painting of Beatriz. While we were looking at the painting, the artist herself suggested that each

woman in the audience wrote with a brush a female pain next to the black saint. At that moment, we had the sensation of a sacred environment with candles below living stars and the scenario of the arid northeast cold night with words that filled the great painted wall. The audience remained still for a long time venerating this event and the show ended."

Tonlin's

Fig. 20: Performance of Laura, Bea, Helô, and Thaysa in the pigsty. Photograph: Tonlin Cheng

Luiza's Voice

"We are led with the fire in our hands. We go in procession. In silence. It's already night. It's already night. Coming to "Our Lady of Black Sorrows". There, a woman carries another woman on her back. And carry. And screams. And carry. We follow, we look. I see and feel her carrying. We see and feel her carrying. Our sails are lit, the wind is present. In the painted wall, the black woman waits and asks our pains to stay with her. Word on earth. The white woman who painted it is there, together, being a canal, with her art, with her body. One by one, every woman writes, inscribes the wall a pain that is hers but also it is not only hers, it is many's, and puts in view: "rape, abuse, death, lack, transphobia, limit of being, guilt, machismo is prison, violence,

let me smile, bleed, pain, fatphobia …" and more and more. And in this jour-
ney, we began to write, each one, and also together, words of one and sev-
eral: "To love freely, sexual sacred womb, who decides on her body is her,
to give birth with pleasure, to enjoy, resist with love, create struggle, be able
to wish, feel the earth… "and more and more, much more. Some women
cry. It's beautiful to water like that. It's dark, but everyone sees … and lis-
tens to the wind and the silence. What one sees in the walls, inspires, with
Kindness."

Tonlin's Voice

Fig. 21: Moment of writing on the mural made by Bea. Photograph: Tonlin Cheng

After the last performance, we were all very emotional. Some of the partici-
pants would leave the next day. Luiza was leaving on that Saturday night. There
was a farewell atmosphere. We ended Saturday night at the bar in the settle-
ment with the certainty that we would meet again and work together again.

The next day, in the morning, we were "baptized" by Joelma - we were rec-
ognized by her as partners in the MST struggle and we were presented with
the movement cap.

Thaysa's Voice

"I shouted with the weight of a woman in the back, during a collective performance with Laura, Bea Corradi, Helô and Eva, after a silent pilgrimage. The woman in the back was me and they were all I could carry. (...) We alternated between screams and silences to summon the fight, to leave memories embroidered in the trees, to make lasting the fire that united us in conversations and dancing bodies. The screams often came as chants, chiseled flag sounds, broken strings of cello, washing tears of memory. Sounds and silences that remain reverberating. "

On Sunday, some artists were still at the Center and Thaysa held a turban mooring workshop, targeting the debate on female empowerment and ancestry.

Fig. 22: Participants of the Turban tie workshop ministered by Thaysa Aussuba. Photograph: Beatriz Corradi

Thaysa's Voice

"I used a turban to tie my hair for several days during RASA. I believe in the turban as a protector of the Ori[14] and as a great signifier of the African root in Brazilian culture. (…) I saw the possibility of talking about black and gender empowerment by doing a turban lashing workshop for MST women. We had not only women participants, but men were also awakened by the interest of making the moorings on their daughters, sisters, and mothers. "

César's Voice

"A clown's hand intertwines with that of a musician, who is intertwined with that of a performer, who intertwines with that of a storyteller, who is intertwined with that of a painter, who intertwines with the dancer, who intersects with that of an actress, who intertwines with that of a poet, who is intersecting with another, who intertwines with another, who intersects with another, who crosses another, and crosses another, and another, and, … Hands with hands, fingers crossed, experiencing the thousand possibilities of the experience of being "hands-on": hands that embrace, hands that weave together, hands that dance ciranda, hands that get dirty, hands that trim tears, hands that make music, hands that ignite bonfires, hands that beat the room, hands that make hammocks, hands that wash dishes, hands that understand each other, hands that do not understand each other, hands that understand each other again, hands that touch the ground to know the earth. And, in a kind of cognitive act, the earth is being touched, felt, studied, understood … And discovering it, one realizes that the wideness of aridity coexists with virtues, with vitality, with liveliness … And one discovers his or hers vicissitudes character - yes, he or she had already been affected by other vicissitudes long ago … And, discovering this, one relies on the possibility of change. Yes, change is possible! Thus, it is understood how wise it is to have your feet on the ground. Feet that the earth supports so that hearts can love, minds can dream, and hands can point there to the horizon, where utopia is."

"The flowers are still pruned, plucked, dead, in a constant difficulty to bloom … But the hands have now learned new things. Horizons have already been pointed out, dreams have already been conceived, bonds have already been established and the feet are already walking, firmly on the ground. The hands together will show that from that arid ground there is a beautiful garden to be formed! "

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14   Ori is the protection that is in the head, the soul, for candomblé.

And then, we come to the end of that experience, that intense sharing of experiences, emotions, restlessness, and art. The feeling was that RASA had been a seed planted in a land not so dry. It was indeed a damp, sun-drenched land. Fertile land that has nourished this seed which has been growing, developing ... The seed that has already germinated and turned to many walls painted in the city of São Paulo, music in João Pessoa, poetry in João Pessoa and Caruaru, writings and drawings in Recife, Rio de Janeiro, Fortaleza, Salvador ... dreams! And that allowed itself to continue the path of flowering ... This story is part of this path. It fails to account for the individual transformations that have occurred in this collective and shared experience ... It's not enough, but we leave our many voices sounding, sharing a little bit about what we lived and created in that period ... What did not fit here remains within each of us ... And the experience in each of us, that is, what happened in us, that affected us, that transformed us, will be present in our works and relationships.

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The politics of listening: feminisms and community building

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Abstract. In this work I intend to explore the issue of listening in regards to gender and music by discussing two projects in which I have participated: the collective Sonora: Músicas e Feminismos; and the work on 'conversation' and 'self-listening' conducted in conjunction with Brazilian composer Valéria Bonafé. In both of them I want to stress the connection between the idea of community as a space for the establishment of differences and the question of listening as an exercise of otherness.

Keywords: listening, feminisms, community building, politics

1. INTRODUCTION

In this work I intend to explore the issue of listening in regards to gender and music. I will discuss two projects in which I have participated: the collective Sonora: Músicas e Feminismos; and the work on 'conversation' and 'self-listening' conducted in conjunction with Brazilian composer Valéria Bonafé. In both cases I want to emphasize the connection between the idea of community as a space for the establishment of differences and the question of listening as an exercise of otherness.

I think of listening as a political act, a vital component of activism and community-building. It is an action whose consequences extend beyond the direct relation to sounds and that reflects the social conditions in which it is immersed.

It is worth thinking here of the dichotomy between speech and listening as two sides of the same political process. While the former is associated with action – the production of sound, the transmission of concepts, the imposition of ideas – the later is often associated with passivity, reception, and understanding.

To a certain extent, speech and listening are mutually exclusive: no one listens while speaking, nor is it permitted to speak when one wants to listen.

The balance between speech and listening, however, is what helps to define a communication policy: when someone assumes the position of listener or speaker she or he is assuming a political position.

In a strongly institutionalized social structure like the one we live in, it is expected that alternative social formulas will emerge. They usually function as a reaction to this scenario, often through community actions that give vent to desires and needs that are not contemplated by already consolidated structures. The sense of community is formed from affinities among its members and is often channeled into the solution of difficulties. Working in community means reconciling individual desires with the sense of collectivity.

2. AUTOBIOGRAPHY AND NARRATIVES OF OURSELVES

To begin a discussion about the politics of listening involved in the two projects presented in this text – the Sonora network and the investigation of conversation as a method for expressing subjectivity – I would like to mention two particularly relevant works. The first is the book *A aventura de contar-se: feminismos, escrita de si e invenções da subjetividade* (2013) [The adventure of telling itself: feminisms, self-writing and inventions of subjectivity] by Brazilian historian Margareth Rago. The second is the occupation-book *Explosão Feminista: arte, cultura, política e universidade* (2018) [Feminist Explosion: art, culture, politics and university] by Brazilian writer and critic Heloísa Buarque de Holanda. Although these works do not focus on listening, but on building communities within feminism in Brazil, their approaches have helped me situate my own research within a broader understanding of the policies involved in the act of listening.

Margareth Rago (b.1950) is a lecturer at the Department of History at the University of Campinas, Unicamp. She is the coordinator of the Foucauldian Studies Group and an active scholar in the field of gender studies.

In resonance with the foucaultian concept of "arts of existence", Rago's text proposes to investigate how to construct what she has called the "feminist arts of existence". Through interviews, a collection of testimonies and a compilation of autobiographical writings, Rago elaborates a particular method of research: a cartography of the trajectory of seven feminist women who lived during the dictatorship period in Brazil. Rago's proposal was not to simply gather these oral and written accounts to tell these women's individual stories, nor to create a possible history of feminism in Brazil. Nor

was she willing to develop a particular history of the dictatorship period in the country.

Although all these stories cross in their constitution, Rago's proposal was to show how it became possible to cartograph subjectivity itself through these self narratives.

Heloísa Buarque de Holanda (b.1939) is a writer and professor of critical theory of culture at the Federal University of Rio de Janeiro. She coordinates the Advanced Contemporary Culture program hosted by the same University, the so-called University of Quebradas project and the Women & University Forum.

Her text *Explosão Feminista: arte, cultura, política e universidade* (2018) [Feminist Explosion: Art, Culture, Politics and University] was conceived through an intergenerational listening process in which the author, when approaching a new generation of feminists, had to find a way that would live up to the collective and horizontal power of the multiple voices she wanted to address (voices coming from the streets, from networks, from the arts). The result was what she called a "book-occupation."

> Back in my time, the feminism I lived was different, it was academic, with structure and hierarchy. Current feminism is horizontal, a performative movement with occupations of streets and networks. It is collective, shared, bound by affection, without clear leadership or protagonism. These girls have mastered the technological tool, the internet, and have managed to make themselves heard. They have managed to make others hear, for example, that 'no means no'. For over a year, I – an old teacher – I sat down to talk and learn from these electrifying young women. The [book's] idea was precisely to give voice to them, to contribute to give legitimacy to the importance of their interventions.[1]

Heloisa Buarque de Holanda goes on to analyze the character of political action among the new generations, pointing to its horizontal organization and the incorporation of personal values.

> I see clearly the existence of a new political generation, in which feminists are included, with their own strategies, creating forms of

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[1] Interview to Juliana Sayuri for Trip Magazine published in the website Geledés: https://www.geledes.org.br/explosao-feminista-heloisa-buarque-de-hollanda-faz-mapeamento-inedito-dos--novos-feminismos-em-livro/

organization unknown to me, autonomous, disregarding representative, horizontal mediation, without leadership and protagonism, based on the narratives of themselves, personal experiences that echo collective, valuing ethics more than ideology, insurgency rather than revolution. In short, another generation (2018: 12).

3. SONORA: MUSICS AND FEMINISMS

Sonora[2] is a collaborative network that brings together artists and researchers interested in feminist manifestations in the context of arts. Sonora started its activities in April 2015. At that time, the group had no name or defined strategies. We just had a shared feeling that we should be together and start something. Over time the group has consolidated and developed a series of regular activities. Sonora currently holds five regular activities: a Study Group, the Voices Series, the Vision Series, the Listening Series, and the Experiment Series. Besides these projects, Sonora has been developing other activities such as podcasts, meetings and symposiums and aimed at political participation towards specific issues.[3]

Although most members of the group belong to the academic community (students, researchers, and eventually teachers), Sonora's actions are not part of the regular University activities. Therefore, the group depends on the voluntary engagement of the participants. As one of its members put it,

> On the one hand, the work that Sonora does exemplifies several characteristics of feminist organisations as discussed earlier and, also, contributes to the production of feminist musicology and epistemology in the country. On the other hand, they also exemplify a typical example of unpaid labour, characteristic of being in the margins of the Creative Industries, of public funding and in the centre of the capitalist dismissal of non-androcentric work. In both cases, the evidence shows how much labour is done to ensure legitimacy and grounds for creating new (and adapting old) ways of knowing and practicing Sound Art. The network is not a start point but a result of a long journey of (unwaged) work, and time, invested by artists in their careers. (De Michelis, Vanessa. (2019: 9)

[2] www.sonora.me

[3] "Out with Temer" Protest, the letter "Children in ANPPOM", a Thematic Symposium, the Encontra Sonora. More recently we started to create a Radio Sonora (a series of radio programs with works by woman, the Painel Sonora (2018), the #re_exista campaign (to avoid Bolsonaro's election), to name just a few.

This network has also carried out other projects focused on the mapping and study of Brazilian female-identified artists who work with music and sound. These projects are centered on an ethical mode of action that favours listening, the exchange of knowledge and the constitution of spaces for the emergence of subjectivities and affectivities. These actions aim to enable someone to tell him or herself, valuing personal memories and trajectories, and unveiling individual and collective poetics.

4. THE CONVERSATION AS A METHOD FOR THE SELF-LISTENING EMERGENCE

In 2016, starting from a casual conversation between two friends we began a research process in which the conversation became the object of investigation. The conversations took place between me and a friend of mine, composer and researcher Valeria Bonafé. At that time, I had just become a mother and she was looking for a better job. Initially, we intended to use the conversations to support each other. Gradually, we also realized that conversation could become a method for exploring our artistic productions. Eventually it developed into a practical-theoretical research in which conversation itself was the main focus of study.

We performed several exercises that involved recording long periods of conversation that were later transcribed and analyzed. This work was summarized in a paper entitled *La conversación como método para la emergencia de la escucha de sí* (2019). In this work we set forth an alternative method for presentation, reflection and analysis of artistic works. In the first part, we present the method – *the conversation* – and some reflections on it. Understood as a privileged space for the investigation of the poetics of the self, conversation is taken here not only as a medium for talking about an artistic work, but also as a place for the expression of ethical, aesthetic and political marks. In the second part we develop the exercise of conversation as a method for analysing two musical works created in 2015: *de perto* [closely], a work by my own, and *Trajetórias* [Trajectories], by Valéria Bonafé. Both works emphasize an habitual regime of listening and provoke, each in its own way, what we call *displacements of listening*. Both for the elaboration of the method and in the discussion of the works, we have assembled a common vocabulary in which concepts such as subjectivity and otherness, habitual and unusual, familiar and the uncanny, were experienced. The article constitutes an initial exercise that could be understood as a *cartography of subjectivity* in the field of artistic creation.

As we state in the paper:

> Listening has acquired a particular relevance in this process, not only because it appears as an object to be investigated from the chosen pieces, but also because it has proved to be a fundamental instance of our methodology. Listening was involved in two moments: during and after these initial conversations. During the conversation, real-time listening created a potential for presence that eventually modulated the *perception of the self*. After the conversation, listening in deferred time opened up a distinct listening dimension: an aural reunion not only with the narrative of the other, but again with listening to self as subject-listener-agent of a conversation. (2019: 52)

The conversation allows the subject to position himself, to listen to someone or something else, and to assume marks. It opens a research field in resonance with a particular practice and criticizing the role that objectivity and neutrality usually occupy in the discourses about artistic making, especially within the academic field.

During our conversation sessions, listening – to oneself and to the other – is taken as an exercise of care and access to the self. Through the exercise of self-listening, it becomes possible to experiment with other ways of inscribing one's own subjectivity, in the processes of musical creation and in the narratives we elaborate on them.

5. DIFFERENCE AND OTHERNESS

In this text I seek to connect the idea of community – as a space for the establishment of differences – and the act of listening as an exercise of otherness. *Difference* and *otherness* are constant components in both mentioned instances. The exposition was based on the presentation of two related projects. The first project concerns to Sonora, a network focused on feminists issues in music, in which various actions establish a space for speech and listening based on collective articulations. Sonora establishes a sense of community from the regular and extensive coexistence of its participants incorporating an ethical dimension of listening.

The second one refers to the exploration of the idea of conversation as an alternative method for presenting and discussing artistic works. For about a year, Valeria Bonafé and I talked regularly about our artistic and academic practices and about everything surrounding them. Eventually, we began to

talk about the *conversation itself*, not as something settled and crystallized in the past, but as a process that we should reflect on as we experienced it.

Although they may be seem too distinct to be placed side by side, these two projects should be understood as attempts to incorporate *difference* from *otherness* and to use the power of collective action to make room for subjectivities. I realized that in the extended time of *conviviality* (living together) and *conversation*, women perceive, express, visualize and understand themselves in relation to what make them invisible, but also in relation to their potentialities and their singularities. In both works I propose an exercise of listening as action: it is a way to systematize the processes of listening to the other, listening to oneself, and listening to places. Ultimately, I am referring to an attempt to listen to my own listenings.

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| Session #10

The Sonology of the Renaissance

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Abstract. The flourishing of Renaissance polyphony and the field of Sonology are compared exposing socio-historical similarities that prepared the grounds for the development of both creative music platforms approaching an understanding of the second half of the sixteenth and the second half of the twentieth centuries in Western Europe as interludes in history that offered special conditions for the manifestation of art that is rich and plural. Also, the use of Renaissance instruments in ancient and contemporary compositions is analyzed, exposing their flexibility in adapting to new aesthetics.

Keywords: Renaissance, sonology, sound-sculpting, rhetoric.

1. INTRODUCTION

Shaping sounds is a human activity that represents the precursor of both music and language. In his book *The Singing Neanderthals*, Steven Mithen calls this single precursor of human communication by: 'Hmmmmm', telling us that it stands as an acronym for "Holistic, manipulative, multi-modal, musical, and mimetic." (Mithen, 2006: 27). He takes us through explanations that present 'Hmmmmm' as the basis that provided our ancestors to develop language and music. (Mithen, 2006: 253). However, as his theory defends;

> Music emerged from the remnants of 'Hmmmmm' after language evolved. Compositional, referential language took over the role of information exchange so completely that 'Hmmmmm' became a compositional system almost entirely concerned with the expression of emotion [...] and was free to evolve into the communication system that we now call music. (Mithen, 2006: 266)

Music is different from language since the units that compose both differ. The latter has an implicit symbolic content, by which associations are made, whilst the first is mainly directed to the emotions without any

concrete referential meaning.[1] 'Hmmmmm" has taken us through a path of challenges and discoveries that has rendered a myriad of approaches of musical enterprises, crafts, systems, sounds, instruments and the shaping of audiences within each of the social, religious and political characteristics of each time in history.

This paper presents a perspective that reveals an inherent preoccupation with the shaping of sound in both the music from the Renaissance and contemporary music practices. Time distance between music historical periods seem to shine an obvious incongruence between their conceptual creative forces. However, this impression might be deceptive. If we come to a closer analysis of the social, technological and philosophical aspects from both historical times, we unveil strong similarities that might translate into discovering that the aesthetic results derive from comparable characteristics. The core of this rationale is that there is a subliminal esteem for experimentalism in both periods, driven by unprecedented technological developments that in turn fostered the development of plurality in musical thought, which is generally divorced from the concept of permanence and essentially based in collaborative creative processes. No wonder that both periods in music have devoted so many efforts to finding ways to extend the pallet of sounds. Whilst during the 15th and 16th centuries more than 40 different sorts of instruments (in many sizes) are known to have existed. Today, many musical creations deal with exploring the capabilities of "traditional" instruments to the limits and introduce a myriad of sound possibilities brought by computer technology. Since indications of instrumentation are absent in music scores from the Renaissance, the interpretation of this music involves the realisation of something similar to what we know as "sound design" that involves the choice and combinations of different timbres according to the intended character idealized for each musical creation. In this paper, these processes of combining instrumental timbres in order to achieve a desirable vehicle for delivering the intended intentions through the use of sounds, for ancient and contemporary music, are going to be explained. This paper presents a comparison between Renaissance and contemporary music pointing fist to the fact that the rediscovery of the "new" ancient music, during the first half of the 20th century, was developed amidst a broader preoccupation and struggle with the *status quo* for more possibilities for cultural enterprises that could bring more music variety.

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[1] For more information on this subject refer to Mithen: 2007 p. 17.

First, the social, religious and technological characteristics of Western Europe during the Renaissance and the 1960's are presented as the basis for the formation and development of art, pointing to their inherent experimental initiatives that contributed to broadening the styles of music creations and appreciation. After discussing the postmodern situation, comparisons are made with respect to the use of mathematics in music during both periods and the "rebirth" of ancient music is discussed, exposing the parallel relation it had with the cultural political movements in The Netherlands during the 1960s that demanded more support for other music styles than the so-called Classical Canon. Furthermore, practical examples of combining timbres of Renaissance musical instruments made at the Research Group on Renaissance and Contemporary Music – Greco – are presented, showing two different versions of a motet by 16ᵗʰ century Venetian composer Gioseffo Zarlino. Also, the compositional ideas behind *Music for Renaissance Instruments* by Argentinian composer Mauricio Kagel are discussed and the implications of the piece *Gradus ad Concordiam*, for recorder consort, by Jorge Grossmann are presented.

2. PLURALITY OF NOW AND THEN

After thousands of hundreds of years since the first attempts were made by humans with regard to music, we stand today in front of a truly unlimited palette of possibilities for sound creations in a world that has become used to having access not only to music from other periods of history, but from other cultures around the world. The transformations of the use of sounds seems to have been fed by the capacity of music creators to transcend limits of different kinds; some technological and some derived from modes of thought within a social set of rules, be them moral, political or religious.

One of the characteristics of the artistic environment in Europe up to the 18th century was a keen interest in innovation. It was a world where discoveries of great importance to humanity took place, such as the study of the real characteristics of the globe, the wide spread use of the printing press, the observation and study of the stars and the human body, religious questionings and even changes in diet brought by important ingredients from the recent discovery of the Americas and from Asia, such as spices, potatoes, tomatoes, sugar, cocoa and tobacco. In this period we even witness big changes in daily life habits, such as the consolidation of three meals per day.[2] Within this great social expansion, music was also in constant

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2 For more on this see: Hill, 1961: 2.

transformation gradually expanding its role in society. The Renaissance during the second half of the 1500's enjoyed relative peace in some places, especially in northern Italy, where a real explosion in art creativity took place. Also, the so-called Humanism, the religious reform and counter-reform, and the dramatic annihilation of Aristotle's thousand years standing geocentric theory (engrained in Christian theology), that claimed that the earth was stationary at the center of a revolving universe, by the heliocentric model of Copernicus in 1543 (Fig. 1), must have changed the absolute control that the church had upon Renaissance society. Gradually, musical instruments were allowed into the church to play the vocal parts of polyphonic compositions, which before were banned for not being "sacred" enough to perform in church.
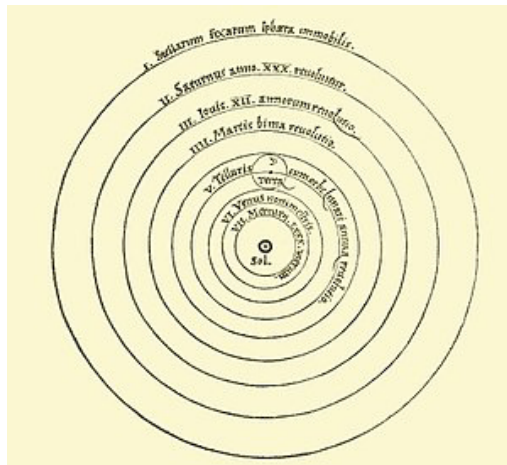
Fig. 1: Heliocentric model of the universe published by Nicolaus Copernicus in 1543.

Music was going through rapid changes and, in the liturgy, was associated with a specific purpose, such as a mass or motet. Usually, written musical pieces were not played over and over again as is customary in concert halls around the world today. This resulted in the fact that, generally, the composer's creation was disassociated with any lasting intention of his work. Even the wide spreading of music scores after the invention of the press, might have had more the role of detaching performers from the duty of memorizing the music rather than retaining the composition fixed in paper for posterity.

It is through this social perspective that many similitudes between the music from the so-called Renaissance period in Western Europe and the rise of new proposals for music performance and composition from the post Second World War period are found. These are times that opened doors for a truly sonic experimentalism that allowed creative musical processes to be directed to *the sound itself. Sounds are to be composed in such a way that they give expression to the musical form. During the Renaissance, since directions to the use of any specific instrumentation are absent, performers could decide the timbre, pitch and the intensity of the sound for each of the compositions, following the inherent intention of the words and a proper balance in the ensemble. For that purpose many different instruments were invented to fulfill the necessities in variety. Michael Praetorius' Syntagma Musicum, De Organografia, lists more than 46 musical instruments, many of them in families up to 8 different sizes.*
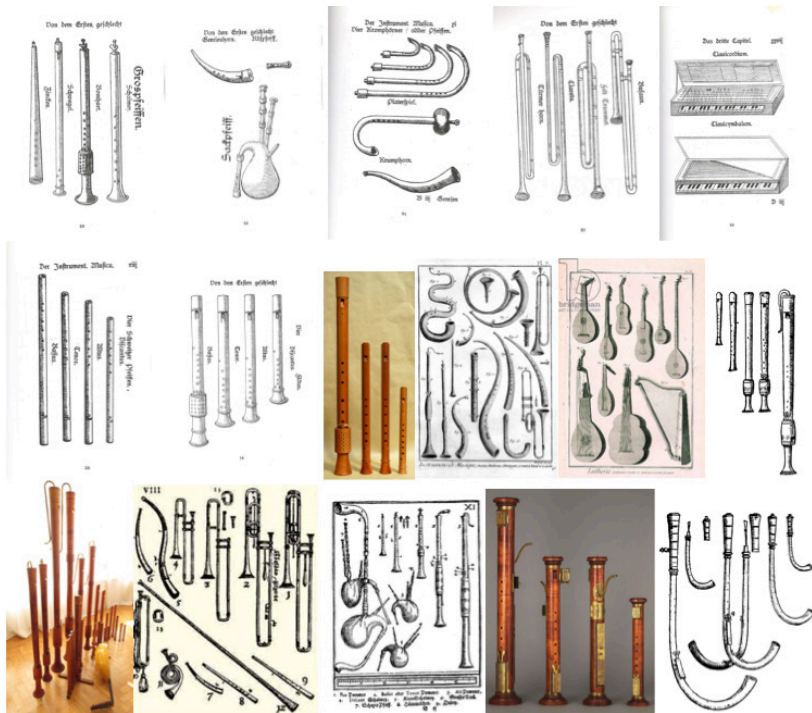
Fig. 2: Instruments from the Renaissance.

Furthermore, the repertoire of that period shows us that composers experimented with a variety of styles for music composition. Given the fact that rhetoric had a subliminal importance at that period and that the corner-stone premise from a rhetorical act is to deliver a message to the audience in a manner that is clear and that retains the attention of the listeners, it might be right to affirm that the style of a discourse must be adapted to every situation, which points to the possibility that the same piece could have been performed in various very distinct manners. If we realize how Western Europe was in constant territorial change during the Renaissance, and as territories were consolidated, how they were heavily defended, we may speculate that the big differences in music styles between regions during that period may have been influenced precisely by the basic principle that led artists to adapt their discourses to the diverse local realities.

For example, it is enlightening to observe the enormous musical wealth existing at the turn of the seventeenth century in Italy. It is a truly pluralistic musical atmosphere in which many different approaches to music coexist such as: the Florentine innovations of the stile rappresentativo, with compositions by Vincenzo Galilei, Giulio Caccini and Jacopo Peri (the latter having been the composer of the first opera: Daphne in 1598), the Fourth and Fifth Libri dei Madrigali, composed in Mantua by Monteverdi following the style of the Seconda Prattica (1590), the first strictly instrumental compositions written for keyboard in Rome by Girolamo Frescobaldi (1608), the chromatic polyphony of Carlo Gesualdo and Sigismondo D'India (ca. 1610) of Genoa and Turin respectively, and the poly-choral pieces of Giovanni Gabrieli presented in the Ducal Chapel of San Marco in Venice (1580-1590) with the flamboyant cori spezzatti. This variety of styles was also accompanied by a variety of tonal centers. While in Venice the mezzo-punto (A = 466 Hz) was used in the organs and the tutto-punto (A = 440 Hz) in opera and instrumental music, in Rome the tonal center was around A = 392 Hz and in Naples and Florence ranged from A = 415-420Hz. Listening to all these music styles we perceive very different approaches in technique and aesthetics, a variety that puts this period of music history as one of the most plural artistic ambiences in human history and one of the richest in variety of instrumental timbres.

On the other side of our dialectic reasoning, we encounter dramatic changes brought by postmodernism in the arts as the middle of the 20th century approaches. It is a time of questioning social conventions in the aftermath of the Second World War and of a growing socio-political dissatisfaction with the system behind the wars around the world. This unrest was mixed

with a rebellious attitude toward accepted forms of modern music which were regarded as inflexible, market orientated and historically incorrect. This effervescent period opened doors for colossal creative initiatives towards abstract art, experimental music, improvisation and music from cultures around the world, seeding the first ideas for alternative systems outside the regimental tonal system and modes of playing beyond those proposed by defenders of chronocentrism.[3]

Essentially, the characteristics of postmodernism in question for our discernment refers to a social and cultural phenomenon which is flexible, creative, based on non-absolute truth, humoristic, multiple and plural. Gerhard Hoffmann, referring to the consequences of postmodernism explains: "[...] something new has occurred, but is finding difficult to crystallize into a defining entity of its own. Unity is here multiplicity [...] of collage without hierarchy. Pluralism is the catchword, pluralism of viewpoints and definitions." (Hoffmann, 2005: 35). The avant-garde seeks pluralism by innovating and exploring new forms which in turn are traduced in expanding the technical capabilities of musical instruments. Since it is in its nature to challenge existing ideas, forms and practices, it usually provokes quite an array of controversy. As in the Renaissance, contrasting musical styles exist today simultaneously after the art revolution of the 1960s. Among the many types of music, we also have art that is impregnated with an ephemeral and plural effervescence of transient characteristics, art that distances itself from the concept of permanence and the idea of "work of art" as perennial creation, which was consolidated during the nineteenth century.

In the realm of the electronic music environment of Sonology, the first ever possibility of having no necessity of a music performer appears and the very idea of composing the sound, as many composers already had applied into acoustical compositions (such as Kagel for instance), solidifies into one field of study. In the welcoming Internet page of the Institute of Sonology of the Royal Conservatory in The Hague we read:

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3 Chronocentrism is the attitude about the interpretation of the music of the past based on the idea of tradition, where for generations the technical and interpretative methods of schools have been preserved, consolidating an almost anthological reputation of those schools in the formation of interpreters during the 19th and 20th centuries. In this way, chronocentrism produces musical interpretations based on premises that never belonged to the historical period of the compositions, where re-readings and adaptations are made to the music without considering the feasibility of gathering information about the characteristics that surrounded the music at the moment of its creation. Chronocentrism is also behind ideas such as the possibility of existing the "best version" of a music composition, since its limited repertoire lies inside a selection of 19th and 20th century compositions regarded as the Classical Cannon. (See Haynes (2007): Part I)

The sonologist moves in the field of electroacoustic music, computer music and sound art. Instead of composing with sounds, as is generally the case in instrumental music, in sonology the sound itself is composed in such a way that it gives expression to musical form. This can take place on the basis of the physical principles of sound, on the basis of perception or on the basis of purely compositional ideas.[4]

Sonology also brings back the connection of music with exact sciences. The interest in the mathematical side of music, inherent in the field of Sonology, it is not unique to the advent of computer technology in the 20th century. Since the 6th century B.C., Pythagoras considered music as an exact science responsible for bringing order to chaos (*Harmonia*) and, during medieval times up to the Renaissance, music was always present as an integral part of the curriculum of the *septem artes liberalis,* namely the *trivium* (Grammar, Rhetoric and Dialectic) and the *quadrivum* (Arithmetic, Geometry, Astronomy and Music). The exact scientific side of music was called *musica especulativa* and made an important part of many treatises on music from the twelfth until the seventeenth century in Europe. It is with no surprise that we witness the use of exact science in the production of music during Medieval and Renaissance times in the form of canons. In an essay, Jaren Feeley identifies the compositions of Medieval and Renaissance canons as algorithmic techniques that a computer could produce using DSP (digital sound processing) techniques.

Canons, as an algorithmic musical technique that can be executed by musicians and computers, is not only a compelling and efficient musical form, but can also be a vehicle for exploring the way we understand and represent music. [5]

Canons were very popular during the Renaissance, many times associated with obscure riddles to challenge performers to finding how they should be played and many times criticized for its clean and exact results, which was a disappointment for ears that wanted to hear the melodic subtleness of polyphonic writing.

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4 http://www.sonology.org/news/introduction-to-sonology (accessed on 02/27/2019).

5 An Essay on the Representation of Algorithms in Music, in: http://www.jarenfeeley.com/representing-musical-algorithms-renaissance-canons-and-computer-music/ (accessed on 02/28/2019).

Fig. 3: Canon En venant de Lyon de Adrian Willaert from the superius part book of Ms. Q21 (ca. 1521) from the Museo Internazionale e Biblioteca della Musica di Bologna.

Summarizing, during the second half of the 20th century, the *avant-garde* gave birth to a variety of initiatives in music composition and performance. Within the fruits of this movement lays the rediscovering of ancient music, proposals for new music styles that extend the technique of musical instruments, the amplification of aesthetic ideas, and the rise of electronic music and Sonology. It is the idea to bring forward that the simultaneous upbringing of this manifestations is no coincidence and point to the possibility that these results from comparable technological developments, relative peace after long periods of war, the questioning of religious and human values and the setting up of curious enterprises in the arts detached from a preoccupation with posterity and with high content of politics and experimentalism from 1550's and 1950's.

3. THE CONTEMPORANEITY OF ANCIENT MUSIC

The new aesthetics in the arts that multiplied during the first half of the 20th century need to be viewed as a reaction to the social factors that are determinant, such as the postmodernist questioning of social conventions in the aftermath of the Second World War. Many contemporary music aesthetic proposals were very much influenced by the post-war counter-movement

that embraced pacifist and anti-materialistic values aiming to expose the need for social change and the preoccupation with spiritual integrity. Already before World War II, experiments such as Dada and Surrealism pointed towards a direction of reformulating socio-political concepts and adopted an increasing emphasis on art as process. "This interest in process was part of a larger reaction against the nineteenth century ideal of the creative process as it was symbolized in the concepts of genius, individuality, permanency and privacy." (Smith & Dean, 1997: 21). A postmodernist idea comes from Judy Lochhead when she considers the changes in the concepts of time and space as relevant for thinking about music. She tells us that because of the technological developments, the rapidity of world travel, and the accessibility of far away places and long-ago times; knowledge has become "situated" rather than "absolute." (Lochhead, 2002: 6). From this perspective, postmodernist thought is based on non-absolute truth in which the creator and receiver form together the "meaning". If we consider the new category of musical concept proposed by the ancient music movement and some of the musical enterprises resulting from the contemporary music movement, it is evident that both appeal to the postmodern thought which is referred to as a force contrary to modernistic concepts such as finished work and art object.

One of the characteristics of the *avant-garde* movement during the sixties was the radical socialism that attracted many artists that were politically aware and active, which produced an idea of music based on ideologies derived from the works of Freud, Goodman, Marx and values suggested by Eastern religions (e.g. Zen Buddhism), (Smith & Dean, 1997: 19). If we look into the depths of those new expressions it becomes apparent that its significance is greater than a mere platform for musical expression. The majority of the *avant-garde* music creations established an emphasis on art as process in which human values and ethics play an important role. It is no surprise then that its inherent collective ethos reflected, for instance, Marxist principles of political equality and co-operation. It is important to note how this movement was significant in the sense that it defied the status quo by opposing censorship, war, inequalities, discrimination, commodification in an object-oriented-market and economic repression. The decade of the 1960s was the scene of important social and political demands, where the status quo was strongly questioned giving way for the spreading of manifestos with tough content against the expansion of imperialism and wars.

This is the environment in which the Historically Informed Performance was conceived, which is the movement that "revisits" ancient music. Is an

essentially modern practice that seeks to adhere to a historical way of thinking which means nothing more than to critically interpret all available evidence in order to feed our minds and expressive capacities in the optimistic pursuit of authenticity. And it is this quest that makes authenticity, as Haskell claims, "better conceived as an ideal to be followed rather than a goal to be attained" (In: Haynes, 2007: 227). Although the buds of the return of the old instruments appeared in England at the beginning of the nineteenth century, it was in the Netherlands that the movement gained great impulse, becoming not only extremely popular but also incredibly profitable. A very important occurrence for understanding the connection between ancient music and the 20th century music *avant-garde* came from the manifestations against Dutch cultural policies during the nineteenth sixties where claims for more space for the presentation of a more varied music repertoire went hand-in-hand with the ancient music movement that brought a definitive return of the "original" instruments to the sphere of music, whether professional, amateur or in education within the cultural and political events that took place in Holland.

The movement entitled *Notenkrakers*, whose name derives from the word noten, which in Dutch means both walnuts and musical notes, was a group formed by students of conservatories, composers and young musicians. They interrupted on November 17, 1969 a presentation at the prestigious theater of the Concertgebouw of Amsterdam, protesting against the musical program that they considered conservative and with fossilized repertoire, elitist and of non-democratic nature as well as directed by commercial interests such as capitalist conglomerates like Philips and the airline KLM (RUBINOFF, 2009, p.1- 2). The strengthening of ancient music stems from a wider concern to reclaim space and financial support for a broader variety of music, including contemporary music. Kailan Rubinoff reports:

> A number of key musicians involved in both historical performance and contemporary music successfully mediated between the two worlds, in terms of both their choice of repertoire and their social activism. Chief among them was Frans Brüggen, one of the leaders of the recorder revival and also an outspoken supporter of the *Notenkrakers* and of new music. (RUBINOFF, 2009, p.3)

In fact, since 1965 there had been a number of protests against the Dutch orchestras programming with the claim that their programs were too conservative. The *Notenkrakers*, taking measures to have someone with experience in the contemporary repertoire conducting the orchestra of the

Concertgebouw in Amsterdam, wrote a letter asking to invite Italian composer Bruno Maderna to perform as conductor together with Berhardt Haitink. The letter was never answered. Although for years, no significant change had occurred in concert programming in the Netherlands, despite all the protests, the impact of the *Notenkrakers'* actions gradually transformed the musical life of the country. In addition to Frans Brüggen, the *Notenkrakers* were formed by the group of composers entitled "The Five": Louis Andriessen, Reinbert de Leeuw, Misha Mengelberg, Peter Schat and Jan van Vlijmen. Members of "The Five" refused to write compositions for symphonic orchestras, forming several specialized ensembles to interpret the compositions of the group and many embraced the use of electronics. While Peter Schat co-founded in 1969 the Studio for Electro Instrumental Music (STEIM) in Amsterdam, Gottfried Michael Koenig inaugurated the Institute of Sonology in 1964 in Utrecht. Before that, in 1953, the Studio for Electronic Music of the West German Radio was already presenting the sound experiments of Karlheinz Stockhausen and, after, in 1970, Pierre Boulez would inaugurate the Institute for Research and Coordination in Acoustics/Music (IRCAM), in Paris.

In this way, the emergence of the historically informed music movement lies parallel to the emergence of other European initiatives during the 1960's that opened space for a diversity of musical practices, transforming the cultural scene into a vibrant atmosphere in which, in addition to groups specializing in early and contemporary music, new manners of musical expression could thrive such as free improvisation, experimental jazz and an array of instrumental inventions in the field of electronic music and Sonology. Ancient music should then be considered a musical movement that results from the European *avant-garde*.

4. SOUND-SCULPTING WITH ANCIENT INSTRUMENTS

At our research group GReCo, we have possibilities to conduct experiments in building sound textures for the compositions of the Renaissance. In these processes, the combination of timbres is tested in many combinations and decisions are taken for the most suitable solutions. Another activity of GReCo is the collaboration with composers for elaborating new repertoire. Three different cases are explained next: (1) the experience of combining timbres in a motet by Giseffo Zarlino, (2) insights of Mauricio Kagel's composition *Muziek für Renaissance-Instrumente* that will help us understand the nature and flexibility of the instruments from the Renaissance and (3) the process of composing *Gradus ad Concordiam*, for recorder consort by Jorge Grossmann.

4.1. Renaissance sound-sculpting

A common knowledge regarding instrumental music from the 1500's in Western Europe was the aim to imitate the human voice. This, in turn, was also attached to rhetoric in the sense that inflexions made to the sound should follow the implicit intentions of the texts and the rules of the melodic theory employed for music creations within the system of hexachords during the Renaissance. The combination of natural, hard and soft hexachords**6** together with decisions based on the texts for choosing the directions of melodic lines and the different intervals used for polyphonic compositions, allowed composers to shape their music into creations that strove for equilibrium between the sounds and the intentional content of the texts.

In his *Practica Musica* Hermann Fink mentions: "The treble should be sung with a delicate and sonorous tone, the bass, however, with a harder and heavier tone; the middle voices should move with uniformity and try to match themselves to the outer parts sweetly and harmoniously." (Kirkby, 1961: 113). As Gary Towne informs us:

> Tempo, dynamics, rhythmic variety, and melodic invention combined with timbral and spatial contrasts to provide seventeenth-century music with unprecedented sumptuousness. The rich variety of musical effects provided essential vehicles for the abundant and powerful emotional affections so central to seventeenth-century aesthetics. (Gary Towne, in Kite-Powell, 2012: 63).

Furthermore, reinforcing the intentional content of the composition could also employ an approach of combining a diversity of timbres and even registration. Michael Praetorius gives us solid information about the use of registration and timbres in his 1619 Syntagma Musicum Book III.

> It is not objectionable to the ears if the vocalist in the group is doubled at the upper or lower octave by an instrumentalist playing cornets, violins, recorders, sackbuts, or curtails. Some melody instruments, principally recorders [...] are always to be calculated one or two octaves higher. (Praetorius, 1619, Book III: 107).

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6 Hexachords are part of what was known as the gamut, which was a set of 20 notes from low G to e, divided into parts of six notes that always would have the intervallic organization of tone-tone--semitone-tone-tone. Besides the naturalis (in C), hexachords could be hard (durum) if the si was natural (in G) and soft (mollum) if the si was flat (in F).

Praetorius compares the idea of putting voices and instruments together and using unisons, octaves, super octaves and sub octaves similar to the system known to organists as "stops" and expresses enthusiasm for combining many instruments.

> Given an ample number of instrumentalists, the tutti sections produce a magnificent sound [Harmoniam] if one assigns to the bass part an ordinary or bass sackbut, a chorist curtal or bass shawn – all at actual pitch, in addition to a double bass sackbut, a great bass curtal or shawn, and a violone, which all sound an octave lower, as the sub- or contra-basses on the organ. (Ibidem)

In the experiments conducted at GReCo, the following situation occurred when preparing a 6-part motet by Venetian composer Gioseffo Zarlino (1517-1590) with the text *Miserere Mei Deus*. Zarlino presents us the combination of four voices which follow a typical imitative polyphonic composition and two other voices that, having even a different text, perform a *cantus firmus* in canon. The canon uses very long notes in its structure and brings us the problem of balance with the other more active voices. After some experiments in doubling the canonic voices with more instruments, namely curtal, recorders, viola da gamba and traverso, we achieved a result that brings the sound of the slow *cantus firmus* a bit to the front in the performance. In the examples from the links below its is possible to notice the difference between two versions of the same excerpt, one that uses registration in the canon at 8', 4' and 2' feet (which means putting instruments in the same voice playing in unison, an octave higher and two octaves higher respectively) and another which only utilizes a curtal and a bass recorder in C for the canonic layer.

https://soundcloud.com/user-519752854/miserere-registrado

https://soundcloud.com/user-519752854/miserere-sem-registracao

There are many other possibilities of combination that remain available for this motet; characteristic that reinforces the ephemeral condition of the repertoire during the sixteenth century and the detachment from composers from controlling the performances of their music.

4.2. Mauricio Kagel Muziek

Argentinian composer Mauricio Kagel composed *Muziek für Renaissance-Instrumente* in 1965 and uses 23 musicians in a truly orchestral ensemble of Renaissance instruments (Fig. 5).

Fig. 5: Part of the score of *Muziek für Renaissance-Instrumente* from Mauricio Kagel.

Kagel explains, "all the Renaissance instruments required for my composition were represented in the Theatrum Instrumentorum of the 'Syntagma Musicum' (1619) by Michael Praetorius."[7] He chose instruments from the Renaissance period because, in his words, "these instruments correspond to my concept of sonority better than any present-day stringed and wind instruments."[8] The intent shining from his comment points to the sole objective of utilizing the sounds of the instrumentarium with no referential pole to the repertoire they originally performed in the past. Kagel also mentions "each instrumental part of this work was composed like a solo line" and that his objective in composing this piece was an attempt "to reverse the normally accepted view on the subject of composition of tone colour."[9] It becomes clear that Kagel's mind-set is one of sound-sculpting, an experimental process with sound proper of the field of Sonology. Also, as Ramalhoso Alves

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7 From the liner notes of the CD "1898 & Musik für Renaissance-Instrumente".

8 Ibidem

9 Ibidem

writes: "In addition to proposing a renewal of compositional practices in the second half of the twentieth century, *Musik für Renaissance-Instrumente* seems to provide elements for a reflection on the use of old instruments." (Ramalhoso Alves, 2015: 88). And it indeed does present an avant-garde idea of detaching the instruments completely from their tradition, exposing them to new aesthetics and opening a pristine new musical path to follow.

With no allusion whatsoever to ancient music, this piece follows a clear aesthetic derived from Kagel's experiences with electronic music. This is known as a technomorphic composition. Resorting to effects that are possible to perform with the instruments, Kagel does not pretend to explore extended techniques but acknowledges having played the instruments to discover their tonal function, developing the performing techniques beyond the conventional limits and generating a whole new array of sound possibilities from those instruments.

Although the sound does not show any reminiscence of Renaissance music, the similarities with inherent characteristics of Renaissance polyphony are present in the structure of the piece, since he acknowledges to have composed by using "solo lines" that combined produce the overall result. Furthermore, Kagel presents the non-hierarquical harmony generated by this composition in a very flexible manner, in which many versions are feasible.

> Other versions of the work are also possible, using any number of players from two to twenty-two, in every combination of instruments drawn from the original scoring. These reduced versions are entitled "Chamber Music for Renaissance Instruments. The concept of an *ad hoc* orchestra made up of whatever instruments are available – in accordance with the performing practice of the Renaissance period – is here taken literally, so that a degree of variation is possible which cannot be foreseen by the composer. [10]

Although Kagel keeps the essence of Renaissance polyphony in his composition, it produces an aesthetic result which has no reminiscence whatsoever of ancient music.

4.3. *Gradus ad Concordiam* for recorder consort

As part of the objectives of GReCo, composer Jorge Grossmann composed in 2016 a piece for 5 players using a consort of 11 recorders. It is worth

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[10] Ibidem

mentioning the process of composition of this piece by Jorge Grossmann, which involved many revisions and the adaptation of the composer to the mesotonic tuning with pure thirds, which in his opinion opened a new sonorous world. *Gradus* works in such harmony with the organism of the Renaissance recorders that emerges the idea that the consort of *flauti* has surfaced from a hiatus in its existence to continue to develop its splendor within the musical languages of the 21st century. In his own words Grossmann tells us:

> Meantone temperament began to be used in the early Renaissance. The system was paramount in the development of polyphony. If one thinks of one interval that defines the beginning of the Renaissance, that interval most likely would be the third. And it is for that specific reason that meantone temperament values pure thirds the most. This is also the reason why Renaissance music (and later music, for that matter) played in meantone temperament reveals its full harmonic color and pathos, which cannot be achieved in, for instance, equal temperament. As fascinating as this may be, I had little idea how much meantone temperament will come to alter the conception and structure of my piece as a whole […] This apparent caveat turned out to be a true epiphany for me. As soon as I tuned my keyboard in meantone, I discovered a different world altogether. The "steps to harmony" had literally become my own [baby] steps toward a new harmonic world.[11]

Once again, the piece offers a coherent harmony between the balance of the voices but with the introduction of an aesthetic which is very different from Renaissance polyphony and yet also very different from Kagel's proposition. Very demanding in rhythm and tuning, Gradus is structured in a series of three ascents from unison at a low note to a higher note. Also, after each of the ascents a chorale is played. This creates a balance between the unsettling character of the ascents with the peaceful atmosphere of the chorales, creating a totally new result of sound colors from the recorder consort. An excerpt of the piece is available in the link below.

https://soundcloud.com/user-519752854/gradus-ad-concordiam-excert

5. CONCLUSION

We can observe that the initiatives of finding new possibilities of repertoire for Renaissance instruments use the idea of harmony and its significance during the Renaissance, that was the superimposition of several melodies.

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[11] From the composers blog: http://www.shadowofthevoices.com/file/Gradus.html

In essence, the pieces of Zarlino, Kagel and Grossmann have this structural characteristic in common although their aesthetic results are radically different, since they are orientated to produce sound colors that serve each of the sound ideal of each composer. Whilst for Zarlino the aim of the melodic lines is to follow the inherent nuances that derive from the Renaissance melodic theory and the rhetorical guidance, for Kagel the flexible composition of *Muziek* concentrates in proposing a new set of sounds from the instruments that, purposely or not, remind us the aesthetics of computer music in what it is called as a technomorphic composition. In the case of *Gradus*, the "normal" technique of the recorder consort is kept but stretched to the limits of instrumental technique in a piece full of rhythmical and tuning challenges.

Harmony from the perspective of Renaissance music involves the preoccupation with the sonic result derived from combining several layers of sound. During the *cinqueseicento*, this practice opened broad possibilities for combining several sounds from newly invented musical instruments. This practice may have developed into very intricate and rich initiatives in the building of sound, as in the contemporary field known today as Sonology.

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Lo-fi as Limit: Audio Quality and Empty Signifiers in the 1990s

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Abstract. This article examines the language used to describe audio recordings in the 1990s, with emphasis on popular music magazines in the United States, via Ernesto Laclau's theories of signification. Two levels of signification are examined: first, use of the word "lo-fi" to describe a disparate range of sounds, both as praise and critique; second, a broader practice of using the particular terms of audio quality (or fidelity) to describe social fullness and lack, in general. I conclude that "lo-fi," which was once used to signify resistance *to* "slickness," comes to signify slickness itself. Future work will examine the "raw" as a concept that escapes signification altogether.

Keywords: audio, fidelity, lo-fi, signification, music criticism, Ernesto Laclau

1. INTRODUCTION

"The recording is lo-fi (how long will it be until that word is beaten into the ground?) as all hell," wrote Joshua Brown in a fanzine called *Lollipop* (Brown, 1995)*.* In this quotation, Brown uses the descriptor "lo-fi" to approximate the loud, rough character of the recordings of post-punk band godheadSilo, which he praises. He implies that this word is cliche or banal, even as he apparently finds it useful in approximating the band's sound. Perhaps most interesting is the syntax of his sentence—he interrupts his thought with a parenthetical aside, in which he asks when critics will finally stop using the word "lo-fi" to describe popular music.

During the years around 1995, the terms of audio fidelity were at a height of conflict. The word "lo-fi," or "low-fidelity," is one example of a term used to describe audio quality that appeared widely in this era, as I discuss further in my dissertation (Newton, forthcoming). As we can see, the word became so widespread that it was starting to seem overused, and critics were beginning to view it as meaningless.

In this article, I will apply ideas from Ernesto Laclau's 1996 text *Emancipation(s)* to the case of audio quality in this time, with the goal of contextualizing

then-contemporary understandings of that concept (Laclau, 1996). In particular, Laclau writes about the process of a sign, or a signifier, becoming emptied, which I suggest as a useful way of understanding the changing relationship between the word "lo-fi" and what it is thought to represent. Laclau focuses on the moment when something can no longer be represented by a sign at all—a point that he calls a "limit." In his definition, a limit is something that, by definition, cannot be signified; a limit must show itself as an interruption or breakdown. He elsewhere calls this the "real," the limit of signification, and here I will consider how "lo-fi" might mark such a limit.

2. RESISTING THE "SLICK"

In 1992, the record producer Rick Rubin said, in an interview with *Music Producers* magazine, "I hate technically slick records that have no sense of emotion" (quoted in Bennett, 2009). This was a widespread feeling in the 1990s. But what exactly *is* slickness? We might expect that the word has something to do with audio quality, the character of the recording that "mediates" the musical performance on record. Somewhat differently, though, Rubin defines slickness as something technical, and therefore counter to emotion. My forthcoming dissertation will argue that, in this era, slickness emerged as a structure that fetishizes signification—in other words, that fetishizes the representation *of* emotion, even at the expense of emotionality "itself."

Music critics used the idea of "slickness," a word associated with the particular issue of audio quality, to attribute inauthenticity to music more broadly. Slickness and related terms such as "polish" became a way of describing art that seemed bad in many ways: whether corporate, overproduced, or uninspired; dishonest or phony speech or action; or anything expensive, excessive, or ostentatious.

Many critics in this era claimed to prefer whatever was *not* slick, and therefore more authentic. For example, in 1993, Scott Lewis praises the poor audio quality of the band Skinny Puppy, using the terms of slickness in relief, recasting the band's seeming weaknesses as positive traits. Of their "rough" sound, he writes, "I consider both 'faults' to be assets, as I find Skinny Puppy's later material to be slick, boring dance music masquerading as avant-rock. Here, the rough edges show" (Lewis, 1993: 124). By contrasting the "rough" with the boring, "slick" music, he praises them.

Samantha Bennett offers one specific example of "slickness" when describing the song "Never Gonna Give You Up" by Rick Astley, released in 1987.

She calls it "shiny," noting the delays added to tails of alternate vocal lines, a technical choice that enhances the effect for the listener. She elaborates:

> Delays have been added to the tails of alternate vocal lines and the backing vocals have been 'flown in' from a Publison—a high-end sampler that could record longer samples in stereo. The result is a highly distinctive, 'shiny,' uber-produced record; a number one hit was ultimately achieved (Bennett, 2009).

By contrast, when describing "Gigantic" by Pixies, released in 1988, Bennett notes the overall "coarse" sound of the recording, suggesting this to be the result of minimal effects being applied to the tracks (Bennett, 2009: paragraph 40). In each of these cases, slickness is situated against the rough and coarse. As a result of this interest in the "raw," the ethos of "lo-fi," by the time Joshua Brown used the word, became a crucial mode for resisting or critiquing qualities associated with slickness, and a way of celebrating supposedly "authentic" emotional expression.

Widespread valorization of raw, lo-fi sounds was the manifestation of broader cultural trends that resisted whatever seemed too "polished." For example, in 1994, Bill Meyer would go so far as to characterize his entire era as "over-polished," framing the album *Vampire on Titus/Propellor* by Guided by Voices as a rare exception: "In a day of bloated, boring, over-polished discs, it is a joy to find one that is too short at 67 minutes" (Meyer, 1994: 109).

This phenomenon emerged alongside growing skepticism about the emergent "information highway" during Silicon Valley's boom in the United States, among writers who resisted "mainstream" prioritization of productivity and efficiency. In the 1995 essay "Info Fetishism," Doug Henwood uses the terms of slickness (here, "gloss") to express concern about cultural shifts in urban production: "If you strip away the high-tech gloss, this future looks in many ways like the nineteenth century or even the early days of the Industrial Revolution," he writes, suspicious that growth in technology industries, although a cause for celebration to some, should instead be interpreted as "frightful and immiserating" for the majority of the world's workers (Henwood, 1996: 170). He examines urban economic trends that discouraged manufacturing and encouraged the development of the "postindustrial information economy," one which employed "symbolic analysts," immaterial laborers whose currency was data (Henwood, 1996: 165). Other contemporary texts such as *Bad Attitude: The Processed World Anthology,* a compendium of comics and essays from the 1980s, expressed similar views, with a similar tone (Carlsson and Leger, 1990).

In my dissertation, I will regard this suspicion toward the data economy as indicative of a broader shift in critical thought in the 1990s: an emergent belief that the usefulness of the analytic framework of signification (of slickness) had been exhausted. Below, my example will be the work of Ernesto Laclau, especially his concept of the "empty signifier."

3. EMPTY SIGNIFIERS AND THE CHAIN OF EQUIVALENCE

In his 1996 book *Emancipation(s),* Laclau defines an "empty signifier" as a signifier without a signified, one that points, within the process of signification, to the "discursive presence of its own limits" (Laclau, 1996: 36–37). First, he establishes that any given unit of signification involves both a logic of equivalence, and a logic of difference; he then argues that, within a system of empty signifiers, the logic of difference must be subverted so that unlike things can be understood to resemble one another.

In what Laclau calls a "chain of equivalence," a series of signifieds come to be equivalent within the unit of signification, such that they can all be represented by the same signifier (Laclau, 1996: 57–58). In the case of audio quality in the 1990s, for example, disparate musical attributes (e.g., minimalist instrumentation, confessional songwriting, or low bandwidth audio storage) all come to be identifiable as "lo-fi." As a result of this chain of equivalences, and of the emptying of the word/signifier "lo-fi" of its particularity, the word eventually comes to signify *not* any particular musical attribute, but rather authenticity more broadly. A critic can use the word "lo-fi" to describe music that they perceive, for whatever reason, as authentic.

Laclau argues that society generates a vocabulary of empty signifiers; a particular signifier's content is drained of any particular meaning, so that it represents a totality. Something particular divests itself of particularity in order to represent an impossible object, an ideal. During this process of emptying, "temporary signifieds" emerge to fill the role of the emptied signifier, which Laclau suggests is the result of a political competition; politics is the process of a particular become universalized (Laclau, 1996: 40).

In the case of audio quality, I am interested not only in how "lo-fi" is emptied of its particularity in order to signify a range of disparate musical characteristics, but also in how the word "lo-fi" itself then comes to be taken as somehow representative of a social situation more broadly. For example, in 2009, Greg Milner would write, in his book *Perfecting Sound Forever,* "[O] urs is a lo-fi world" (Milner, 2009: 356), as though this "lo-fi" quality pervades

not only particular recordings but experience at large. Through what Laclau might call a "chain of equivalences," the perceived authenticity of particular recordings is transferred to more general conditions of contemporary life.

4. THE HEGEMONIC RELATION

The next step in Laclau's argument is the most important. After establishing the importance of empty signifiers, he argues that the presence of empty signifiers is a condition of a particular political phenomenon, hegemony. This situation produces instances of what he calls the *hegemonic relation,* "a relation by which a particular content becomes the signifier of the absent communitarian fullness" (Laclau, 1996: 43). This occurs, he argues, through a double movement. First, the communitarian and repressive forces in a system each become less differentiated and more general; secondly, this emptying of the particular makes it possible for the empty signifiers to emerge as signifiers of lack within the system (Laclau, 1996: 42).

At this step in the process, what once signified fullness in fact comes to signify the absence of fullness. Laclau uses the example of "order" in society. He writes, "The experience of a lack, of an absence of fullness in social relations, transforms 'order' into the signifier of an absent fullness" (Laclau, 1996: 60). He adds that other ideals (e.g., justice, freedom) can work in similar ways. I suggest that audio quality might be thought to also operate in a similar way.

For example, in an interview from 1997, the songwriter Elliott Smith was asked whether his music should be considered "lo-fi." He responded:

> Lo-fi's just like anything else; it gets blown out. Lo-fi reminded people of certain things: You could do something that was cool without going into a 'real' studio. But then lo-fi got blown out just like every other box that people put themselves into, until it becomes, like, a fetish (Hunter, 1997).

Just a few years earlier, Joshua Brown had described godheadSilo's sound as "lo-fi," asking how much longer the term would retain its meaning. By 1997, apparently, Smith and probably other critics viewed the word as nothing but a "fetish." Smith's articulation here exemplifies Laclau's idea of the hegemonic relation, whereby his experience of lack transforms the word "lo-fi" into a signifier *not* of authenticity, but of its opposite, inauthenticity.

Laclau argues that empty signifiers represent systematicity that is "constitutively unreachable"—a limit. By definition, the limit itself cannot be represented; it can only be shown as interruption (Laclau, 1996: 37). With this in mind, the quotation by Joshua Brown that opened this article takes on new resonance. His parenthetical aside appears explicitly as an interruption, marking the limit of not only the word "lo-fi," but of contemporary critical tools for discussing music and sound more broadly. By 1997, Smith and others would see the word and identify it only with lack, with absence.

5. CONCLUSION

I have suggested that Ernesto Laclau's ideas about signification, which are contemporary with the period of audio reproduction under discussion, offer one useful framework for theorizing the relationship between the particular and the universal in this time, in order to more deeply understand the changing relationship between language and the musical sounds that language captures.

In the history of recorded sound, "lo-fi" was once used to describe music recorded with less-than-optimal conditions or sound. In the early 1990s, this word rapidly became a signifier, instead, of *good* music—music that was understood as pure, genuine, or authentic. However, by the end of the decade, the word would again become a signifier of lack, of something less than a full potential. It then signified the very slickness that the word, just a few years earlier, was meant to dismiss.

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New Noises New Voices

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Abstract. As an artist interested in Noise, and a CODA (child of deaf adults), I will tackle the issue of noise and counterculture from the entry point of deafness and un-cultured voices. In ableist societies the voice is a cultural product, and certain voices, perceived as "other", flawed, "noisy", can open up discourses related to shared sonic spaces, disruption, and inclusivity. Soundscape is here described as a social and political environment, and the bodies immersed in it are considered according to the entire spectrum of their capacities, beyond listening, in rhythmanalytical terms. The understanding of the soundscape within the thresholds of audibility expels and rejects communities which carry the stigma of "handicap", such as Deaf communities. Despite being considered disabled, or deviant, Deaf bodies can be the starting point for a renewed consideration of soundscapes and their related political frameworks of control. Deaf culture is for me the last example of counterculture in all-speaking and all-hearing ableist societies. This theoretical exercise is accompanied by examples from contemporary art and technological-historical references, sketching examples of "acts of silencing" and "acts of noising", while underlining the value of "deviant" bodies as resistant bodies.

Keywords: noise, deafness, voice, counterculture, soundscape, vibration

(INTRO-)SOUND-

Sound is something we inhabit, it happens to us, it is immersive. The aural environment is on the one hand the realm of sharing, of community, of sociability, of sense of belonging, on the other it can be used for social coercion and control.

The soundscape can be defined noisy, the incessant hubbub accompanying our everyday activities. Noise, if we refer to its relational feature, could be any element of interference or disruption of our soundscape, our habits.

Noisy sounds are not always worth the definition of Noise.

"As a discrete object in itself, noise resists interpretation" (D. Novak, 2015: 126), in itself, taken out of the relational entanglement, it cannot be defined. When perceived as disruption, noise is that something we do not recognise

immediately, it annoys us, it puts us on the alert, it signals something new, different, uneven if compared to our aural customs, however noisy they might be.

-SCAPE(-DUCTION)

Soundscape is here for me a reference to decode social and political realities. Soundscape is mostly referred to and defined according to the limits of human audibility. I want to go beyond these boundaries, giving less preponderance to hearing, and look at the relation among bodies, and between bodies and their surroundings, on more haptic terms. This means considering the bodies' potential of affecting and being affected, and re-considering their entire spectrum of capacities, in order to diminish the relevance of certain deficiencies from the normative hearing standpoint.

This can lead to a more rich and transformative relationship with the body, as a generative core of undisciplined voices.

NOISESCAPE

Noise became a topic of discussion since the industrial revolution, and it emerged as such from the mechanisation and the industrialisation of the everyday life, generating at first health concerns, to then become that amount of "sounds we learned to ignore". This doesn't mean that before the industrialisation the soundscape was less noisy, we could say that it was differently noisy.

The difference between pre-industrial and industrial era's noises then can be measured in terms of habits.

Moreover, each and every site has its own specific sound qualities that are affective, symbolic, religious, customary, political, and ecological, defining the aural landscape, giving structure and pace to the everyday life, generating sense of belonging, relationality, territorialisation, agency, and behavioural structures. We get accustomed to different sounds in different situations, and when they cease to be (to "sound") new to us, we also stop to notice them: we either ignore them, or we react automatically to them on account of our established set of habits.

A PERSONAL SOUNDTRACK/A PERSONAL SILENCE

When detached from the possibility of sharing, within the noisiness of the soundscape and the decoding possibilities offered by cultural habits, the isolated individual is perceived as noise.

I have two examples with regards to this: the possibility of creating a specific and individual soundscape of one's own within the soundscape we share with our fellow citizens, and the actual deafness, which immunises individuals against the harms (or the seduction, the indoctrination, the contamination, the sharing) of the soundscape of the city life.

From 1979 the walkman revolutionised entirely the everyday aural experience of the people. It enabled individuals to physically shut their ears with shells of sounds which could be superimposed on the aural cityscape.

It gave people totally private worlds; "before that, people never thought they could take music with them and control their listening environments". (M. Bull, 2004)

In 1989, Rainer Schönhammer, professor at the University of München, conducted a research about the effects of the use of the Walkman in public space. His point of view was biased by the irritation he felt towards those he defined as "earphone beings", described by equally irritated interviewees as "dumb, childish, immature, silly, withdrawn, unwilling to communicate, egocentric, narcissistic, autistic, and so forth." (Schönhammer, 1989: 129). While introducing his field research he states that the headphones, appearing strange to the observer, would lead him to "attribute negative traits to that person." And he says: "the xenophobic attitude evoked by earphones is often expressed in a specific way: the strange being with earphones is not just 'different' but 'isolated'. It is the separateness, the isolation of the earphone being that makes him or her strange." The person who listens to a private soundtrack is accused of erecting walls and barriers, instead of breaking them down. Schönhammer states: "we see the earphone user as living in a private acoustic world, which we are unable to share. This seems to interrupt a form of contact between 'normal' people in a shared situation, even if there is no explicit communication at all. People with earphones seem to violate an unwritten law of interpersonal reciprocity: the certainty of common sensual presence in shared situations." The thesis of the "reciprocity of perspectives" is introduced by Schönhammer in order to clarify further his previous statements: "the subject whose perspective cannot be taken over cannot be 'human' or 'normal'" (Schönhammer, 1989: 130).; meaning: the

inaccessibility of the individual soundscape of a Walkman user makes his or her perspective impenetrable as well, the consequence of this being the fact that the "earphone being" ends up being described as a social misfit, an alien, in xenophobic terms of irritation, separateness, distance. She/he is just a spectator at, and not participant in, what is occurring around her/him.

A partial immunity from the city rumble is also given by the physical condition of deafness. There is not just one "kind" of deafness, and each deaf individual has a different residual capacity of hearing. The soundscape can be perceived in different ways by deaf people. Background noise makes people more alert and engaged; it is important to hear the small background sounds around us, because they help us to feel alive. The inability of identifying sources or nature of sounds (in hard of hearing people for example) is rather preferable to a total lack of the "backgroundness" of sound, defined as an advantage, since it situates a person in place and time. For a deaf person that very "backgroundness" could be represented by the sensitivity to substrate vibration, relying on more haptic, senses. However, deafness is not just about the deaf/hearing binary, but it implies a whole spectrum, as much as other conditions of life regarded as "disabilities" don't need to be generically opposed to normalcy.

NOISY CONDITIONS/UNDISCIPLINED BODIES AND ENTITIES BEYOND CULTURE

I will borrow from Husserl a distinction in relation to the body. Husserl divides the conception of body using the linguistic distinction of the German words Körper and Leib. On the one hand Körper is the "object-body" or "representation-body", that is: the body which occupies a certain space, it is measured and measurable, it could define either animated and non-animated bodies. On the other end, Leib is the body which experiences, the lived and living body, conceived in its wholeness, it is the body that "I am", not that "I have". If the Körper is juridical and biological, the Leib is perceptual, affective, emotional.

Accustomed to the perception of the body as object of medical investigation, as a private property with rights and duties, we lose the contact with the Leib in its full multifaceted manifestation. The feeling of what Leib means is always there, accompanying us, but we put it aside to discipline ourselves according to laws, constrictions, measures, behavioural patterns to obey, moral restrictions.

However, the body has the power of emerging to the forefront of our perception when it betrays its weaknesses, its flaws, its abnormalities, and its pathologies.

Paul B. Preciado discussed in the sexuality of revolutionary bodies. I want to focus on the concept - the perception, the sensation - of body which arises from the discussion on the sexuality of disabled individuals. Preciado discusses the "elaboration of a critical knowledge about physical difference capable of resisting processes of exclusion, discrimination and silencing imposed to those bodies which are considered handicapped." Disability is not a natural condition, but the effect of a social and political process of 'disabilitation' and 'decapitation'." It is not about establishing a better taxonomy of deficiency, nor about claiming a better functional integration of the disabled body, but it is about analysing and criticising processes of construction of physical norms which render certain bodies more vulnerable than others." (P.B. Preciado, 2015)

The concept of "body" is perceived in its profoundness, fragility, sensuousness, carnality, possibility only when described as "deviant", "abnormal", "excessive", "deficient", meaning: divergent, autonomous, subversive. The body which cannot follow rules or fit into measures is automatically assumed as expelled from itself, a malfunctioning Körper seemingly not having the rights of affirming itself as Leib.

The body emerges at the forefront of perception in Sonic Somatic by Christoph Migone. When talking about the stutterer, Migone says that the stutter poses the "accent on the affect and the effect of defect", it represents the foreignness active, visible, and audible, from the inside, it is a proof of difference - and of differential - at the level of the individual.

> The indivisibility in the etymology of individual is commonly taken to refer to the individual's wholeness, its unity, its self-containment (including its self-hearing). In other words, it is a individualised indivisibility predicated by the erection of a definitive divisibility from the collective, the erection of an impassable sheath delimiting an interior from the exterior. (C. Migone, 2012: 120)

The notion of "dividuality" inserts the individual into a collectivity, which is made possible only through "the contact, the encounter, the porosity, the osmosis, the rubbing, the attraction and the repulsion"(C. Migone, 2012: 120). The contact could be made audible in a movement of contracture, somehow implying and including, thus exposing, the notion of contract

underlying this encounter. The porous and dividual body is defined as "*po-rophile*" and when considered within a community arising from that contract of contact, it is keenly acquainted with its reverse motion, the contraction, the phobic impulse, the repulsion which is fuelled alongside every attraction.

The voicing of the repelled body becomes a necessary force which requires responsibility in order to recognise the separateness, the dividuality, embedded in the very act and context of sharing. The (im)possibility of speaking produces "the other which we can recognise even in its full unrecognisability. The separated other is no mere acquaintance, you recognise it as the foreigner from within which rhythms you" (C. Migone, 2012: 121-122). The fallacy of the body is perceived as a possibility, yet rejected. demanding indivisibility, completeness, "perfection".

Beyond articulacy and conventions, though, "sounds are sounds and should above all be released as sounds. Everything is in the releasing. There is no score to follow." (C. Migone, 2012: 135) Sounds as expression of our somatic (in)dividuality should be considered as inherent, undeniable and undeniably present, in each and every body.

The impossibility of properly articulating language situates the "incapable" individual in a space which becomes haptic, more than aural, generating "a type of relation to and engagement with space which includes the tactile, kinesthetic and proprioceptive senses." (C. Migone, 2012: 135) When it is not able to hear itself, the body is exceedingly somatic and present, and it struggles with and in the desire for community, "but a community" which can be present "only in its potentiality; its actualisation remains framed by factors of alienation." (C. Migone, 2012: 136)

The barrier between the utterance and the acknowledgement of that utterance beyond the boundaries of codified language is most of the times insurmountable. Codifications and canons bias the perception of bodies that utter differently, which sound alien, different, not normalised.

This happens because the other person's point of view cannot be taken over. It is difficult to grasp and understand the impossibility of not self-containing oneself through self-hearing; the excessive speech becomes irritant, or liable to mockery, because it leaks. The leaking bodies, uncontainable somatic agents, remind us of the fallacy of flesh. They explode in our face, in all their lack of discipline. They teach us how to differ, but they are confronted with the fright that this kind of divergence generates. Normalcy, equality through repetition, where repetition equals silencing, is something that soothes and reassures us.

The undisciplined body interferes with the repetitive harmonious normative normalcy. The undisciplined body resonates, vibrates, and makes noise, disturbing with its identity our ableist environment.

HEARING LOSS / DEAFNESS / SCIENTIFIC RESEARCH

Soundscape and Deafness meet at the crossroads of industrialisation. This doesn't mean that deafness had never existed as a definition before industrialisation, but that, together with the vibrational urgencies brought about by the advent and spread of machines, the problem of occupational hearing loss induced by noise attracted medical and scientific interest.

It was about to the loss of functionality of a "normal" individual within a (productive) society. An idea of supposed normalcy biased the gaze upon the people belonging to the deaf spectrum: hearing loss was defined by doctors and scientists with a variety of categories, and degrees. While deafness was perceived as a monolithic condition of separation, but in itself it was (has always been, and still is) also in essence varied and differentiated.

Deafness has always been associated with separation, it exceeds the effectiveness of those communication tools we commonly use, which are speech based, and rely on the capacity of learning a language thanks to the possibility of being immersed in it, and of practicing it through a process of self-hearing. When the different possibilities of communication offered by Deafness are not understood, the risk of advocating inclusivity and integration through means which repress the identity of the Deaf is very high.

One of the most extreme examples of deviant assumptions regarding deafness is the eugenic plan envisioned by Alexander Graham Bell, son of a deaf mother, and married to a deaf woman. With his ear phonautograph he wanted to educate the deaf so they could speak as if they could hear. (J. Sterne, 2003: 36) For Bell, deaf people would see the sounds that they were making with their own voices, and through their recognition, they would learn how to modulate the sounds they uttered. It was 'a machine to hear for them'. The fundamental problem though was that without the possibility of hearing themselves, deaf people could not really use effectively the visuality of the phonautographs in order to train and educate their utterances. Articulated speech is possible thanks to audible feedback and error-correction, which allow to amend the uttered sounds and align them with the inflected sounds of a language.

The approach of Bell was brutal, making of him an advocate of what later would have been called "oralism", and which denied to deaf people the opportunity of using their own sign language, forcing them to imitate the proper articulation of linguistic sounds, and to read lips of interlocutors, in order to become indistinguishable from hearing individuals. Bell's approach to deafness aimed at eradicating linguistic differences. His interests then merged with theories of eugenics, he understood deafness as a human disability to be overcome, not as a condition of life.

Luckily, but not without struggles, the deaf carried on the practice of "an eloquent [...] fluency which was mostly silent. (H. Schwartz, 2011: 707) The active refusal of learning sign language, on the side of oralists, was opposed by the deaf community with an inexhaustible activity, and activism, in signing on any possible occasion of conviviality. "Many members of the sign language community began to insist that their 'disability' was socially constructed, the result of stigma and barriers in the built environment." (M. Mills, 2015: 51)

Deaf culture as a concept was proposed in the early 1970's by James Woodward, "capitalizing the term to distinguish the linguistic minority from the audiological one. [...] Hearing children of deaf adults (CODAs) might also be Deaf, if they used sign language and participated in this minority culture." (M. Mills, 2015: 51) The signed language, then, becomes the hallmark of a culture which was approached throughout the centuries only in relation to the deterioration of faculties of normal people caused by a soundscape becoming noisier and noisier, endangered by the attempts of "inclusivity" which hid a will of erasing differences, and normalising divergent, incomprehensible bodies.

In a Körper-based environment speech builds the political space when the Phoné translates into Logos.

The Logos gains effectiveness, in the hierarchical political realm only when heard and understood, when grasped in its meaning, but also when the divisions between rulers and ruled is recognised and respected. The lack of understanding towards this division and the omission of obedience make of the speech an indiscernible noise, a meaningless muttering.

Deaf people in a normative environment exceeds the boundaries delineated by the speech as logos. The deaf appear as ineducable subjects, difficult to indoctrinate by traditional means of communication. The exceeding individualities part of the deaf communities appeared as deviant characters

to be normalised. In 1880 an International Congress took place in Milano in order to decide whether the deaf should follow the oralist method or the manualist one. It goes without saying that the vote approved almost unanimously the oralist method, which was implemented worldwide.

In 1880 started what has been defined "the Dark Ages of the deaf", which forced, according to the approved conventions, the deaf community to communicate with signs among themselves outside of the institutional realm, preserving the language which identified them beyond the limits imposed by the structured and governmental environment they were coerced into.

The medical definition of the Deaf allows a specific kind of containment and governance, which marginalises them enough to keep them invisible, as they actually are. Invisible "handicapped" people, which become visible only upon utterance, that one which disrupts normalcy and lets the soma emerge.

FROM NOISE TO RHYTHM / FROM RHYTHM TO THE BODY

Noise is "the chaos that resists social order; the unintegrated entities that exist beyond culture". (D. Novak, 205: 126)

Noise is the undisciplined body which marks the distance from a so-called normalcy, with the potential of expanding the possibilities of our senses, prescinding from the mere aural ones, and learning how to connect ourselves to the world on another level, the vibrational one.

Noise is not a finite object, or the end of a process, yet it is a field of possibilities.

For Goodman, the sonic landscape is a virulent aural space which keeps us under siege. In this landscape power is deployed through the articulation of holosonic control, audio virology, and the ecology of fear. Goodman also discusses the notion of Kittler's military-entertainment complex. Most of the technologies we use on a daily basis were first developed as military devices and translated into the civilian realm without what Kittler defines the "talkback-capability". This means that these technologies become accomplices of pre-programmed one-way processes of affection, seduction, and indoctrination.

In a political framework, the deaf are deaf to the hearing people, but they are also deaf to orders. Their potential, despite the condition of "handicap",

could be equalled to the potential of the communication and mass-mediatic machine, which is deaf to us. The potential of the deaf is exactly this being immune to the audible surreptitious virology of the sonic branding of our soundscapes. However, considering only the binary separation of hearing and deaf is rather reductive, since "the bandwidth of human audibility is just a fold on the vibratory continuum of matter." (S. Goodman, 2012: 9) It is possible to consider the sonic realm beyond the thresholds of the human audibility, including hyper- or infra-sonic frequencies.

In this realm we can focus on the vibrant matter which constitutes reality, posing the perceiver and the perceived on the same level, in a relation of mutual prehension or mutual objectification". (S. Goodman, 2012: 92) The body, as the basic prehensive module of the micropolitics of rhythm, becomes the only prerequisite for existence, being the transducer "of energy and movement from one mode to the other". (S. Goodman, 2012: 27) The transduction process compels to focus on the potential of the body rather than on its definition. It is for this reason that instead of giving primacy to human audition, the sonic experience should be extended towards an ecology of vibrational affects.

I will mention now the work of contemporary artist Damir Očko. The artist investigated in his video work themes related to sound and language, expanded in their vibrational features, including the body conditions of deafness and stuttering. In his video TK (the first I streamed) the bodies are presented in specific conditions of fragility: on the one hand an old man, writing with a trembling hand sentences like: "In Tranquillity the word is shivering. [..] In Tranquillity each stone has a purpose. [...]" etc., on the other a group of young muscular men half naked in a winter landscape shivering because of the cold. In a time of global insecurity, uncertainty, injustice, turmoil, anxiety, and fear, 'the shivering' body is a metonymical figure intersecting different imperatives, reflecting imposed personal and social relationships. Shivering becomes a mechanism of resistance, pointing to the procedures of control and lack thereof, a metaphor of interaction between the society of control and the violence it produces. (Branka Benčić, 2014: 22)

The fragile body is presented in its vibrational state, resonating with its internal or external conditionings. In both cases "the shivering - subversive, treacherous, disclosing - becomes like a rhythm" (Branka Benčić, 2014: 22) and it uncovers the vulnerable flesh we all are made of; watching this video causes unease and angst, it reminds us of what the body actually is. The shivering, rhythmical, body, is here moving in a way which suggests a primal form of existence: vibration.

ACTS OF SILENCING

Silencing is a display of power which doesn't necessarily require silence.

It can be deployed in a surreptitious as much as in a more overtly repressive fashion.

An interesting work by Katarina Zdjelar, titled Stimme somehow explains what does it mean to give voice back to a silenced voice, that is: a silenced body. In this video work Katarina follows a voice coaching session. In this session the coach modulates the patient's posture and movements, showing the process of voice emission as a construction. Katarina says: "Stimme focuses on a liminal voice; a voice between culture and nature, something in between the material and corporeal act of producing voice, and the social process of receiving voice." (K. Zdjelar, 2014: 21)

The voice lies between a natural status and a social one, the latter resembling somehow what has been mentioned regarding the self-hearing process of refining one's own speech. A voice which has learned how to functionally respond to a certain environment, and which is not able of freeing itself from the constraints imposed by that very environment, is somehow a silenced voice. A voice responding naturally to the specificities of the body it belongs to, without effacing discrepancies, flaws, and traumas is not a silent one, because of its capacity of resonating from within, without necessarily being deaf to the surroundings.

> What we witness in Stimme is the manufacturing of natural voice, the hard labour of producing natural sound. A contradiction in terms. We are situated in the middle of the power struggle fought on the battleground of language and voice, with all of its entrenched and enfolding history. [...] It is difficult to tell if there is a voice without all its historical, cultural and social underpinnings, mostly because its destination is speech. But if there is such a voice, can we actually do things with it? Is that voice operational? And what remains when all markers are removed? Is there voice beyond representation and can voice be heard without its markers? (K. Zdjelar, 2014: 22)

The questions the artist asks make sense in so far as they relate to that consideration of the body as operational, functional, measurable. The non-operational voice, the natural voice, is hardly definable in terms of functionality. And it is here that its value, in opposition to the silencing methods, lies.

> "That's why stammerings, stutterings, vocal ties, extra lingual pho-
> netics, and electro digital voice synthesis are so laden with biopo-
> litical intensity - they threaten to bypass the anthropostructural
> head-smash that establishes our identity with logos, escaping in
> the direction of numbers". (N. Land, 2012: 502)

ACTS OF NOISING / INTERFERENTIAL EVERYTHING

The silence/silencing we described before is "an imposed silence, originat-
ing in noise or the fear of noise. "Everything is noise, and noise is in every-
thing" (G. Hainge, 2012: 2), Noise as a phenomenon could be boiled down to
the word "interference", and in its barest form it could be applied to almost
anything.

The interferential feature triggers questions about the possibility for Noise
of being the most suitable weapon for fighting hegemonic systems.

The capitalist machine, as a formalised system which determines our lives,
has a capacity of resilience which allows it to inoculate enough viruses that
they easily immunise themselves from noisy disruptive potentials. The re-
sult of this immunisation process is the normalisation of the noisy Noises,
and their introduction in well specified systems and contexts, which some-
how nullify their destructive capacity.

The interference I am interested in, and which I discussed so far, is the one
of the soma rendered visible in all its spasmodic mode, the one which dis-
rupts the fabric of the everyday slipping through the grid created by the
plain opposition of noise and silence.

NEW VOICES

Noise is (or used to be) the emblem of counterculture, we could call it a
countercultural weapon.

However, it could be easily normalised, included, coopted..

I don't intend to deny the power of noise as a countercultural weapon, but I
want to try to envision another way of displaying countercultural thoughts,
in interferential ways which don't need to be also defined noisy, but possi-
bly: "not noisy Noises"; that is, "new noises: new voices".

The countercultural potential is inherent in each and every body, beyond
the measurement and the definitions imposed by medicine or society.

Counterculture is here understood as interference, disruption, asymmetry, it is the unsolvable aporia which lies at the very core of the human, and the struggle between noise and silence. It is the excess.

Excess is a feature which can be easily applied to Noise. Noise is something which interferes with a message, and exceeds the message itself. Noise exceeds definitions. It is ungraspable, definable by what it is not.

Excess is a feature which can also be applied to a body. It is the case with the bodies we tried to depict, not abiding by lawful pre-programmed ways of functioning. Deviant bodies, which swerve, instead of falling perpendicularly, and with this twist they generate invention, they create.

Bodies swerving. Outside binaries. Bodies derailing.

Derailment is what's needed in a cultural context dominated by numbers. Vibrating, being put out of balance is what we are scared of, and we turn to what soothes us, accomplices of a ruling machine that doesn't need to function anymore in a top-down fashion, it has absorbed the bottom-up, the proliferating, the hacking, the horizontal, it is everywhere. It can detect the potential of subversion in the loudness of Noise. "Noise destroys and horrifies, but order and flat repetition are in the vicinity of death." (M. Serres, 2007: 127). Noise is easily detected, it cannot be hidden, and anybody can react to its "loudness". This has led the machine to learn how to counteract. It has rendered noise powerless, it transformed it into repetition, into order.

My vision of a future counterculture is a silent one, inherently divergent, like the Deaf, impossible to assimilate and normalise. The Deaf mode of existence is one of the noisiest we could think of. It can imitate the silence which is imposed to us, while being capable of resisting the attacks of the audio virology, of one-way commands, and it can sound as undisciplined as a voice which resonates just with its own body, a voice which has never learned how to fit into an ordered environment.

The future counterculture is in the traumas of the flesh, in the deviance of bodies. The potential of counterculture is in their fallacy, in their struggle for life.

Each deviance is excess.

Each excess has its own voice.

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Vacilar: sonic contradiction before the flux (in nueva canción format)

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Abstract: Across the field of sound studies there is a fissure between 'sonic ontology' and auditory cultures' (Kane). The ontology side claims we have the ability to access the sonic across cultures and subjective approaches, as we would be capable of suspending them to access the sonic per se.

(Cox). On the other hand, auditory cultures deny this ontological access and therefore will be grouped here as para-onto. For them the sonic is always mediated by subjective traits. Trying to break free from them to access the ontological would inevitably impose a cultural, subjective or otherwise discriminatory stance (Kim-Cohen). This paper proposes the sonic experience of vacilar as reconciling both sides.

The sonic ontology side is relevant as it promises to reach the universal and neutral. Para- ontology on the other denounces that this promise is tinted by subjective positions that privilege some (Thompson). Importantly, both sides have contradictions that they navigate as instrumental– contradictions that would not touch the core of their positions but only pertain to the means to get to their core. The instrumental contradiction of the ontological side is on its use of language to communicate a 'pure' access that would be before language. The instrumental contradiction of the para- ontological side lies in its claim that there is no access to the universal, yet that claim seeks universal validity. For vacilar these contradictions are not instrumental but fundamental. That is to say, it is through the sonic experience of contradiction that vacilar reconciles both sides.

The sonic experience of vacilar emphasises the spatial characteristics of the sonic therefore shifting away from the focus on it as listening to a time time-event. This shift makes sonic contradiction evident and identifies vacilar as a Latin American para-onto and also provides an ontological certainty.

Method of this paper – The Nueva Cancion Format: In academia, an important issue for authors of the 'para-ontological side' is that in order to present their critiques of ontology, they have to 'dress-up' these critiques ontologically. That is to say, the format of academic discussion and the structure of papers require a certain neutrality and objective presentation of ideas. Therefore a para-ontological critique can be para-ontological on its content yet its academic form will paradoxically reinforce the validity of the ontological argument they try to denounce. With this in mind, the methodological question arises of how to present para-ontological ideas without falling into this trap.

For the presentation of this paper, I therefore decide to take an experimental approach that will hopefully be more akin to the notion of vacilar–and adequately oscillate between ontology and para- ontology. In order to develop this approach I am particularly drawn to the songs of the chilean songwriter Violeta Parra. She is considered to be one of the main precursors of the nueva canción movement. This musical genre that

developed throughout Latin America had a strong political commitment and most of the songs denounce injustice and do social critique. What interests me in Parra's case is that her critique moves away from the political and into the metaphysical. In fact, in some of her songs her critique of religion, colonialism and nationalism among others provide a critique at an ontological level.

Her songs work at a level of analysis and rigorous consideration of the issues. Yet they are also lyrics. They are subjective and are provided as an experience, as part of the sonic experience of the song.

Building from this interpretation of Violeta Parra's songs, what I would like to test in this presentation is a development of the nueva canción genre as a valid format for academic work. The method I follow to construct this paper is as follows:

First I do a list with the issues, references and ideas I will develop.

I record a guitar/music accompaniment.

I playback the guitar accompaniment as a loop and I improvise the paper on top of it following the list. To help develop the ideas and emphasise certain things, I use an echo effect on the voice.

Through google speech recognition I transcribe the voice improvisation and do some edits.

With this text I perform and improvise the paper again with the music accompaniment and the echo.

By working with this format, what I hope to achieve is a liberation of the academic paper from its emphasis on a rational, neutral or universal stance per se. Instead, this nueva cancion format proposes a sonic experience of the paper as a space that does not resolve the ontological/para- ontological dilemma by logic but by the vacilar experience of sonic contradiction.

Keywords: sonic ontology, methodology, listening, vacilar

1. WHAT I PROPOSE[1]

What I would like to propose in this paper is the idea of sonic contradiction as vital to the experience of the sonic. In short, the purpose is to reveal sonic contradiction as the inevitable condition for the experience of the sonic. As such sonic contradiction encapsulates the idea of the sonic as flux that is the dominant understanding of the sonic today. Flux will be revealed as secondary property of the sonic as contradiction. In effect, what sonic contradiction makes evident is that sonic flux is a logical deduction and not simply the materialist experience of the sonic and simultaneously that logical deduction is also experience.

When the sonic is understood as a flux, the general agreement is that the leading methodology to experience and grasp the sonic is listening.

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1 This is a transcript of the presentation. A video will be made accessible on the internet.

However, sonic contradiction reveals that listening is incapable of grasping the whole scope of sonic experience. Sonic contradiction proposes instead the methodology of *vacilar*.

Just a sonic contradiction proposes flux as a secondary property of the sonic, vacilar encapsulates listening as a property of its methodology. Vacilar is a concept built from the polysemy of the word vacilar in Latin American Spanish. Vacilar means 1) to trick, to trap 2) to doubt, to hesitate 3) to vibrate, to oscillate 4) to party, to dance.

Using the four meanings of vacilar, the methodology proposes the sonic as an experience of ambiguity. This ambiguity is an oscillation between doubting and dancing and it is a sonic trick is what produces this ambiguity.

Sonic contradiction and its vacilar methodology propose dancing and listening as equally relevant to access the sonic and that at the core of sonic experience there is ambiguity between dancing and listening. This understanding could provide a reconciliation of the main division that traverses the field of sound studies today. This schism arises exactly because of the assumption that the sonic is a flux and that listening is the main and only methodology to access the sonic.

2. THE SOUND STUDIES DIVISION

Following Brian Kane's delineation, the division in sound studies could be identified between the opposing approaches of sonic ontology and auditory cultures. For the sonic ontology approach, the sonic would be accessible in itself. That is to say, that we would be able to have the experience of the sonic in its materiality, in its objective reality independently of our personal cultures and subjective traits. Auditory cultures on the other hand emphasize para-ontological approaches. That is to say that we can never reach the material, the natural or the universal realm of the sonic. For the para-ontological approach, our sonic experiences are always and inevitably mediated by culture and subjective traits.

Sonic contradiction and the methodology of vacilar are an experience of reconciliation of this division. By ambiguously dancing and doubting it is both ontological and para-ontological. Importantly, the presentation of this paper is an experiment that tries to provide such an experience of reconciliation. On one side this paper tries to listen and propose a conceptual, rational discourse that could be validated ontologically. Simultaneously it dances and remains firmly para-ontological as a song of my own subjectivity.

Sonic contradiction reconciliates the division between the ontological and the para-ontological approaches by revealing the underlying agreement between them. They both agree that, in the last analysis, the sonic is a flux and that listening alone is the methodology to access that flux. The opposition between ontological and para- ontological approaches arises in what portions of this flux can be listened to. Either the sonic can be listened to in its objective materiality or the experience of it is always mediated by culture.

3. THE UNDERLYING AGREEMENT

The ontological and the para-ontological are in agreement over the sonic as a flux. Flux therefore works as a logical frame that validates both as counterparts of the debate. Sonic contradiction removes the certainty of that logical frame.

Flux as the essential property of the sonic consists in emphasising action over subject, the doing over the doer, the verb over the noun. For example, whereas if through a visual model it would be "the rabbit is running through the meadow" then through the sonic model it would be "the running configures both the rabbit and the meadow".

For Christoph Cox this can be understood as an emphasis in Becoming instead of in Being, which for him starts to be articulated as a sonic philosophy in the work of Schopenhauer and Nietzsche. Salomé Voegelin arrives to a similar conclusion when she establishes the sonic as listening to the *thing thinging* instead of looking at the thing. Whereas the thing is objective and articulated, the thing thinging is the becoming of a thing into another thing. It is the constant flowing of things. Similarly, in analysing the sound culture of Jamaican sound systems, Julian Henriques describes that in them sound is not the noun sound. It is not an object, but it is an action, it is a verb, it is a sounding that is a continuum between the sound system, the dancing bodies, and the dance floor.

With the underlying agreement that the sonic is becoming or flux, listening is revealed both for the ontological and the para-ontological sides as the prevailing sonic methodology. In both cases, listening is the privileged methodology to access the sonic, in the arts and for sound studies in general.

What I propose as sonic contradiction denounces the understanding of the sonic as a flux to be built on isolating certain elements of the sonic experience. As such the flux is symbolic construction and not simply a material

perception. Therefore listening cannot be the prevailing methodology to access the sonic.

4. SONIC CONTRADICTION BEFORE THE FLUX

The assumption of sonic flux that reveals it as idealism is clear when focusing on the assertion that flux is a temporal continuum. This is a necessary assertion as flux can only be accessed through time. That is to say by the experience of duration, by the experience of becoming, by the perception of flowing. However there is no such experience or perception. Duration, time, flow or becoming are not perceptible in themselves but only through their effect on things. There is no perception of time but only of how time affects space. Sonic flux is therefore a metaphoric construction that is extracted from space to build an ideal realm of time as an autonomous entity. Therefore sonic flux cannot claim to be the real or material experience of the sonic. Moreover, the fact that nature, reality or materiality might be deduced to be a flux says nothing about our ability to experience that flux. We do not experience that flux directly in any sonic experience and certainly not in the case of art works and sound studies were criteria of authorship, history and general context come into play as part of the experience of those works.

Sonic flux is sustained by the assumption that we can access the *flowing objectivity* of the material by the sensorial experience of listening. However the flux of matter is never self-evident. To access the flux of matter a comparison to other possible future or past states of matter needs to be done. As such time or flux is never a perception but implies a logical deduction. This logical deduction provides a testimony to the flux. As testimony this logical deduction is not part of what is flowing and at the same time cannot be taken apart from the experience of the flow, as it is its necessary frame.

The fact that this logical deduction is inherent to sonic experience reveals that listening–which is the favoured methodology of openness to the flux–is partial to certain elements of the sonic and is therefore constructed on a contradiction.

5. BE QUIET TO LISTEN

The starting point of listening is to be quiet. Listening implies a discipline of silence, a discipline of silencing your urges to do something different than

listening. Listening requires a shushing yourself in order to receive and accept. Even if this discipline of listening might be desirable, as a discipline it contradicts the goal of listening. At its inauguration listening contradicts itself in order to listen. Listening requires discipline and discipline requires dancing.

Therefore in order to grasp the materiality or reality of the sonic there must be some other way of approaching it that is not indifferent to these contradictions. Instead of listening–that requires not to listen to this contradiction–a different methodology to approach the sonic is needed. An approach that is built from these contradictions as it realises these are intrinsic to sonic experience.

What I propose is that this is achieved by unveiling sonic contradiction and the methodology of vacilar. This unveiling requires that we move into the sonic beyond the constraints of the ontological assumptions that define the sonic as a flux and of listening as the methodology to access it.

6. SONIC CONTRADICTION AND THE VACILAR METHODOLOGY

At the level of experience, flux requires contradiction. Even if it seems redundant to say so, it is worth the while stating that there is no way of perceiving flux if nothing is perceived to flow. Therefore contradiction between perceptions is what allows for the flux to be experienced–or what allows for listening to take place.

Simultaneously, what this contradiction implies is that the subject, the author, or the ego is part of the material, natural or realist experience and therefore that there is no experience of flux without taking into account this not-flowing subject. Importantly this sonic contradiction is not logic's contradiction. In logic, the principle of non-contradiction states that 'a' cannot be 'a' and simultaneously be 'not-a'. Logic's contradiction therefore works inside a system in which the boundaries of 'a' and 'not- a' are clear. Sonic contradiction does not work inside a system. Indeed it disorientates the possibility of a system.

The dilemma of sonic contradiction is not between 'a' and 'not-a' but of certainty and ambiguity between 'a' and 'not-a'. Whereas logic's contradiction states 'this is a and therefore it is not not-a', sonic contradiction states "I believe or I want this to be 'a' but perhaps it is 'not-a'. Whereas logic's principle of non-contradiction is a logical analysis, sonic contradiction is an experience.

The sonic contradiction dilemma between certainty and ambiguity can be understood through the methodology of vacilar. This methodology both listens to the ontological flux and simultaneously dances para-ontologically as subject, as ego. Vacilar dances, it affirms this is 'a'. Simultaneously it listens to other possibilities, it doubts its own dance and is ambiguous between 'a' and 'not-a'. Vacilar vibrates between dancing and listening. Vacilar is the experience of ambiguity between dancing and doubting. Dancing is the mechanism of reinforcing 'a', reinforcing your personal traits, reinforcing your para-ontological approach. Doubting on the other hand, is the mechanism of listening away from your certainty and to open your ears for other possibilities or 'not-a', doubting is the mechanism that absorbs the methodology of listening.

A sonic trap is what triggers the ambiguity between this dancing and this listening. That is to say an action and an environment of uncertainty or ambiguity of which the reading of this paper is an example. Like this presentation that is ambiguously a rational dissertation, through which I doubt and I inquire, and at the same time it is a performance, a song. In this paper I am experimenting with providing a certain ambiguity between being a serious academic and a charlatan.

This vacilar is therefore the sonic experience of a vibration that is triggered by a trap. This trap disorients the stable, the rigid, the solid, to reveal the experience of the sonic not as a flow but as the experience of sonic contradiction. That is to say as the ambiguity, the disorientation between dancing and listening, between ego and openness, between the ontological and the para-ontological.

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German Lounge Vol. 1

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Abstract. The article addresses themes related to the musical work *German Lounge Vol. 1: Midnight Clock*, by Daphine Jardin, where a personal and local formulation of the aesthetically hauntological is sought. The music is basically a low transposed 24 hour time stretched haunted version of the Well-Tempered Clavier Vol. 1, by Johann Sebastian Bach. (1) Retells and thus fictionalizes childhood and adolescence experiences connected to piano practice and family home environment. (2) Questions the place of the classic in a culture that can be deemed mine, in the light of a fragment by Adorno on participating in a tradition. (3) Presents the concept of the hauntological as according to Mark Fisher, in his article *What is Hauntology*? (4) Elaborates a phantasmagoria from these earlier points. (5) Confirms the importance of time scales in this context and introduces the vocabulary provided by Curtis Roads to address such cases. (6) Concludes with a list of elements elaborated upon on the text and the musical work.

Keywords: hauntology, post-modernism, ambient music, J.S. Bach, sound installation

1.

As a child, did I listen to Bach? Evidence of a humanist upbringing would make me conclude affirmatively. Of course there were vinyl records, some concerts and cantatas. Not only from the *Masters of Music* album series, but also the Brandenburg concerts with Trevor Pinnock and The English Concert. However, the greatest influence would be exerted by the piano. Although of apocryphal attribution and filled with improbable rococo, Anna Madalegna's little book would foster a love for counterpoint and the short piece format. From that, progress would be ensured with the 2 and 3 part inventions and sinfonias, alongside Bela Bartók's *Mikrokosmos*, so as to consolidate a critical disposition: music is also made at home, through these small intellectually condensed incursions of co-dependent entangled melodic lines. Europe had produced these precious gems of instruction which, once cultivated, would flourish here and there, daily and for the delight of the spirit, or else, in the midst of a social occasion whatsoever, entertaining those present, or placed in opposition to the barbarism of the television cult, the loud and indolent speech, and hedonistic entertainment in general.

So that an enemy was already outlined. For since when would television come to take position as the most prominent furniture in the living room of a cultured family? The sound system had already been moved upstairs - as an infant, sat on a suitable cushion on a carpeted mezzanine, I'd look in the direction of the turntable and after twenty to thirty minutes of quietude and introspection, ask my mother to change the side of the LP. Would an even greater concession be allowed? Letting a restless and noisy blinking screen, coupled with low-resolution speakers, dominate the lower floor? When the piano sounds, the television switches off - or so I wished. Certainly a practicing child is not a treat. But will not the arduous efforts of a routine of preparation lead to the palaces of wisdom? Those who do not share the commitment to do so should not only understand the trials and failings, but also support them, encouraging: the compensations will be hereafter collected, some patient years along. There, do please foresee, the *Art of Fugue Contrapunctus I*, Webern's variations, the thirty-second of Beethoven.

Negotiations: when performing, TV is turned off; when practicing the pieces, it is muted; when studying parts of them, the volume is turned down. During meals, truce, i.e., neither one nor the other: the meal is the deal. And I promise to stay away from the adjustable chair and behave myself when movies that you want to mindfully watch or especially relevant news and documentaries are broadcast. So, no clusters and deliberate bumps, blasts and clunks. 煩い! my grandfather would say. Noises against *noise*; then revenge shall befall: Book's 2 prelude in C minor but one hand is playing in a slightly faster tempo than the other. Schubert's third musical moment played substituting b flat for b natural *martelatto*, to the horror of those who cook next room, perhaps then incited to feel the morbidity of the long scarf in its propensity to coil in the wheel, strangling the victim.

But would it be possible, immersed in an environment of distractions, to hear Bach's preludes and fugues as more than one of them, albeit of a higher strain? Decline of the family reunion: now remains only coexistence. Dwelling is split by the disappearance of the performance ritual. One does not stops anymore for a moment of explicit communion: "I would like to perform a fugue and discuss an idea. It has occurred to me that maybe there isn't right-handed or left-handed people, but that it is all just a matter of what is on the right, towards the treble, and on the left, towards the bass, and that this is precisely the case here, in the 10th piece of book 1, E minor, beginning with an arpeggio followed by a chromatic fall, dramatized by the alternation with the tonic in the high, as if the rightmost finger were momentarily trapped... Would not the musical practice be also a hand skills

leveling force?" And many years later I'd follow the advice of the right-handed percussionist said to brush his teeth with his left. However, no, everything now follows flowing continually, though continually fragmented, zapping from one announcement to another, filled with interruptions and the comings and goings of disjointed chores in varied speeds, erratic attention spans and overwhelming spontaneity.

A higher distraction... Higher in what sense? In the meantime, alongside mental and disciplinary challenges and finally physiological difficulties, wouldn't I have gradually perceived that the distinction between high and low culture was dissolving? Not by artsy encounters, like when flipping a comic-booklet and reciting "*fecha a janela, Joãozinho ou seremos comidos pelos... tubarões voadores*"[1], but with a Metallica CD and then k7 punk compilations and chewed MTV music-video VHSs, recorded at inconvenient hours. Thus, through adolescence and involvement in culture and the corresponding desire to be welcomed, to enjoy the benefits of the social. If *Enter Sandman* was as noisy as *Le Marteau Sans Maître*, which, according to the shopkeeper, was as radical as Coleman's *Free Jazz*, it wouldn't nevertheless require a focused attention in order to complete its elements; the availability that would fabricate the unity of experience. On the contrary, it seemed to impose itself by way of distortion and its densely masking presence and not to require any constancy of listening, neither cushions nor coziness. As the TV, it worked as another element of intrusion.

2.

When I invoke the rightful place of the classics and exhibit it, even proudly, I present a canon whose foundation has become fragile. The foundation of the canonical became somewhat ghostly. Not so much that it was ever surely solid, but that idea of solidity had before been provided by the state of culture. And not as now, when we uphold the idea that the idea of solidity had flee from it, that this solidity has been lost in an alternative timeline, which we can access only as mere traits. Certainly there are lists of things to be listened to, compiling the "essential". But in the pulverization resulting from the practice of individually constructing these, and from different constructions in which the selection criteria are made explicit, or at least made thematic, defining subgroups in which a scope is obtained, the monuments of culture have in themselves a monumental that is vacuous. They must put themselves explicitly to individual or curatorial evaluation but cannot do so

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[1] "close the window, Johnny, or we will be eaten by the... flying sharks".

without invoking the shadow of a story that has already ended; the story of a historical direction encompassing them. Without raising the suspicion of a residual centrism, of teleological infiltration. And the suspicion of a resilient implied, implicitness, suggests a blockage of the possibility of an explicit criterion of inclusion. Thus, puts them in the situation of a guaranteed but also prevented inclusion.

> To be within tradition used to mean: to experience the work of art as something sanctioned, valid: to participate through it in all the reactions of those who had seen it previously. Once this falls away, the work is exposed in its nakedness and fallibility. The plot, from a ritual, becomes idiocy, the music, from a canon of significant figures, flat and stale. It is really no longer so beautiful. From this mass-culture draws its right of adaptation. The weakness of all traditional culture outside its tradition provides the pretext for improving, and so barbarically mutilating it. (Adorno, 2005: 223)

Even outside tradition, the piano pieces played at home remain, in their musical layer, with enough of their own. In this music, the inner structure calls for concentration; the sonority calls for silence; the difficulty, a controlled commitment. As a requested event or casual occasion in the midst of everyday life, they survive in their beauty, and are even appreciated. But if, as Adorno suggests, their beauty, as stablished within tradition, is impaired, they also rarely stand out from the constant flow of fragmented uninterrupted stimuli. Their inner voicing intelligibility need the appropriate focused attitude on the listener part, so as to keep their voices as contrapuntal lines and not as parts of sound aggregates or notes of chords. Sometimes they do capture our attention, incidentally, forcing our cognition to assemble the juxtaposed notes into lines, and to separate the aggregates into voices. The feeling of structure then arises, amidst the sounds of everyday life, whether merely noisy, communicative or emotive.

Perhaps, now evaluating, there wouldn't be, even in the little informal concerts and pauses for attentive listening, more than the force of the ritual only in its present aspect. Perhaps we had never been in the tradition. "Those who had seen it previously"... projections of projections. Still, was not this retrospective hesitation enough? Perhaps we participated in the tradition, perhaps we shared the experience of the one recognized by those who heard it before, perhaps we possessed a canon of meaningful formulations bequeathed to all mankind. We the marginalized, the hesitant consolidators of the universal.

3.

In an article on *hauntology*, Mark Fisher says that critics (including himself), had associated the term with music projects such as those by Philip Jeck, Burial, and the Ghost Box label, for making works that were not merely ghostly in their atmosphere, but which also confronted a cultural deadlock: that of an absent future. In 2005 it seemed clear to him that electronic music could no longer provide sounds that would be taken as futuristic. Contrary to its historical course, electronic music seemed at large taken by inertia and retrospection, and presented no innovative movements. Thus it would stand in the position of being haunted not so much by the past, but by the futures that the past projected, which it formerly sought to anticipate. Culturally, "the disappearance of the future meant the deterioration of a whole mode of social imagination: the capacity to conceive of a world radically different from the one in which we currently live" (Fisher, 2012: 16). Trapped in a present without prospective imagination, the different worlds we project are those future ones, from our past, seen with postmodern detachment, consolidated worlds of unfulfilled futures. Futures that connote an established set of concepts, effects and associations. Futuristic as one or a series of styles. Thus not the name given to that absence of defined style which enables reactions of surprise and expectation regarding the future.

When the future of an age no longer conditions their expectations and motivates cultural production, it seems that the vacant space is occupied by an imagery of another kind, haunted. Hauntological music would express the relationship with a culture that lost its sense of the future and plunged into the mode of nostalgia, nostalgic for the existence of possible futures. And if in nostalgia our inability to represent our current experience drives us to apply past models and structures to our constructions, nostalgia for the possibility of a future leads us to formulate imprisoned times and situations that yearn for their lost and non-actualized futures. There is, in the hauntological, a relation between what is no longer and what is not yet, which leads to two different, though intertwined directions: what is no more, to the traumatic 'compulsion to repeat', a structure that repeats, a fatal pattern. What has not yet happened, to what is already effective, though virtually, as an attractor, an anticipation or prediction of behavior.

A hauntological music promotes anachronisms, encounters with a broken time; it points to the difficulty of establishing the present without a thrust from the future. A present too contaminated by the past and its expectations of both its future and its re-actualization.

4.

It might be opportune to re-listen to Bach, but withdrawing him from the scope of focused listening, instead packaging it as furniture music. The piano, in fact, when not practiced upon, is not itself a decorative furniture? I know that today, on its top, there are cycling trophies, books on economics, public health pamphlets... and above reproductions of paintings: Nicolas de Staël, Georges Seurat. Its keys are still all ivory; its tuning low, half of a tone; it has more than a hundred years. Its wooden case is of a noble brown, yet not pompous; its arabesques are discreet. Even as a musical instrument, it is still a piece of furniture. Noticed, it brings back memories: when we would stop a bit to play and sing Cole Porter songs (not because we wouldn't sing MPB[2], but that it was sang accompanied by the guitar). But then, this music, can it be decorative? Music during which we engage in our domestic chores, without major disturbances. Music we hear while reading a beautiful short story, maybe Cortázar's *El Perseguidor*, for example. Music of a certain elegance and complexity, but that stays under the radar; that can be soft and comforting, even if a bit disturbing. And also, music that, when noticed, is almost what it used to be and thus evokes its original formulation. Music that would get us into its endless mood, while affording the remembrance of when that transformed piece still had a beginning and an end.

But how could this be possible for these compositions praised for raising the need to pay attention, to follow lines, to learn variation games and 'problem solving' procedures? First, the contrapuntal austerity must give way to a proper listening mode of our spectacle society, approaching the corny and sentimental, of a cinematic-emotional inclination, of an orchestral atmosphere properly appropriated by cinema. Then, the transformation into something slow must guarantee that the music will stay in the background, as background music, not eliciting the structural listening mode and asking for an understanding of the trajectories in time of the structures contained. Also, the purity of a song that is sometimes understood as the "pure relation of the musical" must be broken, functionalizing the whole, instrumentalizing it in some way.

However, since these transformations cannot be readily accepted, there will be some tension. A *hiss*, sharp background noise usually present in cassette tapes, is added as a false mark of a past, against the timelessness of what is classic. Here, it is important to stress: this timelessness is precisely

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2 "Música Popular Brasileira" (brazilian popular music); that is, mainly ***bossa nova*** and affinities.

that of the placement in a historical line in which each interpretation at the piano of the work is a re-actualization, the canonical being precisely that which is always capable of being present. It is, therefore, the name of a temporal category. Already with this transformation, our present's mark is given by the way in which it accustomed itself to falsify other times, reproducing them, appropriating their traits and employing them evocatively, without the typical naivety of that which happens to express its time by having ignored being part of it.

There will be also a certain refusal of the properly maudlin, materialized in serious bass lines and a melancholy that permeates, alongside a certain complexity that resists, even in the blurring of the voices, in the transformation of the co-dependent into the simultaneous, of the lines into blocks, of the entangled conductions into cramped sonority. So the music made to fill the background and for relaxation, this lounge music, the room's ambiance, is filled with an air less of white sofa, than of red curtain, like in some film by David Lynch. Something dark. But not dark as in *dark jazz*, restrained-relaxed, somberly detached. Far away from *donwtempo* or *chill out*, music just to relax at a party. Unless it is a sinister end of party, turned eternal celebration, where the music proceeds, virtually endless: that the whole set of pieces lasts 24 hours suggests that perhaps, in its repetition, we are trapped on the same day; that this day itself is what is repeating. But as this day varies in its repetition, what it will shatter in this curse will be present time itself, then presented as a nightmarish version of the end of the story.

In terms of fixed form, the prelude and fugue with their formula and intrinsic challenges gives way to a variant of the popular youtube conceptual art practice, the *800% slower*, which involves merely application - making something 8 times slower, making something last 8 times more. In addition, as one day has 24 hours and the first of Bach's *Well-Tempered Clavier* set has 48 pieces in 24 pairs of the type prelude-fugue, now temporarily stretched, each pair will last one hour. So that the musical structural scheme will be maintained: each tonality will still define the harmonic field of each pair; and each pair will occupy one hour. Starting at C major at midnight, the chromatic order continues. From one hour to two o'clock, we will be under the tone of C minor. From two to three, C sharp Major, and then on, so that the set could also function as a precarious kind of clock.

The family home, whose temporality was given before as a series of interruptions and events, in a continuous present that would lead to the future, sees itself immersed in a kind of eerie cyclical present, a place tainted by the past, or rather by a projection from the past. In a way, the revenge of a

sound that was no longer being played and attentively listened to, now pervasive; a sound who sees in its lack of connection to a progressive line of culture an opportunity to freeze time.

Then, there will be, from the almost-tacky expressiveness of the notes, a timbristic elaboration that includes the activation of overdrive, of irregular distortion linked to the intensity level and curve of each sound-note. This irregular expressive addition should tempt the listener to turn his attention to that which should only be background, and seek to establish the possibility of an alternating state for the music, gravitating from background to foreground, back and forth. At the same time, from time to time spectral shadows (high notes of the harmonic spectrum) appear and disappear, trying to seduce us in their feebleness, as they need focus to be audibly detached and identified.

5.

One of my adolescent piano study idiosyncrasies consisted in trying to play a piece as slowly as possible. The favorite targets were the fugues of the *Well-Tempered Clavier*. The main idea was that, by playing in this too slow a pace, the apprehension of the motifs and phrases would be so difficult that it would only be possible for those with a prior knowledge of the pieces. The consistency of the interpretation would then be evaluated through the intellectual comparison of the local, the perceived note, with the global, the internalized score.

Curtis Roads, in the celebrated beginning of the book *Microsound*, provides a vocabulary to address these perceptual boundaries.

> 3. **Macro** The time scale of overall musical architecture or form, measured in minutes or hours, or in extreme cases, days.
> 4. **Meso** Divisions of form. Groupings of sound objects into hierarchies of phrase struc-tures of various sizes, measured in minutes or seconds.
> 5. **Sound object** A basic unit of musical structure, generalizing the traditional concept of note to include complex and mutating sound events on a time scale ranging from a fraction of a second to several seconds. (Roads, 2012: 3)

> [And] As sound passes from one time scale to another it crosses perceptual boundaries. It seems to change quality. This is because human perception processes each time scale differently. (...) In some cases the borders between time scales are demarcated clearly; ambiguous zones surround others. (idem: 4)

What the juvenile wit sought was to make the slow performing tempo to cause a disturbance of the order of the temporal scale: structures thought for the meso-temporal scale would have their tissues too elongated and worn, because the notes, which should clearly present themselves on the scale of the sound object, would be spaced out so as to approach the meso scale. Consequently, the structures of the meso scales would also approach, albeit in this case less, the macro temporal scale. The difference here is that what is local, the relations of phrases and longer motives, would have its apprehension tending to be governed by an intellection of the global (of the macro scale), whereas the almost immediacy of the notes and short motives, would have their apprehension functioning in two moments: (i) the attack of the note, in its appropriate time scale; (ii) the postponement that would follow from the lag of the next attack, coupled with the expectation of its occurrence earlier than it would. Each note would then count as a gesture consisting of attack, decay, silence and expectation - a kind of improper one note phrase.

In the transformed Bach, as each note extends to the next, the continuous sound threats framing the music as in the drone genre, but that does not take full effect. And this is because it is still possible, in the boundary between the temporal scales of the sound object and meso, and from each note, to infer their position in the piece's set of notes and make hypotheses about what will follow. Contrary to music plainly motionless, this slow constancy of articulation enables the extraction of information in each iteration, allowing one to follow intellectually the sequence. That is, it will still be possible to follow phrases and locate yourself formally while listening. For those who know the original pieces, this version retains the possibility of apprehension of structural aspects and allows the determination, not as imprecisely as it might initially seem, of clock time. The organic consistency of the original pieces, all of them constructing a sense of beginning, middle and end, theme and variation, is subordinated in this transformation to a temporal conduction in which the deduction of what piece is playing informs which half hour of the day one is and in which the relative note positions indicate a certain specific range of clock time. The slowness severs the relationship of structured consistency between part and whole. However, this breakup is partial. This partiality is characteristic of a transition that remains frontier based, which neither desires to lose nor gain their listener's attention.

6.

In Daphine Jardin's *German Lounge Vol. 1: Midnight Clock*, a hauntological rendition of Johann Sebastian Bach's *Well-Tempered Clavier Volume 1*, according

to the complex of factors exposed here, is put into practice. The rendition involves a series of themes, which sometimes configure themselves as a series of transformations or displacements, other times as question-like ideas, to be solved in some way. The list of these are below.

1.1 Music played at home, music performed → Music reproduced at home, music heard. 1.2 Prevailing of counterpoint; co-dependent voices → Harmonic predominance; aggregates. 1.3 TV as enemy; piano against TV → Piano sound made television tailored, cinematic, intrusive. 1.4 Musically fractured day, music as one of many events → Whole day immersed in music. 1.5 TV as ubiquitous presence → Music as constant presence. 1.6 Exercise as something that involves making progress, that as a result will bear fruit → Cyclical flowing of music; stagnant conception of the experience. 1.7 Music adulterated as revenge. 1.8 Meetings for the purpose of listening and debate (music as subject and instigator of subjects) → Experience of sound environment (music as an architectural filter). 1.9 Independent hands; physicality linked to musical register → Octave down transposition and acoustic shadows (blurring the acuity of the whole); non-physicalism of the electronic. 1.10 Porosity that impels concentration, attentive posture → Density that dispenses attention, distortion that fills the acoustic space indistinctly.

2.1 Music in its autonomy → Music in its possible functionality. 2.2 Participation in a tradition → Anachronism of an experimental music that laments the dismissal of the classics. 2.3 Music presented appropriately, unaltered → Music vilified, 'improved'. 2.4 Modernism suspended → Suspension of modernism affirmed, nostalgically. 2.5 Difficulty of interpretive practice, condensed in some tense moments of performance → Ease of playback; difficulty lies in not interrupting it, let it play to the end. 2.6 Seizure of attention by the melodic lines movements and intricate polyphony → Seizure of attention by timbre eruptions and recognitive evocations (remembrance of the source music). 2.7 Hesitant stance of participation in tradition → Melancholic acceptance of the condition of marginality.

3.1 Electronic music no longer as avant-garde: attempt to pertain to already codified practices, to a defined genre: hauntology. 3.2 Future of the past / temporal curse: the ghost of belonging to tradition, to high culture. 3.3 Lack of future: constant retrieval of and elaboration from tradition, from the canon. 3.4 Nostalgia: family environment, piano, Bach, future as a composer. 3.5 Compulsion to repeat: the practice of playing here and there some preludes and fugues, every day a bit → playing (reproducing) them all sequentially, occupying thus the whole day. 3.6 Influence of what hadn't

taken place: tradition, of dubious concreteness, that still insists, as a presentiment. 3.7 Disappearance of the present: day that is repeated indefinitely; curse of reviving the same day.

4.1 Chamber music → Furniture music. 4.2 Structural listening → Listening inclined to the emotional and the occasional. 4.3 Tempos well paced → Dragged tempos. 4.4 Classical timelessness (constant re-actualizing) → Placement of a coded historical sound mark (simulacrum of the past). 4.5 Intellectual, sunny atmosphere → dark atmosphere. 4.6 Fixed form: prelude and fugue; pieces are composed → Fixed form: "800% slower"; processes are applied. 4.7 Organic progression → Mechanical, clockwise progression. 4.8 Place tainted by time: the house as an eerie environment.

5.1 Very slow tempo = Time Stretch. 5.2 Well-structured time scales → Blurred boundaries between time scales.

The approach sought here was that in-between the possibility of leaving a musical work in the background, not focusing on it, and the placement of certain traps that make interesting to pay attention to the music. Following an hour of music is not much, and following 24 hours, although uncomfortable, is feasible. The objective sought would be the imprisonment of the listener in an ambiguous temporality. To incorporate tensions that are not solved or at least, to incorporate the possibility of alternating approaches to the music, suggested by itself. Thus, one will seek a tension proper to boundaries, to the passage between modes of listening and apprehension. To portals through which the living communicate with the unlife. And cast a curse that strikes those who, like me, happen to nourish a special attachment to a hesitant form of a tradition proper to a damaged life.

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Intimacy in the collective: Two reflections on aural and visual regimes in urban public transport

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Abstract: From the window one can see people walking, the interiors of shops, outdoors and logos pass by. The windows of buildings and houses, sometimes far and high, sometimes very close. It is possible to glimpse the interior of the houses and the backyards, the looks of those who wait at the bus station. Many passengers look out the window, but in the eyes of those on the bus, the expression often seems lost. They watch the world unfold on the outside, but in an absent-minded, detached way. This is still a form of involvement. In the collective, we all think landscape. And what about the listening? Pretty much sound of traffic; some conversation; the possible seller announcing his merchandise or someone who asks for support; all the music of engine machinery and air brakes, the glissandos of the acceleration that the driver/conductor is composing along the way according to his own style of direction, not to mention when he shares with us his musical preferences - via radio, via playlist - and his views on the world and life in general, via conversation; the gears and hardware that grind the effort of the long itineraries, day after day, more and more loose; the wild soles of the windows of the rubber--worn windows waiting for the stops to vehemently entertain our ears; the ratchet at the ticket gate, that announces one more inside at all times ... The bus, also called collective, is a plurality of hearing and staring. What measures range from collectivity to perceptual singularity in this context? If the gaze goes through the city, the listening reveals a space that we could call intimate, even with all the sound and fury of metropolitan public transportation, a true itinerant symphony. This paper will attempt to point some interesting aspects of our perceptive regimes while inside public transport vehicles, linking them to propositions of Milton Santos and Vilém Flusser regarding mediation in the contemporary world.

Keywords: Public transport, territory, sound space, Milton Santos, Vilém Flusser

1. INTRODUCTION

From the window one can see people walking, the interiors of shops, outdoors and logos pass by. The windows of buildings and houses, sometimes far and high, sometimes very close. It is possible to glimpse the interior of the houses and the backyards, the looks of those who wait at the bus station. Many passengers look out the window, but in the eyes of those on the bus, the expression often seems lost. They watch the world unfold on the

outside, but in an absent-minded, detached way. This is still a form of involvement. In the collective, we all think landscape. What goes beyond the window, just a few feet away, is distant, even inaccessible to the rest of the body. *Here is not my stop*, and thus a whole area that we know by sight will never be visited by foot. Had not this landscape seen become a *used territory*, at least simply by looking? And the thought, does not one get his speeds there, to the rhythm of the journey?

And what about the listening? Pretty much sound of traffic; some conversation; the possible seller announcing his merchandise or someone who asks for support; all the music of engine machinery and air brakes, the glissandos of the acceleration that the driver/conductor is composing along the way according to his own style of direction, not to mention when he shares with us his musical preferences - via radio, via playlist - and his views on the world and life in general, via conversation; the gears and hardware that grind the effort of the long itineraries, day after day, more and more loose; the wild soles of the windows of the rubber-worn windows waiting for the stops to vehemently entertain our ears; the ratchet at the ticket gate, that announces one more inside at all times... The bus, also called collective in Brasil ("coletivo" is a synonym to *omnibus*, word from which *bus* derives) is a plurality of hearing and staring. What measures range from collectivity to perceptual singularity in this context? If the gaze goes through the city, the listening reveals a space that we could call intimate, even with all the sound and fury of metropolitan public transport, a true itinerant symphony.

These questions and some outcomes have arisen in the scope of the research of my doctoral thesis, which deals with the production of audiovisual material in public transportation. To give more substance to the reflection and to refine this production I have resorted to the thought of authors like the geographer Milton Santos, his notions of territory and time in the cities; Vilém Flusser, his theory of technical images; Michel de Certeau (Certeau, 1998) and the notion of daily life and use; among others. In the context of this communication, I would like to emphasize the distinctions and approximations between the visual perception of a landscape that flows through the window and the aural perception of the internal sound space in the means of transport, pointing out some problems that arose in the comparison with authors who are cherished to sound studies: Murray Schafer (Schafer, 1994) Tim Ingold (Ingold, 2007) and Rodolfo Caesar (Caesar, 2000) and the problems of the notion of sound landscape; Michael Bull and Shuhei Hosokawa and their investigations on mobile devices, respectively the Ipod and the Walkman (Bull, 2000; Hosokawa, 1984) but also the passages from

public to private in the context of listening, a problem that was addressed by Georgina Born recently (Born, 2013), emphasizing the conditions of pro-letarian displacements; and Pierre Schaeffer and reduced listening in rela-tion to the mundane experience of non-attention. It seems interesting to draw consideration to some characteristics of the contemporary experi-ence of mobility in urban centers which, at least in the third world, seem to point to aspects that merit more specific discussion. Some of those studies will not be directly cited, for the sake of economy, although they constitute the background that supports the research.

When I started my doctoral research in music, I've defined a dispositif that should function as a starting point to my inquiries. I was interested in study the sonic and visual relations in audiovisual productions, so I started to produce audiovisual material, by filming with my smartphone, some of my rides in public transportation in the urban space of Rio de Janeiro, the town where I live. This was supposed to earn me some material to work on a ed-iting room, arranging the materials in a way similar to that used by sound editors and musical composers working with (visual) images. It didn't take long to realize that my experiments touched on some unsuspected (for me) issues and went beyond my initial purpose. I was trying to add a signifi-cant soundtrack to those images, but what could beat the significance of the original sound environment? By that time, I seek for support on a ar-tistic research group under the coordination of video artist Analu Cunha, and my work with audiovisual went its course of investigation through the paths of the arts. The doctoral period is in its end now, and I've produced a reasonable amount of work in what can be called artistic research. In ac-ademic fields, this expression tends toward an unfortunate weakening of both ideas of "artistic" and "research". It is clear that artistic practices rely on explorations, sketches, preliminary studies, even hypothesis and lines of investigations. It is also clear that research is commonly associated, es-pecially in academic fields, with the sciences, more or less defined disci-plines with methodological procedures strongly based on scientific tradi-tions. Therefore, "artistic research" should be an acceptable practice. But the problem does not lie in the expression. It lies on the overlapping of two completely different means (in our society) of accessing the world, art and science. One is the means by which human kind finds their ways of under-standing the world; the other is the means by which we find ways of felling the world. I find it necessary to say that in advance, because my research do not provide a better way of understand how our senses work when we are taking a ride on public transportation. Instead, it is immerse in my awe of being sensory affected during automobiles voyages. As a consequence,

this paper will not produce conclusions or confirmations. On the contrary, it will dwell on plain facts, self-evidence and some speculation. I will rely on my single experience, without further extrapolations, except some second hand statistical reference. Nevertheless, I will try to link these personal experiences with more broad concerns and refer to other research, some of then mentioned above. I intend to arouse interest and contribute to further discussions, confident that, hopefully, my peculiar foreign way of use English language will not be to much of a problem.

2. SOUND ENVIRONMENT ON PUBLIC TRANSPORTATION

The first important thing I noticed when investigating sound in public transportation (PT) was the fact that, for the passengers, for those who uses the services of PT, sound is sensed as a cocoon-like environment. We hear the noises of the engine and the carcass of the vehicle, and we hear what happens inside the PT. This is our immediate sound space. Apart from that, we hear the sounds of things passing by, other vehicle engines, the wind, the sounds of the city, outside. When we enter a bus or train, we enter a sound environment that will be our for the next 30 min. to more than one hour. In the 3rdh world, it is common that those translations in PT take more than two hours for the majority of the working class. An expressive contingent of the population lives in far areas of the urban clusters, while work at the urban center. In Rio de Janeiro, it means that people who live in cities like Nova Iguaçú, Duque de Caxias, Belford Roxo, Niterói e São João de Meriti, while working at service and commerce facilities at the more central zone of the megalopolis, will spend at least four hours a day, sometimes six, on the transition from home to work. In practice, they will use their own houses only for sleep, spending more time on PT then with their families. Fortunately enough, this is not my case. I live in a central neighborhood and work at a zone that, while not being close, is very well provided with PT options. It took me only two daily ours to come and go. But even for me is obvious that the space of public transportation should be considered an important part of my daily life and of my quotidian sensorial experience. This space is occupied by me, it is used by me, and at the same time it occupies me, I am used to it. It could be of interest to call for some notions concerning space, territory and landscape (paisagem), advanced by geographer Milton Santos, which has been crucial to my research.

For Santos, *space* is a medium, the material place where events are possible (Santos, 2013: 38). He also gives us the notion of world-space, in which

world is the sum and synthesis of events and places. This classification jumbles with his definitions of landscape, in another explanation he forwards, in *A natureza do espaço*:

> Landscape and space are not synonymous. The landscape is the set of forms that, in a given moment, they express the inheritances that represent the successive relations located between man and nature. The space are these forms plus the life that animates them. (Santos, 2006: 66)

The landscape is also trans temporal, insofar as it is shaped transversally in time, indifferently adding elements of the present and the past. As we can see, the term *landscape* overlaps with the term *world-space*. Beside that, Santos use of the expression *territory*, is also at odds with those two expressions. This should be understood in the light of the fact that the use of the expression *territory* is a late development in the theorizations of the geographer, and could be related to political developments in his thinking, in tune with the French geography of Pierre George, Yves Lacoste and Bernard Kayser (Moraes, 2013). The concept will evolve, always defined by its material condition, acquiring epistemological centrality in his thought and often opposed to the term *landscape*, while imbued with the concept of space. In his late work, it is safe to assume that his notion of *territory* can be defined by the notion of space plus the political forces and power relations established over it. Santos will propose the notions of territorial *configuration* (configuração territorial), *used territory* (território usado) and *territorial background* (fundo territorial). The term *use*, in *used territory*, should be understood as a relation established between society and space. *Territorial background*, in turn, is an expression that evokes the potential uses of space, while *territorial configuration* is the Miltonian expression that denotes the relations of uses of technique and power over space that most commonly characterize the current notion of the term territory.[1]

We can understand the sonic space of PT as a territorial configuration, of which we make a territorial usage and that may have a potential territorial background, ready to be used or not. If we try to categorize the various sonic events we hear at PT in a territorial configuration, i.e., organize them in accordance with their power relations and manipulations, it will be clear that that space is strongly regulated, while being at the same time, completely

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[1] I will prefer the expression Sonic space or sonic environment to the schaferian soundscape. The reason for that choice coincides with that exposed by Tim Ingold (Ingold, 2007) and seems to me reinforced by the adoption of Santos terminology.

unregulated in some of its aspects. Take for example the sonic vignettes of Rio's train services (provided by a company called *Supervia*). Apparently, the company is very zealous of its possessions, including its sonic space. At regular intervals of times and when approaching stations, it will cast its sound marks to announce the stations and instructions of safety. Those vignettes are under protection of the copyright laws and are broadcasted very loudly. To the point that they will eventually reappear in the memory of those driven, the public that frequents the trains. They will hum the intervals of a descendant major third or the line I ↑ -V-I ↓. In fact, the insistence of the fragments is so great that one wonders whether the company would even have the right to impose its logos with such vehemence on our perceptual rays. On the other hand, the carcass of the train compositions, even of the younger ones, produces a true dithyramb, even more constant, and in such a way that it also responds to the invocations of the logos. The blows from the engine and wind accelerations on the train are very solid. Those sounds are not regulated by any specific law and, specially in the case of the subway stations, it can go very loud, up to 110 dbs. Another interesting form of regulation is the written notices on buses, that say things like "tell the driver only the indispensable" or "radio and sound devices use is prohibited". Despite that, the talk with the driver is common practice and it is not rare that he himself has a radio turned on, providing his passengers with some music of his choice. The bus system in the city is equipped with cameras to monitor the activity at the ticket gate, but, as far as I know, there is no device for sonic surveillance.

But there is a more surreptitious form of power relation being established in our travels. Each day, more and more people have access to mobile devices like smartphones. This links them to the World Wide Web, provided they have data connection, which is paid. If this is the case that they can afford, they will be connected to a different territory, a virtual one that overlaps the PT space and impose a different relation of forces. A considerable amount of passengers today rely on digital content to spend the travelling hours. This content, although it was supposed to be scattered around a complex web of links of distinct origins, is almost entirely commanded now by a very short number of megacorporations that controls music distribution, audiovisual material and social networks, the giants of the stock markets these days. The free will that was imagined as possible when the Internet was introduced to the common citizen is now strictly controlled by a powerful market. At the dawn of the digital age, around the 90s, Vilém Flusser, a Czech-Brazilian philosopher, predicted the future for our society. At the evidence of a change in the forms of communication of western civilization, the digital mediums will cause a profound social change. There will be two possibilities: the society will reorganize itself

to a more dialogic form of existence, which he compares to a kind of telematics chamber music (Flusser, 2008) or it will produce new beams that will carry the fluxes of power, in a more discursive manner. These beams are related to fascism[2]. Flusser dies tragically in 1991, he wasn't able to evolve further his arguments, but we can consider that he wasn't wrong at all. Milton Santos also dies before globalization was fully implemented, but has lived enough to claim globalization as carried on by more or less loose centers of power that produce a vertical pressure over a very diverse set of regions around the globe. This configuration of power relations was made possible by the technical means achieved with the machines of digital processing, specially the computer, turned into an universal tool. (Santos, 2013). The problem of territorialization of space is thus not only a matter of bodily presence and perceptions. It is now virtually disputed. To the point that many of us do not even are no longer aware of our surroundings, while satellites in the sky are. The chatting in our touchscreens overwhelms the landscape that passes. And our favorite songs wipe out the sound inside the vehicle. But, unless one have a real good and expensive pair of headphones and travels in a silent medium, the bottom end of the music will blend with the bass sound of the engines.

It will be a good effort to compare the cocoon-like experience provided by the smartphone of travelers in public transportation to the experiences with the *Sony Walkman*, a persistent subject to sound studies theorists, since its emergence in the 80s. The clash between public and private space in modern culture has not gone unnoticed to our field. On the contrary, given the pervasive nature of sound, it has always been a central concern. I am afraid my time today will not allow that, especially since many of you are more familiar to those researches than me. But I would like to mention two lines of discussion proposed by the Brazilian thinkers that I've cited so far, as a mean to aggregate to our current reflections.

One is the approximation that Vilém Flusser does between our contemporary medium and the Heguelian notion of *unhappy consciousness*. According to Flusser, public space is always political space, and political consciousness is always unhappy consciousness: "there can be no political paradise." Following Hegel, Flusser asserts that this is because human kind is always going back and forth from a private space to a public space. "When I leave the house to conquer the world, I get lost. And when I go home, in order to find myself again, I lose the world. "(FLUSSER, 1991: 15'00") In private space I have myself, in the public space of the city, there is politics. And here is

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2 This conception of Flusser's thinking can be compared to those of Walter Benjamin.

the true meaning of *post-history*: the capacity, by technical means, to sub-
vert this order. According to Flusser, with television (and nothing prevents
us from thinking in terms of personal computers and smartphones), one
suddenly do not have to leave the house to do politics anymore: I no longer
have to go buy the newspaper or read the news on the posts of the central
square because the information comes directly in my living room (or in my
handle held device). Texts and images, information, has gone through a
revolution. Information was passed on from private space to private space,
whether viewed or not seen.

The other consideration is related to an observation made by Milton Santos
that can be synthesized on his phrase "the strength of the weak is their slow
time" ("a força dos fracos é seu tempo lento", Santos, 2013: 77). As we know,
a considerable part of the population in the third world does not have the
necessary means to acquire a smartphone and that is, not accidentally and
in its majority, the same people who spends the most of their time on public
transport. They are the ones that keep looking at the window and hearing
their surroundings. That leads Santos to propose, as a central argument in
his considerations, an utopian turn. Faced with the advance of ideological
discourses on globalization in the 1990s, in which the author identifies forc-
es that seek to deter the entire globe, the poor and migrant masses, who
are outside this framework, present themselves as the true vectors of *the
new* since, as they move more slowly, "it is they who see what the world is
being [...] they know." The *new* seems to be the category in which Santos
inscribes the possibilities not yet fully realized, empirically as well as theo-
retically. Other ways of occupying the world and of producing indigenous
theories, for which the most unprotected strata of the population would be
most suitable precisely because the forms "copied" or imposed from other
models did not yet impregnate them. This Miltonian utopia can sound un-
suspicious, but in fact it proposes the recognition of a strong force of resis-
tance between those that seem to be the most oppressed. We should not
be naïve to ignore the consequences of this oppression, but we must un-
derstand the means by which people elaborate tactical forms of deal with it.
The new forms of communication and information transmission are chang-
ing the way our political systems work, largely putting aside the more tradi-
tional status quo by which social struggle used to perform.

Information and communication are two categories clearly distinct by those
two thinkers. Santos puts great emphasis on the contemporary conditions
of verticality of our information channels, while both emphasize the com-
munication as a form of connection between human kind, more horizontal

(to Santos) or dialogical (to Flusser). When on their own, people tend to guard silence during their rides. At the most, some polite chat, restricted to the minimum. Sometimes a babbler shows off and the discomfort seems to spread around. Sometimes he finds a counterpart and they speak lively, even contaminating others. Pairs or groups of people that has come together like to maintain conversation during their traveling, sometimes even increasing the volume of their voices, as if they want to be heard. This practices has been categorized by speech-act theories:

> Speakers also design their utterances with overhearers in mind. [. . .] They realize that the overhearers can nevertheless form conjectures or hypotheses about what they mean. [. . .] By designing their utterances just right, speakers can lead overhearers to form correct hypotheses, incorrect hypotheses, or even no coherent hypotheses at all. If they know their overhearers, they can even design what they say to fit them in particular. [. . .] Overhearers are generally not meant to realize how utterances have been designed for them. (Clark & Carlson, 1982: 345; apud Kozloff, 2000: 15)

The same can be considered true to speakers talking on the phone during traveling, a frequent happening in which one can detect the embarrassment or apparent lack of care of the interlocutor. We can assume, then, that sonic space inside PT is being constructed through the mediation of speech. Even when it seems most neglected, it is a disputed territory. Sometimes it is guarded and respected; sometimes it is dominated and imposed.

3. "SORRY TO BOTHER THE SILENCE OF YOUR TRIP..."

This phrase, used as a form of introduction by the many sellers and beggars who constantly enter the buses and trains in Rio de Janeiro, always followed up by a really bothering homily, always intrigued me the most. What silence? Any public transport in town is very noisy, instead. Is it possible that, in those loud environments, people are hearing, in fact, a quiet place to transit between home and the work place? Somewhere where no obligations will disturb a relief from the day-by-day demands and one can rest a little, even though it should be done in a shaking stand position, and in the middle of a loud surrounding interpreted as silence? Could it be that this very noise, combined with the view of the city busy landscape passing by, allow for a mental state that is being recognized as calm? It certainly is no real comfort, but maybe its better then the working ours journey and the extenuating house work accumulated. It is interesting to notice that there

are few attempts to occupy this territory by late capitalism. The ones noticeable are a small screen, up and at the front, with the sound system off, advertising and entertaining, that became popular in buses during the last decade. But, mainly, there is the smartphone, whit its data packages each time more cheap and accessible. But the smartphone is normally muted, too. It is worth to note that the default configuration of videos in social networks like *Facebook* and *Instagram* is muted sound. There is a big difference in space occupation by the screen and the speaker. The first is confined and causes no disturbance around it, unless one is in the dark. The second is not limited to any square and flat surface and can disturb even rowdy vicinity. So, sound is avoided as a form of social politeness. Hence the protocoled heading "sorry to bother...". It substituted the more menacing title used during the 90' "I could be stealing, I could be killing, but I'm here asking ...". Signs of times of a more aware and respectful era? It is hard to think so. Maybe it should be considered as signaling to the silent domination of digital era. Or maybe we should just getting acquainted to the fact that every moment of relief, even the more precarious, counts and should be seized. The lady at the window still have work to do on her smartphone. Let us just relax, look at the landscape and try to eavesdrop the conversation of the couple behind us. Or maybe someone engage in a conversation with us...

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| Session #12

The medium becomes infected by the message: Boris Groys' submedial suspicion as viral tropes in William Burroughs.

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Abstract: This article analyzes the relationship between experimental sound manipulation on magnetic tape conducted by William Burroughs and his viral theory of language using the concept of submedial suspicion formulated by Boris Groys. Groys's hypothesis about an evil agent operating stealthily behind signal carriers, the submedial Other, approaches Burroughs' formulations about language. For him, the word is a virus that has settled in the human ancestors and maintains with them a symbiotic relation at the expense, however, of the freedom of the host. Burroughs undertakes a war against the word-virus using his cut-ups methods. This method, used systematically by the author throughout the 1960s and 1970s, is an emblematic example of a practical application of the introduction of noise in the medium to produce the revelation of this agent described by Groys. This procedure consisted basically in cutting out words from printed texts and recombining them in such a way as to produce unusual associations. Burroughs expanded his cut-ups by using similar procedures on magnetic tape. The semiotic properties of sound are, in this case, favorable to the erosion of language as a discrete system of signs leading to a radical application of a strategy to produce a kind of transparency of the medium.

Keywords: Media theory, Magnetic Tape, Cut-up, Intermedia studies, Noise

1. INTRODUCTION

For Groys, as we examine any message, it is possible to focus on either its representational level of meaning or the underlying medium that sustains it. Given the impossibility of a simultaneous look at these two dimensions, an incongruity between materiality and meaning is produced, which leads to the establishment of the suspicion of the existence of some agent that operates stealthily controlling the media and its images. Groys calls this entity submedial subject. It is endowed with a strictly manipulative, technical-operative subjectivity that deals with signs disregarding at all its meaning. Therefore, it assumes a threatening nature, since Groys attributes to it the role of alterity par excellence. In other words, since the submedial is the Other, it can look back (or listen) to us and elide human subjectivity

by transforming it into a mere manipulative material sign, submitted to its ruthless logic. The danger is intensified, given the surreptitious character of this dynamic, for the signic profusion on the surface of the medium obliterates and keeps hidden this subjectivity, leaving us only the suspect of its existence. Groys suggests, however, that it is possible to force the submedial subject to reveal itself through coercive techniques that temporarily suspend the message sustained by the medium, leading to its glimpse that, even if ephemeral, it insinuates the *submedial ontological sincerity.*

William Burroughs throughout the 1960s and 1970s systematically utilized sound manipulation techniques in magnetic tape by cutting, recombining, and deliberately producing physical damage in the media itself. The resulting material was used to compose his *Nova* trilogy (*The soft machine, The ticket that exploded, Nova express*). However, apart from the purpose of experimental production of literary material, this procedure, called *cut-up*, figures in Burroughs' work as a strategy to combat hidden entities that operate secretly behind the manifest world. Thus, the formulation of this paranoid theory of Burroughs closely resembles Boris Groys's phenomenological system mentioned above. Burroughs' cut-ups seem to be a practical application of strategies for the revelation of submedial truth. This procedure indicates how the magnetic tape makes possible a broad plasticity of sound, and thus is a privileged technology to use sound as a disruptive element of verbal language.

2. SUBMEDIAL SUSPICION

In "Under suspicion: a phenomenolgy of media," Boris Groys argues that media theory replaces the fundamental philosophical question about the substance, essence, or possible subject hiding behind the image of the world. Thus, the ontological suspicion that runs through the entire history of philosophy can be rearticulated from the emergence of new technologies.

For Groys, the ontological nature of a signal carrier is obscured by the signic profusion on the medial surface that is evidently exposed. It thus establishes a similar distinction to the classical phenomenology dichotomy phenomenon / thing-in-itself. The observer, listener or spectator standing before some technological device that supports signs gets in contact only with the conveyed message, being forced, in this way, only to suspect the existence of a material media support, since it is not presented explicitly. In short, "everything that presents itself, automatically renders itself suspect—and suspicion carries on by allowing us to presume that hidden behind everything

we see is something invisible that functions as the medium of the visible" (GROYS, 2012: 15)

Thus, a space of distrust that Groys denominates *submedial* is founded, which establishes with the spectator a paranoid relationship that supports the suspicion of the existence of a hidden power or mysterious force that operates controlling the media and its images of reality.

Groys delegates to the submedial the function of otherness, since, being the support that make signs mediatically present, it is not properly constituted as a sign and therefore behaves as an alien element to the message. For the author, this Other is not harmless and inert, but on the contrary, threatening, since it is through its existence that the Self is reduced and its material finitude is attested. Groys states that

> we cannot have an inner experience of the limitations of our temporal and spatial existence. We are not present at our birth and we will be not present at our death. [...] Indeed, in analyzing my own thinking process, I can never find any evidence of its finitude. To discover the limitations of my existence in space and time I need the gaze of the Other. I read my death in the eyes of Others. That is why Lacan says that the eye of the Other is always an evil eye [...] Only through the profane gaze of Others may I discover that I do not only think and feel but also was born, live, and will die.(GROYS, 2012)

The submedial Other, like any other Other, acts as subject. Groys points to the risk of underestimating the Other's hostility by denying it its subjectivity, thus criticizing a philosophy that he calls media-agnostic:

> Yet what distinguishes this media-agnostic "Other" in particular is its utter harmlessness. The "Other" simply withdraws; aside from that, it does not do anything bad or anything good. Thus it becomes evident that the media-agnostic "Other" is rather "matter" than "spirit", because the spirit seduces, pursues, punishes, and rewards[...]This "Other" is not the subject of some action aimed at the observer, but only a material foundation that withdraws from the observer—the "Other" as material, substance, matter, or physicality that has suddenly developed a certain sense of shame that prevents it from appearing in public.(GROYS, 2012: 21)

In rejecting the subjective nature of the submedial Other, this philosophical discourse ends up producing a sort of calming effect by suppressing the

anxiety produced by its existence, and thus creates a situation even more favorable to its furtive action.

The behavior of the submedial Other is especially dangerous because it operates in a strictly manipulative way, dealing with "[...] signs without any consideration for their sense, their meanings, their signifieds"(GROYS, 2012: 31). Therefore,

> devoid of sense in this way, signs function on a purely operational level of storage and exchange and no longer on the level of sense. And precisely on this level we can imagine a subject of purely medial operations that deals with signs as if they were things and without any regard for their potential meanings. (GROYS, 2012: 34)

That is, the submedial Other can reduce human subjectivity to a mere material sign and deal with it ignoring its meaning at all.

Resistance to the submedial Other should be addressed to its surreptitious character and thus force its revelation, producing what Groys calls ontological sincerity: "a phenomenon that presents itself only to the observer-as evidence of the sudden self-revelation of the other" (GROYS, 2012: 51). The evidence of the existence of the submedial Other does not, however, happen as a spontaneous epiphany, but must be produced through coercive techniques that lead to the involuntary manifestation of truth: "this truth is revealed to him in the same manner in which human subjectivity is revealed at times when a person seems compelled to betray, expose, or declare himself in moments of involuntary, coerced, or unconscious sincerity." (GROYS, 2012: 39)

For Groys, insincerity is not a matter of referentiality, that is: correspondence, or lack thereof, between sign and referent, but rather, how certain signs associated with routine and automatism conceal the submedial Other. Thus, the obstinate reiteration of a set of signs that are expected for certain media carrier reinforces the obscuration of submedial sincerity because "in the eyes of the observer, the layer of signs considered to be common, typical, characteristic, and specific [eigen] for a particular sign carrier will inevitably appear as a layer of insincerity covering up this carrier."(GROYS, 2012: 52)

The ontological revelation of the submedial is produced by the introduction of strange and extraneous signs on the medial surface in order to produce a rupture in the signic coherence and force the manifestation, even if ephemeral, of ontological sincerity. That is, using

strategies of unmasking in order to achieve, from the outside, a violent exposure of the other—in order to provoke the other into taking off the mask and showing his true face. In so doing, the observer hopes for [...] an interruption, a mistake, a glitch— or, to put it differently, he hopes for the emergence of a different, strange, uncommon sign amid the usual routine. Precisely such a sign is then judged to offer an insight into the interior of the other. The waiting for the moment of sincerity is thus the waiting for the appearance of the alien, the uncommon, the deviant amid the familiar and the well-known. (GROYS, 2012: 52)

It is at this point precisely that the sound manipulation techniques on magnetic tapes used by William Burroughs seem to point to a similar horizon to that described by Groys.

3. WILLIAM BURROUGHS' CUT-UPS

William Burroughs, armed with magnetic tape recorders, fought a sui generis battle in favor of the emersion of the submedial subject. In his personal war, the enemy target is accurate: the word-virus. An inconspicuous form of life that needs a material host to proliferate and express itself. Burroughs, in Electronic Revolution, elaborates a complex theory of the emergence of the language in which the word is a virus that infected primitive hominids and initiated an operation of mental control of these creatures, our ancestors.

In his theory, the "written word is literally a virus that made the spoken word possible" (BURROUGHS, 2000: 6) not being recognized as such because of the steady state of symbiosis it established with its host. Burroughs indicates the paradox of the life cycle of a virus, which needs a host cell to reproduce, but ends up destroying it at the end of its cycle. Taking the perspective of a virus, Burroughs points out that the ideal situation seems to be a scenario in which virus replication does not disturb the normal metabolism of the host cell. If this balance is reached, the virus is no longer detected and recognized as such, establishing a symbiotic relationship with the host. Burroughs claims that the word is a virus that lies precisely in this situation. For him, the word arose because due to a modification in the internal structure of our primitive ancestors' throat caused by a viral infection. This alleged virus, in addition to having a high lethality rate in males, would cause a sexual frenzy due to "irritation of the sexual centers in the brain."(BURROUGHS, 2000: 8) In this scenario, the infected male primates, taken by a libidinal urge, impregnated the females before their last

moments of life. In this way, the structural alteration of the throat would pass to its offspring, retaining the morphological alteration that would allow the accommodation of the word-virus in a symbiotic relationship.

Language, therefore, an allochthonous organism, operates by reproducing itself in an unstoppable way in its hosts, forming a verborreic tissue that encloses the authentic expression of human thought, just as the signic proliferation on the media surface covers the submedial subject for Groys

> I have frequently spoken of word and image as viruses or as acting as viruses, and this is not an allegorical comparison. It will be seen that the falsifications in syllabic western languages are in point of fact actual virus mechanism. This IS of identity the purpose of a virus is to SURVIVE. To survive at any expense to the host invaded. To be an animal, to be a body. To be an animal body that the virus can invade. To be animals, to be bodies. To be more animal bodies so that the virus can move from one body to another. To stay present as an animal body, to stay absent as antibody or resistance to the body invasion. (BURROUGHS, 2000: 59)[1]

states Burroughs. Thus, the virus needs a body that functions as a media for its material expression, so it can become mediatically present at the expense of the freedom of the host. There is a kind of ventriloquism at play that makes the infected organism hostage to the strictly operational viral reproduction.

Burroughs attacks the word-virus through its famous cut-up technique. This method, presented to him by Brion Gysin, consisted basically of cutting out printed texts and recombining the resulting fragments so as to produce new associations. Burroughs became a great enthusiast of this procedure and began to use it not only in shuffling of written texts, but also, and perhaps most importantly, in the manipulation of sound material recorded on magnetic tapes.

The result of Burroughs' cut-ups points precisely to Groys' strategy of systematic introduction of noise into the conveyed message in order to force the revelation of the submedial subject. In this sense, recorded sound is a privileged field to produce the "impoverishment, dilution, or reduction of the signal", since phonographic devices "do not listen as ears that have been trained to filter voices, words" but only "record acoustic events in

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1 The unusual punctuation and syntax utilized by Burroughs were kept in the quotes.

themselves", thus ignoring the structural properties of language as a discrete system of signs and incorporating the "noise of the medium"(KITLER, 1999: 23) in an ostensive manner, producing distortions that, led to the ultimate consequences, can make the message linguistically unintelligible.

In this perspective, it is possible to approximate the semiotics of the phonographic record[2] to the photograph. Roland Barthes in one of his celebrated essays on photography states that:

> in order to move from the reality to its photograph it is in no way necessary to divide up this reality into units and to constitute these units as signs, substantially different from the object they communicate; there is no necessity to set up a relay, that is to say a code, between the object and its image. Certainly the image is not the reality but at least it is its perfect *analogon* and it is exactly this analogical perfection which, to common sense, defines the photograph. Thus can be seen the special status of the photographic image: *it is a message without a code;* from which proposition an important corollary must immediately be drawn: the photographic message is a continuous message (BARTHES, 1977: 17)

Like the photograph, the recorded sound presents itself as a continuous sign, that is, it does not communicate necessarily mediated by a code constituted by discrete elements. It can be argued that by listening to the recording of someone speaking it is possible to understand the message conveyed only by referring to a language, with its semantic, syntactic and lexical specificities. However, this is true only if one disregards the noise of the media, of the unintentionally recorded sounds and of the speech itself as a constituent part of the message. If one listen to the recording of a voice speaking in a language unknown to the listener, it will be easier to focus more on the sound materiality of the voice and collateral noises to the speech than in the sense of the words. In other words, by listening to a recorded voice uttering words and directing the listening to produce an intelligibility based only on an abstract system of discrete signs, there is an evasion from the mediatic materiality, which in turn reinforces the reification of human subjectivity by Groys' submedial subject protected by Burroughs' word-virus proliferation.

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2   Here, we understand phonography as "the invention of apparatus for recording, fixing and sound reproduction, which allowed physically connecting the energetic character of sound to the concreteness and permanence of matter" (IAZZETTA, 2015: 152) [our translation]

William Burrough's sound cut-ups operate by gradually and systematically producing the erosion of meaning in words. Thus, it aims precisely at the intensification of noise, seeking a kind of mediatic transparency by forcing the emersion of the submedial truth enclosed by the surface of words, concatenated in order to produce ordinary and recognizable meaning.

The semiotic character of the sound as continuous sign becomes in this case a warlike advantage because it determines a broad plasticity to the phonographic materiality, favoring the deformation of the word when recorded on magnetic tape. The tape recorder then becomes a kind of torture device, which in the fashion of CIA or KGB, forces the production of a state of exception in which the victim, the word, is forced to sincerity, thus revealing the true subject operating behind the obvious phenomenological manifestations.

4. CONCLUSION

So, by bringing these two authors together, it is possible to conclude that the state of permanent paranoid attention, sustained by the imminence of an ontological burst, presents a fundamental topological difference in Groys philosophy and Burroughs' mythopoetics. This distinction derives fundamentally from the diverse position of the Other and the ethical horizon of these two authors. For Groys, the threat of the Other is the sudden revelation of the submedial subject, conveniently buried under signic conventionality of the message, while, for Burroughs, the Other, equally threatening, constitutes the very nature of these conventions, erected by the viral proliferation of signs on the medial surface. The suppression, even if temporary, of the signic tissue produces, for Groys, the confirmation of a suspicion, revealing the terrible truth of the existence of a dangerous subject without appeal, while the eradication of viral infection, to Burroughs, opens up the possibility of setting up "a language that will give the option of silence, "a kind of aphasic utopia".

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Mucamas, Domestic Slavery and Brazilian Music

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Abstract: In this article, I intend to address some of the sonorities and songs notated by musicologists, composers, and sociologists that refer to a difficult environment: the violent, arbitrary, intimate, and affective relationship between enslaved black women working as house slaves in Brazil and the families that owned them. The figure of the *Mãe-Preta* (Black Mother) in Brazil – the slave woman who served as a wet nurse, nanny, housemaid and cook, among other things – has led to discussions on gender, history and social psychology; one aspect of this figure, however, has gone largely undiscussed: her influence on Brazilian music. It is a fundamental matter: the sounds, gestures and lullabies of wet nurses are heard by the babies they care for, in the intimate, warm and secure moments of cradling and breastfeeding, where the little ones feel the necessary safety to fall asleep. There is a musicality in this, derived from the Afro-Brazilian oral tradition, where the indistinction between love and hate can be seen as one of the sources of striking ambiguities that mark Brazilian music in general.

Keywords: Domestic Slavery, Lullaby, Wet Nurses, Brazilian Music

DOMESTIC SLAVERY

The possible influence of black servants in the Brazilian musical sensibility[1] is better understood if we take into account that, generally speaking, up until the prohibition of the international slave trade in Brazil (1850), an astonishing 86% (!) of all people who arrived were African (Alencastro, 2018, 58) and, according to the census of 1872, more than half of the enslaved women in Brazil were working in households.[2] Carl Schlichthorst, a German who

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[1] I owe this article to Biancamaria Binazzi, who, after reading a poor chapter on the presence of sexual violence in Brazilian music in my doctoral thesis, drew my attention to a repertoire of songs related to the subject that revolves around the theme of the "mãe-preta," enriching the dimensions that went undiscussed in my text. Her intelligence brought my attention to a major discussion on the relationships between gender, racism, abolition, and music in Brazil. I would like to express my gratitude and state that any mistake committed here is, of course, solely my responsibility.

[2] "Recenseamento do Brasil em 1872", available at biblioteca.ibge.gov.br [last visited on January

was in Brazil between 1824 and 1826 as an officer of the Brazilian Imperial Army, wrote a memoir in which, from the very beginning, he notes the disparity between the number of whites and blacks:

> Official numbers are not known, either because they were not recorded, or because they were intentionally concealed. We may assume that for every three blacks there was one white. The number of slaves surpasses that of free men (Schlichtorst, 2010: 51).

With this information in hand, several researchers have drawn attention to the importance of the impact of notions of race in the general framework of labor and immigration to Brazil, as well as the need to connect them with the idea of gender regarding the specificity of the roles of black women in this context.[3] Like the men, the enslaved African women worked hard on mills, plantations, and single-crop latifundia, cutting sugar cane and harvesting coffee for the foreign market. But they also did work that was usually outside the scope of male slave labor; washing and sewing clothes, cooking and serving meals, as well as bathing and dressing their masters. They thus carried out another series of complex "indoor" tasks, linked to the home, to affectivity, to sexuality and, in particular, to reproduction, considered a very specific kind of work.[4]

Regarding the specificity of female slave labor in colonial Brazil, it is possible that the importation of the aristocratic European custom of employing poor women as wet nurses was "adapted" to the importation of enslaved Africans, resulting in a correlation between the old world, and the Central African "Mukama" (which, in Kimbundu, among other things, means the domestic slave, mistress of her master).[5] The work and position of the "house slave" is characterized by a series of ambiguities that differ from the male position: the possibility of certain "privileges" compared to other slaves (such as better food, better clothing, greater chances of manumission, etc.) are directly linked, among other things, with the possibility of

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16, 2019].

[3] Several female authors have worked to define these specificities within the Atlantic slave trade. Among them, Jennifer Morgan, Stephanie Camp, Kathleen Brown for the Americas and, for Brazil, Maria Helena P. T. Machado, a professor at the University of São Paulo who has organized anthologies, courses and advised on the subject.

[4] Cf., among others, Telles, Lorena Féres da Silva, "Amas de leite"; Ariza, Marília, "Crianças/Ventre livre", In: Schwarcz, Lilia M.; Gomes, Flávio (Org.). *Dicionário da escravidão e liberdade*. São Paulo: Companhia das Letras, 2018.

[5] Cf. Lopes, Nei. *Enciclopédia brasileira da diáspora africana*. Selo Negro Edições, 2014.

sudden sexual assault, humiliation due to intimate and affective issues, full time supervision of work and other activities, and the possibility of violent attacks by jealous wives (whose husbands may want to use the slave for sex).[6] This complex unfolding of slavery in Brazil through gender – the imminence of the female black body that is appropriated for caregiving, nurturing, as well as sexual and reproductive work – has been brought to the limelight by several researchers (some of them cited in this text), given that this situation changes and persists in different ways.

In this tense context, in which the voice of these enslaved women is systematically silenced, we can pick up here and there, in the texts and individual memories of some authors, descriptions of gestures, musicalities and black mothering. Something of this history appears in the well-known description by Joaquim Nabuco:

> Slavery will remain the national characteristic of Brazil for a long time. (...) It is the indefinable sigh that our nights of the North exhale in the moonlight. As for me, I absorbed it in the black milk that nursed me; wrapping me like a silent caress throughout my childhood (Nabuco, 1998: 183).

The excerpt was set to music by Caetano Veloso in his album *Noites do Norte*, a version that did not include the part about Joaquim Nabuco's wet nurse. Also well-known is the description by Gilberto Freyre in his book *Casa-Grande & Senzala*:

> (...) in our music, our walk, our speech, our lullabies, in everything that is a sincere expression of life, almost all of us bring the traces of black influence. Of the slave or *sinhama* who swaddled us. Who nursed us. Who fed us, softening the food with her own hands. The old black woman who told us our first animal and haunted stories. The mulatto woman who removed the first jigger bug from a delightful scratch. The one who introduced us to physical love and transmitted to us, in the creaking of the old bed, the first feeling of manhood (Freyre, 2003: 367).

In 1937, Artur Ramos already warned us of the "evocative, regressive, Proustian lyricism (...) unconscious disguises of the slavemaster's sadism" that he identified in "contemporary works".[7] If we observe this regressivity

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6 Cf. Telles; Ariza, op. cit.

7 Cf. Ramos, Arthur. *As culturas negras no novo mundo*: o negro brasileiro-III, Brasiliana, 1946.

closely, we notice in these texts descriptions of one of the specific respon-
sibilities reserved to *mucamas*: breastfeeding a baby that is not their own, a
task reserved exclusively for women and, in the context of slavery in Brazil,
blacks. The German memorialist C. Schlichthorst, who noted the disparity
between whites and blacks in Rio de Janeiro in the early nineteenth century,
detailed how the presence of slavery particularized the daily life and private
life of the country. On white women, he notes that

> They marry very young and their extraordinary fecundity can be at-
> tributed to the fact that none of them breastfeed their children. All
> the wet nurses are black women who, without exception, have milk
> for two children (...) White women never breastfeed their children
> and hence the listings for black wet nurses, which fill the newspa-
> pers of the capital (Schlichtorst, 2010: 93).

In other words, it was rare for a mother in a well-to-do family to
breastfeed her child, using wet nurses for this instead. A Romanesque,
widespread and aristocratic idea of the femme fragile fostered the estab-
lished belief that the well-to-do white woman produced a milk that was in-
adequate, weak and thin, according to her constitutive, somewhat blessed
fragility. Breastfeeding would weaken the fragile white female even more,
and it would be as bad for her, who already had weak nerves, as for the
child, who would receive insufficient nourishment.[8] Besides that, no f*emme
fragile* wanted her breasts to become flaccid and droopy. The role was thus
left to the enslaved black woman, who was the opposite of the romantic
femme fragile; brutalized, with poor habits and a faulty morale, made for
manual labor, capable of carrying children, seen as a moving commodity
and like an animal, who could therefore produce an abundant amount of a
milk as strong and robust as herself.[9]

If we were to seek a less impoverished understanding of food (than that
which slavery cultivated), we could include among the wet nurse's respon-
sibilities the delicate, humane task of helping babies find themselves in re-
ality. Linguist Yeda Pessoa de Castro has pointed out "the socializing impact

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8 Cf. Machado, Maria Helena Pereira Toledo. "Between two Beneditos: enslaved wet-nurses amid
slavery's decline in southeast Brazil", Slavery & Abolition, 38:2, 320-336, 2017.

9 Cf. Machado, Maria Helena Pereira Toledo, op. cit. The bottle was patented in 1841 and the
rubber nipple in 1845; the process of pasteurization was discovered in 1859 and the process of
sterilization of milk in 1886, which would influence the way people cared for newborns. In Brazil,
however, these novelties seem to have taken a while to be adopted, and Brazilian physicians as-
serted in their theses that milk should not be boiled, even a decade after the discovery of pasteu-
rization.

of the black woman as a *mãe-preta* within the scope of the Brazilian colonial family and her influence, speaking Portuguese as a ladina, in the psycho-linguistic formation of the child.[10] That is, in a larger context, "the *mãe-preta* would act, within the family and the home life of the slave society of her time, as a central figure in the process of forming the profile of the 'mental structure' of Brazilians."[11] On the same track Gilberto Freyre wrote that:

> The psychic importance of the act of suckling, of its effects on the child, is actually considered enormous by modern psychologists; and perhaps there is some reason [Arthur] Calhoun to suppose these effects of great significance in the case of whites created by black wet nurses (Freyre, 2003: 368).

Perhaps the formulations made by these "modern psychologists," as well as the developing psychoanalysis, help to better qualify the work requirements of wet nurses. In the terms developed by psychoanalysts, breastfeeding is an act of nurturing that is inseparable from an intense emotional experience, translated into psychoanalytic jargon as the fantasy of placing the love object inside oneself. In an article from 1936, Donald Winnicott wrote that

> First in the appreciation of oral function there comes the recognition of oral instinct. 'I want to suck, eat, bite. I enjoy sucking, eating, biting. I feel satisfied after sucking, eating, biting.' Next comes oral fantasy. 'When hungry I think of food. When I eat I think of taking food in. I think of what I like to keep inside, and I think of what I want to be rid of and I think of getting rid of it.' Third comes a more sophisticated linking up of this theme of oral fantasy with the 'inner world.' There is a tremendous elaboration of the two parts of the fantasy I have just briefly outlined, namely ideas of what happens inside oneself and, along with this, ideas of what is the state of the inside of the source of supply, namely the mother's body (Winnicott, 2001: 34).

Breastfeeding is understood as the embodiment of the object of love, which in turn is a very primitive logic of sexuality. The one who fulfills the maternal function is also seen as the one that offers the possibilities for the baby to be integrated into an "I" by keeping it "warm, embraced, swaddled,

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10 Castro, Yeda Pessoa de. "O protesto no conto, do canto ao acalanto", Salvador: Revista da Academia de Letra da Bahia, n. 53, March 2015, p.53-70.

11 idem

and named." Post Freudian authors such as Anna Freud, Melanie Klein, and Wilfred Bion will also study and describe delicate moments in the maternal function where the mother (or, in our case, the *mãe-preta*) must be prepared to receive the baby's anxieties, which come in a concrete manner, without language, exercising the delicate role of understanding communication without definition, giving the baby the intuition that he is being understood and listened to. According to Winnicott, the baby must be able to use the (black) mother, and she must know the right moment to offer herself for the baby to use. This dynamic contributes to constituting the baby's humanity.

If we consider the ideas of these psychoanalysts to be valid, the functions of the wet nurse grow exponentially: at the same time that she offers her "good milk," she offers her body heat, smell, breathing, rhythms and movements, which connect with the complex that Greenacre called the 'cherishing aspect' of rhythmic pleasure.[12] It should be noted, then, in the context of slavery in Brazil, the complexity of the specific job of the black woman: nothing less than helping a baby (which is not hers) to transform the meaninglessness of its existence into meaning, an experience that brings with it the possibility of love, hope and desire.[13] The consequences of this relationship are not small: if everything goes well the nurse can help the child to feel confidence in the outside world, if everything goes wrong, the child can simply die.[14]

RHYTHMS AND LULLABIES

In an interview with Jornal do Rádio in the early 1930s, Noel Rosa commented on his way of making music, recalling that "songs of simple nannies, putting children to sleep; senseless things (...) – all this I loved" (Maximo, Didier, 1990: 235). Mário de Andrade, who in his travels around the country wrote down a multitude of things about the lives of common folks in Brazil, also wrote a melody of "an intense life among the blacks from 1871 to 1880, that my mother still sang to me in my childhood," as well as an "episodic melody, appearing in a story told throughout Brazil. There is no one who did not

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12 Discussed in Winnicott, 2001: 301.

13 These psychoanalysts thought that the passing of children's psyche – dependent and immature, which perceives and refers basically to itself – needs an object relationship, a symbolic pact with the other to enter the world of language. In the movement of inscribing the other in themselves, the child "becomes" language, enters the symbolic plane and can accept the "law of the other."

14 Maria Helena P. T. Machado, "Between two Beneditos"

hear it, curumim, told by nannies, *pretas velhas*, I myself often heard it from a cook, Rita, a very long, light-skinned mulatto" (Andrade, 1989: 208).. Germano Mathias, on the MPB Especial program, said:

> ...when I was little, my mother had no milk, and they used – I do not know if it is still used today – wet nurses. And my nanny, my wet nurse, was a black woman, her name was Dona Marta, so she breastfed me, right? So, who knows if there wasn't a...you know the blood runs deep right, brother? That's why I have quite the mix, I won't not even go into details[15]

Dorival Caymmi uses a chorus sung by the *mucama* who nursed him during childhood to compose his "Historia para sinhozinho" (which later, with the name "Tia Anastácia," became the signature song for Monteiro Lobato's character in the television version of "Sítio do Picapau Amarelo"). The composer explains:

> She was a *preta velha*, from my grandmother's time, called Sinhá Inocência. She nursed us in her trembling arms, told us stories, incredible stories! One of the most beautiful had a chorus I never forgot. I wrote this song about it and in memory of Inocência. There is the refrain of her story, half in Portuguese, half in Nagô, filling the verses of a mystery that captured the imaginations of children... (Caymmi, 1967: 87).

There are many comments by samba musicians, poets and writers recalling their nannies, giving testimonies of musical, rhythmic and gestural experiences from the relationship with their *mucamas*, sometimes inseparable from the grotesque "initiation in physical love" described with joy by Gilberto Freyre. In these songs – of nannies caring for children, scary story-telling, bed creaking, hammocks swinging, different sensations and episodic melodies – are deep-rooted issues of gender and race.

One obvious matter has been largely erased from Brazilian thinking in this context: what about the children of the *mucamas*? The Brazilian representations of the "*Mãe-Preta*," in photographs and paintings, holding the white children on their laps, also point to this blatant absence: the black child, the *mucama's* biological child, is not there. This tension that is not represented is perhaps one of the most cruel "artistic defects" of Brazilian art.

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15 Programa MPB especial, Germano Mathias.

Perhaps because he was a foreigner and writing from abroad, Schlichthorst did not forgo writing down the terrifying ramifications of slavery in Brazil:

> It is remarkable that, despite the prevailing tolerance of illegitimate connections, for as long as Rio de Janeiro exists, a white woman has never given birth to a child of color. The women of Rio are proud of this tradition, which would be proof of a high degree of feminine pundonor, if it were integrally true. I consider it untrue for the following reason: there are many children of color in the city's Foundling Home, and I do not see how they ended up there, if not for being the unfortunate offspring of white women and black men (...). It is, however, very understandable that such cases be kept in great secrecy, in a country where the husband is the absolute master of his household, no police or moral law restricts his actions and hateful accounts are often ignored (Schlichtorst, 2010: 93).

The abandonment of children in the Foundling Home, or Foundling Wheel, is a terrible and little-remembered chapter in Brazilian history. It was obvious that for a *mucama* to produce milk, she would have to carry children in her own womb. Most of the advertisements on newspapers, however, offer wet nurses without children, abandoned by masters driven by ruthless pecuniary calculations. Maria Elizabeth Ribeiro Carneiro says that in 1871, in talks between farmers in Paraíba do Sul, the following calculation was heard: "a negro is bought for 300$000; he harvests one hundred *arrobas* of coffee a year, earning that amount back; from then on everything is profit. It is not worth it to put up with the offspring, who will only produce as much after sixteen years."[16] Mary Karasch recalls that "it was cheaper for a man to buy a twelve-year-old African boy than to feed and care for a slave and her children until one of them reached the same age,"[17] The complexity of the work demanded of the mãe-preta then grows: to enrich the symbolic/physical world of the slaveowner's child, when her own child has often been taken from her.

LULLABIES

The pediatrician and psychoanalyst D. Winnicott describes, as part of the maternal feeling, a portion of hatred toward the baby, with which the mother learns to deal:

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[16] Ottoni, Cristiano. "Desprezo pelas crias". In: Carneiro, Edison. Antologia do Negro Brasileiro. Rio de Janeiro: Agir, 2005, p. 227.

[17] Karasch, Mary. *A vida dos escravos africanos no Rio de Janeiro* (1808-1850). São Paulo, Companhia das Letras, 2000, p. 144.

He then cites the classic lullaby "Rockabye baby, on the tree top / When the wind blows the cradle will rock / When the bough breaks the cradle will fall / Down will come baby, cradle and all." If it were possible to compare, with regard to the Brazilian *mãe-preta*, this situation would at least be intensified; having her own child deprived in favor of the white child should greatly increase the tension of "hatred toward the baby," in this case, a white baby that which takes the place of hers. With this context in mind, we can think of the specificity of a Brazilian lullaby, probably belonging to a mucama, transcribed by Hildegardes Vianna[18] in Bahia and commented by Yeda Pessoa de Castro.[19] The lullaby carries this inscribed hatred, resulting in a mix of caring words and a sweet melody that shows not only a hatred toward the baby, but also toward the parent, who is not with the child:

Fig. 1. "Su, su, su"

Yeda Pessoa de Castro draws attention to the final verse, which

states loud and clear that it is equal to saying 'those who bore their own (Mateus), should swaddle/cradle, (...) that is, each should assume the responsibility of their own acts and not put it on someone who has nothing to do with it (...) In it, the caring and naive

18 Vianna, Hildegardes. Folclore brasileiro: Bahia. Rio de Janeiro, Funarte: 1981.

19 Castro, Yeda Pessoa de. "O protesto no conto do canto do acalanto". Revista da Academia de Letra da Bahia, n. 53, March 2015, p.53-70. I thank Lorena Féres for sending this text.

This context may also shed light on a wet nurse lullaby annotated by Mário de Andrade (Andrade, 1989: 207), who was surprised by the sad and somber content of the text:

Fig. 2. "Acalanto"

These lullabies contain possible signs of the systematically silenced voice of Brazilian house slaves, going against the idea of a sweet relationship between slave and owner and of a sentimental *Mãe-Preta* who simply accepts the situation. The tension between care and revolt is present in these songs whose ambivalence is at the core of Brazilian music.

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Intercultural Relations and Phonography: records exchanges between the Discoteca Pública Municipal and the Archive of American Folk Song (1939-1943)

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Abstract: In this article, I will describe some aspects of identity and alterity in sonic practices (IN/OUT) based on the case study of the agreement between the Discoteca Pública Municipal – which was associated with the Cultural Expansion Division of the Culture Department of the State of São Paulo – and the Music Division of the Library of Congress in Washington during the Second World War. Between the years of 1939 and 1943, both institutions shared a vast correspondence that led to an exchange of folk music records captured during recording expeditions funded by public resources. With the understanding that sonic practices include field recordings, the creation of music collections and the diffusion of these collections, I will attempt to describe how, in that historical moment, phonography acted as a mediator of intercultural relations.

Keywords: Phonography, Mário de Andrade, Oneyda Alvarenga, Discoteca Pública Municipal, Library of Congress.

1.INTRODUCTION

In 1943, the Discoteca Pública Municipal de São Paulo and the Music Division of the Library of Congress finalized a folk records exchange project that had been in the works since 1939, and that went through a long negotiation process between Oneyda Alvarenga, the director of the Discoteca, and Harold Spivacke, director of the Music Division of the Library of Congress.

I will briefly introduce the field recording projects of both institutions, along with their motivations and the challenges they faced; and I will analyze their discourses in an attempt to identify how they contributed to a political agenda of the construction of national identities based on recorded sound. We will try to identify the advantages and disadvantages of this records exchange to both sides, and take note of their divergences and convergences through the analysis of the correspondence of the main agents in this process: Mário de Andrade, Oneyda Alvarenga, Alan Lomax and Harold

Spivacke. Finally, we will contemplate the results of this exchange, seeking to identify whether the exchange of records contributed to the creation of collective memories and sound identities and alterities, and if so, how[1].

With the incentive of the Good Neighbor Policy and funding provided by the US Department of State War Emergency Fund, the agreement between the two institutions not only promoted the exchange of sound material on the music of the Americas to be appreciated by the academic (anthropologists, linguists, musicologists, folklorists) and artistic (radio, cinema and music performance) fields, but it also favored the exchange of technical knowledge during a time in which American countries were preoccupied with strengthening national identities with the aid of new sound recording, archiving and reproduction technologies (radio and cinema too)[2]. In this context, the recording, preservation and diffusion of folk music in 78 rpm record discs were important tools for the construction of the sound imaginary of a collective identity; a process that initiated with the end of World War I and that gained traction during World War II due to the Good Neighbor Policy.

While the library in the United States is substantially increasing their resources, both public and private, in order to expand the folk music archive with the Work Progress Administration (WPA)[3] and the Good Neighbor Policy; in Brazil the original project of the Discoteca Pública Municipal is

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1 This article was produced during a Master's research that is still ongoing at the Instituto de Estudos Brasileiros (IEB-USP). It was based on documents found at the Historical Collection of the Discoteca Oneyda Alvarenga (acervo histórico) and at the American Folklife Center of the Library of Congress in Washington, and on the correspondence between Mário de Andrade and Oneyda Alvarenga. The records and documents are still being processed, and this research has raised more questions than found definite answers.

2 Instituted by the president of the United States, Franklin D. Roosevelt, in 1933, the Good Neighbor Policy prioritized a political and economic rapprochement and the cultural exchange with Latin American countries. From 1939 and due to the Second World War, the efforts for a cultural approximation with neighboring countries intensified, under a climate of Pan-American cooperation. In 1940 this strategy is reinforced with the creation of the Office for Coordination of Commercial and Cultural Relations (OCIAA), directed by Nelson A. Rockefeller. More information on the cultural approximation policies and technologies can be found in: TOTA, Antonio Pedro."Imperialismo Sedutor, a americanização do Brasil na época da Segunda Guerra". São Paulo: Companhia das Letras, 2000.

3 Work Progress Administration (WPA). The WPA was a program created in 1935, during the Roosevelt administration, to fight unemployment and the damage caused by the Stock Market Crash of 1929. The WPA employed 8.5 million people in 1.4 million public projects during its 8 years of existence, in activities such as the construction of bridges, dams, highways, and studies about folklore. Musical activity was contemplated by the Federal Music Project (FMP), and among the projects was the folk material collection under the orientation of John Lomax.

suffering sizable losses, such as the exoneration of Mário de Andrade, who was then the director of the Division of Cultural Expansion of the Culture Department and the architect of the project of the Discoteca, and the budget cuts imposed by the city administration of the *interventor* (appointed mayor) Prestes Maia, during the Vargas dictatorship.

Inspired by the challenge issued by Jonathan Sterne, I understand recorded sound as a problem that exceeds its immediate empirical context: "Sound studies is a name for the interdisciplinary ferment in the human sciences that takes sound as its analytical point of departure or arrival... By analyzing both sonic practices and the discourses and institutions that describe them, it redescribes what sound does in the human world, and what humans do in the sonic world" (STERNE 2012:2). What does phonography tells us about the tensions, tendencies and current affairs of the cultures they belong to? By broadening our understanding of records exchanges beyond the field of History and into the universe of Sonology, we can understand phonography as an active mediator in social, political and cultural practices. After all, as Kenney provokes us, "Recording machines may seem simply to reproduce what's out there to be recorded, but decisions about who to record, when, why and how are influenced by a variety of factors" (KENNEY:1999. xiii).

2.THE EXCHANGE OF RECORDS

Although negotiations over record exchanges begun in 1939, the agreement between the Discoteca Pública Municipal de São Paulo and the Music Division of the Library of Congress was only approved in March 5, 1941; and it only came into being in 1943. Carried out with War Emergency Funds from the Department of State[4], the project should have cost the Government of the United States $1,200.00. This investment consisted of the production of copies of records for the Discoteca and the delivery of resources and raw materials (such as blank discs and cutting styluses) so that Oneyda could copy records, photographs and silent films to be sent over.

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4 Information found at the archive of the American Folklife Center: The Discoteca Pública Municipal de São Paulo Collection. AFC 1943/001 - Manuscripts. Folder 3. Letter from Harold Spivacke to Mr. Clapp (Administrative Assistant of the Library of Congress), 1.11.1941. ("Working Fund, Library of Congress - Emergency coordination between American Republics, War 1940-1942 - appropriation 0302599/002). The agreement included the duplication of folk records from the Library of Congress to be sent to Brazil ($350.00), the delivery of 200 blank discs to the Discoteca Pública Municipal for the copy of Brazilian records ($250.00), cutting styluses ($30.00), copies of films and photographs to be sent ($465.00) and costs of delivery, telegrams and others ($105.00).

Technical difficulties and lack of resources led the record exchange to be finalized only in 1943. According to the online catalogue of the Library of Congress, the North-American archive received 189 10 and 12-inch records, with folk music recordings captured in Maranhão, Pará, Paraíba, Pernambuco and São Paulo[5], in addition to photographs, sound films and catalogue index cards.

In her 1944 report[6], Oneyda Alvarenga stated that the Discoteca traded "199 Brazilian folk records for folk records from Central America and California". Although they were not described in detail in the reports and records catalogue, we were able to identify the phonograms with the name of interpreters, location, date and collector's name by cross-referencing the data in the incomplete index cards with the online catalogue of the Library of Congress.

Currently, the São Paulo archive has 198 glass core 12-inch 78 rpm record discs sent by the Library of Congress, all converted to digital media and available for listening in mp3 format. Most of these (78 records) correspond to the recordings captured by Alan Lomax in Haiti[7], in 1937. Mexican music records were also sent (18 records), captured in Texas by John Lomax and Alan Lomax in 1934 and 1936[8]; in Florida, in 1939, by Stetson Kennedy and Robert Cook[9]; and in the south of Texas by Norman Laird "Brownie" Mcneil, in 1942 (9 records)[10]. The Discoteca also received five records of music in Portuguese, which were recorded in 1939, in California, by the researcher Sidney Robertson Cowell[11].

3. MORE THAN 250 POMPOUS SPEECHES: THE PHONOGRAPHIC PROJECT OF MÁRIO DE ANDRADE AND ONEYDA ALVARENGA FROM 1936 TO 1945.

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5 In addition to the records of the Missão de Pesquisas Folclóricas (AFS 7399-7586), Oneyda sent 10 discs with records of the full Congada of the Embaixada Rancho Mineiro, from Lambari (MG), performed in the São Paulo neighborhood of Santo Amaro. The recording, with duration of 1 hour and 25 minutes, was captured in May, 1937, by the Culture Department (AFS 7587-7597). Altogether, 198 10, 12 and 16-inches records were sent.

6 CENTRO CULTURAL SÃO PAULO. Acervo Histórico da Discoteca Oneyda Alvarenga. Fundo DPM: Série Relatórios. DOC 1452. Discoteca Pública Municipal 14 de janeiro de 1944.

7 Haiti Expedition, 1937. [https://lccn.loc.gov/2008700309].

8 John A. Lomax Southern States Collection, 1933-1937 [https://lccn.loc.gov/2009655426]

9 Florida Recording Expedition WPA, 1939 [https://lccn.loc.gov/2009655302].

10   Brownie McNeil Collection of Southern Texas Recordings,1942

11 W.P.A. California Folk Music Project, 1939 [https://lccn.loc.gov/2017700938].

The Discoteca Pública Municipal was created in 1935 as a branch of what would be the Rádio Escola of the newly founded Culture Department of São Paulo. The project was formulated by Mário de Andrade, director of the Cultural Expansion Division of the Department, and it was directed by the musicologist Oneyda Alvarenga. The main objective of the Discoteca was to preserve the memory of Brazilian musical traditions that were "about to disappear" because of the influence of the radio and the music industry, and to encourage an artistic renovation of national music.

Considering that "our popular music is a prodigious treasure, condemned to death. Phonography imposes itself as a remedy of Salvation" (TONI, 2004:264) Mário de Andrade designed the Discoteca based on European standards[12], committed to the scientific study of sonorities that were not played in the radio, especially contemporary classical music and folk music. Apart from having a record collection available for public consultation and promoting "record concerts", the Discoteca also had a music library that carried music scores and technical books; an ethnographic-folkloric museum; a film library; an archive of record matrixes discarded by commercial record labels; and, finally, a service of Sound Registry that should contribute to three collections: the Folclore Musical Brasileiro (MF), the classical music archive of the Escola de São Paulo (ME) and the Arquivo da Palavra (which consisted of voices of illustrious Brazilian men and recordings for phonetic studies)[13]. In an interview given to the Diário da Noite, Oneyda Alvarenga talked about the scientific and artistic contributions that phonography could bring: "the folk documents of the Discoteca not only enable a better knowledge of our people through their habits and traditions, but they also provide our composers with a reference that allows them to, by way of the study of our popular music, reference and ground their art inside the national reality"[14].

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12 Even before he created the Discoteca, Mário de Andrade was already aware of (and interested in) researchers and institutions that were building folk music record collections for ethnographic, linguistic and musical studies. According to Valquíria Carozze (2014), Mário de Andrade's personal library reveals that he kept track of news about other institutions with similar designs, such as the Discoteca di Stato of Rome, the Phonogrammarchiv of Vienna, and the SODRE project from Uruguay, designed by Curt Lange. In his defense of the budget request for the Culture Department recordings, Mário de Andrade mentions as references initiatives in Romania (Constantin Brailoiou), Sorbonne (Archives de la Parole) and the University of Berlin.

13 Between 1936 and 1945, the Discoteca recorded 234 discs for the series National Folk Music (F), National Classical Music (ME) and Registry of Phonetics and Illustrious Brazilian Men (AP), with a total of 36 hours and 41 minutes of recorded sound. Although the Discoteca still exists, the phonographic service was interrupted, and it has never again invested in recordings.

14 Oneyda Alvarenga, in an interview to the *Diário da Noite*. 8.17.1938

In 1937, Mário de Andrade defends before the mayor, Fábio Prado[15], a request of 100:000$000 destined to continue the phonograph recordings of the Discoteca. In its first years of existence, with the 80:000$000 destined for recordings, the newborn Discoteca had already recorded a Carlos Gomes sonata and done two field recordings of folk music in Minas Gerais and São Paulo[16].

> "…Our vast, incredibly rich folk music heritage is entirely to be explored. Until the foundation of the Discoteca Municipal, nothing had been done in this field (not only in Brazil, but in all South America). Meanwhile, Europe had felt since 1899, since the appearance of the first, very lacking, phonograph equipment of Edison, the inestimable value of the phonograph in the service of scientific research, not only in folklore, but also in phonetics." (ANDRADE, 1936)

But Mário de Andrade appeared not to be completely satisfied with the recordings done by the Department of Culture, and he continues:

> "It is a lot, considering that this movement is no more than a municipal initiative. But culturally, it is very little, if we remind ourselves, for ex (sic), that the Phonogram Archive attached to the Music School of the University of Berlin already had, in 1929, 10,000 cylinders recorded, some containing 4 to 5 phonograms." (ANDRADE, 1936)

Recognizing the impossibility of, as a municipal institution, achieving the greatness of sound archives such as that of Berlin, Mário de Andrade concludes his request for recording funds:

> "…recording the good, the excellent music of composers from the São Paulo school and seeking what is there of essential and characteristic in Brazilian musical folklore, for scientific studies and as a basis for the works of these same composers, we will have done for ourselves and the people more than 250 pompous speeches."

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15 CENTRO CULTURAL SÃO PAULO. Acervo Histórico da Discoteca Oneyda Alvarenga. Fundo DPM: Série Relatórios. Folder 1935 a 1939 DOC s/no. Andrade, Mário de. Justificação da verba para 1937.

16 In 1936, they recorded "O burrico de pau" with the Haydn Quartet, for the centenary of the birth of Carlos Gomes. In May, 1937, they did two folk music field recordings: a *Congada* performed in the neighborhood of Santo Amaro by a ranch from Lambari (Minas Gerais), and the *Dança de Santa Cruz* in Itaquaquecetuba (São Paulo), with a total of almost 2 hours of recorded sound.

In order to raise resources for the folk recordings of the department, Oneyda resorted to the world incentive launched at the Prague Congress of Popular Art:

> "We suppose that it is not necessary to insist upon the importance of the urgent collection of these popular manifestations that are, unfortunately, fated to disappear. The service of the Brazilian folk music registry, initiated by the Discoteca, indirectly answers, thus, the appeal launched by the International Congress of Popular Art (assembled in Prague by the International Institute of Intellectual Cooperation): most of the popular songs and melodies are about to disappear. Their conservation is of utmost importance to science and art. The Congress advises the many governments to proceed in their phonograph registry as soon as possible. The notations, no matter how perfect they are, will not substitute the phonograph record."[17]

In 1938, the Discoteca finally obtained the funds to hold the *Missão de Pesquisas Folclóricas* between February and July. The pioneering initiative in the country (and in South America) was created by Mário de Andrade and led by Luís Saia (head), Martin Braunwieser (composer), Benedito Pacheco (recording technician), and Antonio Ladeira (assistant). Approximately 55 music genres were registered in discs at cities in Maranhão, Pará, Paraíba and Pernambuco. Aside from more than 30 hours of songs recorded in acetate discs with a Presto Recorder instant recorder, the Mission returned to São Paulo with more than 1,000 black and white photographs, 14 silent films, sacred objects, musical instruments and precious annotations (and drawings) created during the trip[18]. The recordings of the *Missão* are of particular interest to us in this presentation, as they correspond to most of the records that were sent to the Library of Congress.

Despite the huge effort and public investment in the Missão, when the records arrived at the Discoteca, the political scenery was unfavorable. With the coup of the Estado Novo in 1937, the mayor of São Paulo, Fábio Prado, is substituted by Prestes Maia. Mário de Andrade is exonerated from his post, and Oneyda is in a deep state of despair due to the funding cuts received by the Discoteca. In a letter[19] to Mário de Andrade in which she

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[17] CENTRO CULTURAL SÃO PAULO. Acervo Histórico da Discoteca Oneyda Alvarenga. Fundo DPM: Série Relatórios. Folder 112 (sem data) DOC s/no.

[18] More about the *Missão de Pesquisas Folclóricas* see in TONI (2006), CARLINI (1994).

[19] "I was, as a result of the visit, with a clear, acute sensation of danger. And with the conviction

mentions the visit of the mayor Prestes Maia to the Discoteca, she reports that there was no room to store the collected objects, considered to be "knick-knacks" by the new administration. To make matters worse, the recordings in acetate discs[20] were starting to deteriorate with the passage of the months, and it was not possible to hear them before making the copies. The copying of the discs was imperative, but there was no money for that:

> "… it seems that, with time, the substance that coats the aluminum dries out, giving it a horrible screeching sound… I am afraid that, in a little while, instead of a *Bumba-meu-Boi* or anything worthwhile, we will have, as Pacheco puts it, a screech solo with an accompaniment of *bumba-meu-boi* …(ANDRADE and ALVARENGA, 1983:230)"[21]

Brazilian musicians and researchers (including Mário de Andrade himself) were avid to listen to (and study) the material, but nothing could be done while there was no funds for the copying of the records[22]. It is at this moment, when the discs are deteriorating in a basement, that the Library of Congress in Washington, and other institutions all over the world, initiate the partnership proposals to gain access to the recordings.

4. THE FOLK MUSIC ARCHIVE: HAROLD SPIVACKE, ALAN LOMAX AND THE PHONOGRAPHIC PROJECT OF THE LIBRARY OF CONGRESS FROM 1927 TO 1945

In order for us to understand the objectives of the agreement between the Library of Congress and the Discoteca Pública Municipal, a brief history of the Archive of American Folk Songs of the Library of Congress and of the transformations it went through during the interwar period will be

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that we need to figure out how to save this, especially the folklore material, no matter what it takes." (8.5.1938 In: Cartas p.140)

20 Although they were practical and economically viable for field recordings, such as that of the *Missão de Pesquisas Folclóricas*, acetate discs had the disadvantage of being extremely sensitive. The fine layer of nitrocellulose, that covered the disc for the sound indentations to be cut, made them extremely vulnerable to processes such as oxidation, palmitic acid deposits, peeling and fissures in the disc coating. Specific styluses were needed for these records to be heard, and even so, the layer would deteriorate after each hearing, making the records highly perishable.

21 Letter from 17.05.1940.

22 The copy of a part of the records would only happen in 1945-6, when Oneyda sent to Byington & Co. 87 records from the Missão de Pesquisas Folclóricas and the 5 records with the Congada of Lambari.

necessary. This will be a short chronologic clipping of the long history of a music archive that remains active to this day.

The Archive of American Folk Song was created in 1928 as a small section of the Music Division of the Library of Congress. Robert Wilson Gordon, its first curator, was a big mechanics enthusiast, and he is considered to be a pioneer in the recording of folk songs in the United States. The archive was inaugurated with his personal recording collection, captured in North Carolina, Georgia and California, and totaling 900 phonograms in wax cylinders and acetate discs. Gordon's initial intention was to transform the archive in an Institute of Musicology inside the Library of Congress, which would be dedicated to the collection and study of traditions songs of the United States. Gordon did not receive government funding, so the project was sustained by private donations. With the Great Depression, the donations decreased and Gordon was dismissed.

The Texan John Avery Lomax, who transcribed folk music from the south of the United States since his childhood, became the director of the archive in 1932; and in 1933 he left for his first recording expedition with the support of the Library of Congress and in the company of his son, Alan. In Texas, father and son visited prison farms in which they recorded the well-known work songs, blues and ballads sung by the prisoners. Similarly to Mário de Andrade and Oneyda Alvarenga, Lomax sought to capture traditional art forms that he viewed as threatened by the general acceptance of popular music and the influence of the radio and the music industry. Lomax hoped that, in a way, the older prisoners would be able to make resonate a culture "untouched by the modern world". In a report to the Library, he wrote: "Thrown on their own resources for entertainment, they still sing, especially the long-term prisoners who have been confined for years and who have not yet been influenced by jazz and the radio, the distinctive old-time Negro melodies."[23]

Unlike Gordon, John Lomax received federal funding for his research, and he benefited from the New Deal policies that were trying to get the United States out of the Great Depression caused by the crash of 1929. In 1936, he was hired as a consulting professional for folk field collections by the Federal Writers Project and the Historical Records Survey, both programs created by the WPA.

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[23] John A. Lomax, quoted in the 1933 annual report of the chief of the Division of Music, Carl Engel, in Archive of American Folk Song: A History 1928-1939. Library of Congress Project, Work Projects Administration, 1940, p. 24. (retrieved from: https://www.loc.gov/collections/lomax).

At the end of 1936, Alan Lomax was temporarily hired by the Library of Congress and he left for a 4 month trip to Haiti with his wife Elizabeth Lyttleton Harold, which resulted in more than 1,500 phonograms (which equals 50 hours of recorded sound) and 6 films recorded by Elizabeth. The trip to Haiti happened only 2 years after the end of the United States occupation in the country and, therefore, in a moment of strong nationalism and afrocentrism that would attract a great number of folklorists, ethnographers and artists who were interested in Haitian culture[24]. Amidst their recordings, the Lomax managed to capture voodoo ceremonies, which were, at the time, forbidden by the police as "superstitious practices". The pair, however, received the authorization of the president for that, in a process very similar to the recording of the Xangôs in Recife by the *Missão de Pesquisas Folclóricas.*

In 1937, when he was 24 years old, Alan was hired as an Archive Assistant at the Library of Congress; and Harold Spivacke, who was then the director of the Music Division, published in a memorandum[25] a plan for strategic collection that would explore the diversity in cultural expression in the United States and that would focus its sight in diaspora communities. Spivacke authorized three big field trips through Kentucky, Ohio and Indiana, and Michigan and Wisconsin, which were suggested and carried out by Alan Lomax. The trip was executed, with a few intervals, between September 1937 and November 1938 (almost simultaneously with the *Missão de Pesquisas Folclóricas*). Alan Lomax traveled by car, accompanied by his wife Elizabeth, through the Great Lakes Region, and he used a Presto recorder and a video camera to capture songs and stories. He returned with 250 record discs and 8 film rolls that documented the ethnical diversity and the expressive traditions of ethnic communities such as Afro-Americans, British, Chippewa, Croatian, Finnish, French, German, Hungarian, Lithuanian, Norwegian, Polish, Romanian, Serbian, Slovenian and Swedish[26]. In this, we find a difference between the phonographic project of the Lomax and that of Mário de Andrade, as the second one dismissed the collection of the sounds of immigrant music traditions. Alan Lomax had a perception of what sounded as "authentic" music that went

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24 According to Gage Averill (2009), from 1934 to 1937 Haiti was the destination of Melville and Frances Herskovits, George E. Simpson, Harold Courlander, Katherine Dunham, and finally, of the writer Zora Neale Hurston, who was a great encourager of Lomax's trip.

25 Memo from Harold Spivacke to the Librarian of Congress, Aug. 14, 1937 (AFC 1933/ 001, fol. 124) Inn. Harvey 2013 .v.II

26 More about this subject in: The Alan Lomax collection of Michigan and Wisconsin recordings (AFC 1939/007) https://www.loc.gov/collections/alan-lomax-in-michigan/about-this-collection/

beyond geographic lines, and which was different from most folklorists of his time, as confirmed by Gage Averill:

> "Authentic for Alan Lomax didn't require that music be somehow "pure," as he was an advocate for many creolized musics of African Americans such as blues and jazz. Rather, authentic music meant music derived from popular and poor social strata and not from the elite" (AVERILL 2008:16).

As his father before him, Alan Lomax also noticed the way in which commercial music was swallowing traditional culture, and he was bothered by stylizations of folk music that prevented it from "speaking for itself". In 1938, when he visited the Ohio Valley Folk Festival, Lomax wrote to Spivacke: "...it was obvious that these people knew a great deal of folk material, too, and there was no excuse for a gathering called Folk Festival, that did not give this material a chance to speak for itself as well"[27].

According to Harvey, the trips worked to increasingly broaden Lomax's progressive thoughts, which earned him, in 1939, the opening of an investigation by the FBI, due to his "communist associations". Although it is tempting to do so, I will not keep discussing the fascinating trajectory of Alan Lomax, and the political perceptions that oriented his life and his study of folk through new paths. However, I would like to transcribe a passage from his article "Saga of a folksong Hunter" from 1960, in which the author briefly reviews his history as a folklorist and communicator creating parallels with advancements in recording technologies, and predicts the destiny of cultural traditions in a time of consumerism. In the beginning of the article, he describes the moment when, in a farm in South Texas, and while recording the lamentation of Blue – a cotton farm worker who wore rags and a holed hat – he realized that the field recordings would interest more than just his peers (folklorists and middle-class intellectuals), and that beyond recording musical notes he was registering the "voice of the voiceless".

> The plantation folk had put their sentiments on record!'.... As Blue and his friends saw, the recording machine can be a voice for the voiceless, for the millions in the world who have no access to the main channels of communication, and whose cultures are being talked to death by all sorts of well-intentioned people – teachers, missionaries, etc – and who are being shouted into silence by our

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27 [20 - Alan Lomax notes to the 1938 Ohio and Indiana field trip (AFC 1938/004, fol. 3) Mentioned by HARVEY 2013: Xi.)

commercially bought and paid for loudspeakers. It took me a long time to realize that the main point of my activity was to redress the balance a bit, to put sound technology at the disposal of the folk, to bring channels of communication to all sorts of artists and areas." (LOMAX, 1960:1)

According to the yearly report of the Library of Congress from 1938, the Archive of Folk American Songs already had 2,959 discs and cylinders.

With the objective of expanding the archive, the Library started to lend its recording equipment and blank discs to collectors from other institutions. In 1939, through an effort promoted by the WPA, the Library of Congress lent its recording equipment to some folk music "expeditions" that are of interest to us in this study of records exchanges: the *WPA Florida Expedition* conducted by Stetson Kennedy, director of the WPA Writers Project, and Robert Cook; and the *WPA California Folk Music Project*, directed by the Californian ethnographer Sidney Robertson Cowell.

When the United States entered the War in 1941, the institution received investments from the Government (Department of State and the Office of the Coordinator of Inter-American Affairs)[28] and from private institutions (Carnegie Foundation[29]) to acquire field recording equipment, to create a disc copying (and selling) laboratory, and to create partnerships with external collaborators to collect records all over the world.

It is necessary to note that, starting from 1941, an active involvement of intellectuals in war politics was born, engaged in studying not only the "national character" but also that of allies and enemies. Among other examples, we can mention the creation of the North-American school of culture

28   Maria de Fátima Tacuchian (1999) briefly mentions the case of the Discoteca while studying the allocation of $100,000 in funds from the Department of State and the Office of the Coordinator of Inter-American Affairs (OCIAA) to the music field, in the tax year of 1941-1942. According to the researcher, Nelson Rockefeller approved these resources for "projects related to field research in the field of music education; exchange with the Discoteca Pública de São Paulo (relative to the copy of a folk music archive); organization of a bibliography of music books and source materials; field research about the carnival in Brazil and other countries of Latin America; tours of ballet companies, choral companies and wind quintets; the visit of the Chilean composer Domingos Santa Cruz to the United States for concerts and conferences; student exchange program; etc.".

29   The Carnegie Corporation was one of the cultural foundations that acted in the consulting committee of the Music Commission of the DE/OCIAA, along with commercial enterprises from the movie and radio fields, universities and music schools. In 1941, the foundation destined resources to the construction of a recording laboratory in the Music Division of the Library of Congress for the duplication of this collection.

and personality and their study of the "National Character". In a war effort, anthropologists such as Ruth Benedict, Margareth Mead, Geoffrey Gorer and Gregory Bateson were committed to the investigation of not only the so-called "character" of enemy nations, in order to defeat them, but also the "character" of United States citizens and allies, in order to produce arguments that could justify internal and external policies. Many of the studies of these anthropologists were produced under the request of the Office of War Information[30].

Following this same trend, starting from 1941, the Library of Congress also received a vast sum of resources to expand the United States and neighboring countries folk music collection. The archive received funding from the Carnegie Foundation to build a recording laboratory. The recordings could be duplicated and, therefore, distributed to whoever wanted to listen to or buy them. New recording equipment was also bought, in order to be lent to collectors external to the Library. It was at this time that the Library of Congress acquired the technology resources to finally sign the partnership project with the Discoteca Pública Municipal.

To mention a few investments in Brazilian music collections, between 1941 and 1945, aside from the records exchanges with the Discoteca, the Library of Congress also supported the field recordings conducted by Seamus Doyle (1941), Melville and Frances Herskovits (1941-1942), and Luiz Heitor Corrêa de Azevedo (1943).

By 1948, the archive counted with more than 10,000 acetate discs, containing more than 40,000 musical themes from the United States and other South and Central American countries[31].

5. "DELICIOUS AND DISHEARTENING" CONCLUSION

If in the Northern hemisphere the Good Neighbor Policy was increasing the resources of the Library of Congress for the recording and duplication of folk records containing music from the whole America; in Brazil the original project of the Discoteca Pública Municipal was going from bad to worse due to the lack of resources for the conservation of the material (not to mention new field recordings).

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30 More on the studies of the national character can be found in: Goldman, M., & Neiburg, F. (2002). Da nação ao império: a Guerra e os estudos do "caráter nacional". *Antropologia, impérios e Estados nacionais*, Rio de Janeiro, Relume Dumará/Faperj, 187-217."

31 Folk Music of the United States and Latin America: combined catalog of phonograph records. Division of Music. The Library of Congress. Washington D.C. 1948

In the letters of Oneyda and Mário, we can see that, more than obtaining folk music records from neighboring countries, what the Brazilian Discoteca desperately needed were financial resources and technology, in order to duplicate their records for the internal use of researchers and local musicians. If we consider that the recordings of the Discoteca were virtually mute, as they could not be played so the discs did not deteriorate, we can risk joining in the reflection over the I and the OTHER in sonic practices (*Input/Output*) proposed by this Conference by trying to understand both sides of this sonic practice flow between Brazil and the United States. Why did they exchange records, instead of simply giving them away? What do we know about how these records were heard? Why was the Discoteca Pública Municipal chosen? Why did the Library of Congress participate? When weighing both sides, what is gained or lost with this exchange of sounds and physical records?

In the correspondence published by Oneyda, 28 letters exchanged with Mário de Andrade in 1939 and 1940 document her first thoughts on the record exchange.

The first document on the "Spivacke Case" is a letter from May, 1939, in which Oneyda discusses the visit of Henry McGeorge, from the Library of Congress, to the Discoteca[32]. In the letter, the precedence of technology over recorded musical content can be noticed, and Oneyda concludes that the exchange would be a "delicious and disheartening" solution to the problem of the preservation of records:

> "(...) Mr. Henry McGeorge, from the Library of Congress, has just left this place. I exposed the case of the folk material to him, the current impossibility of an exchange due to the lack of masterization and study of the pieces. Mr. McGeorge then asked me if I believed in the possibility of a solution to the problem, were the Ministry of Foreign Relations to join in. It is useless to say that we... violently clung to the idea. My friend Mário, I want to believe in the efficacy of this medicine. It is quite possible that we will arrive at this conclusion that is at the same time delicious and disheartening[33]: we will have our material studied, because of the interference of the United States!!! We are a really an amusing people... (ANDRADE and ALVARENGA 1983:187)

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32 Until now, I have not been able to identify what was the position occupied by Mr. Heny McGeorge at the Library of Congress; and neither what pushed him to visit the Discoteca in Brazil.

33 in portuguese: "gostosissima e desolante".

It is also necessary to add that, at that time, Mário de Andrade was not a big enthusiast of the social and cultural policies of the United States; he left documents that suggest his contrariety to imperialistic practices that, during the War, imposed through the means of culture the "American Way of Life" to neighboring countries, and he questioned the racial segregation policies of that country[34].

This was followed by a sequence of letters in which Mário and Oneyda reflect, with apparent indifference, on the shipment of folk records to the United States. Imagining that the Library of Congress would sell the Department records to North-Americans while Brazilian researches did not have access to them, they consider the exchange to be "incongruous, unacceptable, absurd".(ALVARENGA and ANDRADE 1983:222).

In *For the Genuine Culture of the Americas: Musical Folklore and the Cultural Politics of Pan Americanism*, 1933-50, Corinne Pernet indicates a "considerable space for sharing and negotiation" between the institutions involved in the music collection exchange programs (PERNET, 2008:134). Briefly mentioning the negotiation between the Library of Congress and the Discoteca Pública Municipal, Pernet suggests a certain level of equality between the institutions, with the Brazilian Discoteca not maintaining a passive position as a mere supplier of phonograms, but negotiating a fair exchange of phonographic projects of similar scientific relevance.

Mário de Andrade even commemorates the "scientific" superiority of the Discoteca in comparison with the archive from the United States: "And the fact that they have no photographs, films, instruments, and all musical documentation enclosed with the musical document proves that our Discoteca was more scientifically designed and organized than theirs... Cheers to us, my dear! (ALVARENGA and ANDRADE 1983:222)". There was, in fact, a scientific preparation to the Brazilian recording expedition, and the ethnographic collection method used by the Discoteca Pública Municipal was heavily based on the thoughts Dina Lévi-Strauss presented in her course given at the Department (files and pictures accompanying the recordings). The detailed collection of information on the cultural practices, the photographs,

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34 About Mário de Andrade and American Imperialism see Toni, Flávia Camargo, and Valquíria Maroti Carozze (2013) "Mário de Andrade, Francisco Curt Lange e Carleton Sprague Smith as discotecas públicas, o conhecimento musical e a política cultural." *Revista do Instituto de Estudos Brasileiros* 57 (2013): 181-204.About Mário de Andrade and the racial policies of the United States, see Angela Grillo (2015). *O losango negro na poesia de Mário de Andrade.* Diss. Universidade de São Paulo.

films, the elaboration of index files and field journals produced during the Missão will put the São Paulo institution in the spotlight of the world scene of folk recording collection and preservation practices[35].

The correspondence between Mário and Oneyda that precedes the official partnership confirms that there was a long negotiation between the institutions before they arrived at an equally advantageous exchange. The Discoteca appeared not be interested in having Brazilian music represented in the gigantic North-American archive. But if the Library of Congress were to send some records of their collection, the trade could bring some benefit. The letters give us some hints of the pursuit of a repertoire of black music that could contribute to a study of the formation of the musical-cultural identity of Brazil, and Mário suggests that Oneyda choose specific records from the Library of Congress: "regarding what you will choose, ask from the outset, what do they have of the black people from Africa; from Portugal, from Cuba; from the Indigenous peoples of America; and from black people from Africa who are already in the United States." [36]. In a report about the activities of the Discoteca, Oneyda Alvarenga implies that the records sent by the Library of Congress could contribute to comparative studies:

> "(...) Another excellent work already in progress is the exchange of copies of our folk records for similar material recorded by the Music Division of the Library of Congress in Washington. Seeing that North-American popular music suffered one of the influences that was also active in Brazilian music – the influence of black people – the presence of North-American folk material in the Discoteca represents an excellent and crucial medium for comparative studies, which are necessary for the elucidation of many cases of our popular music. Having been proposed to the Discoteca, this exchange demonstrates, moreover, the interest that our folk research arouses abroad (...).[37]

Still, the correspondence between Mário and Oneyda leads me to the hypothesis that, even more important than the exchange of black music

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35 More about Dina Dreyfus and the ethnography course at the Culture Department see Valentini, Luisa (2013).Um laboratório de antropologia: o encontro entre Mário de Andrade, Dina Dreyfus e Claude Lévi Strauss (1935-1938). Diss. Universidade de São Paulo.

36 Letter from Mário to Oneyda 12.IV.1940. In: Oneyda Alvarenga (1983). Cartas p.222 (In the publication, Oneyda points out that the date is decidedly wrong).

37 CENTRO CULTURAL SÃO PAULO. Acervo Histórico da Discoteca Oneyda Alvarenga. Fundo DPM: Série Relatórios. DOC s/no. (In: SAMPIETRI 2006:137)

records, it was technology that was the decisive factor for the agreement. By providing copies of their records to the Library of Congress, the Discoteca would receive the technical support to preserve their own archive during those dark times.

In a "delicious and disheartening" conclusion, as put by Oneyda Alvarenga, the copies are made and sent to the United States. If this material was studied or consulted by researchers of that country, we do not know. We also do not know what use was made of the North-American records by Brazilian researchers. Ironically, just a few years later, in 1945, Oneyda Alvarenga was able to do the masterization of part of the records from the *Missão* and from the *Congada de Lambari*, and distribute copies to other brazilian institutions.

Biancamaria Binazzi, radio broadcaster and cultural producer, is the creator of *Goma-Laca*, a creative and research center dedicated to Brazilian music recorded in 78 rpm records. With a degree in Radio and Television from Faculdade Cásper Líbero, Biancamaria is currently a Master's student at the Instituto de Estudos Brasileiros (USP) developing a research about folk record exchanges during the Second World War period.

Translated by Carolina Yuubi Yabase

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Manufacturing a Rural Sound: Recorded Caipira **Music, 1929**

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Abstract: It is often said that the first "legitimate" records of *caipira* music were pro-
duced by the Brazilian Columbia in 1929. These records were sold as "folk" and "re-
gional" music. They were recorded by rural musicians from the state of São Paulo who
played traditional genres like *moda de viola*, *cateretê*, *cururu* and *desafio*. Based on this
Columbia collection, we will analyze how it collaborated in the construction of rural
culture representation by creating a special timbre. Firstly, I am going to compare the
sound quality in *caipira* music recordings with urban genres recordings, both produced
by Columbia. Secondly, considering that Columbia's technicians knew how to capture or
had experience with high volume voices, stringed instruments, like the *viola caipira*, and
instruments of minor percussion, I suggest the differences in timbre can be explained
more than an aesthetic resource than a technical limitation. Finally, I propose that the
careless and "rustic" timbre of the first *caipira* music recordings was designed by Co-
lumbia records to increase the rural and traditional stereotype view of *caipira* culture.
All this took place in the 20's, when São Paulo was experiencing a vertiginous process
of growth and modernization, producing significant tensions between the modern and
traditional worlds.

Keywords: Recording Industry, Timbre, Caipira Music, Brazil, History.

1. INTRODUCTION

1929 is an iconic year for the history of recorded *caipira* music. In this year,
the international record label Columbia sold in Brazil the first records of
"paulist folk music" recorded by peasant musicians. The band formed by
six musicians was put together by humorist and writer Cornelio Pires under
the name of Turma Caipira Cornelio Pires (Fig. 1). The writer presented the
group to Columbia, made the deal with the company, chose the repertoire
to be recorded and collaborated actively in record sales. Historiography
claims that the "red series" – thus known for being identified with a carmine
label and 20.000 numbering – achieved great success, even exceeding the
company's expectations (E.g. Dantas, 1976: 141-142; Ferrete, 1985: 39-41;
Lopes, 1999; Nepomuceno, 2005: 109-110; Vilela, 2013: 94-96).

Fig. 1: Turma caipira Cornélio Pires. *O Estado de S. Paulo*, 5 abril 1929, p. 9. (Photo: Camila Pérez González)

In this presentation I will analyze the sound quality of this discography and how its timbre conversed with rural culture stereotypes present in the emerging industry of urban entertainment.

2. FOLK AND REGIONAL SOUND

In 1929, Columbia inaugurated an electric recording studio, the state-of-the-art at that time, with the simultaneous release of the already mentioned 20.000 series and the 5.000 one, devoted to Brazilian popular urban music. The 20.000 numbering records were subdivided mainly into the "folk series", "regional series" and "humor series". The regional and folk series included traditional genres such as *moda de viola*, *cateretê*, *desafío*, *samba* and *contradanza*, played by Turma Caipira Cornelio Pires. To the "humor series" belonged "*causos*" and anecdotes narrated by Pires. The collection also occasionally included some urban genres such as *choro* and *marcha*, played by musicians from the city.

Among the albums recorded by Columbia, it is noticeable the low sound quality of the folk and regional subseries, compared to that of the other recordings of the company. Generally, the timbre of *caipira* voices and instruments is less clear and there are some recording "defects". I find the low sound quality of these albums intriguing, taking into account that electric recording, already in use in Brazil by 1927, employed a microphone with the capacity to widen the range of captured frequencies and amplify the audio signal. At that time, recordings had been improved by the electric process because it featured timbres that were very similar to those of the sources. However, the recordings of *caipira* musicians do not enjoy that improvement.

Listening to the first records produced by Brazilian Columbia, and following the sequence of matrix numbers – the number that indicates the order in which they had been recorded – it became obvious that the regional and folk subseries sound quality was worse than that of the other records.

In the matrix 380.105 the Turma Caipira Cornelio Pires recorded the song *Desafío entre caipiras*. Later on, the singer Roque Ricciardi Paraguassu recorded the waltz *Minha amada*, a hundred and eight recordings later (matrix 380.213). Then, after forty four recordings more, the musicians of the Turma Caipira Cornelio Pires went back to the studio and recorded *Moda do pião* (matrix 380.258). It is difficult to determine the exact time that elapsed between each of these recordings. However, I reckon the interval only lasted a few months, since the releases of the three albums took place between April and October 1929 (Fig. 2)

Title	Genre	Performer	Record Company	Disc Nº	Matrix Nº	Release
Desafio entre caipiras	Desafio	Turma Caipira Cornélio Pires	Columbia	20.004	380.105	April 1929
Minha amada	Valsa	Paraguassu	Columbia	5.080	380.213	September 1929
Moda do pião	Moda de viola	Turma Caipira Cornélio Pires	Columbia	20.007	380.258	October 1929

Fig. 2: Records produced by Brazilian Columbia, following the sequence of matrix numbers.

The track *Desafío entre caipiras* features squeaking brought about by repeated playing of the record[1]. Apart from this sound, other recording defects can be identified. Firstly, it is hard to determine whether the accompaniment string instrument was a guitar or a *caipira viola*, since the timbre of the recording is distorted. Secondly, the lead vocals are heard far away from the microphone and closer to the accompanying choir. In spite of this, the microphone distorted because of the volume of the singer's voice, especially at the beginning of each phrase. Finally, a hard to identify low sound reminiscent of the *cuíca* timbre is heard in the accompaniment.

On the other hand, in *Minha amada*, the record is in better conditions and the squeaking sound is less audible[2]. We noticed that this recording had a similar structure to that of *Desafío entre caipiras*: plucked string instruments, lead vocals and choir. However, in the recording by Paraguassu and his group Verde e Amarelo, it seems that the technician was more careful at balancing the volume of the interpreters and, for some reason or other, the timbre quality of the instruments was registered with higher definition.

In *Moda do pião,* our last example, Cornelio Pires' voice is heard loud and clearly, at a proper distance from the microphone[3]. But when the music starts, the vocals and the *viola caipira* are heard far away from the microphone. Even though this recording has a better timbre definition than that of *Desafío*, it did not enjoy the clarity of Paraguassu´s record.

The differences mentioned above lead me to believe that Columbia created a special kind of timbre for the 20.000 series. My hypothesis is that those records' neglected sound was deliberately sought in order to highlight the rural context the genre aspired to portray.

3. COLUMBIA AND ITS RECORDING STUDIO

In 1930, Columbia's recording studio was described in this way:

> The operation starts on the 9th floor of Byington palacete, where a huge recording studio is located. Felt carpet, shelves, grand piano, keyboard, wide windows overlooking São Paulo. Futuristic decoration of skyscrapers on the background. Vertigo provoking view. Doll sized people on toy streets. This is the room where singers and

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1 https://www.youtube.com/watch?v=-9DVve-0kkk

2 http://acervo.ims.com.br/index.asp?codigo_sophia=6402

3 https://www.youtube.com/watch?v=CVElTJ5ErA4

> musicians gather in front of the microphone and make themselves heard. Not all the voices are — what do you call it? — «recordgenic». The interpreter moves closer and farther from the microphone according to the requiered strength. In addition, in a room nextdoor, in front of a thick wax wheel that receives the work of art under the shapes of soft patterns, the technician operates delicate and valuable precision instruments that only come out of the safebox for their daily duties (1930: 5).

Columbia's studio was set up in the most glamorous fashion. However, in our case, the contrast between the music group from the country and the label's facilities could not have been more evident. The musicians were from Piracicaba, a town in the countryside, and the culture they represented was markedly out of tune with the futuristic decoration of the label.

The person in charge of fusing the implicit modernity of the recording industry with the sound of the rural world in a single product was probably Columbia's "recording engineer", as the sound technician was called back in those days. He may have needed to resort to timbre resources to produce a record that recreated a rural sound environment- in accordance to the audience's expectations- and, at the same time, made the label's technological and modern context less notorious.

Unfortunately, I have not had access to documents describing the techniques employed in these recordings or the criteria or tools applied in the recording studios of that time. In fact, secrecy concerning recording techniques was present since the very beginning of the industry. Already at the start of the twentieth century, Edison Records company stated that knowing "how [the recording studio] is equipped and how it does its work are department secrets that even the artists are not permitted to know" (Schmidt, 2015: 14).

Some hints of the technical work have been recently revealed by Susan Schmidt. According to the author, unlike mechanical recording, the electric kind gave technicians more control over the final product. Apart from the irrefutable quality of the microphone, the electric process brought two important new features to the recording studio:

> A volume indicator for measuring the power delivered to the recorder and an audible monitoring system, enabling the operator to listen during recording. Instead of only listening and determining proper balance by ear, or by inspecting the grooves after recording, the recordist could now see the signal level being recorded and adjust accordingly (Schmidt, 2015: 36)

It is noticeable that in the picture of the recording boot of Brazilian Columbia (Fig. 3), Wallace Downey, one of the American executives that came along with the label, was probably portrayed next to the gigantic mixer. Apart from his executive duties, Downey was, according to an interview from that time, "[...] the most accomplished technician from the American company, sent to São Paulo with the aim of directing its operations" (1930: 5). The technician was photographed in his working place, with headphones on and holding a matrix record in his hands. Taking into account that the studio in São Paulo made use of state-of-the-art technology, it is thought that the timbre differences between the folk recordings and the urban genre ones were motivated by aesthetic criteria rather than technical limitations.

Fig. 3: Recording studio of Columbia (São Paulo). Source: "Catálogo geral dos discos brasilei-ros. Columbia notas mágicas" (1931)

In the first place, it is important to stress that during the electric phase, the "recording engineer" was able to modify the recording volume through a knob in the mixer. Furthermore, he had the right to ask the interpreters to "move closer or farther from the microphone, according to the required strength", as explained by the journalist in 1930.

In the second place, it is worth bearing in mind that it was not the first time the Columbia technicians recorded projected vocals with high volume, or instruments such as the *viola caipira* and minor percussion instruments. It was not either the first time they worked with musicians who did not know the microphone, since only two years before that technology was completely

unknown in Brazil. The reason why the technician allowed the sensible microphone to distort while he watched the volume indicator and heard the sound being recorded is a question that still remains unanswered.

Finally, the kind of microphone used at that time was able to capture the sound ambience of the place where the musicians were playing. Recording the "atmosphere" of the place meant that the technician had to take into account acoustic parameters, since the studio reverberation was certainly quite different to that of the places where music was played live and which they were trying to emulate (Schmidt, 2015: 37, 41-43, 78). For example, there's a faint eco effect present in the *caipira* music recordings which is less audible in the urban music ones. That resource was probably employed to induce an outdoor feeling in the listeners, which was quite suitable for a genre that sought to transport its audience to the rural areas of the country.

Taking into account the above mentioned arguments, I believe the sound ambience of the *caipira* records was trying to emulate some characteristics of the rural world stereotypes firmly held in urban environments.

4. *CAIPIRA* STEREOTYPED VIEWS

Recorded *caipira* music was a phenomena of traditional music appropriation by the recording industry and creation of otherness between the urban and rural worlds. Just like other genres recorded at that time, such as *ranchera* in Mexico, *criolla* music in Argentina, *punto guajiro* in Cuba and hillbilly music in the US, the beginning of recorded *caipira* music was closely related to the tensions brought about by modernity during the first half of the twentieth century.

The everyday chaos of growing cities like São Paulo encouraged the creation of a romantic stereotyped archetype of rural life in the past. In the capital city, for example, an idealized view of the countryside was created, which was successfully used by the emerging urban entertainment industry. The rural - urban dichotomy was adopted by literature, drama, the score business and the recording industry, contrasting city life to a supposedly idyllic, but old-fashioned, rural life (Moraes, 1995; Leite, 1996; Ferreira, 2002; Gonçalves, 2006; Melo, 2007; Bessa, 2012). By the late 1920s, a rural culture stereotype had been firmly consolidated in the city. The audience found it very funny because the rural world was portrayed as clumsy and being constantly run over by modernity in the city.

I would like to finish by emphasizing that within that context of creation of otherness, the "defects" in the *caipira* albums ended up providing authenticity to the folk-oriented recordings. Microphone distortion, the eco effect and the "obscured" timbre of the instruments created a rather "primitive and old-fashioned" sound (old-fashioned because they sounded like mechanical recordings). This sound was probably more in accordance to the expectations of the emerging urban entertainment industry's audience. Rather than "defects", these sound features should be heard as "effects". They should be taken as equivalent to the intentionally scruffy clothes of *caipira* characters in plays. Basically, what I suspect is that the sound of the 20.000 series may have been created in the studio to highlight the rural origin of the genre and hide the modern features implicit in the development of the recording industry.

ACKNOWLEDGMENTS AND FUNDING

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Fabricando uma sonoridade rural: música caipira gravada, 1929

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Resumo: Costuma-se dizer que os primeiros registros "legítimos" de música caipira foram produzidos pela Columbia brasileira em 1929. De fato, tais discos foram gravados por músicos rurais do estado de São Paulo que tocavam gêneros tradicionais como moda de viola, cateretê, cururu e desafio. Esses registros foram vendidos como música "folclórica" e "regional" pela gravadora, apagando alguns traços comerciais de sua produção. Com base nas gravações caipiras de 1929, analisaremos como elas colaboraram na construção de um tipo de representação de cultura rural, por meio da criação de um timbre particular. Em primeiro lugar, compara-se a qualidade do som das gravações de música caipira com as gravações de gêneros urbanos, todas elas produzidas pela Columbia no mesmo ano. Em segundo lugar, considerando que os técnicos da Columbia tinham experiência gravando vozes de volume alto, instrumentos de cordas — como a viola caipira — e instrumentos de percussão menor, sugere-se que as particularidades do timbre da música caipira gravada guardassem relação com noções estéticas, mais do que com limitações técnicas. Esta apresentação sugere que o timbre descuidado e "rústico" dos discos de música caipira foi desenhado pela Columbia com o intuito de remarcar o estereótipo vigente na época sobre a cultura rural e tradicional caipira. O timbre especial dessas gravações era reflexo, basicamente, das significativas tensões entre os mundos moderno e tradicional dos anos 20, quando São Paulo vivenciava um processo vertiginoso de crescimento e modernização.

Keywords: Indústria fonográfica, Música Caipira, Timbre, Brasil, História.

1. INTRODUÇÃO

1929 é um ano icônico para a história da música caipira gravada. Nessa data a gravadora internacional Columbia vendeu no Brasil os primeiros discos de "música folclórica paulista" gravado por músicos camponeses. O grupo de seis músicos foi organizado pelo humorista e escritor Cornélio Pires sob o nome Turma Caipira Cornélio Pires (Fig. 1). O escritor apresentou o grupo à Columbia, negociou o contrato com a gravadora, escolheu o repertório a ser registrado e colaborou ativamente na promoção dos discos. A historiografia afirma que a "série vermelha" — assim conhecida por ser identificada por um selo carmim e numeração 20.000 — obteve enorme sucesso, superando as

expectativas da gravadora (E.g. Dantas, 1976: 141-142; Ferrete, 1985: 39-41; Lopes, 1999; Nepomuceno, 2005: 109-110; Vilela, 2013: 94-96).

Fig. 1: Turma caipira Cornélio Pires. *O Estado de S. Paulo*, 5 abril 1929, p. 9. (Fotografia: Camila Pérez González)

Nesta apresentação analisarei a sonoridade dessa discografia e como seu timbre dialogou com as representações da cultura rural veiculada pela nascente indústria do entretenimento urbano.

2. AS SONORIDADES FOLCLÓRICA E REGIONAL.

Em 1929, a Columbia inaugurou em São Paulo um estúdio de gravação elétrica, última tecnologia na época, com o lançamento simultâneo das séries 20.000 — já mencionada — e 5.000, dedicada à música popular urbana brasileira. Os discos com numeração 20.000 estavam subdivididos, por sua vez, em "série folk-lorica", "série regional" e "série humorística", principalmente. As séries regional e folclórica continham gêneros tradicionais como moda de viola, cateretê, desafio, samba e contra-dança, tocados pela

Turma Caipira Cornélio Pires. Já à "série humorística" pertenciam "causos" e anedotas narrados por Pires. A coleção incluiu também alguns poucos gêneros urbanos como choro e marcha nas vozes de músicos da cidade.

Dentre os discos da Columbia, chama atenção a baixa qualidade das sub-séries folclórica e regional, se as compararmos com as outras gravações do selo. Em linhas gerais, os timbres das vozes e instrumentos caipiras são menos nítidos e há alguns "defeitos" na captação. Isso resulta curio-so porque a gravação elétrica, implementada no Brasil em 1927, usava um microfone com capacidade para ampliar a faixa de frequências captadas e amplificar o sinal de áudio. Os discos elétricos inovaram na época, es-sencialmente, porque o timbre dos instrumentos e vozes era mais fiel à fonte sonora que nas gravações mecânicas dos anos anteriores. Porem, as gravações dos músicos caipiras não apresentavam tal melhora.

Após escutar os primeiros discos da Columbia seguindo a sequência dos números de matriz – número que indica a ordem em que foram gravados –, tornou-se indiscutível que as subséries regional e folclórica tinham menor nitidez sonora que os outros discos da Columbia.

No disco de matriz 380.105 a Turma Caipira Cornélio Pires gravou a peça *Desafio entre caipiras*. Mais tarde, o cantor Roque Ricciardi, Paraguassu gravou a valsa *Minha amada*, cento e oito registros depois (matriz 380.213). Logo, após quarenta e quatro outros registros, os músicos da Turma Caipira Cornélio Pires voltaram ao estúdio e gravaram *Moda do pião* (matriz 380.258). É difícil precisar o tempo exato transcorrido entre cada uma das gravações. Mas, parece que o intervalo foi de apenas alguns meses, pois os lançamentos desses três discos aconteceram entre abril e outubro de 1929 (Fig. 2).

Título	Gênero	Intérprete	Gravadora	Disco Nº	Matriz Nº	Lançamento
Desafio entre caipiras	Desafio	Turma Caipira Cornélio Pires	Columbia	20.004	380.105	abril 1929
Minha amada	Valsa	Paraguassu	Columbia	5.080	380.213	setembro 1929
Moda do pião	Moda de viola	Turma Caipira Cornélio Pires	Columbia	20.007	380.258	outubro 1929

Fig. 2: Discos produzidos pela Columbia brasileira, organizados pelos números de matriz.

A gravação *Desafio entre caipiras* apresenta o chiado produzido pela repeti-da reprodução dos discos[1]. Independentemente desse som, outros defeitos são identificáveis na gravação. Primeiramente, é difícil precisar se o instru-mento de corda do acompanhamento era um violão ou uma viola, pelo tim-bre descaracterizado do registro. Em segundo lugar, a voz solista escuta-se distanciada do microfone e junto ao coro que a acompanha. Mas, assim mesmo, o microfone se satura com o volume do cantor, particularmente nos ataques de começo de cada frase. Por último, é difícil identificar se o som grave no acompanhamento é realizado por uma cuíca.

Em *Minha amada,* por sua vez, o disco está melhor conservado e o chiado não é tão audível[2]. Nota-se que esta gravação tinha um formato similar a *Desafio entre caipiras*: instrumentos de corda dedilhada, voz solista e coro. Não obstante, no registro de Paraguassu e seu grupo Verde e Amarelo parece que o técnico cuidou melhor do balance entre as vozes dos intér-pretes e, por um algum motivo, ficou melhor definida a qualidade tímbrica dos instrumentos.

Em *Moda do pião*, nosso último exemplo, a voz de Cornélio Pires escuta-se clara e sonora, numa distância apropriada do microfone[3]. Contudo, no mo-mento de a música soar, o canto e a viola escutam-se distanciados do mi-crofone. Embora que com melhor definição tímbrica que a gravação do Desafio, esse registro não chegou a ter a clareza do disco de Paraguassu.

Diferenças como essas levam a pensar que a Columbia criou um timbre especial para a série 20.000. Minha hipótese é que a sonoridade um pou-co descuidada desses discos foi buscada intencionalmente para ressaltar o contexto rural que o gênero queria representar.

3. A COLUMBIA E SEU ESTÚDIO DE GRAVAÇÃO

Em 1930, o estúdio da Columbia foi descrito assim:

> A operação começa no 9º andar do palacete Byington, onde está in-stallada uma basta oficina de gravação. Em tapete de felpa palmo. Estantes. Piano de cauda. Orgam. Amplíssimas "rotondes" abertas sobre o avesso do scenario de São Paulo. O decôro futurista dos fundos de arranha-ceus. Perspectivas que dão vertigens. Gente do

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1 https://www.youtube.com/watch?v=-9DVve-0kkk

2 http://acervo.ims.com.br/index.asp?codigo_sophia=6402

3   https://www.youtube.com/watch?v=CVElTJ5ErA4

tamanho de bonecas em ruas de brinquedo. É naquella sala que os cantores e músicos se reunem diante do microfone e se fazem ouvir. Nem todas as vozes são —como é mesmo o termo? — «dis-cogénicas». O executante se aproxima ou se afasta do microfone, de acordo com o vigor desejado. Alem disto, num compartimento contiguo, diante de grossa roda de cera que vai recebendo a obra de arte, sob a forma de um desenho suave, o téchnico põe em acção delicados e preci[os]os aparelhos de precissão, que só saem do cofre forte para o trabalho de cada dia (1930: 5).

O estúdio da Columbia foi montado com todo o glamour. No entanto, em nosso caso, era evidente o contraste entre o grupo de músicos campone-ses e as instalações da gravadora. Os violeiros provinham de Piracicaba, no interior do Estado, e a cultura que representavam discordava visivelmente com "o decôro futurista" do selo.

Muito provavelmente a pessoa encarregada de fusionar, num único pro-duto sonoro, a modernidade implícita na fonografia com o som do univer-so rural foi o "engenheiro gravador" da Columbia, como era chamado na época o técnico de som. Talvez ele precisou buscar recursos tímbricos para produzir um disco que recriasse um ambiente sonoro rural, acorde com as expectativas do público, e que, ao mesmo tempo, tirasse notoriedade ao contexto tecnológico e moderno da gravadora.

Infelizmente não conheço documentação sobre as técnicas empregadas nessas gravações nem sobre os critérios ou ferramentas utilizadas nos es-túdios da época. De fato, desde o começo da fonografia existiu secretismo sobre as técnicas de gravação. Já no começo do século XX a companhia Edison Records afirmou que saber "como [o estúdio de gravação] está equi-pado e como é esse trabalho, são departamentos segredos que até mesmo os artistas não são permitidos de conhecer" (Schmidt, 2015: 14).

Alguns indícios do labore técnico foram desvelados recentemente por Susan Schmidt. Segundo a autora, ao contrário da gravação mecânica, a elétrica outorgou aos técnicos um controle maior sobre o produto final. Além do microfone ser responsável pela irrefutável qualidade tímbrica, o processo elétrico trouxe dois novos e importantes componentes ao estú-dio de gravação:

Um indicador de volume para medir a potência entregue ao grava-dor e um sistema de monitoramento audível, permitindo que o op-erador ouça durante a gravação. Em vez de apenas ouvir e determi-nar o equilíbrio adequado com a própria orelha, ou inspecionando

os sulcos após a gravação, o técnico de gravação agora pode ver o sinal do que está sendo gravado e ajustar de acordo com isso (Schmidt, 2015: 36).

Na fotografia da cabine da Columbia brasileira (Fig. 3), Wallace Downey, um dos funcionários estadunidenses que veio com a gravadora, foi retratado próximo da gigantesca console de som. Além de ter responsabilidades executivas na empresa, Downey era "[...] o technico de maior categoria da empresa na América do Norte e que foi enviado para São Paulo a fim de dirigir aqui os seus trabalhos" (1930: 5). Observe-se que ele foi fotografado em seu lugar de trabalho, com os fones de ouvido colocados na cabeça e tendo em mãos um disco matriz. Tendo em vista que o estúdio paulistano contava com tecnologia de ponta, suspeita-se que as diferenças tímbricas entre os registros "folclóricos" e os de gêneros urbanos estiveram motivadas por critérios estéticos e não por limitações técnicas.
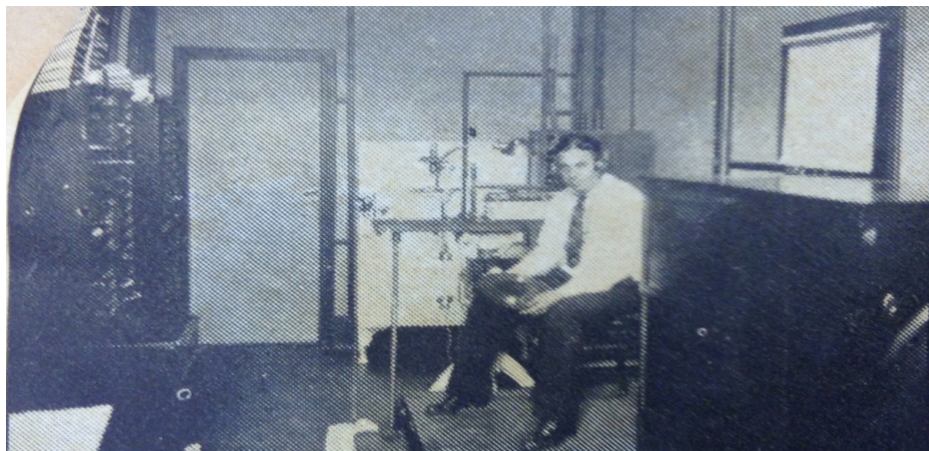
Fig. 3: Cabine de gravação da Columbia (São Paulo). Fonte: "Catálogo geral dos discos brasileiros. Columbia notas mágicas" (1931)

Primeiramente, é importante destacar que durante a fase elétrica, o "engenheiro gravador" podia modificar o volume mediante um controle na console. Além disso, ele tinha liberdade para indicar aos intérpretes "se aproximar ou se afastar do microfone, de acordo com o vigor desejado", como explicou o jornalista em 1930.

Em segundo lugar, vale notar que não era a primeira vez que os técnicos da Columbia gravaram vozes projetadas, com volume alto, nem instrumentos como a viola caipira e percussão menor. Também não era a primeira vez que eles lidavam com músicos que desconheciam o microfone, pois dois anos atrás essa tecnologia era completamente ignorada no país. O porquê o técnico permitiu que o sensível microfone se saturasse enquanto ele olhava o indicador de volume e escutava o som que ia sendo gravado, é uma questão que fica em aberto.

Finalmente, o tipo de microfone empregado na época conseguia captar a acústica do recinto em que os músicos tocavam. Gravar a "atmosfera" do lugar exigia ao técnico trabalhar com parâmetros acústicos, pois a reverberação dos estúdios era certamente diferente daquela existente nos espaços da música ao vivo que buscavam imitar (Schmidt, 2015: 37, 41-43, 78). No que diz respeito às gravações dos músicos caipiras, elas apresentam um leve efeito de eco, efeito menos audível nas gravações de músicos e gêneros urbanos. Tal recurso foi implementado possivelmente para criar no ouvinte uma sensação de espaço aberto, aliás, muito apropriado para um gênero que pretendia transportar a audiência às áreas campestres do Estado.

Considerando os tópicos anteriores, considero possível que a sonoridade dos discos caipiras tentasse emular características das representações do mundo rural consolidadas em outros âmbitos urbanos.

4. REPRESENTAÇÕES CAIPIRAS

A música caipira gravada foi um fenômeno de apropriação de música tradicional pela fonografia e construção de alteridade entre os universos urbano e rural. Ao igual que outros gêneros gravados na mesma época, como a *ranchera* no México, a música *criolla* na Argentina, o *punto guajiro* em Cuba ou a música *hillbilly* nos Estados Unidos, a aparição da música caipira gravada esteve intimamente ligada às tensões trazidas pela modernidade na primeira metade do século XX.

O cotidiano caótico de cidades em crescimento como São Paulo, levou à criação de um imaginário romantizado sobre a vida rural do passado. Na capital paulista, em particular, construiu-se uma visão idealizada do campo, usada como filão de sucesso pela nascente indústria do entretenimento urbano. A literatura, o teatro recitado e musicado, o mercado de partitura e logo a fonografia adotaram a dicotomia rural – urbano, contrastando o

ritmo de vida urbana com uma suposta vida rural idílica, porém, atrasada. (Moraes, 1995; Leite, 1996; Ferreira, 2002; Gonçalves, 2006; Melo, 2007; Bessa, 2012). No final dos anos 20 estava consolidado já na cidade um estereotipo de cultura rural que causava riso no público por ser desajeitada e constantemente atrapalhada pela modernidade da cidade.

Quero terminar apontando que, nesse contexto de construção de alteridade, os "defeitos" presentes nas gravações caipiras terminavam por lhe outorgar autenticidade a registros com pretensões folclóricas. A saturação do microfone, o efeito de eco e os timbres "atrapalhados" dos instrumentos criavam uma sonoridade um tanto "rústica" e antiquada (antiquada, por lembrar as gravações mecânicas). Provavelmente esta sonoridade estava mais acorde com as expetativas do público da nascente indústria do entretenimento urbano. Ao invés de considerar "defeitos" tais particularidades sonoras, elas talvez podem ser ouvidas como "efeitos". Eles seriam equivalentes, por exemplo, às roupas propositalmente desleixadas das personagens caipiras do teatro. Suspeito que, basicamente, a sonoridade da série 20.000 foi criada no estúdio de gravação para exaltar a proveniência rural do gênero e ocultar os traços de modernidade implícitos no desenvolvimento da fonografia.

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Fabricando un sonido rural: música caipira grabada, 1929

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Resumen: Se suele decir que los primeros registros "legítimos" de música *caipira* o campesina fueron producidos por la Columbia brasileña en 1929. De hecho, tales discos fueron grabados por músicos rurales del estado de São Paulo que tocaban géneros tradicionales como *moda de viola*, *cateretê*, *cururu* y desafío. Estos registros fueron vendidos como música "folclórica" y "regional" por la discográfica, borrando algunos rasgos comerciales de su producción. Con base en las grabaciones *caipiras* de 1929, analizaremos cómo ellas colaboraron en la construcción de un tipo de representación de cultura rural, a través de la creación de un timbre particular. En primer lugar, se comparará la calidad del sonido de las grabaciones de música *caipira* con las grabaciones de géneros urbanos, todas producidas por la Columbia en el mismo año. En segundo lugar, considerando que los técnicos de Columbia tenían experiencia grabando voces de volumen alto, instrumentos de cuerdas — como la *viola caipira* — y los instrumentos de percusión menor, se sugerirá que las particularidades del timbre de la música *caipira* grabada guardan relación con nociones estéticas y no con limitaciones técnicas. Esta presentación sugiere que el timbre descuidado y "rústico" de los discos de música *caipira* fue diseñado por la Columbia con el propósito de remarcar el estereotipo vigente en la época sobre la cultura rural y tradicional *caipira*. El timbre especial de esas grabaciones reflejaba, en última instancia, las tensiones significativas entre los mundos moderno y tradicional de los años 20, cuando San Pablo vivía un proceso vertiginoso de crecimiento y modernización.

Palabras claves: Industria fonográfica, Música Caipira, Timbre, Brasil, Historia.

1. INTRODUCCIÓN

1929 es un año icónico para la historia de la música *caipira* grabada. En esta fecha el sello internacional Columbia vendió en Brasil los primeros discos de "música folclórica paulista" grabada por músicos campesinos. El grupo compuesto por seis músicos fue organizado por el humorista y escritor Cornelio Pires bajo el nombre Turma Caipira Cornelio Pires (Fig. 1). El escritor presentó el grupo a la Columbia, negoció el contrato con la empresa, escogió el repertorio a ser registrado y colaboró activamente en la venta de los discos. La historiografía afirma que la "serie roja" - así conocida por ser identificada con una etiqueta carmín y numeración 20.000 - obtuvo enorme

éxito, superando las expectativas de la discográfica (E.g. Dantas, 1976: 141-142; Ferrete, 1985: 39-41; Lopes, 1999; Nepomuceno, 2005: 109-110; Vilela, 2013: 94-96).

Fig. 1: Turma caipira Cornélio Pires. *O Estado de S. Paulo*, 5 abril 1929, p. 9. (Foto: Camila Pérez González)

En esta presentación analizaré la sonoridad de esta discografía y cómo su timbre dialogó con las representaciones de la cultura rural existentes en la naciente industria del entretenimiento urbano.

2. LA SONORIDAD FOLCLÓRICA Y REGIONAL

En 1929, Columbia inauguró en São Paulo un estudio de grabación eléctrica, última tecnología de la época, con el lanzamiento simultáneo de las series 20.000 - ya mencionada - y 5.000, dedicada a la música popular urbana brasileña. Los discos con numeración 20.000 estaban subdivididos en "serie folk-lorica", "serie regional" y "serie humorística", principalmente. Las series regional y folclórica contenían géneros tradicionales como *moda de*

viola, *cateretê*, *desafío*, *samba* y *contradanza*, tocados por la Turma Caipira Cornelio Pires. A la "serie humorística", por su lado, pertenecían "*causos*" y anécdotas narradas por Pires. La colección también incluyó, de forma ocasional, algunos géneros urbanos como *choro* y *marcha*, en las voces de músicos de la ciudad.

Entre los discos grabados por Columbia, llama la atención la baja calidad sonora de las subseries folclórica y regional, en comparación con la de las otras grabaciones del sello. En líneas generales, los timbres de las voces e instrumentos *caipiras* son menos nítidos y hay algunos "defectos" en la captación. La baja calidad de estos discos me resulta curiosa dado que la grabación eléctrica, estrenada en Brasil en 1927, usaba un micrófono con capacidad para ampliar el rango de frecuencias captadas y amplificar la señal de audio. En aquel momento, los discos grabados por el proceso eléctrico habían innovado gracias a que los timbres eran más fieles a las fuentes sonoras que en la grabación mecánica. Sin embargo, las grabaciones de los músicos *caipira* no presentan tal mejora.

Al escuchar los primeros discos producidos por la Columbia brasileña, y siguiendo la secuencia de los números de matriz — número que indica el orden en que estos fueron grabados —, se hizo indiscutible que las subseries regional y folclórica tenían peor nitidez sonora que los otros discos.

En la matriz 380.105 la Turma Caipira Cornelio Pires grabó la pieza *Desafío entre caipiras*. Más tarde, el cantante Roque Ricciardi, Paraguassu grabó el vals *Mi amada*, ciento ocho registros después (matriz 380.213). Luego, después de cuarenta y cuatro registros más, los músicos de la Turma Caipira Cornelio Pires volvieron al estudio y grabaron *Moda do pião* (matriz 380.258). Es difícil precisar el tiempo exacto transcurrido entre cada una de estas grabaciones. Sin embargo, calculo que el intervalo debió de ser de apenas algunos meses, pues los lanzamientos de los tres discos ocurrieron entre abril y octubre de 1929 (Fig. 2).

Título	Género	Intérprete	Sello	Disco Nº	Matriz Nº	Lanzamiento
Desafío entre caipiras	Desafio	Turma Caipira Cornélio Pires	Columbia	20.004	380.105	abril 1929
Minha amada	Valsa	Paraguassu	Columbia	5.080	380.213	septiembre 1929
Moda do pião	Moda de viola	Turma Caipira Cornélio Pires	Columbia	20.007	380.258	octubre 1929

Fig. 2: Discos producidos por la Columbia brasileña, siguiendo la secuencia del número de matriz.

La grabación *Desafío entre caipiras* presenta el chirrido producido por la repetida reproducción de los discos [1]. Independiente de este sonido, se pueden identificar otros defectos en la grabación. Primero, es difícil precisar si el instrumento de cuerda del acompañamiento fue una guitarra o una *viola caipira*, pues el timbre del registro parece distorsionado. En segundo lugar, la voz solista se oye distanciada del micrófono y más cerca del coro que acompaña. Pero, a pesar de eso, el micrófono se saturó por el volumen del cantante, particularmente, en los ataques de comienzo de cada frase. Por último, es difícil identificar si el sonido grave del acompañamiento es una *cuíca.*

Por otra parte, en *Minha amada*, el disco está mejor conservado y el chirrido no es tan audible[2]. Notemos que esta grabación tenía un formato similar al de *Desafío entre caipiras*: instrumentos de cuerda pulsada, voz solista y coro. No obstante, en el registro de Paraguassu y su grupo Verde e Amarelo parece que el técnico fue más cuidadoso al equilibrar el volumen de los intérpretes y, por algún motivo, la calidad tímbrica de los instrumentos fue registrada con mayor definición.

En *Moda do pião,* nuestro último ejemplo, la voz de Cornelio Pires se escucha clara y sonora a una distancia apropiada del micrófono[3]. Pero cuando comienza la música, el canto y la *viola caipira* se escuchan distanciados del

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1 https://www.youtube.com/watch?v=-9DVve-0kkk

2 http://acervo.ims.com.br/index.asp?codigo_sophia=6402

3 https://www.youtube.com/watch?v=CVElTJ5ErA4

micrófono. A pesar de que este registro tiene una mejor definición tímbrica que la grabación del *Desafío*, no llegó a tener la claridad del disco de Paraguassu.

Diferencias como las anteriores me llevan a pensar que Columbia creó un timbre especial para la serie 20.000. Mi hipótesis es que la sonoridad un poco descuidada de esos discos fue buscada intencionalmente para resaltar el contexto rural que el género quería representar.

3. COLUMBIA Y SU ESTUDIO DE GRABACIÓN

En 1930, el estudio de la Columbia fue descrito así:

> La operación comienza en el 9º piso del palacete Byington, donde está instalado un basto taller de grabación. Alfombra de felpa. Estantes. Piano de cola. Órgano. Amplísimas «rotondes" abiertas sobre São Paulo como escenario. La decoración futurista de los rascacielos al fondo. Perspectiva que da vértigo. Gente del tamaño de una muñeca en calles de juguete. Es en esta sala donde los cantantes y músicos se reúnen frente al micrófono y se hacen oír. No todas las voces son — ¿cómo es el término? - «discogénicas». El intérprete se acerca o se aleja del micrófono, de acuerdo con el vigor deseado. Además, en un compartimiento contiguo, ante una gruesa rueda de cera que va recibiendo la obra de arte, bajo la forma de un diseño suave, el técnico pone en acción delicados y preciosos aparatos de precisión, que sólo salen de la caja fuerte para el trabajo diario (1930: 5).

El estudio de Columbia fue montado con todo el glamur. Pero, para el caso que nos ocupa, el contraste entre el grupo de músicos campesinos y las instalaciones del sello internacional era evidente. Los músicos venían de Piracicaba, un pueblo en el interior, y la cultura que representaban desentonaba visiblemente con "la decoración futurista" del sello.

Probablemente la persona encargada de fusionar la modernidad implícita en la fonografía con el sonido del mundo rural en un sólo producto sonoro fue el "ingeniero grabador", como era llamado en la época el técnico de sonido. Tal vez él necesitó buscar recursos tímbricos para producir un disco que recreara un ambiente sonoro rural, acorde con las expectativas del público, y que al mismo tiempo hiciera menos notorio el contexto tecnológico y moderno del sello discográfico.

Lamentablemente no conozco documentación sobre las técnicas usadas en

estas grabaciones ni sobre los criterios o herramientas empleadas en los estudios de grabación de la época. De hecho, desde el inicio de la fonografía existió secretismo sobre las técnicas de grabación. Ya a principios del siglo XX, la compañía Edison Records afirmó que saber "cómo está equipado [el estudio de grabación] y cómo es ese trabajo, son departamentos secretos que hasta los propios artistas están prohibidos de conocer" (Schmidt, 2015: 14).

Algunos indicios de la labor técnica fueron desvelados por Susan Schmidt recientemente (2015) Según la autora, a diferencia de la grabación mecánica, la eléctrica otorgó a los técnicos un control mayor sobre el producto final. Además del micrófono ser responsable de la irrefutable calidad tímbrica, el proceso eléctrico trajo dos nuevos e importantes componentes al estudio de grabación:

> Un indicador de volumen para medir la potencia entregada al grabador y un sistema de monitoreamiento audible, permitiendo que el operador oiga durante la grabación. En vez de apenas oír y determinar el equilibrio adecuado con el propio oído, o inspeccionando los surcos después de hecha la grabación, el técnico ahora puede ver la señal de lo que está siendo grabado y hacer ajustes con acuerdo con eso (Schmidt, 2015: 36)

En la fotografía de la cabina de la Columbia brasileña (Fig. 3), Wallace Downey, uno de los funcionarios estadounidenses que vino con el sello, fue retratado cerca a la gigantesca consola de sonido. Además de tener responsabilidades ejecutivas, Downey era "[...] el técnico de mayor categoría de la empresa en América del Norte y que fue enviado a São Paulo para dirigir aquí los trabajos", según un reportaje de la época (1930: 5). Obsérvese que el técnico fue fotografiado en su lugar de trabajo, con los auriculares en su cabeza y teniendo en sus manos un disco matriz. Teniendo en cuenta que el estudio paulistano contaba con tecnología de punta, se sospecha que las diferencias tímbricas entre los registros "folclóricos" y de géneros urbanos estuvieron motivadas por criterios estéticos y no por limitaciones técnicas.
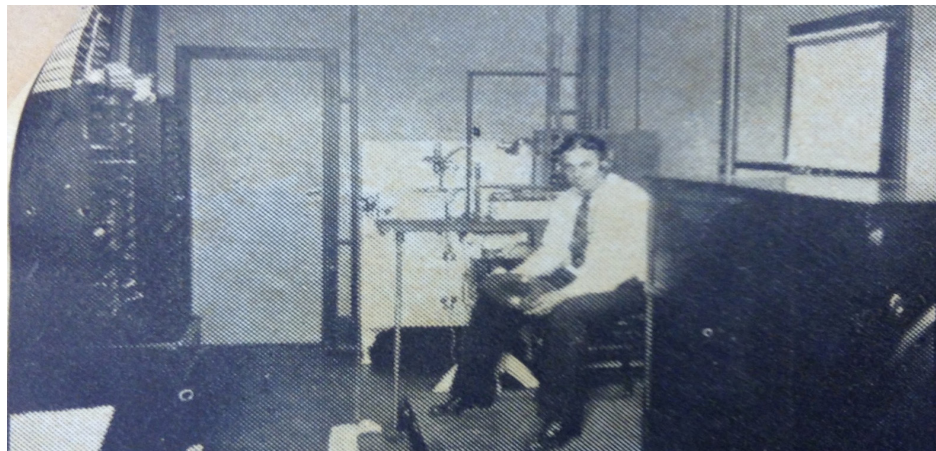
Fig. 3 Estudio de grabación de la Columbia (São Paulo). Fuente: "Catálogo geral dos discos brasileiros. Columbia notas mágicas" (1931)

En primer lugar, es importante destacar que durante la fase eléctrica el "ingeniero grabador" podía modificar el volumen de la grabación a través de un control en la consola. Además, él tenía potestad para indicar a los intérpretes "acercarse o alejarse del micrófono, de acuerdo con el vigor deseado", como explicó el periodista en 1930.

En segundo lugar, vale notar que no era la primera vez que los técnicos de la Columbia grabaron voces proyectadas, con volumen alto, ni instrumentos como la *viola caipira* y percusión menor. Tampoco era la primera vez que trataban con músicos que desconocían el micrófono, pues dos años antes esa tecnología era completamente ignorada en el país. El porqué el técnico permitió que el sensible micrófono se saturara mientras él miraba el indicador de volumen y escuchaba el sonido que iba siendo grabado, es una cuestión que queda sin resolver.

Finalmente, el tipo de micrófono empleado en la época conseguía captar la acústica del recinto donde que los músicos tocaban. Grabar la "atmósfera" del lugar exigía al técnico trabajar con parámetros acústicos, pues la reverberación de los estudios ciertamente era diferente de aquella existente en los espacios de la música en vivo, que buscaban imitar (Schmidt, 2015: 37, 41-43, 78). Por ejemplo, en las grabaciones de los músicos *caipiras* hay un leve efecto de eco, efecto menos audible en las grabaciones de músicos y géneros urbanos. Posiblemente tal recurso fue implementado para crear

en el oyente una sensación de espacio abierto, por cierto, muy apropiado para un género que pretendía transportar su audiencia a las áreas camp-estres del Estado.

Considerando los tópicos anteriores, considero posible que la sonoridad de los discos *caipiras* intentara emular características de las representaciones del mundo rural, consolidadas en otros ámbitos urbanos.

4. REPRESENTACIONES *CAIPIRAS*

La música caipira grabada fue un fenómeno de apropiación de música tradicional por la fonografía y construcción de alteridad entre los mundos urbano y rural. Al igual que otros géneros grabados en la misma época, como la ranchera en México, la música criolla en Argentina, el punto guaji-ro en Cuba o la música *hillbilly* en Estados Unidos, la aparición de la músi-ca *caipira* grabada estuvo íntimamente ligada a las tensiones traídas por la modernidad durante la primera mitad del siglo XX.

El cotidiano caótico de ciudades en crecimiento como São Paulo, propició la creación de un imaginario romantizado sobre la vida rural del pasado. En la capital paulista, en particular, se construyó una visión idealizada del cam-po, usada como filón de éxito por la naciente industria del entretenimiento urbano. La literatura, el teatro recitado y musicado, el mercado de partitura y luego la fonografía adoptaron la dicotomía rural - urbana, contrastando el ritmo de la vida en la ciudad con una supuesta vida rural idílica, pero, at-rasada (Moraes, 1995; Leite, 1996; Ferreira, 2002; Gonçalves, 2006; Melo, 2007; Bessa, 2012). A finales de los años 20 ya se había consolidado en la ciudad un estereotipo de cultura rural que causaba risa al público por ser torpe y constantemente atropellada por la modernidad de la ciudad.

Quiero terminar señalando que, en ese contexto de construcción de alteri-dad, los "defectos" presentes en las grabaciones *caipiras* terminaban por otorgarle autenticidad a los registros con pretensiones folclóricas. La sat-uración del micrófono, el efecto de eco y los timbres "enturbiados" de los instrumentos creaban una sonoridad un tanto "rústica" y anticuada (antic-uada, por recordar las grabaciones mecánicas). Probablemente esa sonori-dad estaba acorde con las expectativas del público de la naciente industria del entretenimiento urbano. Más que "defectos" estas particularidades so-noras podrían oírse como "efectos". Ellos serían equivalentes, por ejemplo, a las ropas intencionalmente descuidadas de los personajes *caipiras* del teatro. Básicamente, sospecho que la sonoridad de la serie 20.000 pudo

haber sido creada en el estudio de grabación para exaltar la proveniencia rural del género y ocultar los rasgos de modernidad implícitos en el desarrollo de la fonografía.

AGRADECIMIENTO Y FINANCIACIÓN

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| Session #13

Methodological considerations of practice-based-research in the field of sonology: the NuSom interactive practices group

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Abstract. This paper reflects on the processes of the NuSom Interactive Practices Group bringing them to the discussion about methodological research models and the production of knowledge in the field of Sonology. Firstly, it presents a conceptual basis discussing the theoretical work of thinkers who deal with research based on practice, since this concept has been increasingly adopted in recent years in processes integrating scientific research and creation. We will analyse how this practice-based research differs from the conventional modes of academic production and to what extent it can contribute in the construction of useful evaluation criteria able to rank the artistic works and practices carried out in the academy. The text then focuses on the activities of the NuSom Interactive Practices Group, (GPI, 2018) grounded in the ECA/USP and comprised by members of the Sonology Research Center. The purpose is to observe critically our own research practice experiences, drawing attention to the methodological and procedural aspects experienced by the group, encompassing questions of composition, musical performance, sound art, electronic prototyping and musical computing.

Keywords: Creative Practices, Methodology, Practice-based Research, Experimental Luterie, Hacking.

1. INTRODUCTION

By referring to practice, we do not only understand it as a complementary opposition to traditional theoretical processes, but rather as an autonomous mode of knowledge production addressing a set of gravitating concepts. Thus, the first section of the text will discuss some of the concepts supporting both, the logics and logistics of the Practice-Based Research

(PBP), such as experimentalism and heuristic, nonlinearity, uncertainty and ambivalence of predetermined objectives and the unfinished condition of results and products. The discussion confronts authors from different disciplines who approach these concepts with proposals in the field of music, design, art-science and interdisciplinary and collaborative art.

Our discussion continues by considering PBP concerns that are particular to the space and time where the academic activities are being developed: the Public University of Latin America - in our case, the School of Communications and Arts of the University of São Paulo (ECA-USP). In contrast to the current hegemonic view, disseminated by European and North American institutions - such as IRCAM, SARC and CCRMA - and explored by collectives of researchers who meet annually at internationally recognized conferences such as ICMC or NIME, this text develops ideas about PBP from an economically peripheral positioning.

By attending to the circumstances and necessities of our sociocultural context, we seek to reorganize the agenda of priorities of the hegemonic discourse, presenting possible directions in a unified field of Sonology.

In doing so, we will debate about the role of collaborative creation, interaction, musical communities, experimental processes, open hardware and software as strategies to deal with technological asymmetry, gambiarra practices, hacking and technological disobedience as tactics to tackle the unavailability of technological resources, tools and instrumentation.

A broad spectrum of concepts fueled the group's discussions such as audio portability and mobility, ubiquitous computing, sonification, internet of things and wearable technology. Thus, we will see how the convergence around these ideas has brought us closer to a set of technological tools of software and hardware (Arduino, Raspberry Pi, Pure Data, ESP8266) facilitating individual and collective processes of electronic prototyping.

The last section is devoted to a critical reflection on the results obtained in a year of meetings of the Interactive Practices Group (GPI-NuSom), emphasizing both the process of creating the projects developed and the organization of the exhibition "Sons de Silício" – to be held in April 2019 at the Space of the Arts of USP – representing an important milestone in our research process. The evaluation of the methods adopted and results obtained throughout this process offers a sketch of contribution to the global, local and regional discussion that advances between the music and the recent technological innovations, addressing not only technical questions but also some of its sociocultural dimensions.

2. THE DEBATE ABOUT RESEARCH IN THE ARTS

In this section, we will outline theories about the research in Arts by reviewing the work of authors coming from related areas. These discussions are fundamental because they support the next section, where we will verify how our practical work can be linked with such ideas about research. Thus, our first discussion will address pertinent topics such as: action research (Frayling, 1993), performative research (Haseman, 2006), musical experimentation (Mauceri, 1997); musical communities (Shelemay, 2011), collective creative processes (Salles, 2017) and art-science (Born & Barry, 2010).

2.1. Action Research

From a historical perspective, it is worth mentioning the early reflections on research methods related to artistic work coming from the area of Design. The seminal article "Research in Art and Design" written in 1993 by the British researcher Christopher Frayling has served as the grounds for discussing the adoption of scientific mechanisms in the development and evaluation of master's and doctoral studies in the Arts. Along with Frayling, other commentators of his categories of analysis such as Borgdoff (2004) and Findeli (2008), comprise an essential literature on the subject.

Frayling seeks to overcome the misunderstanding about the terms artistic and scientific research. The former is discussed by analysing an interview with Pablo Picasso, where research is defined as "the gathering of reference materials". The author states that research, with lower case letter "r" search would be "… where the thinking is, so to speak, embodied in the artefact, where the goal is not primarily communicable knowledge in the sense of verbal communication, but in the sense of visual or forward, but still identifiable and visible iconic or imagistic communication." (Fryling, 1993: 5).

The latter, corresponding to scientific Research, where capital "R" is used, the objective is the production and validation of new knowledge through a type of work directed towards the innovation, introduction, and improvement of products and processes. In this sense, the text of Frayling is an early effort in delimiting the boundaries of scientific work in Arts and Design, beyond the "hard" sciences and the humanities.

By appealing to a set of prepositions such as *into*, *through*, and *for*, Frayling relates research in the arts, distinguishing these three different modes by pointing out specific methods and objectives for each category.

The research *into* arts and design addresses historical and aesthetic aspects from diverse theoretical perspectives. Research *through* arts and design investigates new materials, the development of tools, procedures, techniques and what the author calls *action research*. This type of research corresponds to the activities performed in art labs and studios, it is based on practice and is characterized because...

> ...a research diary tells, in a step-by-step way, of a practical experiment in the studios, and the resulting report aims to contextualize it. Both the diary and the report are there to communicate the results, which is what separates research from the gathering of reference materials. (Ibid.).

Finally, Frayling identifies a type of research *for* Arts and Design not without recognizing that it is the most thorny and difficult to materialize within the academy. In fact, the author argues that in research institutes such as the London Royal College, the artistic results themselves do not constitute evidence of academic work: "...rightly or wrongly, we tend to feel the goal here is the art rather than the knowledge and understanding" (Ibid.).

Frayling's distinctions are pertinent because, although art works cannot be recognized as research results, on the other hand, the author seeks to identify and characterize modes of scientific work in the Arts and Design within a broader context of knowledge production. Furthermore, beyond purely theoretical activities, Frayling propose the concept of *action research,* in which artistic and design practices, usually carried out in the studio or laboratory are raised to the status of research.

2.2. The performative research

Not far from Frayling's concepts, the article entitled "The Manifesto for Performative Research", by Brad Haseman calls the attention to the emergence of a new way of dealing with research in the field of arts, media and design. The "practice-led research" emerged as an alternative to traditional quantitative and qualitative models, which would be under the influence of a tension between words and numbers, as paradigms of research reporting.

The practice-based research is identified by Haseman as performative, which in turn would be focused on alternative approaches, different from the traditional designing, conducting and reporting research.

Haseman further clarifies that the assumption that research should be divided between quantitative and qualitative evidences two major ways of conducting research. The author points out both distinctive and opposite aspects, not only regarding the research purposes, but also the mode in which knowledge is generated.

Quantitative research is more concerned with a set of deductive approaches and with establishing the boundaries of the problems from known theoretical models. According to Haseman, the knowledge production occurs as follows:

> In ruthlessly testing such hypotheses, this research approach measures and quantifies phenomena, constructing them in terms of frequency, distribution and cause and effect. The ultimate goal is to isolate principles, which allow for the generalization of findings and the formulation of invariable laws. (Haseman, 2006: 1).

On the other hand, qualitative research has a tendency towards more inductive approaches that seek to cover a wide range of strategies and research methods, being able to include even the perspective of external participants. Thus, these two wide ways of conceiving research are not only related to different ways of creating knowledge, but also linked to the ways in which this knowledge is expressed. While quantitative research is an activity that seeks to express something from a point of view of calculus, qualitative research, in turn, is concerned with capturing the interpreted properties of behaviors and questions around all forms of social inquiry.

Although Haseman draws attention to certain similarities between the procedure of qualitative research and the one of practice-based research, the author also makes clear that it is a form of research that has its own characteristics regarding the way in which the process of acquisition of knowledge is conducted. For Haseman, since practice-based research is fully mature in its modes of operation, it can then truly emerge as a third way of possibility for performing arts research.

2.3. Affinity Communities of Musical Experimentation

The environment marked by a new perspective on the conduction of research, as described by Frayling and Haseman, is different from the traditional models since it resorts to performativity as a methodology. This alternative model makes use of experimental practices as a strategy to create, select, and re-signify poetic materials into artistic creations.

Thus, the concepts of experimentation, experimental and experiment are seen as recurrent strategies linked to forms of research based on practice, requiring, therefore, a deeper conceptual clarification. For this, it is worth mentioning the article "From Experimental Music to Musical Experiment" (1997), which is an influential text about musical experimentation. There, Frank Mauceri presents some of the most frequent uses of the term "experimental" - or "experiment" - reflecting not only on their implications and consequences but also on the divergence of meanings that arise when used without the respective contextualization.

Mauceri examines all of these questions in order to present his main proposal which he names as "experiment as heuristic" (Mauceri, 1997: 200), and which is based, briefly, on a practice open to the discovery of the unknown and the unpredictable, new ways of thinking: "The unforeseen musical event exceeds our ability to 'sense' of it; it breaks our interpretive framework." (Ibid: 201).

Another not mentioned but important issue is the social and cultural particularities of the researcher, the group of researchers, and the social context involved, which in many ways influence the research work. Thus, to clarify this important aspect, it is worth mentioning the article "Rethinking the Collective in Music" (2011), by the ethnomusicologist Kay K. Shelemay, who explores deeply the question of collectivity in musical practices and presents a very broad definition of the concept of "Musical community", capable of encompassing the contemporary collectives of musical creation with their particular community dynamics whose characteristics and origins are often multiple, complex and transdisciplinary.

According to Shelemay:

> A musical community is, regardless of its location in time or space, a collectivity built and sustained by musical processes and/or performances. A musical community can be socially and/or symbolically constituted; the musical creation can give rise to social relations or it can exist almost exclusively in the domain of a virtual environment or in the imagination. A musical community does not require the presence of conventional structural elements or the need to be hosted in a single place, although both structural and local elements may assume great importance at some point in the formation or ongoing development of the community. Instead, a musical community is a social entity; the result of a combination of social and musical processes, making those who participate in the music creation or listening aware of the existence of a connection between themselves (Shelemay, 2011: 364-365).

The Shelemay`s definition of musical community seems comprehensive enough to encompass many of the issues we are dealing with. We highlight the important role given by the author to "musical processes and/or performances" in the construction and sustainability of these communities.

Thus, Shelemay proposes three basic processes in the formation of musical communities: descent, dissidence and affinity. In our case, affinity is clearly the most relevant, mainly because it involves closeness with the ideas discussed earlier about of musical experimentation.

> Music proves to be a particularly powerful mechanism for catalyzing communities by affinities, in which objective aesthetics and personal preferences may, but need not, cross with other powerful elements such as ethnic identity, age grouping, or gender identity" (Ibid: 373).

Affinity communities may arise or be strengthened, for instance through accidental encounters. This type of contact "can trigger a lifelong relationship with a musical tradition that was not part of the subject's life, providing a 'conversion experience' ... (Ibid: 373). According to Slobin, by joining a community with which he identifies himself, the individual belongs to a group of people "who have similar minds and who are magnetically attracted to a certain genre that creates strong expressive links." (SLOBIN, 1993: 98).

Musical production, here called experimental, is extremely broad and refers to a way of thinking and a creation and performance practice rather than a well-defined aesthetic approach. The works, events, meetings, rehearsals and concerts created within this environment are "observable practices" whose shared values are discussed by the group at the moment they emerge. Such activities have a dual function: they act "as a potential force for cohesion and as a source of cultural effervescence. Music involves these two tasks [...], it pushes in one direction while seeking new individuals for its group" (Shelemey, 2011: 378).

As we shall see, the "Sons de Silício" event clearly carries this dual function. While it seeks to reinforce the activities of the GPI and the artists and groups that deal with the practice of experimental luterie, stimulating its production, also seeks to show the work of these individuals and groups to others who may feel affinity with the work or with the concepts developed there and can get involved with these groupings or with these issues.

2.4. Collective and collaborative creation and their presence in the Universities

A direct consequence arising from GPI-NuSom's collective activities is the promotion of collaborative artistic creation. The focus on this methodology has been fundamental in allowing both, the theoretical and practical work to cross disciplinary boundaries, extending the scope of practice beyond traditional infrastructures.

Such a procedure is increasingly adopted in academic research groups concerning with practical activities for artistic creation. According to Salles:

> Regarding the discussion of collective creative processes, I can not fail to highlight the interesting overlap of teams that occurs, in many cases, in the academic field. They are theater, dance or music groups or film teams, congregated by the need for their artistic pursuits, and many of their participants are also active members of academic study groups. (Salles, 2017: 199).

Salles even highlights the activities of the current NuSom, particularly the performance Transparency, carried out in 2013[1], about which she says that "It is an interesting superposition of groups, that makes possible the interaction of academic research and the one involving contemporary artistic experiments with the support of funding agencies." (Ibid: 200).

In the current GPI-NuSom context, for instance, if a member of the group raises a technical issue about how to control a motor to achieve some previously imagined sound gestures; it will trigger a whole chain of reactions and discussions among the participants promoting collaborative practices as well. When each participant adds something around the initial question, based on his/her training, experience and knowledge, it gradually turns this question into something else, which is no longer the originally neither what the interlocutors proposed. It will become the fruit of the collectivity, which will yield more or less collaborative effort according to the collective interest, and not anymore to the desire of a single subject.

> Collaboration goals need to be challenging enough to attract the interest and contributions of all the participants, as well as flexible enough to engage them to develop a shared collaborative vision about how to proceed, where roles can change and evolve while

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[1] More information about Transparency can be found on the NuSom website: http://www2.eca. usp.br/nusom/ and in "¿Música?" (Miskalo, 2014: 122-126).

keeping the motivation on the dynamic nature that underpins the development of collaboration. (VENTURELLI, ROCHA, 2016: 832).

In the last few years, artists and researchers concerned with artistic creation processes have come to focus on collaborative creative practices: "we gradually move from individual forms to collective forms of creativity ... to give shape to emotions and knowledge, science, art and technology" (De Masi, apud Salles, 2017: 35). A relevant example is the researcher Cecilia A. Salles, who discusses in her book, "Processes of Creation in Groups: Dialogues" (Salles, 2017), several characteristics of the artistic groups.

For Salles, the researches of the processes of artistic creation began to use less and less the idea of the artist as a creative genius to encompass all that which surrounds and which allows and stimulates its manifestations: "The individual itself has the form of a community [...]". (Salles, 2017: 39). According to her, "the work develops in this emotionally tense environment, amid pleasures and dislikes, flexibility and resistance" (Ibid: 158).

This orientation towards a broader approach of the subject also helps in the theoretical approach of collective and collaborative works - such as GPI-NuSom - where these questions appear in a much more complex way:

> In team processes, it is the grouping of subjects in creation, immersed in this whirlwind of sensations, in which two questions are considered as quite relevant. On the one hand, they are processes that do not happen if not in a team. [...]. On the other hand, this whirlwind of sensations of the subjects (as community) happens in the middle of a common search, living with the sensations generated by the interaction with the other members of the group (Ibid: 159).

Salles emphasizes the importance of the practice of experimentation in contemporary processes as a trigger for these reflections and, in the same way, highlights the importance of the universities that are "offering a very fertile space for artistic experimentation, which, in many cases, is maintained by fellowships "(Ibid: 196).

As a direct consequence of the latter, it arises the need for conceptualization and theoretical and critical foundation of this type of production, which feedbacks the very process of artistic creation in a continuous cycle of development.

The question of *methodology* becomes a challenge constantly discussed and debated in this context, after all they "(...) are works on their own processes of creation that, as has been said, need to bring out in a systematized way what we observe in all pathways: theory implicit in practice." (Ibid .: 198).

Salles says she does not believe "that there are models to be proposed, but possibilities of paths to be thought, that brings to light that thought on the practice [...]" (Ibid.). She also warns: "It is necessary to look for methodological and theoretical procedures to escape from the reports of the process, that is, the narrative of the changes and choices made along the way." (Ibid.).

2.5. Intersections between Art and Science

According to Born and Barry (2010: 104), art-science goes beyond the term's traditional sense, which implies making scientific knowledge available through art. Instead they propose art-science as part of a larger and heterogeneous space where interdisciplinary practices overlap at the intersection of the arts, sciences, and technologies. They correspond to a set of changeable relational and growing categories. That is, art-science is also a dynamic and ever-changing process.

Three types of logic are identified in this interdisciplinary field: accountability, innovation and ontology. The first two can be quickly understood: accountability is relevant for science since it should be trusted and credited the public; innovation places scientific research as an indispensable tool for industrial, commercial and economic development. The Ontological logic, on the other hand, is concerned with practices promoting changes both in the objects of research and in the relations between research subjects and objects.

According to the authors, in the book "The Two Cultures" (1959) C.P. Snow pointed to a cultural division between art and science, suggesting that overcoming the latter would have favorable economic implications. On the other hand, for Raymond Williams, author of Culture and Society (1958), the problem was the indifference of intellectuals and scientists towards popular forms of cultural knowledge and practice.

In the 1990s and 2000s, interdisciplinarity between the arts and sciences grew not only with the idea that the political elite should know more about science but also with the idea of rethinking the relationships between

science experts and the public. In addition, Williams's attention to the history of cultural forms points to the importance of framing any analysis of art-science in terms of the history not only about the links between science and the public (Nowotny et al, 2001) but also about links between art and the public. As Born and Barry suggest: if, on the one hand, art-science was supported by funding institutions, on the other, the genesis of this field occurred:

> … in the mutual disturbances or interferences thrown up at the intersection of three distinct but related genealogies. The first is conceptual and post-conceptual art, including performance, activist and installation art; the second encompasses historical art and technology movements, as they issue in the multi-, inter- and trans-media arts of the present; and the third comprises, broadly, developments and debates around the computational and bio sciences and technologies. (Born et. al. 2010: 110).

3. GPI-NUSOM - RESEARCH PRACTICES

The Group of Interactive Practices (GPI) is a research group that works within the Research Center of Sonology at the University of São Paulo (NuSom-USP). Although NuSom was formalized only in 2012, its founding nucleus was already active at USP, seeking to structure these areas of study about a decade ago (Miskalo, 2014: 14-16). Despite the fact that GPI is part of NuSom and some of their members have followed all its trajectory, it is a recent subgroup created only a year ago with a much more specific goal than NuSom's comprehensive work. GPI is dedicated to practical projects. Mainly projects involving research, development and manufacture of instruments and mobile devices, autonomous and with audio operations that consider such concepts as sound experimentation, internet of things and computational ubiquity.

From weekly meetings held over a period of one year at USP's Music Department, we sought to delve deeper into topics such as Experimental Lutherie and Sound Art, exploring recent computing and electronics inputs for the prototyping of technological devices such as Arduino, Raspberry Pi and ESP8266[2]. Thus, during our process we tested an array of sensors and microcontrollers available in the market, in an investigative search interested in transforming them into artistic instruments. Concerns such as

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2 These are electronic prototyping technologies of hardware and free software that have an integrated circuit (IC) embedded in a single plate. They use a microcontroller that contains digital and

portability, audio processing and low-cost implementation come to take relevance in our artistic works.

Our experiences with unknown (to us) technologies – or at least little explored by us - was at the same time a guiding aspect of the research and also a generator of technical challenges for the group to solve together. The treatment of these devices triggered several technical and aesthetic issues faced by the sum of ideas debated among the participants, each with its specific artistic and academic training. This kind of poetic crossing inserted by the technological resources occurred in a purposeful way, however, strongly marked by procedures of experimental character, not only in what concerns the creation of knowledge, but also in relation to the presentation of the results obtained.

When exploring technical potential of certain equipment, we usually came across an aesthetic question to be solved, called by the group as "output problem". This is an intermediate stage of research development where important definitions of compositional scope and sound identity of the project occur. The "output problem" thus refers to the compositional moment in which some type of relationship is established between a set of data captured by a certain sensor (input) and its output correspondence. It is a delicate moment that involves all kinds of creation concerning directly the sonic material.

As an example, it is worth mentioning our research with accelerometers, which is a sensor capable of measuring the acceleration of their movements in space. The device provides an analogue reading of offsets from the x, y, and z axes. The accelerometer was used on the body of a musical instrument - trombone - to take advantage of the instrument's gestures to generate correspondence between gesture and sound. It is precisely at this moment of research that the "output problem" emerges strongly and consequently requires reflection and the proposition of creative solutions.

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analog input and output brackets, facilitating their code-oriented programming. Thus, through the analog and digital pins it is possible to easily connect a series of electronic components.

Fig. 1: Some members of the GPI during a technical visit to the *Sons de Silício* exhibition space. We took advantage of the meeting to perform tests with the instrument created for the piece *Risicare.*

3.1. Re-use and *gambiarra*

Aware that GPI-NuSom activities are located in a peripheral environment because of knowledge geopolitics, our work relies on the operational concepts of other artists and designers who share the same condition. Topics such as reuse, repair and *gambiarra* present themselves in the practices of the group as strategies to deal with asymmetry in the conditions of access to tools and the precarious conditions of technological development in our region.

According to Cuban artist and designer Ernesto Oroza, the reuse and repair of technological devices can become an act of empowerment if we think that in doing so, we produce an imbalance in the dependency adopted before them as consumer products. When they are fixed, objects are re-signified in a position of subordination. Thus, it can be said that reuse and repair are acts of technological disobedience that allow the preservation of objects while retaining their original functions. By knowing the technical secrets of the product, the doors to processes like the one of refunctionalization, and the reinvention are also opened (Oroza, 2012).

In the Brazilian context the notion of *gambiarra* is also popular in discourses involving art and technology and is a striking concept in the production of experimental music. In the context of the arts, the term *gambiarra* refers to "… an improvisational method of working with materials, devices, technology and / or institutions" (Giuliano Obici, 2017), The term is commonly used to refer to the action of repairing, in an alternative and unorthodox way, any kind of problem. Giuliano Obici has shown that the notion of *gambiarra* is not only Brazilian and that it can be confronted in a global context. He describes a series of expressions in other countries with near or equivalent use to gambiarra: *revolico* and *rikimbili* (Cuba); *rasquache* (Mexico); *chapuza* and *arreglo temporal* (Uruguay); *solución parche* (Chile); *arreglo hechizo* or *reparación hechiza* (Colombia); *desenrascar* (Portugal); *jugaad* (India, Pakistan and some African countries); *jua kali* (Kenya); and *zizhu chuangxin* (China) (Obici, 2017: 88).

In GPI-NuSom the notions of re-use, repair and *gambiarra* have been useful to guide the creative processes. In meetings the group often shares individual experiences of the participants with the tools and materials adopted. This sharing of *gambiarras* and tricks constitutes an important element of motivation for the cohesion and strengthening of the research group.

The application of these concepts is easily identifiable in the practices of our group. Not only in the dismantling of equipment to the use of its motors, components and/or gears, but also in the refunctionalization of some equipment. A very simple example is the use of the cheap earphones that accompany cell phones as microphones to test audio connections and audio input into software such as Pure Data and Sonic Pi. Certainly, the manufacturers of earphones did not intend such use. But in the absence of specific microphones during experimentation and its technical characteristics – in addition to being always present – this type of earphone works very well as a microphone for our purposes.

Fig. 2: Alternative use of earphones as audio input device on Raspberry Pi.

It can be said that this type of technological disobedience is usually more related to the lack of materials, than to artistic motives. It should be noted that the group does not have a regular budget for equipment. However, it is procedures such as these that have contributed to the progress of research and overcoming technical problems of various kinds. Although this type of procedure may reveal a certain level of precariousness, it may also contribute to the emergence of ideas and procedures previously not considered. Thus, we conclude that the concepts mentioned above represent for the GPI-NUSOM, not just a singular way of solving technical problems, but also a recurring and desirable procedure for conducting research our practice.

3.2. Appropriation of portable technologies

The preference for the use of portable technologies by GPI-NUSOM is related to the fact that they allow the artistic works to dialogue with different exhibition and performance spaces. After several experiments we ended up adopting the ESP8266 microcontrollers and Raspberry Pi as the electronic prototyping platforms most suitable for some of our purposes, especially for offering wi-fi communication capabilities.

From our experiments, we also conclude that the use of these resources allows the presence of a satisfactory level of portability, while guaranteeing

both the processing power and the low cost of production.

We can say the search for portability in the artistic works led the collective to study and master forms of wireless data communication through the creation of a local network using communication protocols such as UDP processed in Pure Data. Thus, some of the creations of the group culminated in the use of a certain sensor as input of signals transmitting data between ESP8266 and Raspberry Pi.

3.3. Adopted Methodologies

Another methodological resource used in our process was the virtual tools of cooperation among the members - such as the Moxtra, GitHub and Google Drive platforms - that not only allowed the elaboration of tutorials and codes, but also provoked reflections on issues of collective processes and links necessary for the creation of a collaborative creation environment.

This condition resembles what we defined in the first part of the article as a research based on practice for meeting methodological criteria interested in expressing its results "in non-numerical data, and in forms of symbolic data other than words in discursive text".

If we think of Frayling's categories regarding GPI-NuSom's laboratory practices, we find that our practice-based research activities lie on the frontier between research *through* and *for* arts and design. On the one hand, the group has produced documentation that shows the discussions that took place in regular meetings during a year. Reporting on activities has also been a priority. These two aspects approximate the group's activities of research *through* arts and design, particularly to the concept of action research proposed by Frayling. On the other hand, the group has been busy creating works of art and encouraging the creation of works of art among other NuSom colleagues and other Art and Technology groups at the University of São Paulo which adopt artistic, technological and artistic-scientific processes. This brings us closer to research *for* the arts and design.

3.4. Results. The Sons de Silício art exhibition

After one year of regular meetings, our journey achieves the end of it first cycle by organizing and curating the exhibition Sons de Silício, seen by the collective as a particular way of carrying out the research reporting.

In October 2018, we make a call through the NuSom email list as well as other email lists concerning Arts and Technology in the University of São Paulo with the following invitation:

> Open Call. The 15th version of ¿Música? presents the Sons de Silício Exhibition, which will be held between the 1rst and 26th, April 2019 at the São Paulo University's Espaço das Artes. The exhibition addresses the topic of Experimental Luterie, as the integrative concept gathering music, visual arts and computer science practices and as a catalyzer of new modes of experimentation with sound and technology, such as Gambiarra, Sonic Interaction Design, Auditory Displaying and Sonification.

> For one month the Espaço das Artes will become the meeting and discussion place of Experimental Lutherie practices. As organizers and curators of the exhibition, we kindly invite artist and makers to develop instruments, objects, installations, machines and/or sculptures that propose unusual ways of interacting with sound by engaging the visitors to question listening as a strategy to explore and recognize the world. Performances, workshops and lectures are also welcome, they will be carried out during the exhibition`s duration. The call is addressed to NuSom former and current members as well as other groups from the University with relevant works in the field (GPI-NuSom, 2018).

We selected 22 installations, 10 performance and three workshop proposals. It is worth mentioning that some of the works provided resources for the exhibition. Particularly, the InterSCity project supplied the budget allowing us to bring to the public arena some of the knowledge that is being produced by current research projects in the University.

As a sample of both, the Sons de Silício Exhibition and the results obtained by the group we will describe the creative insight of two installations created by GPI-NuSom members.

3.4.1. Red Line

According to our critical analysis on the practical works, it is worth clarifying how was incorporated the technical and poetic aspects. Red Line is an interactive installation of light and sounds formed by lasers that cross the space in several directions forming a kind of web or entangled of luminous lines. The laser points are directed to light sensors that trigger different sounds at the exact moment the trajectory is interrupted. The poetics of the installation seeks a performative and interactive environment

where the sounds are triggered by different gestures under the lasers. In practical terms, the variation of luminosity occurs when the interactor intercepts the laser point with the movement of the arm or with the simple walk inside the installation.

The triggering of sounds occurs from programming in a Pure Data patch processed by Raspberry Pi. The device operates with the aid of a wireless communication network that collects and transmits the data of luminosity variations of the ESP32 microcontroller to the Raspberry Pi.

The installation was consolidated in a version updated by the group and directly influenced by the collective desire to insert aspects such as mobility and interaction in the poetics of artistic works. Thus, Red Line could be modified by the aid of the technologies involved, which allowed the exclusion of the wire connections, collaborating to optimize the interaction with the public, and the adaptation of the work to other exhibition spaces.

3.4.2. Sonhofonias

The PBP related to the creation of Sonhofonias (2019), has as a challenge the sonification of the EEG data of a polysomnography (record of data collected on an individual's night's sleep), and presents as characteristic related to the new paradigms of the research on the arts, the indeterminacy of results and non-linearity of the process of structuring the work, as we saw at the beginning of this article.

The sonification process of a Dataset of the various EEG sensors, also implies the unfinished condition of the results and will be re-evaluated whenever we learn more about the nature of such data. The more details about the data we know, the more possibility of representation relating sounds to specific events extracted from the Dataset. Thus, the sound produced gains other meanings in a dynamically seemingly endless process.

Consequently, the development of the work, which encompasses both the sonorous processing of EEG data and the live or audio narration of the referential dreams of Carl Jung's (2017) work, recorded in The Red Book, is an example of " 2 of knowledge production "(NOWOTNY, et al., 2001), in establishing the multidisciplinary connection of areas such as psychology and neuroscience. This connection occurs through the common goal of the two processes that is summed up in promoting the transformation of activities of the human unconscious into sounds. In this sense both the processing of the EEG data through the computer translating them into sounds, corresponds to the procedure of the narration of the descriptions

of some of the dreams determining to the research on the understanding of the unconscious processes of the great psychologist. The combination of the two processes in a performance / installation, aims to promote a third layer of understanding of the first two, an aesthetic experience, sensory and reflective also for both the public and ourselves.

In addition to the challenges of the interdisciplinary connection between Neuroscience and Psychology and its consequent integration into an aesthetic experience with artistic intentions, there is also the question of precariousness as a characteristic of Latin American research production. The production of this work involves the technological challenge of processing a huge amount of data for a four-channel installation of sound through low-cost computers, Raspberry-Pi.

In this sense, we have the co-creation of the work done by Julian Jaramillo in the structuring and technological adaptation of the work, and collaborations of Professor Silvio Ferraz, and members of GPI-NuSom (Esteban Viveros, Fabio Martinele, Vitor Kisil).

The realization of this work does not properly present the interactive character that marks the production and the objectives of GPI-NuSom but is inserted in the context of Art-Science (BORN & BARRY, 2010) and in the developments and debates around computer technologies and biosciences.

4. FINAL CONSIDERATIONS

Prospects for the future are to strengthen both the theoretical basis and the practical achievements increasing the number of active participants and dialogue with other artists-researchers and groups. The occupation "Sons de Silicio" operates in all these directions, boosting both the drafting body parts, as the deepening of the conceptual issues involved and the interaction with other artists. It also assists along with this article, with the group's history of registration and the creation of their traditions, which can now be adopted by others who share an affinity with the issues involved.

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Orquestra Errante: a musical practice deeply rooted in life

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Abstract: In this article I intend to describe, investigate and reflect on the creative environment of the Orquestra Errante[1] in its relations with improvisation and processes of subjectivation and individuation. I am also interested in discussing to what extent and in what way improvisation interacts with certain sociocultural and political configurations. For this, I intend to examine records (written notes and audio recordings) of rehearsals and presentations, as well as interviews and conversations with group members. In this type of research, it is important to know what the members talk about themselves in the orchestra environment. Some concepts by Gilles Deleuze and Gilbert Simondon will be used to support these reflections.

Keywords: Improvisation, processes of subjectivation, individuation, Georges Simondon, Gilles Deleuze, Orquestra Errante.

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1 Orquestra Errante is an experimental group dedicated to the study and practice of improvisation. The orchestra – which was founded by me in 2009 – is composed of performers from various music backgrounds and with varied musical formations. The activities of the orchestra – which functions as a kind of laboratory – include the realization of creative proposals brought by its members who, in general, develop research on the connections of improvisation with other areas of study. Activities are developed in a democratic and non-hierarchical way and are based on interaction and collective creation. In OE, all are performers-creators and the only prerequisites for participation are desire, presence and active and deep listening. The OE is linked to the *NuSom - Research Center on Sonology at the University of Sao Paulo* (http://www2.eca.usp.br/nusom/). To know more about Orquestra Errante see, for example: https://soundcloud.com/orquestraerrante, https://soundcloud.com/oclownprovisadorlivre, https://youtu.be/kmSewXpEj9g.

1. IMPROVISATION AS PLANE OF CONSISTENCY[2]

In the environment of free improvisation music is always an action. This is because it occurs in a relational space focused on the process and not on the production of musical works, and what matters is the preparation of this environment that can be defined in Deleuzian terms, as its plan of consistency. In this regard, I quote a passage from my book:

> The plan is, in the case of free improvisation, a block of space-time, indefinable in its contours, where improvisers perform and where different energies, singular attitudes, thoughts, connections, personal and collective histories coexist. It is the "event horizon" of free improvisation that emerges as a result (in motion, because performance is a process) of free and casual movements of parallel (polyphonic), a-parallel (accompanied melodies), transverse (short, medium and long memories), vertical (harmonic), horizontal (melodic) interactions and connections. The plan is what it enables the movement of the performance. The performance occurs within the plane, but is not confused with it. A performance depends on the existence of this plan, which must be prepared from desire, availability and necessity (Costa, 2016: 38-39).

The plan, therefore, is pure virtuality while each performance is a possible actualization. As an empirical relational musical practice, performance is temporal and spatially localized in the *here* and *now*. But this *here* is multidirectional and this *now* is an intense present crossed by the energies of the various past – of its individual members, of the relationships between them, of the memories of the whole and of its subgroupings – that cross it and compose it, and by the future that it projects.

2. RELATIVE MUSIC

What results is an "impure and relative" music, not absolute, nor universal; a musical practice "drenched" with life, emotion, body and context (personal,

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2 "All multiplicities are flat, in the sense that they fill or occupy all of their dimensions: we will therefore speak of a *plane of consistency* of multiplicities, even though the dimensions of this 'plane' increase with the number of connections that are made on it. Multiplicities are defined by the outside: by the abstract line, the line of flight or deterritorialization according to which they change in nature and connect with other multiplicities. The plane of consistency (grid) is the outside of all multiplicities. The line of flight marks: the reality of a finite number of dimensions that the multiplicity effectively fills; the impossibility of a supplementary dimension, unless the multiplicity is transformed by the line of flight; the possibility and necessity of flattening all of the multiplicities on a single plane of consistency or exteriority, regardless of their number of dimensions" (Deleuze and Guattari, 2005: 9).

cultural, social, etc.); music of listening, seeing and living, in which multiple regimes of listening, not only sonorous, coexist. It is a molecular[3] music that happens in the form of collective performances and that is part of a complex and multilinear relationship process that involves several components arranged in the plane. In this respect I quote the musicologist Simon Frith:

> [...] for various researchers, music (and in particular improvisation) is in a privileged position: "Music as an experimental, social and aesthetic process is in a unique position to articulate in itself an understanding of both group relations and individuality, based on which ethical codes and social ideologies are understood (Frith, 1996: 110).

The permeability is fundamental for this type of relational process and for the performance becoming. What matters is what's in between. Between the inside and the outside, between languages, between bodies, between bodies and instruments[4], between body and mind, between energies, ideas, intentions, expectations, looks, etc. The potential differences, the incompatibilities, the asymmetries between the components are what make this becoming possible. Improvisation is a tense system, saturated with energies and, in its becoming unfolds individuating itself. In this type of system there is no stable equilibrium – which would lead to stagnation – and even each participating performer is a metastable subsystem.

Therefore, it is possible to affirm that in improvisation, the performers are also components of a network and go through processes of individuation from the contact with the elements that make up the plan: the other, technology, the public, instruments, environment, architecture etc. And the knowledge base[5] of each one is not restricted to concepts and ideas, but is also knowledge of the body in motion. The individual defines him/herself in

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3 In regard to the Deleuzian idea of molecularisation, it is possible to say that "for free improvisation, the 'molecular', 'virgin' sound, free of its eventual molar (territorial, idiomatic, social, stylistic, instrumental, historical, geographical, etc.) conditioning, ready to be constructed and shaped from the instrumental action of the musicians during the dynamic flow in an interactive performance (solo or collective) is a desired utopian horizon" (Costa, 2015: 130).

4 Concerning this relationship between musicians and their instruments, I quote here another text: "In free improvisation the performer produces and 'plunges' into the sound, either through a traditional instrument, a digitally controlled instruments or a hybrid instrument, either through his/her own body (sometimes through combinations of all these features). Thus, the performer establishes with his instrument a very intimate, corporeal and empirical relationship" (Costa, 2017: 77).

5 The knowledge base needed for the practice of improvisation, according to Jeff Pressing, includes materials, excerpts, repertoire, sub-skills, perceptual strategies, problem-solving routines, hierarchical memory structures, and schemas that are constructed in a "long-term memory" of the individual interpreter (Pressing, 1984: 53).

his/her contact with the collective and is thought of as a phase of the individuation process, not the contrary. The plan is pre-individuation and each performance is a process of collective individuation that is realized through the interchanges between the structures (provisional states of the flow) and the operation (becoming). According to Simondon, being is preserved by becoming and not by identity, which is always provisional. For him,

> […] becoming is a dimension of being, corresponds to a capacity that the being has to do away with himself, to resolve himself when he loses himself […] the only principle by which we can orient ourselves is that of the conservation of being by becoming; this conservation exists through the interchanges between structure and operation […] (Simondon, 2003: 101-102).

So too, the improvisation environment is a becoming. It is possible to perceive aspects of this process of individuation that becomes possible in the environment of improvisation in this fragment of interview with a member of the Orquestra Errante:

> … it is a space that I feel very comfortable for … I do not know … depending on the day, let flow what is happening inside me … for many years I went to the rehearsals soon after the therapy and together with the research that I did in the Scientific Initiation on eutonia and all research with the body, also began to be a laboratory for me, to say: 'Ok, I will not think too rationally, I will let it manifest what is happening here (inside me)'. Sometimes I do not have the slightest idea … it seems that I'm not even listening, but I'm listening in 'another place' … when I had pain to play, it hurt to play Mozart but it did not hurt (to play) in OE … I feel very free … (but) have this thing of wanting to do what is missing … (I think): 'are missing high pitch notes, (so) I go to the high region or … it was a long time smooth, (so) I need to do something striated' … to balance … I have this habit to do this … at the same time I like to do things that provoke transformations, but I do not like to impose myself, so I have this habit of waiting for filtrations … seduce by the beauty (of the material) … learn to respect. More and more, I am learning to admire what each one does. We have listened a lot. This kind of listening has increased a lot. It depends on the expectation that each one has. Sometimes I have an expectation and a person is playing more than I'm expecting … it's the very dynamics of social relations (Mariana Carvalho).

3. ORQUESTRA ERRANTE: A RELATIONAL SPACE

Fig. 1: Orquestra Errante: after a presentation in an auditorium; posing in the garden; and preparing for a presentation in a public school.

The Orquestra Errante is an example of this type of environment that constitutes itself as a space of subjectivation and interaction. In the orchestra, free improvisation establishes an environment of cooperative and shared exercise of creative powers, of empirical activism through listening, playing and conversation. It is a free and unimpeded space that favors the flow of energies and energy exchanges. From the point of view of the performer (which here can be thought of as a medium – a body/mind provided with memories, desires, intelligences and thoughts), this space is activated by relationships and interactions with the outside: other performers, space,

instrument, architecture and audience – if any[6]. In this regard, I reproduce here these fragments of interviews with two members of the orchestra:

> *... it influences a lot, it changes the ways of thinking, the ideas of music, the conception of musical making. The doing and thinking about music is collective ... it is also in the collective thinking and talking about it. This is very cool because it is in this exchange of ideas that we are forming these new conceptions of music. There are so many connections and so much that happens. So in this conversation, in this dynamic that happens after the performances we learn a lot to hear the others talk. There is a very strong political issue that is to give voice to the collective. And has a clash at times of ideas of music. But in this exchange there is a growth that influences me today in all other musical contexts where I act. An aesthetic ideal is more a sensation of freedom. It means to be able – from nothing, or from any proposal, or from the use of triggers – to discover this aesthetic of doing together, which is different* (Migue Antar).

> *... I feel that OE is a super cozy space to try things out, so since I joined, it was very strong and I even changed a lot during all this years ... the moments of the rehearsals have always been like this: it has this space in my week, regardless of what's going on in life, of what I'm doing ... it's a place that I know I'm going to experience things that I'm living, whether they're musical or ... I do not know. Even things that I'm going through in my life ... it's a place of testing things, testing relationships with people. (Besides it) I feel like I'm acting politically participating in OE because I'm a woman, because I'm occupying an important space as a woman* (Mariana Carvalho).

As a way of guaranteeing the flow of the energies within this environment we problematize the structures of power and the value judgments that would function as stagnation factors, tightening the environment. The question of judgment in the context of the performative practices of the "erudite" European musical tradition is generally linked to the ideas of excellence and technical rigor that are at the service of the execution (reproduction) of a certain repertoire produced in deferred time and, in this case, there is the idea of right and wrong, judgment parameters, etc. In relation to these issues I quote another text:

> [...] the emphasis on the creation of "works of art", the ideals of technical excellence, virtuosity, references of specialization,

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6 Despite eventually playing in concerts, shows and events, the Orquestra Errante does not rehearse to perform. In the daily life of the orchestra, rehearsals and presentations have the same importance and, although they are different, there is no hierarchy between these two activities.

knowledge and compulsory dominance of certain ideas of music (which include sound materials and established procedures of articulation) imposed by the hegemonic models, are questioned and replaced by an emphasis on ideas of process, creative freedom (which presupposes creation with available knowledge), intuition, musical and social interaction, flexibility in the use of (sound) materials, experimental attitude and use of new instrumental resources (Costa, 2017: 73).

For these reasons, the ideas of judgment and valuation are absent from free improvisation practices. In place of right and wrong and the judgments derived from reference repertoires, there is collective creation in real time driven by asymmetries and potential differences. There are also disagreements, conflicts and disagreements. But these are solved within a collective dynamic and on a provisional basis. This type of environment built collectively and collaboratively is clearly related to a political and ethical positioning that questions power structures. Regarding this topic, it is worth mentioning the response of an OE member:

> ... just to say what interests me in OE: I'm interested in the anti-political and anti-institutional side. In the anarchist sense that it is necessary to do in the present what you would expect from politics ... OE realizes these relations very close to the horizontal and it is a field open to contestation ... it is a place of strong discussion. Horizontal relations require that nothing be inviolable. And how does the making of music cease to be sacred? This is part of a certain ethical project of life that OE is doing in the present. How does OE accomplish this without waiting for ideal conditions, without waiting for the ideal university, without waiting for the dissolution of the state, etc.? But one might say, "then you are a bunch of bourgeois who stand there doing things among you and are not militating." But I would never say that OE is enough, right? ... That's why it is so important the things that we do and that dialogue with the outside: going to public schools, or playing for the students of the Music Department etc. OE is public in a certain sense because it is open to anyone, but it is not an indiscriminate "anyone". Anyone, in the sense that it is not elitist. But it does not mean that everyone can go ... the fascist, no. No! This is the ethical and aesthetic project that is there for good understanding. Association is not a generalization. And this is not elitism. It is not like "you get there and do what you want". Otherwise you would think that what is public and democratic is "anything" (Stênio Biazon).

4. ORQUESTRA ERRANTE: A SMOOTH SPACE

The collective free improvisation of the Orquestra Errante can be considered as a smooth space. It is smooth because there are no *stretch marks*. There are no measurements, hierarchies, pre-established functions and previous stratifications. In the performances of the orchestra form is formed from the immanent movements of performance. In performance thought as smooth time space, heterogeneous flows and energies confront their potential differences and asymmetries. It is this game of differences that enables the movement and composes the assemblages. These assemblages come about through listening, talking and gamming of differences. The free improvisation of the Orquestra Errante is not intended to be universal, but rather local. Absolutely local and open to contingencies. It is a singular and shared space of public and private experience, of negotiation of alterities and subjectivation.

> A group that improvises or uses improvisation in their artistic practices, shares ideas and images about music. This set of ideas and images is what unifies, gives coherence and enables this kind of collaborative practice. These are images and ideas of music linked to their social, cultural, and emotional function, to their materials and procedures, to their relationships with the design and organization of time. [...] It is necessary to locate these social groups and their music in their specific territories. The musical practice of these groups with respect to materials and procedures is a manifestation of a way of being/thinking/acting in the world (Costa, 2017: 77).

Therefore, the orchestra is not only a space of performances. It is also a space for study, coexistence, and creative and collaborative (not just musical) practices. In Foucauldian terms it can be said that this is what he calls heterotopia[7]. Orquestra Errante is a laboratory, a space of musical practice, creation, research and education. In this space, rigid stratifications are avoided. To the extent that the present is faced at every moment by the interacting musicians, both the constant variation of materials (processes of

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[7]   The term heterotopia was coined by Foucault and refers to realized utopias. According to him, "there is likewise and probably in any culture, in any civilization, real places, actual places, places which are outlined in the very institution of society, and which are kinds of counterpositions, kinds of realized utopias in which real positions, all the other real positions that can be found within the culture are at the same time represented, contested and inverted, kinds of places that are out of all places, although they are effectively localizable. These places, because they are absolutely different from all the positions they reflect and of which they speak, I will call them, as opposed to utopias, heterotopias" (Foucault, 2002: 414-415).

de-stratification) and the configuration of provisional states (stratification processes) are constituted as fundamental dynamisms. Regarding this double dynamism present also in the processes of subjectivation, Suely Rolnik[8] refers to the concepts of forms and forces:

> Thus, virtual worlds engendered in the experience of forces produce a friction with the experience of shaped forms according to prevailing socio-cultural cartographies. [...] This generates a tension between, on the one hand, the movement that presses subjectivity in the direction of the conservation of the forms in which life is materialized and, on the other hand, the movement that presses it in the direction of the conservation of life in its germination power [...] (Rolnik, 2018: 55-56).

5. ORQUESTRA ERRANTE: THE OPERATION OF A NON-INSTITUTIONAL SPACE

Fig. 2: Orquestra Errante: rehearsing at the Studio LAMI-USP and experiencing a proposal outdoors.

5.1

The OE, although it was founded, coordinated by me and has been rehearsing regularly (every Thursday from 5PM to 8PM) on the facilities of the Music Department of the University of São Paulo, has practically no institutional link[9] with the university. Of the members that are, for the most part, students of the Music Department (undergraduate) or Post-Graduation in Music[10], no registration is required, there are no selection or evaluation processes, notes or lists of presence[11].

There is no discipline syllabus or program of activities. It is an autonomous and horizontal group that remains active, solely and exclusively due to the commitment of its members. These members become part of the group as soon as they decide to participate in the rehearsals with some regularity. It can be said that the orchestra functions as a living organism that maintains cohesion due to the more or less assiduous presence of a certain number of members[12] and the continuity of the practical and theoretical researches on improvisation that are developed there. In several senses and aspects, this project balances the ideas of impermanence (adaptability, informality, flexibility, porosity and malleability) and permanence, since it is not a totally open and purposely unstructured environment in which, at each weekly rehearsal, the group changes completely (as is the case with activities that have been coordinated by musician Edwin Prévost[13] for more than 20 years in London). In this regard a member of the orchestra tells us:

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9 The Orquestra Errante is not a discipline in the curriculum of the Music Department of the University of São Paulo. The only official reference to the existence of the group is, as mentioned above, on the page of NuSom - Research Center on Sonology at the University of Sao Paulo, where the orchestra appears as an associated group (http://www2.eca.usp.br/nusom/OE#overlay-context=%2523OE). People become aware of the group's existence through concerts, presentations, informal announcements in classrooms and conversations with friends.

10 It is worth mentioning that there are also members from other places: former students, students from other USP schools (FFLCH, IME, CAP etc.), Unicamp, EMESP, as well as friends of members etc.

11 There are members who participate very regularly and others who participate more sporadically. In the rehearsals and presentations, the number of participants ranges from 7 to 15 people. The level of engagement of each person is differentiated. And there is no problem about this since the activities (rehearsals, presentations, discussions, etc.) occur with any number of participants. As an example, it is worth mentioning the fact that during the year 2018 the orchestra held several public performances without my participation as a coordinator and with different instrumental formations each time.

12 Some members have been in the orchestra for more than 10 years.

13 Edwin Prévost is an English improviser and percussionist. He was part of AMM, a group dedi-

One person ends up 'facializing' the orchestra. If I've been there for so long, of course the orchestra is going to have a bit of my face, just like it has the face of all the other people and specially people who have been there for the longest time. There's that 'sound of the Orquestra Errante' thing. The orchestra has something like this: it's open and everyone is welcome, but it's still a group. We work things, we know people, we go deep in relationships. It has this thing of a continuity ... it does not have to participate from the beginning to follow it, but there is something of a formation that has to do with an experience in the group (Mariana Carvalho).

5.2

It can be said that the exercise of power in OE takes place in the most dialogical, democratic and horizontal way possible. Through the discussion and conversation processes that occur during the rehearsals, the OE members themselves establish criteria for collective evaluation (which includes the ideas of responsibility and commitment), aiming to achieve certain desired results related to specific objectives and contingencies, whether they are a presentation, the discussion of a concept, the study of an interaction strategy, an experience related to music education or the research of some member, etc. This emphasis on collective learning and the negotiation of subjectivities appears clearly in the following fragment of interview:

From five years to now, my biography includes free improvisation. And when I speak in biography I think of rock and heavy metal, which I never gave up. My activities with OE and Teca (Maria Teresa de Alencar Brito, professor of Music Education in the Music Department of the University of São Paulo and author of several books on musical education and on the work of HJ Koellreutter) were the only occasions of my (academic) music studies where it was possible to resume these things in some way, because these highly erudite fields where I have studied (EMESP, Escola Municipal, USP) were always places where I had to pretend I did not like tritons, pentatonic scales and distortion. In this sense, OE welcomes this repertoire that is not legitimized by any school. So how do I deal with my biography? It does not mean that I do not dissolve these

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cated to free improvisation and collective creation between the 1960s and 1970s. In his words: "In November 1999 I made it known that a free improvisation workshop would start weekly in a room at London's Community Music Center, near London Bridge. Originally, under the auspices of the London Musicians' Collective, administered then by Ed Baxter, these premises were found and minimal lines of communication to possible interested parties were opened. The first Friday evening (not thought to be an auspicious evening of the week because people 'went out' to have a good time) duly arrived. The room was clean and comfortable. I waited" (Prévost, 2011: 115-116).

rock sounds in OE. The biographies need somehow, to submit to the particularities of free improvisation. People go there to try something new and need to dissolve these other knowledge, it is a prerequisite. I am well contaminated by a certain speech that crosses the OE which is that of the non-idiomatic. The interesting thing about OE is to move from my aesthetic project. In the contingencies of the collective I have to give up my project (Stênio Biazon).

My role as coordinator in the day-to-day rehearsals (besides ensuring that the environment remains "smooth", fluent and horizontal) is more to mediate conflicts and to propose conversations, readings, music listening, analysis, study strategies, reflection or discussion topics. Even this type of action that is usually conducted by me, is sometimes exercised by any other member of the group. My "authority," which is based on my experience and supposedly greater knowledge of the various themes, is often questioned by OE members and even by myself. In this regard, I collected these responses from members of the orchestra:

We try to be a group without hierarchies, horizontal, but in fact, you have a strong symbolic representation, because you are a teacher. In fact, you represent, symbolically, an authority and I think we do not have to worry about it because it's natural. And it's cool because we talk about this free relationship we have ... like, the hierarchies, how we try to dilute them, create a democratic environment etc. But it is ok to have the figure of the professor ... otherwise the entropy gets too high. And you make sure not to let it become a bureaucratic thing. So this figure of authority is diluted (Migue Antar).

... and although you dissolve enough the figure of the coordinator and even jokes that it would be good to dissolve it even more, I always think that this is the right thing to do. I mean, how much you continue being a professor in the Orquestra Errante. I think this is essential ... this is something that has to continue (Stênio Biazon).

5.3

Obviously, there are some aesthetic, ethical and conceptual presuppositions established when the orchestra was founded that are transmitted in a more or less systematic[14] way to the members of the orchestra: 1) the orchestra is dedicated to free improvisation which is not subjected to any specific musical idiom or style; 2) any sound can be used in performances; 3) no

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14 In addition, as coordinator of the group, I have been encouraging the reading and discussion

technical proficiency of the members[15] is required and the prerequisites for participation are the desire (composed by the corporal, mental and emotional engagement), the attentive listening and the respect for the contribution of each one; 4) the orchestra creates and produces music collectively (in real time) and does not dedicate to the reproduction of any pre-established repertoire. In any case, it is not rhetorical to say that, as a participating member, I am learning as much as the other members of OE.

> ... I am not the same as I was 10 years ago ... I learned with the OE the posture to listen, to have patience, to control the anxiety ... The OE offers this space for people to feel free to put themselves in the way they are, and this is cool, because in a more rigid environment you do not have this chance ... through this idea of music. Free improvisation implies in an attitude of commitment. In the context of the OE you put yourself in a very sincere way (Migue Antar).

> From OE I take things back to my work all the time, whether it's for my guitar class, music education groups, or whatever class I'm going to give. Really OE is a field of reflection, it's this type of thing that goes through teaching, research, practice and performance and dissolves these borders (Stênio Biazon).

5.4

The orchestra's links with the academic activities of the Music Department of the University of São Paulo are quite diffuse since, in a superficial glance, the eventual participation of students in the orchestra is not clearly related to the current specific objectives of the undergraduate courses in

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of texts related to the question of intentional and unintentional listening regimes (according to John Cage), reduced listening (according to Pierre Schaeffer), deep listening (according to Pauline Oliveros), etc. I have also produced (and suggested that the members of the OE read it) various texts related to the environment of free improvisation, to ideas of control and non-control, to the relations between composition and improvisation, between pedagogy and improvisation, between ethnomusicology and improvisation, etc. Another important activity related to coordination has been to propose listening of varied repertoires in order to broaden the members' ideas of music. These issues are discussed in more or less systematic ways during the rehearsals. It is worth mentioning, for example, the discussion of the concepts of figural, gestural and textural thinking that has been carried out during several rehearsals during the last semester.

15 In this respect it is worth mentioning the fact that it is important that the members establish intimate and creative relations with their instruments, considering their use in performances, even in the case of invented instruments. It is not, therefore, a banal and irresponsible attitude.

instrument, conducting and singing[16]. The bonds with composition and music education are more promising since the participation in the orchestra can encourage the practices of creation, experimentation, invention, imagination, structuring, etc. Despite this, there has not been much interest from composition students of the Music Department in participating in the orchestra activities.

The links with my graduate activities and my research on improvisation are fairly consistent. Most projects supervised by me at the University of São Paulo (4 under graduation course work, 2 Scientific Initiation, 13 master's degrees, 12 doctorates and 4 postdocs, until 2018) relate more or less directly to the activities developed in the OE. There are even some works that investigate subjects related directly to the operation of the orchestra.

Due to its being a smooth space, always under construction, OE does not maintain a fixed structure, in any aspect (number of members, instrumental formation, level of technical excellence of the instrumentalists, schedule of presentations, functions, etc.). The "subjects" of the OE rehearsals are free, contingent and built in the immanence of each encounter. It is an intentionally "disorganized" or "semi-organized" space open to contingencies. In this sense, it can be said that this is a musical practice deeply rooted in life: everything that happens in a Orquestra Errante's meeting is a result of the interactions between its members, their wishes, projects, bodily and emotional dispositions.

5.5

In the Orquestra Errante nothing is imposed from the outside. The only rule of institutionalized functioning (apart from the ethical rules set out above) and maintained for more than 10 years is the commitment to rehearse every Thursday from 5:00 p.m. to 8:00 p.m. The concerts and presentations take place on a non-regular basis (there is no concert calendar) from proposals brought by members of the group (didactic concerts at Music Department of the University of São Paulo, cultural centers, schools or spaces dedicated

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16   In fact, participation in this orchestra could become an obstacle to a type of training focused on excellence, rigor and homogenization of an instrumental technique that aims to create musicians who are entirely dedicated to the reproduction of the traditional European repertoire. This is because, as already explained above, in the Orquestra Errante there is no right or wrong, no minimum technical level is required and musicians are encouraged to extrapolate traditional techniques. In OE the instruments – which can be traditional, hybrid, invented, etc. – are like tools of the interactive game of creation in real time and can be regarded as "power plants" of sound, territories of experimentation.

to experimental music) or in events related to the activities of NuSom (series *¿Music?* http://www2.eca.usp.br/nusom/producoes-musica). And in this context, each rehearsal has a unique story. In order to enable discussions and conversations about concepts, procedures and dynamics worked some rehearsals are reported by members of the orchestra.

5.6

Here are some examples of written notes about rehearsals produced by members of the orchestra in order to describe the unique events of those specific occasions:

[01/03/18, by Stênio Biazon]

Attended the rehearsal: Mari, Rogério, Stênio, Fábio Manzione, Fábio Martinelli, Caio, Micael, Rafael, Pedro, Cassio. Watched the rehearsal: Yonara, Paola, César. Rogério read a text that he is writing with André Martins. Here are some issues present in the text that we dealt with during the rehearsal: heterochrony (simultaneity of divergent times), Deleuze's definition of music. We talked about uploading recordings to a drive, and then going to Sound Cloud. Rogério will prepare the drive. We agreed to take turns making the reports. Performances: A free one that would be very long, but that was cut in the middle (just because we start conversations...). Post-interval: A free one, with the recommendation of exchanging glances. It did not work very well. Another recommendation: to explore heterochrony, avoid synchronizations (in multiple senses). Free, "with holes" (but looking to exchange glances for, for example, "synchronize entries"; it worked better this time) - I think that heterochrony was not in question in this performance, at least not in the same sense. Question raised by Fábio Martinelli: how to enter and how to leave the silence. Another question, after the performance: do we actually break with linearity? In what ways?

[08/03/18, by Pedro Sollero]

We listened to the first (free) recording of the last rehearsal.

Migue, who brought the recording, talked about the difference in listening at the time of the performance and a week later. He noticed the more self-critical content of the first. We returned to a gesture of Fabio Martinelli in this improvisation, which triggered a considerable transformation in the whole, which quickly organized itself into a new sound form from a series of surprises and expectations. The time of assimilation of these breaks seems to offer other possibilities of listening.

Duos / Trios / Tutti: We made a round of duos that turned into trios and returned to the duos as musicians came in and out in turn. After the last trio we did a Tutti.

Interval

Fabio brought the idea of a musical game in which two teams of 3 musicians each, find themselves in a kind of board of 9 places. The musicians must perform certain movements, coordinated according to rules explained by Fabio, with the intention of forming a line of 3 pieces/musicians in a row. In addition, these people must play while moving and administer a colored string that involves all the musicians of each team. Although the figure with the string became very interesting, there was much talk about the practical difficulties of this aspect of the proposal. We did not get to experience sounds (just tried the movements in the space).

Free? I have the impression that we made a free performance sometime, but I do not remember. This is what happens when you make the report the following week. I apologize /.../ Anyway I have fond memories of this music that I do not remember if we did.

End.

5.7

The dynamics of the rehearsals that have been taking place in the Studio LAMI-USP for some years are more or less the same: the members arrive at the scheduled time (delays of 15 to 30 minutes are normal), they assemble their instruments, accessories and put themselves in the space, while they talk animatedly on diverse subjects, generally not related to the activities of the orchestra. In this initial moment of preparation, my role of coordinator comes into play in a somewhat more systematic way, inasmuch as I try to manage the schedules, the positions of the musicians in space, to facilitate the assembly of electronic instruments and equipment (microphones, cables and boxes). Everything to get ready to start the activities themselves. We usually start with a free improvisation session with no pre-arranged proposal. The "password" for this type of performance is: "let's make a free one"? This initial performance has, in general, a "heating" character. It is when people, through the activity of collective improvisation "open their pores" to the interaction (here, the "permeability" is fundamental), are attuned to their instruments, to others, to the environment, and so on. This performance favors the installation of an atmosphere of concentration and

deep and attentive listening. Soon after, a moment of conversation[17] about the impressions of each one on the performance is established. In some rehearsals, after this warm-up period, some members of the group bring proposals (such as those listed above, in the form of graphic or verbal scores, scripts, games or other kinds of experiments) in general related to their master's or doctoral research or even with some autonomous, non-academic research. Sometimes these proposals take the time of an entire rehearsal (or even, of several rehearsals), sometimes only part of a rehearsal. After the proposals are accomplished, there is always a moment of discussion about their objectives and the results of the experiments.

5.8

It is worth mentioning, as an example, the proposals made during the year 2018 by the PhD student Migue Antar, who is Paraguayan, that relate to his research "on musical creation from the interferences arising from (des) (re) territorialized materials put into play in the context of free improvisation" and which clearly refer to the idea of inside and outside (I/O), involving languages, ethnicities, frontiers and relations between free and idiomatic improvisation. It is a research related to his personal life history insofar as it is based on "elements of cultural identity and musical configurations shared between Paraguay and Brazil, in order to make possible the friction between cultural ingredients and turn them into triggers for free improvisation performances" (texts extracted from his doctoral project).

Attached below is an excerpt from the recording of a performance that used as a trigger a popular Paraguayan song that is part of this research. The process of interference (described in the text above) that involves an

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17 It is worth emphasizing the informality and freedom with which these conversations are conducted. In reality there is not really a way of conducting the conversations that are constituted as relaxed and humorous moments of exchange of ideas, sensations and experiences. It can be said, however, that these conversations are a fundamental part of the orchestra's operation and guarantee the dialogical, democratic, non-hierarchical and horizontal character of this environment. See below for the transcription of the recording of an excerpt from a rehearsal conducted in August 2018: Rafael: "...but I do not think so, in making a jazz phrase, I only think of making melodies ..."; Rogério: "... no, no one is criticizing you. You can use your jazz there ... I was just saying that a melodic phrase is sometimes very pregnant ... "; Rafael: "I understood ..."; Rogério: "Speak there, Ines, what did you want to talk about? "; Ines: "no ... it was a giant bullshit"; me: "but it's good, cool, talk there ..."; Ines: "It's just that I listen, and suddenly I feel that these conversations that we have about sound are very similar to these soccer programs (general laughter), it seems that they are not saying anything (more laughter), which is the accumulation of abstraction (many laughs) "; Rogério "yes ... it's like a round table ...".

emotional, rational and corporal experience with the repertoire was pre-
pared by listening to a recording, an explanation of its sociocultural con-
text and an informal reproduction of the song by the group (from listening
and reading a score prepared by Migue). Then, we realized several perfor-
mances in which we should improvise, dialoguing in some way (through
the transformed use of rhythmic, melodic, harmonic, formal, etc. elements)
with the experience we had with the song. In the link below it is possible
to listen to a performance recorded during one of these rehearsals and to
perceive the use of musical materials of Paraguayan origin in a new context:

https://soundcloud.com/rogeriomoraescosta/improvisacao-sobre-cancao-
paraguaia

5.9

There is no, or at least so far, there has never been, a schedule of activities
or long-term planning with defined goals. As already explained above, the
rehearsals do not aim at preparing for presentations or concerts. Actually, it
is in these weekly encounters that the interactive environment is built. In a
metaphor for the world of soccer, training (which in our case is as important
as the games/presentations) is for players to know each other, improve and
rehearse their individual and collective moves. Of course, the presentations
and concerts radically change the performance environment. Besides the
change of physical space with its acoustic characteristics, the emotional dis-
position of the members is transformed due to the presence of the public.

6. ORQUESTRA ERRANTE: A MUSICAL PRACTICE DEEPLY ROOTED IN LIFE

But finally, what does it mean to say that the Orquestra Errante's practic-
es are deeply rooted in life? It means to reaffirm that these practices "are
temporal and spatially localized in the *here* and *now* being that this *here* is
multidirectional and this *now* is an intense present crossed by the energies
of the different pasts – of its individual members, of the relationships be-
tween them, of the memories of the whole and of its subgroupings – which
cross it and compose it, and by the future that it projects; and that one of
the results of this practice is an 'impure and relative' music, not absolute,
nor universal". It means, therefore, that it is "a musical practice soaked with
life, emotion, body and context (personal, cultural, social, etc.); music of lis-
tening, seeing and living, in which multiple regimes of listening, not only so-
norous, coexist".

Therefore, it can be affirmed that the Orquestra Errante is constituted as a space of subjectification and interaction. In this orchestra, free improvisation establishes a dynamic environment of cooperative and shared exercise of creative powers, of empirical activism through listening, playing and talking. It is a free and unimpeded space that favors the flow of energies, energy exchanges and processes of individuation. Referring to the ideas of Simondon, it can be said that the orchestra in its dimensions of collective interaction resembles a living organism in constant process of individuation:

> [...] the living keeps in itself a permanent activity [...] it is not only a result of individuation as the crystal or the molecule, but also theater of individuation. [...] the living is also the being that results from an initial individuation and amplifies this individuation [...] the living solves problems not only adapting itself, that is, modifying its relation with the environment (as a machine can do), but also modifying itself [...]. The living individual is contemporary with himself in all its elements (Simondon, 2003: 104-105).

> [...] individuation in the form of a collective makes the individual an individual of group, associated to the group by the pre-individual reality that brings with him/her and that, together with that of others individuals is individuated in collective unity (ibidem: 107).

From a complementary point of view, even though political issues have not been investigated directly or in depth, I believe that the discussion about the concepts underlying the activities and the description of the working environment of the Orquestra Errante implies implicitly several issues that underlie this type of subject. It seems to me that thinking about the creative power of this collective creative environment necessarily points to an absolutely contemporary form of resistance. At a time when, according to Suely Rolnik:

> [...] it is the very life that capitalism appropriates; more precisely, of its power of creation and transformation in its birth - that is, its germinative essence - as well as of the cooperation of which such power depends for it to take place in its uniqueness. [...] the resistance today would go through an effort of collective reappropriation of that power in order to construct what these authors (Toni Negri and Michael Hardt) call "the common" (Rolnik, 2018: 32-33).

And later, in the same book, Rolnik relates more incisively this reappropriation, at the same time individual and collective, with a vital ethics, as something that intertwines in life, potentiating its becoming:

> [...] it is from the desiring, individual and cooperative reappropriation of the ethical destiny of the vital drive - in synthesis, of its ontological reappropriation - that can result in a collective deviation from its abuse by the regime, towards an ethics of existence. [...] In this transterritoriality, more favorable conditions are created to mobilize the creative power of activist practices, as well as micro politics in artistic practices (Rolnik, 2018: 34-35).

This is what we are talking about when we say that the practices of the Orquestra Errante are deeply rooted in life. As Suely Rolnik would say, it is a continuous resistance against the processes of colonization of the collective unconscious.

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I/Other I
{hybrid machine in sound performance}

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Abstract. In this article, I attempt to summarize an important part of my doctoral research, which covers the use of mobile computers, analog-to-digital conversion interfaces, acoustic and digital musical instruments, software, applications, sound processing pedals, etc., in an environment of musical improvisation, in real time. I analyze some particularities of this agency and configure the performer's use of a kind of hybrid machine for musical/sound performance. These machines relate to me and I, on the other hand, to them, from a bond that encompasses my understanding of what the systems that govern them are, and how these systems function or cease to function, how these interfaces are composed in my daily life and, perhaps in a more prominent and problematic way, how the constitution of my life around them and the dependence that they cause in my way of living is given. It is through the machine that I, as a performer, interact not only with my musical instrument, but with the sound itself that I create in real time, from different types of interaction that were not possible before, where both the instrumental practice and the sound creation benefit from a production disconnected from abstract musical systems and languages, through an intensified and attentive listening, which allows the elaboration of new territories. These possibilities and new forms of instrumentness do not come without carrying with them several clashes between performer/instrument/machines and performance environment, investigated in this article.

Keywords: machinic, improvisation, sound studies, live-electronics, instrumentness

> *"It remains theoretical until it's happened [...]".*

> Evan Parker, 1994[1]

1. INTRODUCTION

My body nowadays has no technological implants, no coupled sensors or anything like that. Recently, I started to use reading glasses, which help the eyeball in the process of focusing the text and allow me to read for a few hours without causing headache or migraine. However, the constitution of

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1 In: BORGO (2005: 53)

my body goes through machines, technological objects and digital devices in a practically ubiquitous way. The light sensors and automatic elevator doors, the alarm and presence sensors in commercial stores and public bathrooms, my cell phone, my electronic book reader, the sound controls at the wheel of a car, the different types of GPS embedded in smartphones that maintain my exact cartographic position, my wireless headphones, a clock that marks the steps taken and the calories expended over a day, the 3D cinema, this very computer, that writes this text. The examples are multiple, impacting my sensorium in a way as powerful as it is ambivalent.

These machines relate to me and I, on the other hand, to them, from a bond that encompasses my understanding of what the systems that govern them are, and how these systems function or cease to function, how these interfaces are composed in my daily life and, perhaps in a more prominent and problematic way, how the constitution of my life around them and the dependence that they cause in my way of living is given.

In a hybrid constitution, between machine and organism, epistemological control does not remain only in its organic origin. In composing this hybrid form, the human mind is increasingly, as Clark (2003) states, "*just less and less in the head*". Decision-making, occasional reflections, and all logical thinking structured in this hybrid constitution flees from a permanence within the body/inside the head, within organic stability, and traverses some of the mechanical and digital structures jointly managed. There is a kind of mutual collaboration between the apparatuses, the couplings, the externally occurring data processing and the capacity for human reflection and decision-making. Machinic is constituted.

Art and its experimental practices, obviously, presuppose a deterritorialization of perception, not only of art as an object seen, perceived, palpable, absorbed, listened to, read, felt, etc., but the perception of the very act of perceiving; whatever the use that the human puts in art will be a kind of recoding or reterritorialization, from a particular and subjective context.

This ambiguous relationship of the human being with machines ranges from mechanistic counterpoints, where machines are conceived as extra parts, to vitalist conceptions, where machines are created and treated as assimilated to living beings (Maturama and Varela, 1985), for example, from the idea of autopoiesis (self-production). Within this scope of ontological intensities and their thresholds, Félix Guattari (2012) states that it is necessary to build a concept of machine that develops far beyond the technical machine and that this implies allowing us to learn the machinic as a whole

in its technical, social, semiotic, etc. avatars. For him, "*for each type of machine, not of its vital autonomy - it is not an animal - but of its singular power of enunciation: what I call its specific enunciative consistency*". These modes of enunciation go on weaving, little by little, relations of hybrid enchainment, not only between the acoustic and the digital sound, but also between the organic and the mechanical, resulting in countless forms of interaction and creation.

This idea of developing a machine concept that goes far beyond a technical machine permeates my work as a performer, as a musician, improviser, composer and, consequently, my research work, in my constitution as a researcher, in a powerful way.

On the one hand, the very human enunciations, organized on the basis of the performer(s) who work with and around the machines, constitute a type of discourse that presents its own meanings. However, on the other hand, the machine and its resident and/or coupled systems, from their autopoietic potential, manipulate figures of expression that will also condition the meanings produced in this agency, no matter how assigning they may seem.

It is through the machine that I, as a performer, interact not only with my musical instrument, but with the sound itself that I create in real time, from different types of interaction that were not possible before, where both the instrumental practice and the sound creation benefit from a production disconnected from abstract musical systems and languages, through an intensified and attentive listening, which allows the elaboration of new territories. These possibilities and new forms of instrumentness do not come without carrying with them several clashes between performer/instrument/machines and performance environment.

2. WHAT IT IS?

I give the name of a hybrid machine to an interactive musical system that is constituted from the inclusion of digital tools with the objective of favoring sound creation and its subsequent flows in the human-machine relationship. The connection of all these devices, interactively managed by the performer(s) in a given environment, is what I call a hybrid machine. This machine embraces the idea of an acoustic instrument that preserves its original characteristics of construction, materiality, physicality, corporeality, etc., and incorporates the potentialities of a digital instrument, transforming

enormously the interaction between musician and instrument. As defined by Costa (2014: 8),

> "In this context, a musician who uses an acoustic instrument and real-time electronic processing is the agent of a kind of hybrid machine - acoustic and digital - of creative performance, which can be synthesized in the following formula: … musician + acoustic instrument + digital instrument (microphone + interfaces + computer + patches + speakers) + performance environment =…"

Through the hybrid machine, the musician not only uses different forms of acoustic and digital instrumental hybridism, but also has access to new ways of exploring and creating sound from a molecular level - a level that includes its composition from its own qualities, making evident and/or changing, manipulating its most intrinsic potentialities. From the moment that the access to this envelope of the digitalized sound within some type of computational apparatus becomes effective, in real time, there is a potential for unique morphological changes, not previously possible. As stated by Grisey (In: Barrierè, 1991: 352), *the electronics allows us to listen to the sound microphonic* [...] *and it is possible, finally, to explore the interior of a sound and approach fields of timbres that are still unpublished*".

The idea of molecular is related to the interior of sound, accessing its core, its dismemberment, its intrinsic parts, and its possible bricolage. It is as if sound were, momentarily, a drawing where there is a plunge of the performer, through the traces between the pencil and the paper, and risks, traces and points are revealed, in an increasingly powerful way. These points and lines will form distinct parts of a drawing, but what interests me here are, in a certain way, its momentary, initial and free formations.

These scrapings of lines and points can be thought of as sound drafts, small pieces of a certain sound where I can, both through a reduced and intensified listening, and through the potentialities provided by the hybrid machine, touch them, create them, manipulate them.

I bring here as an example a piece of mine, Raspas2, which was born and performed exactly after this idea, where a gesture so singular and at the same time very characteristic in contemporary music, which happens between the hands of the performer and the nylon strings of an acoustic guitar in the

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2 Raspas, in Portuguese, means "scrapings". Available at: https://soundcloud.com/andremartins/raspas – access on January 8, 2019.

form of shaving the fingers and fingernails of the hands on the strings of the instrument, both in its horizontal form, along the scale, the top and the mouth of the instrument, and in a circular manner, covering more than one string simultaneously, became a central element of a musical performance.

Raspas also represents the use of some of the new forms of instrument-ness[3] provided by the hybrid machine: real-time recording of small parts executed on the acoustic or electric instrument in the form of a loop, with instant access, application of parallel sound processing between the execution on the instrument and the samples recorded during the same performance, activation of expression pedals at the same time of instrumental execution and sound manipulation, through software and a mobile computer. All this simultaneously, in an agency environment, through speakers that combine the amplified sound, the processed sound and the acoustic environment itself.

The idea of molecular sound here is therefore exemplified in a practical way. This performance becomes possible when I identify a type of sound feasible in the nylon strings of the instrument. From then on, a desire to explore this sound, its minimal qualities, and its intrinsic characteristics is born. These aspects of exploration become even more evident (and problematic) when they are executed/experienced in real time; the exploration of this sound, although minimal, is extremely rich and heterogeneous, with many nuances of interpretation. With each successful sample record (many attempts were, in my opinion, unsatisfactory from the point of view of the flow of interpretation at that moment), where performance is in full course, there is a constant effort of performance in not only registering it, but making it consistent with the material already exposed, while, on the other hand, it is necessary to explore it, break it, deterritorialize it.

Therefore, the sound produced from this agency is not only constituted by the characteristics of its production in the instrument and physical interferences of the musician, but also incorporates unique accesses, which are available from the coupling with the digital environment. Its constitution occurs through a sum of actions that can include software, controlling pedals, various digital tools, interfaces, etc., which come into direct contact with

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3 The concept of *instrumentness* was conceived by researchers Bertelsen, Breinbjerg and Pold (2007) from the idea that musical instruments are created, constructed and played initially through values such as playability, physicality, corporeality or virtuosity and that, when coupled to the computer and its consequent digital tools, will have its affordance expanded in a potential way and, in return, may cause some forms of restriction to the form and manner of which the performer is used to interact traditionally with his instrument.

the internal dimensions of sound, from its flows and layers, which become accessible step by step. These are transformations that act on the sound materiality itself, remodeling elements such as consistency, mass, duration, texture and resonance, among others, since the advent of electroacoustic music, now, however, provided in an instantaneous way, accessible in real time, during a performance. Solomos (2013: 23-24) states, "*from now on, instead of composing with sounds, the sound is composed*". The sound starts to be obtained as a momentary synthesis of various components, which can act and interact in complementarity, providing a hybrid sound bill, which incorporates the acoustic, electronic and digital sound, through the sum of various actions and procedures.

Obviously, these types and possibilities of agencying result in a huge variety of problems related to the interpretation and interaction of the performer with his acoustic and digital instruments. From the new forms of instrumentness provided to coupled acoustic instruments and also provided by digital instruments to the new types of interaction, latency and control of the hybrid machine itself in real time, the performer is part of both a creative and chaotic process, composed of several and simultaneous stages, which, in their great majority, are not easily identifiable.

It is important to note that possibilities of sound creation/conception from the idea of a molecular exploration are also related to the idea of instrumental acoustic expansion. The idea of instrumental expansion is not new and has already been widely documented and explored, being its recurrent use in the production of contemporary music. Therefore, I do not refer in this article to physical instrumental expansion, through changes in the construction forms and original structure of acoustic instruments and/or couplings of new physical objects (metal bridges, screws, metal plates, etc.[4]). The idea of instrumental expansion that I use here is that of the original acoustic instrument, in its traditional format of construction and physicality, coupled, via microphones and mobile sensors, to a digital processing network, which may include computers, software, interfaces, pedalboards, etc.

Life and machine combined in the same idea can arouse a kind of aporia in this reflection. However, there is a great emphasis on science in general that studies, researches and stimulates the idea of a machinic life, conceived from the problematic definition of what is, in fact, the meaning of the term life. Johnston (2008: 3-4) states that,

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4 This idea of adding new tools and/or modifying the acoustic instruments is more linked to the preparation and extension than to the expansion of the musical instrument itself. For more

"Yet life turns out to be very difficult to define, and rigid oppositions like organic versus nonorganic are noticeably giving way to sliding scales based on complexity of organization and adaptability. While contemporary biologists have reached no consensus on a definition of life, there is wide agreement that two basic processes are involved: some kind of metabolism by which energy is extracted from the environment, and reproduction with hereditary mechanism that will evolve adaptations for survival [...] By abstracting and reinscribing the logic of life in a medium other than organic medium of carbon-chain chemistry, the 'new sciences of the artificial' have been able to produce a completely new kind of entity. As a consequence, these new sciences necessarily find themselves positioned between two perspectives, or semantic zones, of overlapping complexity: the metaphysics of life and the history of technical objects. Paradoxically, the new sciences thus open a new physical and conceptual space between realms usually assumed to be separate but now appear to reciprocally determine each other. Just as it doesn't seem farfetched in an age of cloning and genetic engineering to claim that current definitions of life are determined in large part by the state of contemporary technology, so it would also seem plausible that the very differences that allow and support the opposition between life and technical objects – the organic and inorganic (or fluid and flexible versus rigid and mechanical, reproduction and replication, *phusis* and *techné* – are being redefined and redistributed in a biotechnical matrix out of which machinic life is visible emerging. This redistribution collapses boundaries and performs a double inversion: nonorganic machines become self-reproducing, and biological organisms are reconceived as autopoietic machines".

A human cyborg. The word cyborg is an abbreviation of cybernetic organism, a kind of hybrid, organic, mechatronic, digital, biochemical-encoded being. The term differs from concepts such as android, bio-robot or bionic, among others, because cyborg supposedly retains its organic functions and, at the same time, expands its mechanical constitution through implants and electronic and digital couplings. I cannot imagine in a more pertinent example that can illustrate the constitution of a hybrid machine, in its genesis stage.

The complexity of the definition of what is machinic passes, therefore, beyond the tautological multiplicity of ideas that (inter)connect with the term itself. Something of a machinic nature demands possible connections and

ramifications that can encompass concepts such as mechanical and organic, among others, which are important both for philosophy and for the study of AI, HCI, robotic engineering, etc., besides being expensive to contemporary musicology itself. According to the dictionary of the Portuguese language *Houaiss*[5], the word organism can be defined as "a set of organs that constitute a living being; an organized body that has or can have a separate existence". In the same dictionary, I find some definitions of machine, among which: "a set of combined mechanisms to receive a defined amount of energy, transform it and restitute it in another more appropriate form, or to produce a certain effect; an apparatus that uses and/or applies mechanical force and is composed of several parts, each one with a defined function and that, together, perform certain particular tasks". Now, both definitions seem to denote similarities regarding the execution of functional and interdependent processes, but from different assumptions. Monaco (2008: 5), when comparing the functional similarities between the meanings of organism and machine, states that:

> "We can say that an organic form functions not only through the interdependence, but the hierarchy of its parts, and is self-causing (an agent) by way of these processes. By contrast, the machine is a passive formation with internally distinctive parts, and yet these parts are, like the organism, in an interdependent relation. Although the physical machine is, of course, a secondary function of the human being (organism), by traditional accounts, these two terms set up a (negative) binary between the human (the organic) and the non-human (the machine)".

By looking at this quotation, it is possible to see that the similarities of action between the organism and the machine are many, even if their constitutions are completely different. This dialectic has been deeply discussed in the last decades, among them the ones made by Gilles Deleuze, who gave special attention to this conflicting and, at the same time, often symbiotic relationship.

According to Monaco (ibid.), Deleuze considers hierarchy as the main issue in the relation organism x machine, where the organism has a hierarchical and interdependent context, consisting of different parts that manifest themselves through hegemonic processes. The abstract systems (the

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5 After checking the English dictionaries Oxford, Random and Collins, I still preferred to leave the translation from Portuguese to English of the meaning of the words "organism" and "machine" presented by the Houaiss dictionary.

machines) represent, for Deleuze, concentrated manifestations of the functions of the human organism itself, which can even manage other biological functions, causing throughout the organism an agency result, self-determined. Deleuze calls these abstract functions that happen in the organism, in general, organs. Among the forms of life, these abstract organs configure the tension between the lower and upper levels of formation, dividing agencies and functions, between the forces that govern and those that are governed throughout the organism. Thus, the parts of the whole structure are interdependent.

Monaco thus affirms that, for Deleuze, the very concept of the human is hegemonic - the more abstract organs (such as the very idea of the human) are developed, with the "progress" of civilization, the greater will be the destruction of the vital, natural world, through the embodiment of forces and instruments of oppression. Deleuze, therefore, points to an experimental problem: a '(not)-being (the machine), previously without denial, which becomes 'a being of problems and questionings'; in other words, according to Monaco (ibid.), Deleuze alters the fundamental structure of metaphysical thought, destructuring what would be an organic constitution, which "*represents the difference through the identity of concepts*", which will constitute an important part of the philosopher's work, from the idea of a materialist ontology, where the ambivalent status of the ambiguous organic-mechanical relationship is presented, where both can be source of fertile production and, contradictorily, offer a univocal vision.

Art and its experimental practices, obviously, presuppose a deterritorialization of perception, not only of art as an object "seen, perceived, palpable, absorbed, heard, read, felt, etc.", but the perception of the very act of perceiving; whatever the use that the human puts in art will be a kind of recoding or reterritorialization, from a particular and subjective context. Deleuze and Guattari give the name of percepts to the way-forms that, together, represent the differentiation between pure perception and another possibility of feeling. For them (1997: 213), "*percepts are no longer perceptions, they are independent of the state of those who experience them*".

Thus, the machinic is not only using a certain machine or a set of them (although it also encompasses this); the machinic is an agency that necessarily involves a de-stratatification followed by a stratification, a deterritorialization followed by reterritorialization, which become processes that go beyond their own materials, providing a constant process of invention, where, as Deleuze and Guattari (ibidem) state, "*the sensations, perceptions and affections are beings that are worth for themselves and exceed any lived*".

Well, both the constitution of a musical performance and the agency that also includes machines are organized in a kind of autopoietic organism, very similar to what Maturama described (1998: 12-15), when he says that "*there is a set of molecules, a bell that a molecular dynamics*"; the relations between musician-instruments, between musician-musician and between musician-instrument-environmental-machines are becoming established in the form of, as Costa says (ibidem: 35) "*a necessity of existence*". Nothing isolated is installed in a powerful way, although it still constitutes a singular option; however, it is a certain joint dynamic, a molecular dynamic, intrinsic to each performance and its complexities, that is shaping and establishing itself, constituting itself, organizing itself, imposing itself. Without a powerful will, without the desire and availability of the musician(s) to establish a relationship with the instrument and with improvisation itself, with the possibilities that - still - are all intact, in short, without some of these prerequisites that, in a certain way, are fundamental, it will be difficult to constitute a performance.

At each moment of the performance there is a kind of continuous clash, which I refer here to an autopoietic idea, a game between the pre-existing forces and those that are established throughout the interpretation. Certain attitudes of each musician, even certain gestures or particular techniques of each instrument, in addition to certain procedures provided by machines, acoustic, digital or hybrid instruments, are being established or abandoned; these connections all jointly drive the performance in such a way that it remains as a musical performance, as a session of improvisation, as a process of creation.

There is a passage in the book *Corpo, Fora*, by Jean-Luc Nancy (2015: 7)[6] in which he writes, *"to exist in fact means to distinguish oneself both from nothing and from other existences. A single existent is impossible: it would be its own negation, because it could not expose itself to the outside while an outside [...] there is never, therefore, a body without other bodies*". I believe that this thought, that a single existence, while isolated, while part-extra part of the constitution that occurs in a performance environment from the hybrid machine, is very pertinent at this moment where I try to critically elaborate the qualities, characteristics and powers that may represent such a machine.

For Nancy, there is not a body, an organism, something while one is unique, while one is closed, isolated, impenetrable, confiscated, and offshore. For

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6 Not available in English. The Portuguese language edition can be found here: https://www.7letras.com.br/corpo-fora.html

the author, existence occurs only from the moment in which there is a distinction between nothingness and other existences, which also depend on this singular and specific existence to constitute themselves. A mobile computer is only a mobile computer; an inert body, capable of dozens, hundreds of random, coded, stored tasks. A static sign. However, when embraced in a type of performance such as the one I investigate here, this computer may not only exist individually, as an organ that is part of a larger organization, but will also feed this organism as a whole, forming this kind of performatic body that carries this denomination of hybrid machine.

This dynamic environment therefore deals with various transient stage connections, which may or may not be accommodated between the different agents that compose it. It is also important to remember that many of these agents are (or become) adaptive to the environment itself, not in a passive, neglected way, without any kind of negotiation, but from active actions that are constituted in new stages of performance interaction. In a way, the hybrid machine is a type of complex system, based on the concept defined by Ferraz (1998: 31) "*complex systems are defined as those where a large number of independent agents interact with each other in many different ways*". An agency machine, formed by several agents that bring, in their interaction, new forms and ways so different that, in isolation, could be isolated bodies, not communicating, but that during a performance can relate in powerful ways, that transcend their previous characteristics, isolated.

A machine; hybrid, autopoietic, complex, adaptive, transient and non-permanent. It is through this apparently harsh environment that I constituted some of the types of experimental musical practices that, in my artistic experience, became important not only for the constancy but also for the possibilities of creation and diverse questionings, some of which result in the investigations provided in this article.

3. PLAYING, LISTENING, IMPROVISING, PERFORMING, COMPOSING {AND SEEING}

In the field of arts, particularly music and sound studies, the machine has brought profound changes not only in the production of sound, made possible by creation at the molecular level and through diverse processes that encompass concrete, electroacoustic, electronic and live-coding music, but has also profoundly transmuted the way in which interaction with the musical instrument and artistic performance occur. Several authors and researches (BERTELSEN, BREINBJERG, POLD, 2007; BORGO, 2005; COSTA,

2014; FRISK, 2008; GRISEY, 2008; JORDÀ, 2002; MAGNUSSON, 2010, among others) have already related and deepened the study and practice of these profound changes in the way in which the sound is produced and the interaction of the performer with the musical instrument. What I try to offer here, in this investigation in particular is the practice of observations of how this hybrid machine constitution occurs, as a means of musical performance, through the use of both acoustic and digital instruments, from the musical improvisation, and its new forms of instrumentness provided. Much more than isolated tools and processes, I try to relate the interaction of the performer in this machinic agency, in a meta-stable environment, in real time. As Guattari and Deleuze (2010: 508) wrote, "*it is not by metaphor that we speak of machine: the man 'composes machine' as long as this character is communicated by recurrence to the set of which he is part in well determined conditions*".

I, as a performer, compose a performance's machine, together with other performers or in a soloist way, recurring to this agency set, in very specific conditions (interfaces, environment, speakers, desire and power to improvise, musical biography, accumulated practices, experimental practices of creation, etc.).

I am not starting from the idea of using acoustic and digital instruments more as work tools. I don't confront them in relation to my body and the environment. They no longer relate to me as aggregate devices, autonomous mechanisms that belong to other places. Within the machinic agency, the musical instruments, the couplings, the devices, the software, applications and whatever type of artifact I choose to aggregate are less at my disposal and more, as Nancy (2015: 8) suggests, in an interaction from a *dis-position*:

> "The original or elementary *dis-position* is strictly contemporary and sympathetic to the bodies. It establishes their relationships. The relationship or common reason of the incorporeal is born from the disposition as its act: to separate, to approach, to confront, to gather, to reject, etc. Everything, games, beats, impulses and repulsions between bodies *ex-im-posing* themselves. The dis-position does not dispose of the bodies previously given or in some other way. It is the very condition of the body, its singular-plural condition. A body is placed, dispersed among the others. A body is a *pro-position*, an arrival that is advanced and is put forward, on the outside, as an outside. The purpose is that the body should not be confused with any other, that it should not cover any other and that it should not be covered by any other - never, except when a discovery is at stake, to op-pose uncovered from each body "

A hybrid musical performance machine can *com-pose* and have interactions between performer(s), instrument(s) and couplings, in a unique way, not reduced to listing this or that interaction, this or that type of action. It is in this kind of profusion of connections and *inter-actions*, which start from a desire for sound and musical creation, that are woven into this place, a place that goes beyond the idea of use and appropriation of technological tools (including obviously acoustic instruments) as things that perform certain tasks. The idea of machinic is born, as Guattari and Deleuze themselves state (2010: 510), from a disordered origin - "*it was not from a metaphorical use of the word machine that we left, but from a (confused) hypothesis about the origin: the way any elements are determined to compose machines by recurrence and communication*". The idea of just providing forms of adaptation between machine and performer is not what interests me.

Machines here are different from tools. The idea of a tool as a prolongation and projection of the body can be replaced here by the concept of machinic phylum, created by Deleuze and Guattari. To them, phylum is an indicator of irreducible machinical connections, in an evolutionary perspective. This Guattari-Deleuzian phylum is the indicator element capable of pointing out the existing differences between a machine agency and an agglomeration of mechanical, electrical, electronic and digital tools, together. That is why it is necessary to establish the difference of nature between the tool and the machine, because, as both affirm (ibidem), "*the same thing can be a tool or machine, depending on whether the phylum machine takes it or not, passes through it or not*". Machinic phylum becomes a form of catalyst capable of accelerating and decelerating heterogeneous processes without changing its genesis. A catalyst that can intervene in what exists, that can change already established constitutions, provide effects in these constitutions, alterations, modifications, manipulations, cuts, etc., causing, therefore, new possibilities that, at first, did not exist before it came into action. And yet, this catalyst will not change the genesis of these tools, these instruments, which will continue to exist and coexist in their originality, after the end of machinic agency, when a performance ends. The origin of this catalyst only occurs from a heterogeneous nature, surpassing the idea of a constitution that happens only by the variety and complexity of options provided. It is not the numerical quantity that will guide this catalyst; it will be its heterogeneity of qualities, potentialities among its different elements, which may creatively overcome a simple arithmetic account of sum and subtraction, providing processes that may act initially as agents of coexistence, as heterogeneous elements that can be consolidated into new entities. Deleuze and Guattari (1997: 330) state this: "*what we call machinic is precisely this synthesis of heterogeneity*".

The difference between machines and tools is thus clarified more objectively. Again, Guattari and Deleuze writes (Ibidem):

> "We believe that it is necessary to establish from the beginning the difference of nature between the tool and the machine: one as a contact agent, the other as a communication factor; one as a projective and the other as a recurring factor; one referring to the possible and the impossible, the other to the probability of a less probable; one, operating by functional synthesis of a whole, the other by real distinction in a whole. To compose a piece with anything is very different from prolonging or projecting oneself, or making oneself replaced (in which case there is no communication) [...] We also believe that there are always machines that precede tools, that there are always phylum that determine at a given moment that tools, for men, enter as pieces of machines in the social system considered. Desiring machines are neither imaginary projections in the form of ghosts, nor real projections in the form of tools. A process of reterritorialization is linked to a movement of deterritorialization ensured by the machine".

It is, therefore, through machines, when the machinic phylum can occur, that the types of musical performances that I have investigated in recent years are constituted. Through them can be given some of the powers of rupture and formation of new contents within the artistic making; ruptures that are born from the power of connection that are provided by the machinic agency, by machines that can cross different types of structures, without order of arrival, starting point or regulations; at the same time, in all directions. Flow cutoff power, articulation-creation flow power, breaking power, and connection power.

These machinic continuities and discontinuities that can occur during a musical performance surpass the decisions that the performer operates during the playing; a practical example of this is the disposition and use of my current setup in my performance in the duo of improvisation "ar +2"[7],

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7 Aiming to constitute a complex and diversified environment for the practice of free improvisation and provide reflections and artistic practices from the assembly and agency of hybrid machines, I created together with my doctoral supervisor, Rogério Costa, a project called "ar+2". The duo was formed at the beginning of 2017 and has maintained an agenda of weekly rehearsals and performances since then, having already participated in concerts, congresses and various presentations. One of the basic premises of this work is to establish a kind of systematic auto ethnographic record of the performances, their characteristics of enchainment, conception, problems and solutions adopted, etc. Several records of the duo's performances can be heard in these two links: https://vimeo.com/armais2 --- and --- https://soundcloud.com/ar_more_2 --- accesses on Jan 8, 2019.

formed in conjunction with the saxophonist and researcher Rogério Costa. Separately, each instrument, each software, the computer, the ADA interface, the pedals, controllers, mixers, the speakers, the pickups and microphones, are nothing more than work tools, as well as the strings of the instruments, the reeds, the audio and power cables, the sockets, adapters, energy sources. Each one of them can operate on a mechanical level of use, where a 10-string bandolim, a saxophone or the software are just scattered things, separate, with endless ways of use.

From my desire, my own will and a determination of musical making, together in this case the desire/will of my performance partner, can occur a machinic agency, where these tools and many of their heterogeneous aspects offer a possibility of extra physical connection, in a very subjective way; and also from the desire to perform a performance that includes the use of musical improvisation, which allows us to go through various structures (gestural, figurative, textual, sound, musical) at the same time, may occur two important factors, which Deleuze and Guattari (2010: 514) call it: a.) *Power of the continuum*, which is nothing more than the very idea of machinic phylum, in which such a piece connects with another, and at the same time, as all other pieces and, b.) *Power of rupture*, able to change, reverse, bend the direction of performance, from an absolute or subtle cut, which is tissue, composed molecularly. The authors state that, "*two powers that compose only one, because the machine itself is cut-flow, being the cut always adjacent to the continuity of a flow that it separates from the others, giving it a code, making it drag such or any elements*".

A kind of body, collective, agenciated, is formed during our performance. The duration is always different: eight, fifteen, twenty-two minutes, among many others. Machinic functioning is based on the establishment of connections, flow passages, elaboration of intensities, associations that are formed and are undone, territory-deterritorialization-reterritorialization. In short, it is a matter of conceiving a system whose elements are linked to each other precisely because of the absence of locks, clips, chains or fences, limiting bonds; as Guattari and Deleuze write (ibid: 521), "*a set of pure singularities*". That is, a set of pieces that works together as really distinct.

4. CONCLUSION

In this article, I sought to conduct an investigation from the perspective of creative processes and characteristics related to musical performance and the different models of interaction that can occur during it, both from the

new forms of instrumentness provided by the machinic agency, through traditional instruments coupled to the electronic and digital environment, and the use of digital instruments.

It's an investigation always conducted from the performer's place, not being, therefore, an investigation with a post-performance look, from a "product" or piece of work ready; an investigation that relates to the performer's place inside the performance, being there, interacting by listening, by touching, by performing, by improvising, by creating textures, processes, sounds, ideas.

It is a very particular place, which involves the absorption of dozens of different characteristics: my place as an improviser, my training as a musician, my aesthetic relationship with artistic making, my perception of the current world, my relationship with acoustic and digital instruments, my technical knowledge of musical theory, disciplines related to this (harmony, composition, counterpoint, analysis, reading, perception, etc.), in short, all my knowledge base[8] acquired so far, in my life.

Added to that are the ideas of music and the kinds of music that instigate me, which affects me. The particularities of the different forms of performance that relate to musical improvisation, which often starts from an idea of freedom, interacting with the new forms of digital technology available. Ideas such as *interaction-as-control* and *interaction-as-difference*, created by Henrik Frisk (2008) are very pertinent to my investigation in particular, besides the investigation on the different levels and forms of control and non-control and their degrees of imponderability that the performer faces in relation to the computer and its hybrid musical instruments, during a certain performance.

It is thus the place of the performer, seen and experienced from within the performance. The place where I/the other me, both simultaneously, step on, listen, play, yearn to play, interacting with the instruments, with the audience - if any - with other musicians, with the machines. It is the place that encompasses a series of events that deal and negotiate with time - the time of performance, the performance of time - through my presence in this environment. This kind of "*strange cave*", as Caroline Jones writes when quoting Michel Foucalt (2006: 1) elaborates different sensations and emotions of what is outside and, concomitantly, is also inside me, of what comes to me, through my diverse sensory perceptions and my own epistemological way

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8   The term *knowledge* base was coined by Jeff Pressing (1998).

of receiving them. Jones (ibidem) cites that "*now more than ever we need to think the body, and embody our thoughts - now when that 'cavern' and it's visceral surroundings are* [...] *emerged from a telling synchronicity*".

It is during a performance that I put my own subjectivity to the test in a form of an abyss of feelings, intertwined and asymmetrical. In this timeless place, I somehow experience what Mauro Maldonato (2014: 156) said: "*let this help the man to give life to new versions of himself, to understand his own identity and, when told, build it*".

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The use of timbral and spatial interactive music systems as an aid for electroacoustic music education in a rural area.

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Abstract. Technology has been widely used for educational processes; in the arts several researchers have investigated the employment of computational systems and gadgets to approach younger audiences. This paper describes the design and implementation of an interactive music system used as a tool for an electroacoustic music course for children in a rural community. The objective of this project was to contribute to mitigate the music lagging education problem in a small community in Michoacán, Mexico. The system comprises a MaxMSP digital interface and an OSC Controller app for Android. Graphic User Interfaces were created in MaxMSP in order to process individual musical parameters, this can be controlled by mobile devices using open sound control OSC protocols. The interactive system was used by children (6-15 years old) to explore sound worlds during a series of electroacoustic music courses and workshops.

Keywords: interactive music systems, mobile apps, electroacoustic music educational program, socially underserved communities.

1. INTRODUCTION

The evolution of technology has allowed for the development of hardware and software at affordable prices granting access to different age groups, mainly young people and not only to specialized musicians. Interactive music systems have changed the way in which musicians are involved in the making music process, more people are engaging with music at earlier stages of their lives. The way that younger children approach to technology is very natural and this can be taken advantage of to create strategies for teaching electroacoustic music at elementary levels of education.

The use of music technology in the classroom has been widely explored by several researchers; Manzo (2007) developed an open source application to assist teachers in delivering performance and composition lessons through the use of an interactive music system called EAMIR (http://www.eamir.org/). Additionally, Manzo (2011) wrote a book to guide teachers and students in the development of interactive music systems for educative a creative process (*Max/MSP/Jitter for Music*). LaRose, Burns & Chupka (2014) used a motion tracking application to teach music composition to children with special needs in elementary schools. Moreover, Masu *et al* (2017) designed an interactive system called *Robinflock* to generate and manipulate different musical parameters in real time in order to allow children to create polyphonic compositions. *Robinflock* stimulated children to participate in the compositional process. Tobias (2018) argues that the use of digital media and new technology provides students with opportunities to engage with music through a "new literacy" that new forms of media brings into account and this must be regarded in the development of music education programmes.

All these projects suggest that the use of music technology in the classroom has a potential to bring young students into music fields and can provide an important opportunity in the development of creativity in children as well as a pedagogical tool for teachers in the delivering of their music teaching.

Around the world there are some examples of the educative programs related to music and education, we can mention the holistic pedagogical work in the UK of Leigh Landy (2012) *Making Music with Sounds*, which is a fundamental text to approach to sound-based music composition. This book is reinforced by Landy´s online pedagogical *ElectroAcoustic Resource Site EARS II.* Another example is *Eersteklasconcerten* by Musica, Impulse Centre for Music in Belgium. In this program primary school children attend a music hall for one day and interact with different ensembles and performers, this activity introduces the children to contemporary instrumental music (Regenmortel, 2017: 93).

The study of electroacoustic music in rural areas of Mexico has been little explored. There have been some efforts to promote access to this kind of music; for example, the Mexican Centre for Music and Sonic Arts CMMAS in Morelia, Mexico has been developing the program *Acercamientos Sonoros* (sound encounters) since 2015. The main aims of this program are to reduce the distance between the creation of electroacoustic music and the public, as well as to arouse the interest of children and teenagers in music created or performed with new technologies (http://cmmas.org/as/).

Mainly the educative programs described above are set in cities whereas this research explores a pedagogical program in a rural community in Michoacán, Mexico with the aim of enabling children and teenagers access to electroacoustic music creation and performance. In order to accomplish that, we use an interactive music system implemented in MaxMSP using a mobile phone app OSC controller.

2. TUMBISCA, RURAL COMMUNITY BACKGROUND

This educative research program was implemented in Tumbisca, Michoacán. This town is located 35 kilometers from Morelia in the middle of the mountains of the Trans-Mexican Volcanic belt. The main economic activities in Tumbisca are related to woodcutting, sap extraction from the trees and mezcal production. This locality has around 200 inhabitants, INEGI have stated that Tumbisca has a high level of social disadvantage and marginalization compared with the national average (INEGI, 2005). A quarter of the population are children aged from 5 to 15 years old, 40 children attend the primary school which has only one teacher, and three teachers deliver the lessons to 20 adolescents in the secondary school.

It is important to mention that the community does not have internet access, computers or a telephone landline in their houses. All these devices and services are substituted by the mobile phone. This fact was one of the main reasons that we selected this community to work with. The other reason was the lack of artistic subjects offered in the schools although these subjects are a compulsory part of the national curriculum for basic education. The teaching staff is not artistically literate; in consequence they have to look for other kinds of activities in order to address this issue. While this is a pilot program, if proven effective, it could be implemented in other communities across the country that have the same music education disadvantage, lack of technological resources or facilities.

3. NATIONAL ARTS CURRICULUM CONTENT FOR BASIC EDUCATION

The Public Ministry of Education stipulates that children in primary schools should receive 1 hour of artistic education per week whereas secondary level need to have at least 3 hours of artistic training (SEP, 2017). In the same document, the Ministry leaves open the option of the artistic field to be studied (music, theatre, fine arts and dance) depending on the teaching staff availability. Also, they establish general competences and skills for all the arts sharing same pedagogical objectives in primary and secondary levels at a different depth. The study of arts is divided into four areas:

1. Artistic practice: To develop an artistic project.

2. Basic elements: To study the basic elements of music (music parameters).

3. Expression and creativity: To create an artistic work.

4. Arts and environment: To promote artistic and social relationships between the art and the community.

As we see above, all these areas can be addressed by different approaches depending on the school's resources and teaching staff availability.

The teachers of Tumbisca have been very active with trying to get artists and ONG´s from the region to deliver these four areas. The main issue with this approach is that artists and ONG´s involved only go to the community to deliver concerts, exhibitions or workshops one to three times per year depending on the commitment and budget of the organization. The strategy employed by the ONG´s is to do one single workshop in one community in order to reach more people and more localities. This strategy is understandable due to fact that they need to show figures to sponsors or government in order to get funding.

However, this policy does not solve the educational lagging in the community. The amount of time employed does not meet the criteria of the minimal time framework stated by the Public Ministry of Education in the National Arts Curriculum and these activities are only focused on one or two of the four areas of art study described above.

To solve the artistic educational lagging problem it is necessary to consider continuity of artistic activities in a school and not only the quantity of people that can be reached in one single time. The Music Maze program by Birmingham Contemporary Music Group addressed this kind of problem; they deliver a series of workshops on Sundays about once a month for one year. The program is aimed at children aged from 8 to 11 years old. The workshops are an opportunity to play or start to play an instrument as well as start to create music; at the end of the year children have a concert for family and friends (https://www.bcmg.org.uk/music-maze).

An implementation of a program like Music Maze in Tumbisca will require a large amount of funding and a lot of resources, for that reason we tried to solve this issue with the help of music technology in order to fulfill the four areas described above throughout the study of electroacoustic music using a very basic configuration of an interactive music system. In this sense we

believe that our research can contribute to mitigate the music educational lagging problem. The tools created for this research will be described below.

4. INTERACTIVE MUSIC SYSTEMS

A system has been defined by Backlund & Alexander (2000) as an array of elements that are interconnected to achieve a goal; each element in the system is affected by the response of the others. According to Manzo (2011) an interactive music system is a set of hardware/software arrangements that is designed to manage a musical task in real-time; it has mainly been associated with accomplishing performance and compositional objectives.

Interactive music systems propose an active way of engaging with music where children can explore musical parameters through interactions with computers or gadgets. An interactive system is generally integrated by a computer and physical/digital interfaces. The computer is the musical brain of the system; it can analyze, process and transform the sound, while the interface bridges physical world with the digital. These input devices can convert gestures, movements and actions into computer code data (Winkler, 1995: 4). As stated above, human actions captured by the interfaces can modify the sound using computer programs, the elements of the interactive systems are interrelated, and the actions affect the response of the other components in the system.

Interfaces have undergone a significant development during the last decades, midi controllers marked an important step in facilitating the spread of electronic music, the use of these physical devices for performance and composition allowed for the development of interactive music systems and more people started to incorporate new technology as a source of musical configurations, developing the interaction between the musicians and the computer music. In this sense, interactive systems helped to 'establish a common language for both technological and musical invention' (Boulez, 1986: 10).

Smart devices brought a second revolution in the development of interactive systems, digital interfaces can be downloaded in just seconds, having the advantage of a quick and economic access compared to a physical interface. Digital interfaces and *apps* can be modified and edited according to creative/artistic needs; also they can be taken everywhere and connected wirelessly through a WIFI access using an OSC protocol.

4.1. Open Sound Control

OSC Open Sound Control is a protocol of communication between electronic devices across a network, OSC transports messages containing data among computers and devices sharing musical parameter information in the embedded system. This communication receives the messages using the User Data Protocol UDP setting a localhost IP and the port to transmit the information over the network. The basic elements in an OSC message consist of two elements: firstly, the symbolic address and message name; secondly, the data package of the message (Wright & Freed, 1997: 153).

OSC has been widely used in the creation of new digital interfaces in apps for smart devices such as mobile phones and tablets, with the purpose of open interaction possibilities between sound creators and multimedia devices. OSC protocol promoted the creation of music in a different way than has been seen before; now a person can manipulate musical parameters just by using finger movements in the screen of their gadgets to participate in a performance or to process sound to compose.

This new approach entailed a change of paradigm from a studio-focused system with specialized equipment to a musical interface that can be carried in the pocket using the smart devices features such as touch screens, gyroscopes and cameras to process sound and to create music.

5. SYSTEM COMPONENTS

This research project created an interactive music system consisting of a smartphone app using an OSC controller and a graphical user interface (GUI) in MaxMSP. The main objective of the system is to control and manipulate musical parameters with an educative purpose. This system was used to teach basic concepts of sound and electroacoustic music to children aged from 6 to 15 years old.

To develop the interactive system used in this research, an OSC app was written in Processing (Java) using oscP5 and ControlIP5 libraries. While the GUI was developed in MaxMSP, this interface processes the sound events in the computer and can be controlled using the OSC app (Fig. 1).
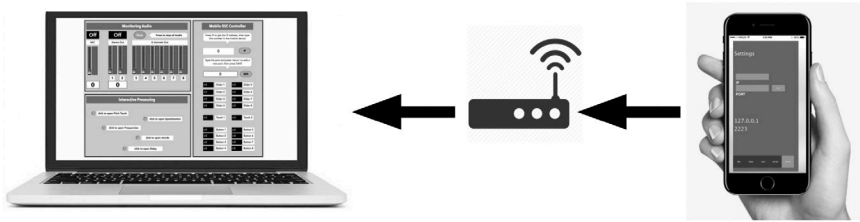
Fig. 1: Communication System, main interface on the computer (left), router of the local network (center), app on the mobile device (right).

5.1. GUI MaxMSP

The interface in MaxMSP comprises three main modules of sound processing:

- Audio monitoring
- Mobile OSC controller
- Interactive processing

The first module is used to control the volume of the audio in the interface (in case of live instruments), both the input and the output in 2 or 8 channels. The second one monitors the data sent from the mobile device, while the third one consists of several sub-interfaces that process the information of the controller (Fig. 2).
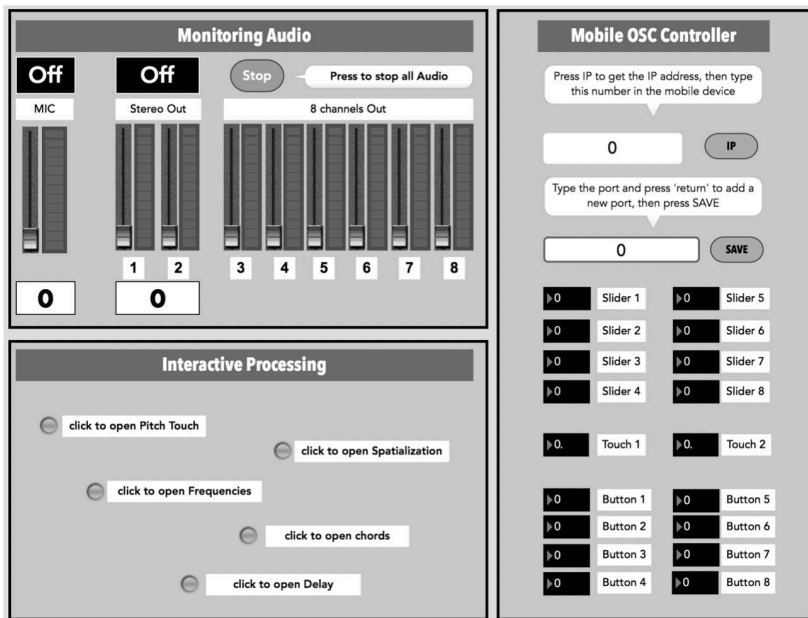
Fig. 2: Graphic User Interface, modules of monitoring, control and audio processing in MaxMSP

5.2. OSC Controller

The aim of the application is to serve as a control interface for a musical environment developed by Max. The communication is carried out using the Open Sound Control and carrying information through User Data Protocol UDP. Initially, we had planned to develop the application on other platforms, but as the development began, we encountered different problems. The main challenge was that the open source OSC communication protocol libraries are not updated to modern programming languages that use mobile environments. This was a very important issue to consider, due to the fact that we wanted to implement an open source app in this research. Rather than acquiring licenses from the established interfaces in the market, using an open source app would allow for easier sharing in the schools. Making an application in a short time for a small team was great challenge, but not impossible, thanks to Processing, a programming language that we will talk about later, it allowed us to make an easy and quick implementation of an app with the functionalities that this project required.

5.2.1. Processing

Processing is an open source programming language based on Java, which aims to help artists to integrate new technologies within the context of the visual arts. Easy to implement, it is used as a means of teaching and producing digital design multimedia projects (Reas & Fry, 2014: 9). We used Processing Android that allowed us to create applications for Android easily from the Processing code without having to make many changes to it. Additionally, Processing Android allowed the Android API to read sensor data and export the project as a signed APK ready to load in the Google Play store.
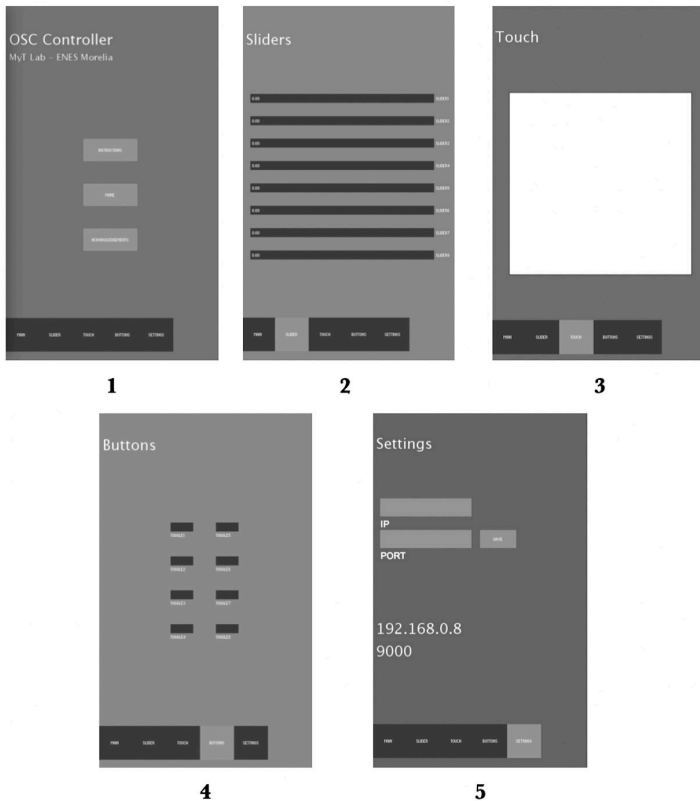
Fig. 3: This figure shows the GUI of the OSC controller App. Screen 1 Main, Screen 2 Sliders, Screen 3 Touch, Screen 4 Buttons and Screen 5 Settings.

5.2.2. App GUI controller

The app on the mobile device consists of five screens (Fig. 3):

Main, instructions and general information of the app.

1. Slider, screen with 8 sliders.

2. Touch, uses a graph in two dimensions (X and Y).

3. Buttons, screen with 8 buttons

4. Settings, IP address and port configuration.

The first screen of the OSC controller contains information about the in-structions and configuration of the app. The process of interaction between the mobile device and the graphic interface in the computer begins when establishing the connection in the local network through the IP address. For this, the graphical user interface in MaxMSP (Fig. 2) obtains automati-cally the IP of the network to which the computer is connected. After that, a Port number is required to establish the connection between the com-puter and the controller. This data, IP and Port, will have to be entered by the user in the Settings (screen 5) of the OSC Controller (Fig. 3). Once the connection is established, it will be possible to monitor the activity of the OSC Controller in the MaxMSP GUI and process different modules based on musical parameters. For example, the additive synthesis of frequencies in the MaxMSP GUI can be triggered by buttons (screen 4) and its volume controlled by the sliders in the screen 2 of the OSC controller app (Fig. 4).
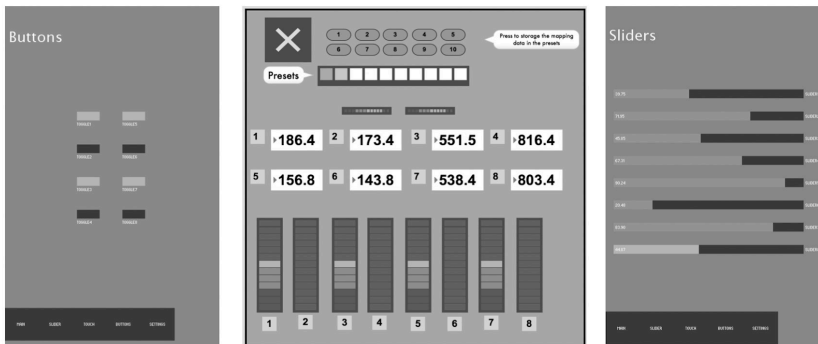
Fig. 4: Frequencies. The buttons (left) activate the frequencies in the graphic user interface (center) that can change their pitch when the sliders are activated (left) on the OSC controller app.
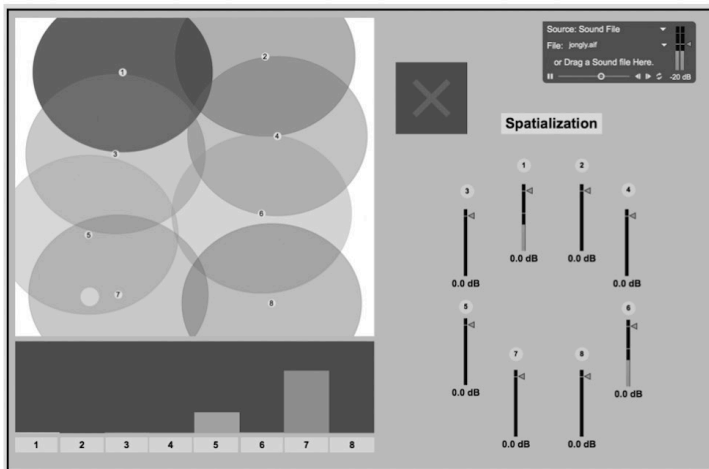
Pitch and spatialization modules can be modified by sliding the cursor over the surface of the mobile of the touch screen of the OSC Controller, pitch can be transformed, and sound can be diffused into 8 channels (Figure 5).
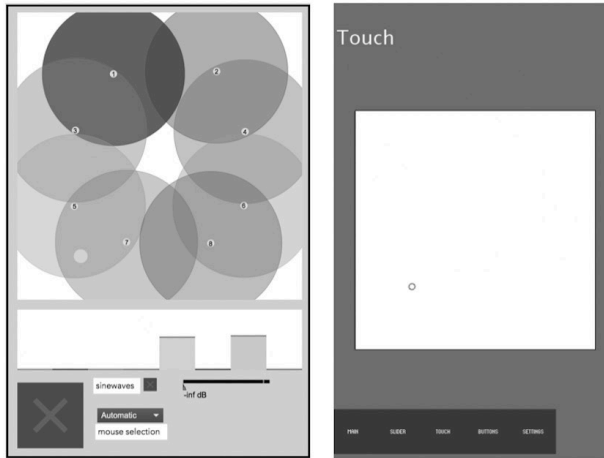

Pitch   **Touch**

Spatialization

Fig. 5: Pitch Touch. The GUI in the computer receives the information of the movements produced by the touch of the app GUI controller (Touch). In the same way, a sound can be diffused into 8 audio channels (spatialization) by the same principle of finger sliding.

Finally, the buttons of the fourth screen in the OSC Controller can trigger a musical interval module in the MaxMSP GUI. A sound can be pitch-shifted creating musical intervals in two octaves, these sounds can be time transformed using the variety of delay modules in the MaxMSP GUI (Fig. 6).
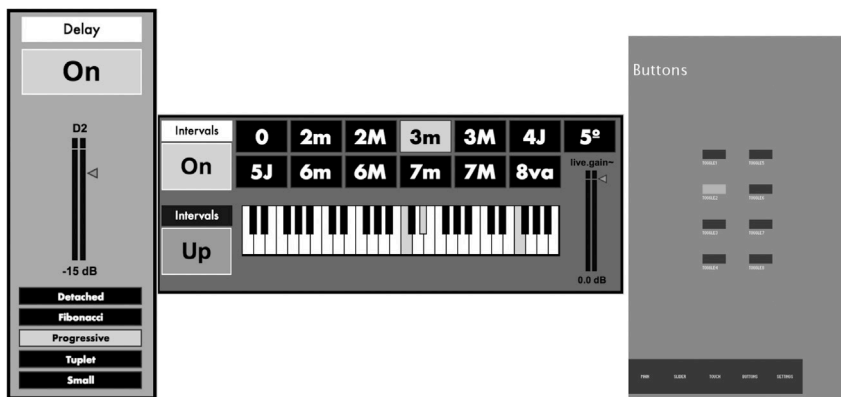
Fig. 6: Delay/Intervals. The buttons (right) activate the intervals or chords in the GUI interface (center) and also the delay process (left).

6. USE OF INTERACTIVE SYSTEM IN MUSIC EDUCATION

The interactive system described above was implemented in an electroacoustic music program every Wednesday during one semester in the primary and secondary school of Tumbisca. We had 60 students in total, 40 children in primary school (6-13 years old) and 20 adolescents in secondary level (13-15 years old). The main objective was to engage children and teenagers with electroacoustic music performance and composition. The use of mobile devices helped to attract people who otherwise would not have been able to access musical education, more specifically, electroacoustic music.

Prior to commencing the use of the timbral and spatial interactive system, a basic approximation to sound was implemented in order to realize about the sounds of the environment and its properties. Children started to listen more carefully to the soundscapes of the community. This kind of approach led us to use soundscapes as a method of teaching musical parameters. The students quickly began to develop graphic notations to capture the sounds of their surroundings, sharing them with their classmates (Fig. 7).

After this `training`, the app was used to explore sound qualities and perform basic routines regarding sound transformations (pitch, duration, timbre, volume) within the interactive system. Also, this helped us to deliver concepts of spatialization, timbre, gesture and texture. All these topics were very hard to deliver to small children, but they started to play with the interactive system more intuitively.

Fig. 7: Example of the graphic notation of a soundscape.

One of the objectives of this project was to engage children with electroacoustic music performance and composition. We designed a course in order to accomplish that goal, at the end of the semester the children could perform their pieces in a concert for all the community. The course had four stages in which the students were able to use the interactive system as a tool for their educative process (Fig. 8).

Fig. 8: Sound exploration using the app GUI controller.

The first stage (understand sound) was to discover and comprehend the basic elements of the sound, they explored timbre, pitch, duration, volume and space. The second phase (play with sound) consisted in the improvisation of music using non- pitched percussion instruments, this allowed them to perform graphic notations and verbal instructions related to gesture, texture and structure. The third stage (experimenting with sounds) was the main core of the program, in this step the students were asked to compose electroacoustic miniatures using the materials created in former stages. These miniatures were composed using the interactive music system, improvisations and the participation of a professional performer where sound was processed and transformed. The final step in this course was the performance of the pieces in a concert in the community[1], the students were able to perform their pieces in from of an audience of classmates, family and friends (Fig. 9).

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1 To watch the concert please visit https://duartemario.com/research

Fig. 9: Final Concert in the community.

7. DISCUSSION

In this article we have presented the use of music technology for an educative program in primary and secondary schools in Tumbisca, Michoacán. We developed an interactive music system as an aid for electroacoustic music education in a rural community of the municipality of Morelia. The main objective of this research was to enable children and teenagers access to electroacoustic music performance and composition and to contribute to the mitigation of the music educational lagging problem in this community.

This project helped us to cover the four key areas of the national arts curriculum content and the recommended time framework for primary and secondary levels. In this research the students participated in a four-stage course in order to compose and perform an electroacoustic miniature. Table 1 shows each stage of the course covered by these four key areas.

Areas	Activities in the course
Artistic practice	To develop a whole comprehensive artistic project
Basic elements	Exploration of musical parameters
Expression and Creativity	Creation and performance of EA miniatures
Arts and Environment	Concert To promote artistic and social relationships within the community

Tab. 1. Left column shows the four areas to develop in the national arts curriculum. Right column shows the activities developed in the electroacoustic music course in Tumbisca.

This course was led by specialists in the field, meaning that an external agent is needed to deliver the course, leaving the issue of external entity dependency unsolved. This is an area of opportunity to cover in further research where teachers from the community will have to be trained in sound organization and interactive music system, only in this way will the project be self-sustaining and will contribute to the mitigation of the music educational lagging problem without external intervention. In this sense the interactive music system and graphic users' interfaces need to be friendlier to people without IT or music technology backgrounds.

It is important to highlight the social-economic circumstances of Tumbisca, the lack of facilities and resources did not stop the development of this research; on the contrary, we had to come up with creative solutions. We only used a low-tech setup: computer, interface, a pair of speakers and microphones, and the use of smart devices (mobile phones/tablets) as controllers. This program could be implemented in rural communities with the same or similar characteristics.

The participation and cooperation of the students is crucial in opening up new perspectives of musical expression. Small children are more open to engaging with new forms of music, the activities for this age group must not be too numerous and must be of short duration. Teenagers in secondary school had more difficulty with engaging due to their ages, this age group had a strong conviction about what music is and it is more difficult to open their music genre boundaries.

8. CONCLUSION

In this research the aim was to facilitate access to electroacoustic music composition and performance in a rural community in Tumbisca, Michoacán. Through the use of music technology, children and teenagers can have a new approach to music.

This article showed that the implementation of an interactive music system can be a valuable aid in the classroom in order to deliver electroacoustic music lessons. The use of mobile devices helped to attract people who otherwise would not have been able to access musical education, more specifically, electroacoustic music. This high level of accessibility opened up a new possibility to deliver music courses and interaction with new audiences.

This paper concludes that electroacoustic music can be very helpful in delivering pedagogical objectives of arts curriculum were communities have a lack of facilities and resources. The inherent language of electroacoustic music is open to different approaches to sound organisation, all sounds can be part of a music composition, and these features placed electroacoustic music in a favoured position that could be exploited in rural schools with music education disadvantage. In the case of Mexico, the aims and objectives of the national art curriculum can be covered using electroacoustic music.

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